COMMONWEALTH EDISON COMPANY

# Load Forecast for Five-Year Planning Period
# June 2024 – May 2029

July 15, 2023

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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 2024 through May 2029.

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, 2024. 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, 2024 – May 31, 2029)

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 2023 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 2022. This data was used in the typical hourly models that have been developed and refined over the past few years. These models continue to perform well.

The 2023 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 2022. 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 2020 to December 2022.

# Table II-1
# Load Forecast Table (Historical Detail 2020-2022)

**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 |
| 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** |
| 2021 | 1 | 794,945 | 962,847 | 8,278 | 9,893 | 187,013 | 192,023 | 496 | 1,038 | 990,732 | 1,165,801 |
| 2021 | 2 | 860,734 | 891,440 | 9,505 | 9,645 | 198,321 | 174,232 | 472 | 988 | 1,069,032 | 1,076,305 |
| 2021 | 3 | 720,658 | 665,915 | 9,373 | 8,637 | 202,222 | 156,147 | 415 | 1,016 | 932,669 | 831,716 |
| 2021 | 4 | 633,369 | 595,759 | 8,296 | 7,846 | 181,895 | 139,089 | 333 | 990 | 823,894 | 743,684 |
| 2021 | 5 | 657,254 | 765,384 | 7,782 | 9,107 | 170,797 | 162,458 | 245 | 1,089 | 836,078 | 938,039 |
| 2021 | 6 | 1,153,028 | 1,117,910 | 9,030 | 8,188 | 237,283 | 178,869 | 240 | 1,049 | 1,399,581 | 1,306,015 |
| 2021 | 7 | 1,159,775 | 1,196,569 | 7,444 | 7,606 | 227,477 | 194,022 | 303 | 1,324 | 1,394,999 | 1,399,522 |
| 2021 | 8 | 1,412,679 | 1,306,885 | 7,774 | 7,222 | 261,428 | 202,950 | 250 | 963 | 1,682,130 | 1,518,021 |
| 2021 | 9 | 862,019 | 880,491 | 7,287 | 7,179 | 221,590 | 177,630 | 367 | 1,036 | 1,091,262 | 1,066,336 |
| 2021 | 10 | 674,001 | 784,241 | 7,804 | 8,499 | 180,543 | 160,051 | 444 | 1,017 | 862,791 | 953,809 |
| 2021 | 11 | 734,541 | 783,092 | 7,950 | 8,242 | 180,966 | 155,492 | 465 | 948 | 923,922 | 947,773 |
| 2021 | 12 | 939,102 | 871,301 | 9,324 | 8,627 | 220,332 | 171,343 | 570 | 985 | 1,169,328 | 1,052,255 |
| | **Totals** | **10,602,105** | **10,821,835** | **99,848** | **100,691** | **2,469,866** | **2,064,307** | **4,599** | **12,443** | **13,176,417** | **12,999,276** |
| 2022 | 1 | 985,713 | 1,108,418 | 9,384 | 10,302 | 224,700 | 211,975 | 484 | 976 | 1,220,280 | 1,331,670 |
| 2022 | 2 | 848,515 | 893,121 | 7,655 | 7,796 | 205,719 | 178,750 | 405 | 843 | 1,062,294 | 1,080,510 |
| 2022 | 3 | 786,363 | 775,349 | 8,191 | 7,689 | 221,679 | 173,556 | 407 | 966 | 1,016,640 | 957,560 |
| 2022 | 4 | 668,651 | 725,597 | 7,315 | 7,644 | 185,240 | 160,404 | 317 | 943 | 861,523 | 894,588 |
| 2022 | 5 | 908,318 | 929,775 | 8,308 | 8,866 | 209,825 | 178,086 | 257 | 1,048 | 1,126,708 | 1,117,775 |
| 2022 | 6 | 1,325,918 | 928,692 | 8,784 | 7,575 | 240,184 | 160,826 | 222 | 893 | 1,575,108 | 1,097,985 |
| 2022 | 7 | 1,327,201 | 1,414,410 | 6,537 | 7,283 | 251,510 | 229,856 | 249 | 1,075 | 1,585,498 | 1,652,623 |
| 2022 | 8 | 1,391,150 | 1,162,168 | 8,913 | 7,766 | 276,273 | 193,839 | 252 | 900 | 1,676,588 | 1,364,674 |
| 2022 | 9 | 965,860 | 976,826 | 7,210 | 7,270 | 222,832 | 180,469 | 325 | 897 | 1,196,227 | 1,165,462 |
| 2022 | 10 | 665,469 | 746,429 | 6,509 | 7,193 | 182,157 | 161,889 | 404 | 913 | 854,538 | 916,425 |
| 2022 | 11 | 755,937 | 835,806 | 7,327 | 7,739 | 195,554 | 168,185 | 457 | 920 | 959,276 | 1,012,650 |
| 2022 | 12 | 939,656 | 1,111,104 | 7,589 | 8,565 | 219,323 | 209,960 | 532 | 949 | 1,167,100 | 1,330,577 |
| | **Totals** | **11,568,750** | **11,607,693** | **93,721** | **95,688** | **2,634,996** | **2,207,794** | **4,310** | **11,323** | **14,301,778** | **13,922,498** |

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 2020-2022)**

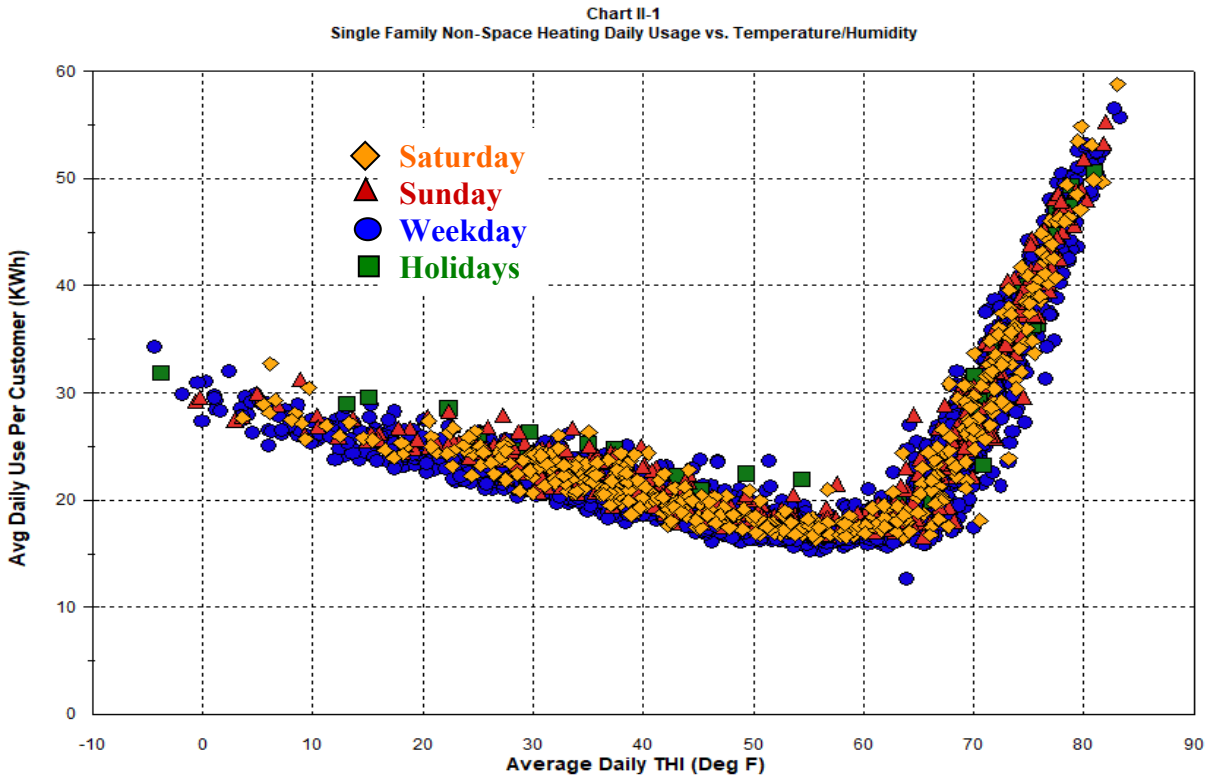
**ComEd Historical Actual Usage**
**Historical Energy Usage for Eligible Retail Customers**
**(Line Loss Adjusted)**

| Year | Month | Total Load (MWh) | | Average Load (MW) | |
|---|---|---|---|---|---|
| | | On-Peak | Off-Peak | On-Peak | Off-Peak |
| 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** | | |
| 2021 | 1 | 990,732 | 1,165,801 | 3,096 | 2,750 |
| 2021 | 2 | 1,069,032 | 1,076,305 | 3,341 | 3,058 |
| 2021 | 3 | 932,669 | 831,716 | 2,534 | 2,212 |
| 2021 | 4 | 823,894 | 743,684 | 2,341 | 2,021 |
| 2021 | 5 | 836,078 | 938,039 | 2,613 | 2,212 |
| 2021 | 6 | 1,399,581 | 1,306,015 | 3,976 | 3,549 |
| 2021 | 7 | 1,394,999 | 1,399,522 | 4,152 | 3,430 |
| 2021 | 8 | 1,682,130 | 1,518,021 | 4,779 | 3,873 |
| 2021 | 9 | 1,091,262 | 1,066,336 | 3,248 | 2,777 |
| 2021 | 10 | 862,791 | 953,809 | 2,568 | 2,338 |
| 2021 | 11 | 923,922 | 947,773 | 2,750 | 2,468 |
| 2021 | 12 | 1,169,328 | 1,052,255 | 3,178 | 2,799 |
| **Totals** | | **13,176,417** | **12,999,276** | | |
| 2022 | 1 | 1,220,280 | 1,331,670 | 3,632 | 3,264 |
| 2022 | 2 | 1,062,294 | 1,080,510 | 3,320 | 3,070 |
| 2022 | 3 | 1,016,640 | 957,560 | 2,763 | 2,547 |
| 2022 | 4 | 861,523 | 894,588 | 2,564 | 2,330 |
| 2022 | 5 | 1,126,708 | 1,117,775 | 3,353 | 2,740 |
| 2022 | 6 | 1,575,108 | 1,097,985 | 4,475 | 2,984 |
| 2022 | 7 | 1,585,498 | 1,652,623 | 4,955 | 3,898 |
| 2022 | 8 | 1,676,588 | 1,364,674 | 4,556 | 3,629 |
| 2022 | 9 | 1,196,227 | 1,165,462 | 3,560 | 3,035 |
| 2022 | 10 | 854,538 | 916,425 | 2,543 | 2,246 |
| 2022 | 11 | 959,276 | 1,012,650 | 2,855 | 2,637 |
| 2022 | 12 | 1,167,100 | 1,330,577 | 3,474 | 3,261 |
| **Totals** | | **14,301,778** | **13,922,498** | | |

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 2022 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.

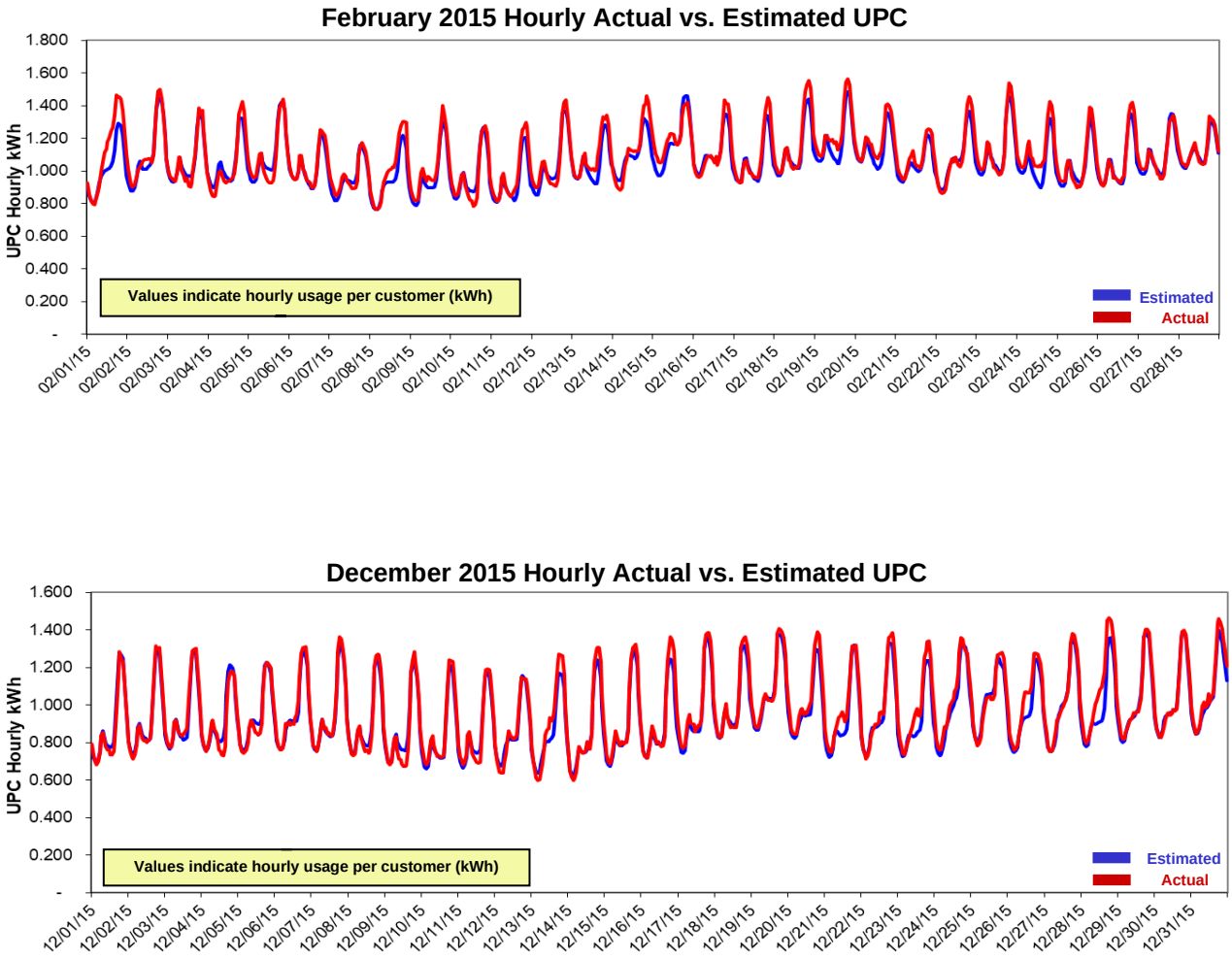
The scatter plot is very useful in understanding the relationship between customer usage and weather. If a relationship between usage and weather did not exist, then the graph would not display a clear pattern. The right side of the graph at the high end of the horizontal axis shows the days on which 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.

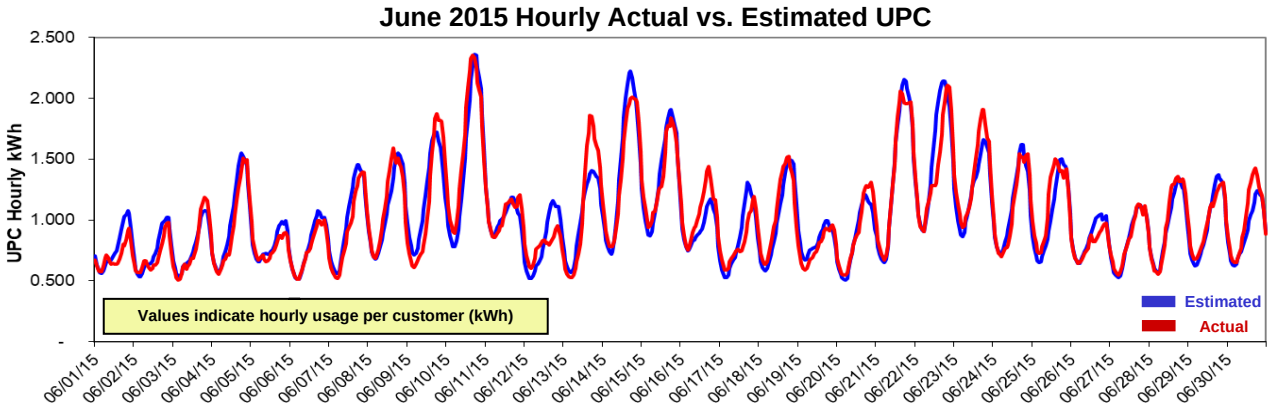
Hourly models were developed to account for the strong weather relationship shown in the graph and to account for numerous other factors that influence Residential usage. The models explicitly account for the differing effects of energy use at various temperatures. Variables are included to allow for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

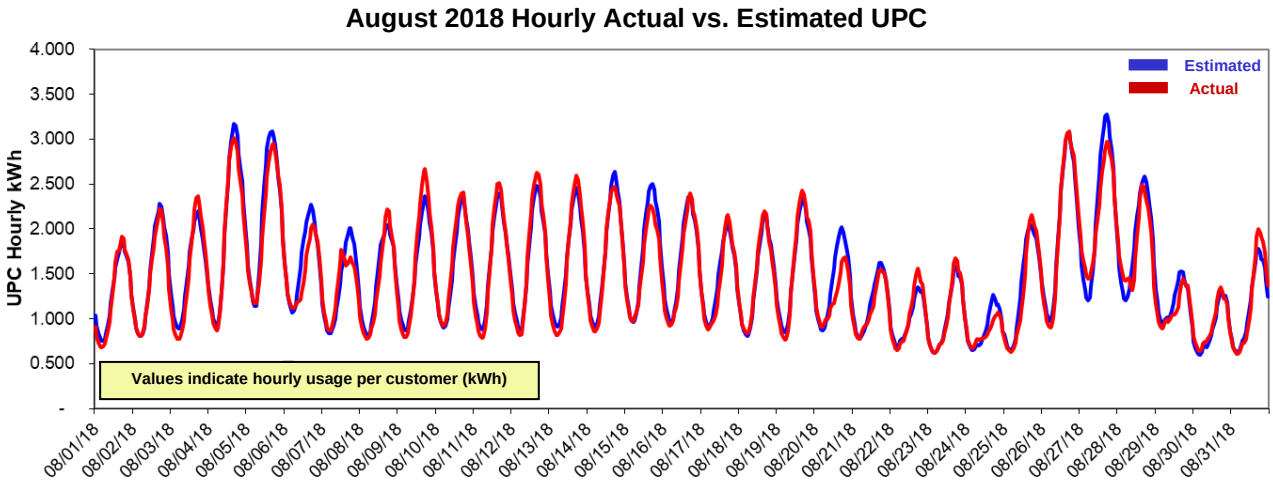
One way to visualize the model's performance is to look at plots of actual and estimated[2] values for the historical estimation period. The following charts demonstrate the performance of the model over four time periods at the hourly level during winter and summer months with warmer or colder than 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 1,046) and December 2015 was 800 (below the normal HDD of 1,069). The cooling degree days ("CDD") in June 2015 were 118 (below the normal CDD of 200) and August 2018 was 356 (above the normal CDD of 275).

[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. Many Residential customers continue to participate in customer choice. Approximately 720,000 Residential customers in the ComEd service territory were taking RES supply as of May 2023 or 19.4% 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 equated to approximately 69% of total Residential customers. This high level of engagement denotes meaningful customer choice activity within the ComEd service territory which continues today.

2. Municipal Aggregation ("Muni Agg") has been an important factor in the expansion of Residential RES supply over time. In total there are 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 2023. Approximately 216 of those Communities (or 60% of the total) were being served under a Muni Agg contract as of June 2023. There are no new referendums that we are aware of currently.

3. As noted below, there are still many 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 2023. There is also meaningful participation by the smaller-sized non-Residential customers as approximately 60% of the 0 to 100 kW non-Residential delivery class was taking RES or Hourly supply in May 2023. 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 remain 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**

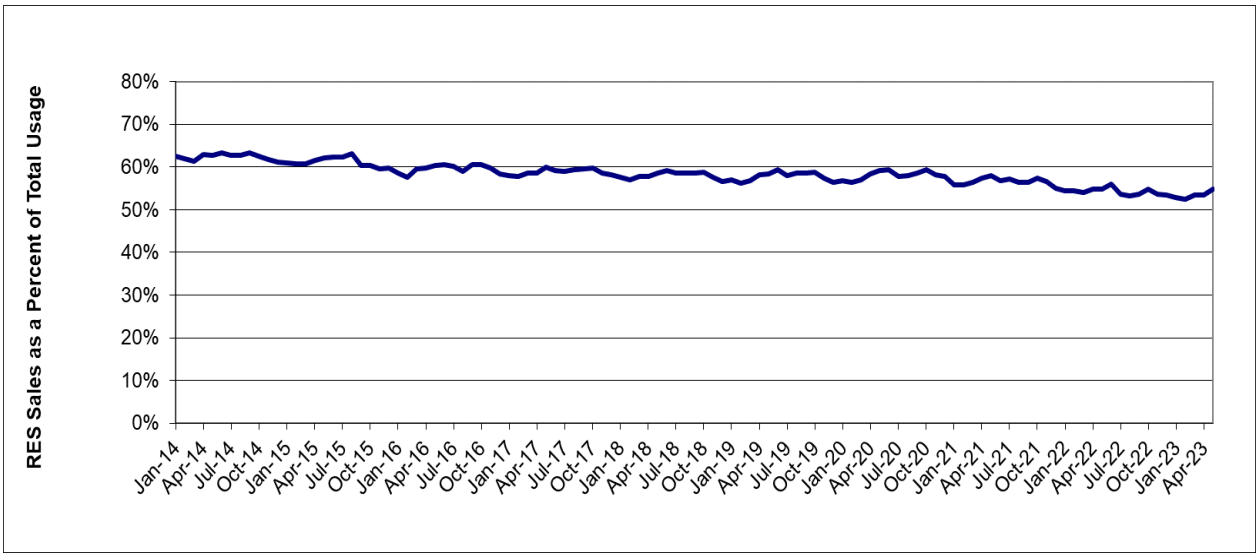
| RES Category | May 2017 | May 2018 | May 2019 | May 2020 | May 2021 | May 2022 | May 2023 |
|---|---|---|---|---|---|---|---|
| Number of Active RES[3] | 81 | 90 | 90 | 91 | 94 | 95 | 86 |
| Number of RESs approved to serve Residential customers | 64 | 74 | 78 | 74 | 79 | 87 | 75 |

From May 2017 to May 2023 there has been a 6% increase in the number of active RES in the ComEd service territory. Despite a modest decline in active RES in the past year, this is still a meaningful increase for a market that has already had a great deal of switching activity over the last decade. Also, the increase in the number of RES approved to serve Residential customers has shown a substantial increase over time but has stabilized in recent years. The large number of RES and overall growth in the number of RES highlights the active retail market in ComEd's service territory.

### (iii) Future Trends

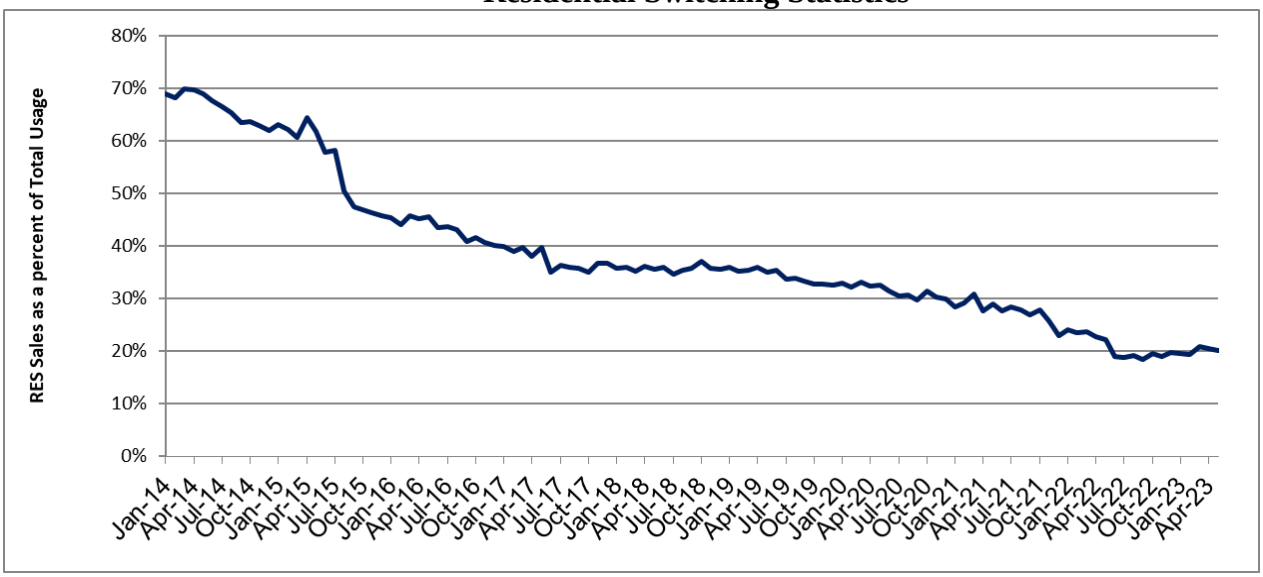
The future trends reflect an active retail market for several reasons. First, RES supply to customers in the 0 to 100 kW class continues to be significant. Chart II-3 below contains the monthly percentage of usage by RES customers from January 2014 through May 2023. The RES percentage remains at a substantial level with an average of 55.1% RES usage from January 2021 to May 2023. In addition, the percentage of RES usage has been relatively steady over that time ranging from a high of 58.0% to a low of 52.5%, although declining slightly over the last several years. It is 54.7% as of May 2023.

**Chart II-3**
**0 to 100 kW Switching Statistics**




Second, despite significant declines over the last few years, the retail market for Residential customers continues to be at a meaningful level and has stabilized more recently. Chart II-4 contains the monthly percentage of usage by RES customers from January 2014 to May 2023. A little over one-fifth (20.2%) of Residential customers based on usage are taking RES supply as of May 2023. This is down slightly from roughly 22% in May 2022 (it was 29% in May 2021) and 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 by Class**

| Month | Residential | Watthour | 0-100 kW |
|---|---|---|---|
| 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% |
| Jun-21 | 71.1% | 49.7% | 38.7% |
| Jun-22 | 79.7% | 49.2% | 39.8% |
| May-23 | 78.3% | 41.8% | 40.7% |
| Jun-24 | 79.6% | 43.5% | 41.4% |
| Jun-25 | 80.7% | 43.0% | 41.8% |
| Jun-26 | 81.2% | 42.5% | 42.1% |
| Jun-27 | 81.7% | 42.0% | 42.2% |
| Jun-28 | 82.2% | 41.5% | 42.4% |
| Jun-29 | 82.7% | 41.0% | 42.5% |

The main drivers of this forecast are:

1. Residential Blended supply is expected to increase modestly in the near-term reflecting year-to-date activity. The percentage of Residential usage that is Blended supply averaged 78.3% for the year-to-date ending May 2023 and is expected to increase modestly to 79.0% by December 2023 reflecting more recent stabilization in switching activity. The monthly Blended percentage has averaged 76.1% for the past two years (June 2021 to May 2023) but averaged 67.1% in the two years prior (June 2019 to May 2021). This movement reflects the recent increases in wholesale natural gas prices which have contributed to increased wholesale electricity prices 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. However, switching activity has appeared to stabilize consistent with the wholesale electricity market over this last year. 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 over the Forecast period.

   Muni Agg results for the first half of 2023 illustrate this offsetting dynamic. We continue to utilize town-code level data related to Muni Agg Communities with contract renewals in 2023. This data reflects recent Muni Agg Communities usages and decisions as of mid-June 2023 and that

data can be found in the spreadsheet entitled "2023 Muni Agg Renewal Tracking.xlsx". Granted, only about 17% of Muni Agg decisions have been made so far in the first half of 2023 based on load so one needs to be cautious in the use of these early results.

Of the Muni Agg Communities with a contract renewal in 2023 which have decided, none have opted to suspend their program as of mid-June 2023. However, this represents the decision of only 13 of the 67 communities due for renewal this year as most are due to expire in the second half of the year. At this time last year roughly 30% of the Muni Agg Communities based on usage opted to suspend their program and return customers back to ComEd. Overall in 2022, roughly 46% of the Muni Agg Communities based on usage opted to suspend their program and return customers back to ComEd. This highlights the more recent trend observed since 2021 of significant Muni Agg suspension rates consistent with the volatility in wholesale electricity prices. The assumption for the remainder of 2023 is a 30% suspension rate which is reflective of these increasing suspension rates but down from 2022 levels as we observe stabilizing switching activity more recently.

So far in 2023 there have not been any community decisions to re-start their programs. This is consistent with what was observed in 2022 which had no program re-starts. There is 0 GWh projected to re-start Muni Agg in 2023 which reflects the 2022 activity and the decreasing number of restarts observed over the last few years. To put this into context, only 107 GWh restarted in 2021 which was down from 235 GWh in 2020. We anticipate similar activity in 2023 to that of last year.

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 since 2019 is an increasing 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 had typically found that the percentage of usage on RES supply drops by approximately 30 percentage points. In other words, goes from roughly 80% RES usage to 50% RES usage. This has the effect of increasing Blended usage even though a community is renewing their Muni Agg program. Lately we have observed a general decline in RES usage in the communities that choose to renew their Muni Agg programs with either a PTC or traditional rate option. In more recent years, the usage on RES supply in Muni Agg communities is dropping by about 50% in the PTC versus a traditional rate option, or in other words goes from roughly 70% RES usage with a traditional rate to 20% RES usage with the PTC option. However, as mentioned in more recent filings, the pool of communities that can choose the price to compare option for the first time continues to get

smaller and thus the dynamic of increased Blended usage due to communities choosing PTC for the first time is becoming less significant to the overall switching outlook. In 2022 none of the communities up for renewal chose the PTC option for the first time. We expect similar low activity in 2023 with a modest 2% of total usage up for renewal assumed to choose PTC for the first time. Consequently, approximately 30 GWh of usage is projected to move to Blended supply in 2023 due to this dynamic (2% of the approximately 2,954 GWh of total usage up for renewal will decide on this option with a corresponding 50% 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. In total, expectations for Muni Agg activity in 2023 translate to an approximately 0.8% increase in the projected Blended supply percentage.

The last component is the switching change in non-Muni Agg communities, which includes communities that have never implemented a Muni Agg program as well as communities that have at some point in time but are currently not on a Muni Agg program. An examination of year-to-date data for these communities shows continued but slowing movement to Blended supply which translates to an approximately 2% increase in the projected Blended supply percentage due to these communities.

2. The Muni Agg switching environment experienced in 2022 and continuing in the first half of 2023 is expected to persist into the remaining years of the Forecast. A high but declining suspension rate due to energy pricing dynamics mentioned above and the continued popularity of the price to compare option has had the effect of increasing Blended usage substantially over the last few years and is forecasted to reach 79.6% in Residential by June 2024. 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 also expected to increase over the Forecast reflecting their trend in switching results over the last few years. Of the Communities that have never implemented a Muni Agg program approximately 84.3% of their Residential usage was Blended as of May 2023. This is slightly higher than the 83.5% Blended as of May 2022 and thus a modestly increased Residential Blended percentage of a similar magnitude is anticipated among the customers outside Muni Agg communities going forward.

   Based on these considerations, for the years 2024 and thereafter, an increased Residential Blended percentage is anticipated reflecting the recent dynamic of higher but declining suspension rates, the price to compare option in Muni Agg contracts, and lower but stabilizing 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 although has seen a recent uptick consistent with trends observed in Residential: 0 to 100 kW Blended usage in 2019 averaged 38.1%; 2020 averaged 37.5%; 2021 averaged 38.6%; and 2022 averaged 41.0%. So far year-to-date we have observed a 41.8% average Blended usage as we observe stabilizing switching consistent with Residential. This has dropped to 40.7% as of May 2023 but subsequently we anticipate a slightly higher forecast of 41.2% by December 2023 with a stable but slightly increasing percentage thereafter consistent with recent trend. 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 although there have been deviations in the last few years. The Watthour Blended percentage averaged 47.5% for 2020, 48.7% in 2021; 45.9% in 2022 and is projected to be 43.8% by December 2023 and largely reflects the most recent Watthour switching activity and the observed declines over the last few years.

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 2024 and July 2024. In addition, any meaningful development related to switching activity during the remainder of 2023 will be communicated to the IPA.

In summary, the effects of those switching drivers by customer group are as follows:

1. The Blended Service portion of the Residential customer class is expected to be 79.0% by December 2023 increasing by about 1% in 2024 and 0.5% per year thereafter on average.

2. The Blended Service portion of the 0 to 100 kW customer class is expected to be 41.2% by December 2023 increasing by about 0.5% in 2024, 0.3% in 2025 and stabilizing thereafter around 42.3%.

3. The Blended Service portion of the Watthour customer class is expected to be 43.8% by December 2023 with this percentage decreasing by about 0.5% per year on average over the Forecast period.

### 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,[3] and, more recently, to continue the program post-2016.[4] Given the most recent trends in switching activity and a general preference for Blended supply, ComEd now anticipates RRTP customers to stabilize after several years of strong expansion. The recent number of Residential RRTP customers has remained flat from around 37,500 in 2021, 37,578 in 2022, and roughly 37,800 so far in 2023. The expectation is for RRTP customers to remain at these levels throughout the Forecast period.

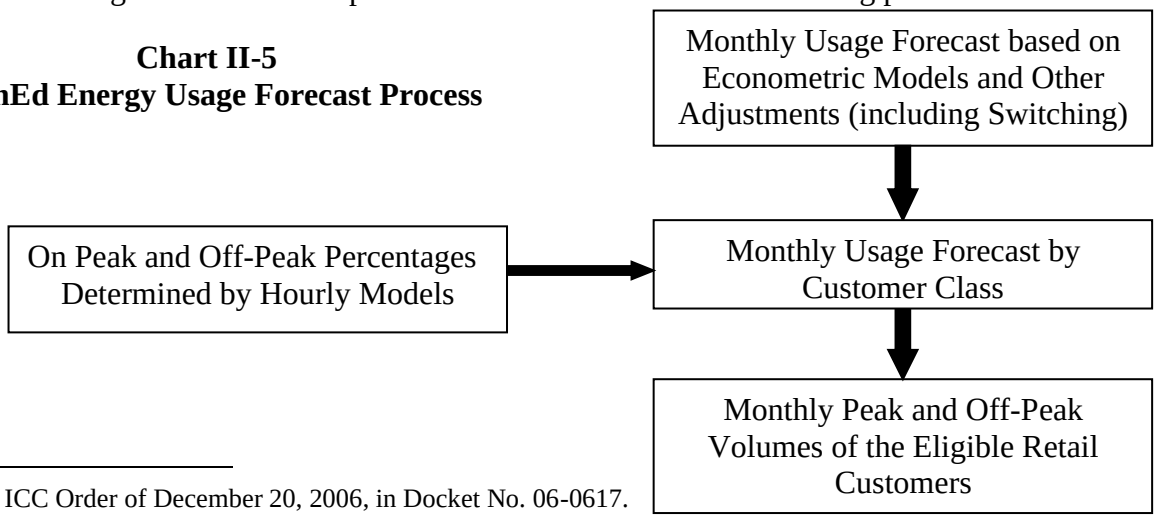
### d. Growth Forecast by Customer Class

#### (i) Introduction

This section describes ComEd's growth forecast by customer class for the 5-year procurement planning period beginning on June 1, 2024. 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.

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

**Chart II-5**
**ComEd Energy Usage Forecast Process**




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

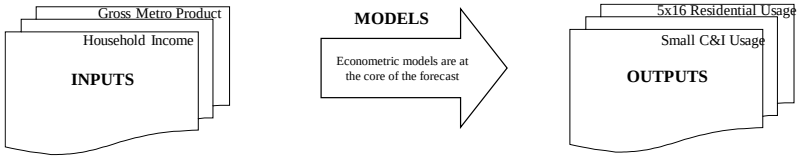
[4] See ICC Order of January 20, 2016 in Docket No. 15-0602.

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 the 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 has impacted load both at the home and business and the Company is utilizing similar independent variables presented in last year's filing within our models to 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 from 2020 through year-to-date April 2023 with projections tapering from current levels to overall load recovery consistent with economic conditions over the Forecast period.

**Table II-5**

**Chicago Area Economic Forecasts - IHS Markit (April 2023)**

| **Economic Variables** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gross Metro Product (Billions) | $ 610 | $ 616 | $ 582 | $ 620 | $ 636 | $ 640 | $ 645 | $ 651 | $ 659 | $ 666 | $ 673 | $ 681 |
| # of Households (Thousands) | 3,567 | 3,585 | 3,563 | 3,556 | 3,568 | 3,565 | 3,567 | 3,572 | 3,580 | 3,591 | 3,601 | 3,610 |
| Total Employment (Thousands) | 4,658 | 4,682 | 4,337 | 4,433 | 4,620 | 4,680 | 4,664 | 4,653 | 4,658 | 4,661 | 4,662 | 4,659 |
| Non-Manufacturing | 4,233 | 4,258 | 3,935 | 4,033 | 4,215 | 4,274 | 4,272 | 4,271 | 4,279 | 4,284 | 4,289 | 4,289 |
| Manufacturing | 425 | 424 | 402 | 400 | 406 | 406 | 392 | 382 | 378 | 377 | 373 | 370 |
| U.S. GDP | 18,430 | 18,853 | 18,324 | 19,406 | 19,797 | 20,086 | 20,378 | 20,770 | 21,191 | 21,573 | 21,957 | 22,326 |
| ***Growth Rate*** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** |
| Gross Metro Product | 2.7% | 1.0% | (5.4%) | 6.5% | 2.6% | 0.6% | 0.7% | 0.9% | 1.2% | 1.1% | 1.1% | 1.2% |
| # of Households | 1.2% | 0.5% | (0.6%) | (0.2%) | 0.3% | (0.1%) | 0.1% | 0.1% | 0.2% | 0.3% | 0.3% | 0.2% |
| Total Employment | 0.9% | 0.5% | (7.4%) | 2.2% | 4.2% | 1.3% | (0.3%) | (0.2%) | 0.1% | 0.1% | 0.0% | (0.0%) |
| Non-Manufacturing | 0.8% | 0.6% | (7.6%) | 2.5% | 4.5% | 1.4% | (0.0%) | (0.0%) | 0.2% | 0.1% | 0.1% | 0.0% |
| Manufacturing | 1.7% | (0.2%) | (5.2%) | (0.5%) | 1.4% | 0.2% | (3.5%) | (2.5%) | (1.0%) | (0.5%) | (0.9%) | (0.7%) |
| U.S. GDP | 2.9% | 2.3% | (2.8%) | 5.9% | 2.0% | 1.5% | 1.5% | 1.9% | 2.0% | 1.8% | 1.8% | 1.7% |

Source: IHS Markit

All the variables used in each of the models in the forecasting process are identified in Appendix A-4.[5]

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

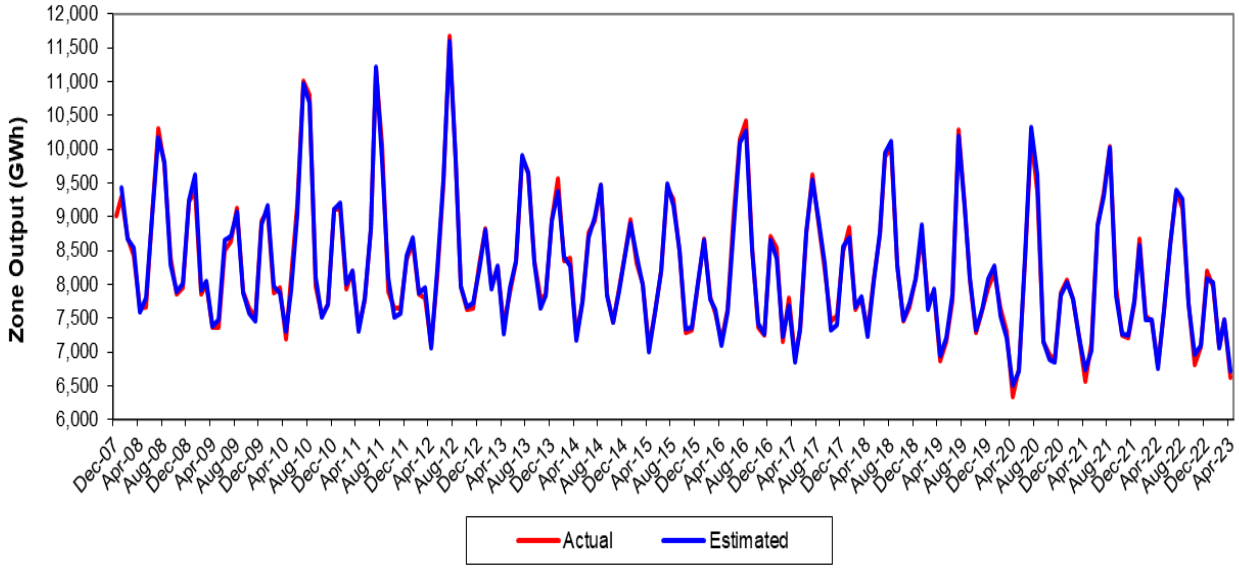
The Monthly Zone Model forecasts energy usage in gigawatt hours (GWh) for the entire ComEd service territory. The following chart shows the performance of the ComEd

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

Monthly Zone Model by comparing actual zone output to the estimates[6] from that model for each calendar month from January 2008 through April 2023.

**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.

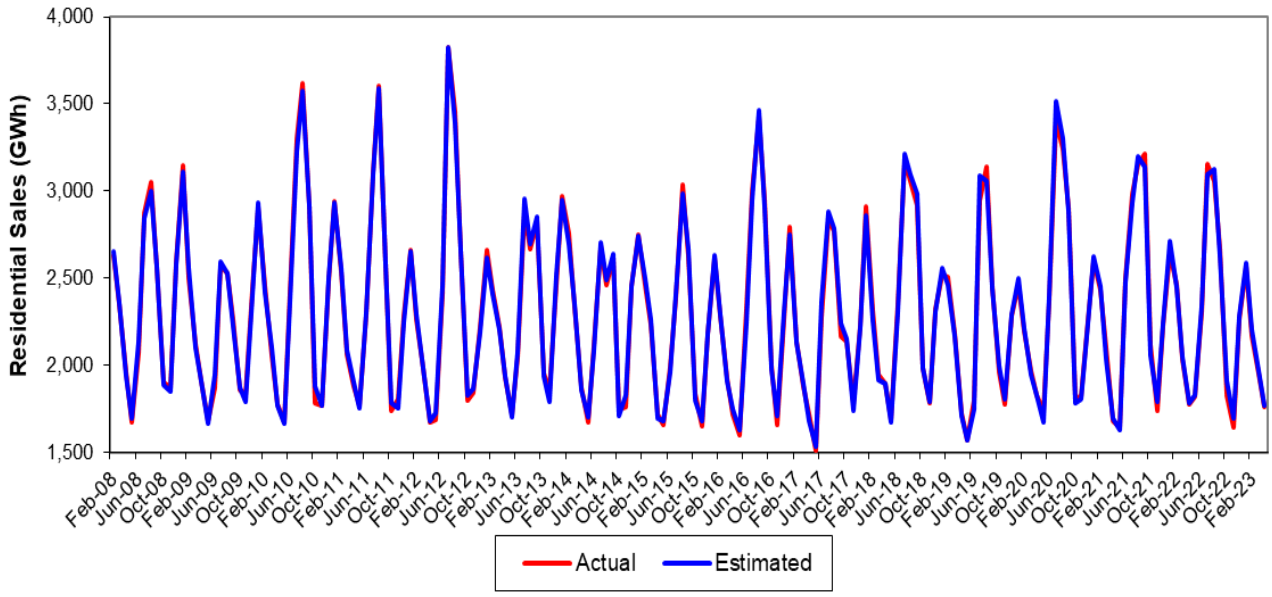
### (iii) ComEd Monthly Residential Model

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 April 2023. The graph line depicting the model's estimated usage and the line with actual usage for the period are highly correlated.

[6] 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-8**

**ComEd Monthly Residential Model: Estimated vs. Actual**

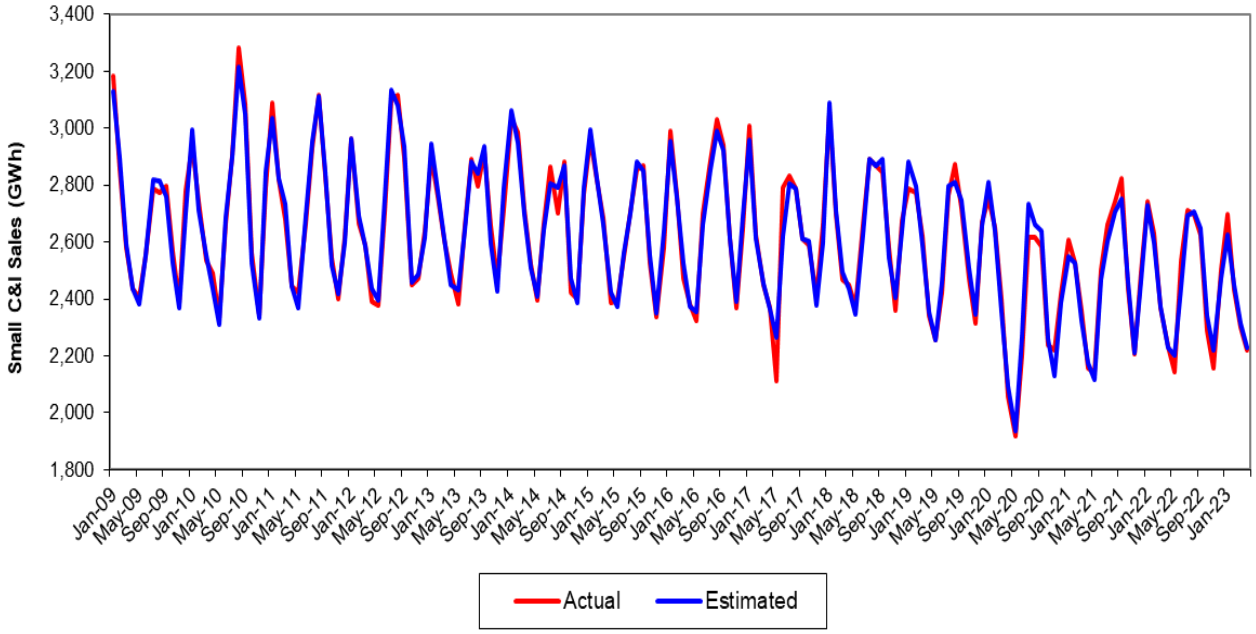



### (iv) ComEd Monthly Small C&I Model

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 2023 forecast update provided to the IPA). The model captures inputs related to recent IPA decisions, federal tax reform, and expected PV costs. It captures the changes due to the Clean Energy Law as of September 2021 (which was reflected in the July 2022 filing) and the more recent Inflation Reduction Act which expanded renewable energy incentives. Thus, a significant increase in solar adoption is expected due to provisions in these laws including, but not limited to, an extension in the net metering program, increased capacity limits for installed PV systems to be eligible for net metering, increases in solar rebates, and extensions to investment tax credits. 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 |
| 2023 | 465.5 | 340.0 | 805.5 | 170.6 | 56.7 | 227.2 |
| 2024 | 642.8 | 661.3 | 1,304.1 | 237.6 | 110.2 | 347.8 |
| 2025 | 803.1 | 961.1 | 1,764.2 | 295.0 | 160.2 | 455.2 |
| 2026 | 953.9 | 1,171.6 | 2,125.5 | 345.8 | 195.3 | 541.0 |
| 2027 | 1,097.3 | 1,361.2 | 2,458.5 | 394.3 | 226.9 | 621.1 |
| 2028 | 1,240.8 | 1,552.4 | 2,793.2 | 448.2 | 258.7 | 706.9 |
| 2029 | 1,375.6 | 1,734.1 | 3,109.7 | 505.2 | 289.0 | 794.2 |

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 |
| 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 | 27,321 | 1.6% | 29,521 | 3.5% |
| 2022 | 26,989 | (1.2%) | 29,527 | 0.0% |
| 2023 | 26,828 | (0.6%) | 28,981 | (1.9%) |
| 2024 | 27,092 | 1.0% | 28,550 | (1.5%) |
| 2025 | 27,232 | 0.5% | 27,969 | (2.0%) |
| 2026 | 27,470 | 0.9% | 27,542 | (1.5%) |
| 2027 | 27,895 | 1.5% | 27,262 | (1.0%) |
| 2028 | 28,374 | 1.7% | 26,937 | (1.2%) |
| 2029 | 28,759 | 1.4% | 26,979 | (1.0%) |

## 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 2023-2024 (i.e., 6/1/23 to 5/31/24) 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 63,587 customers. The total reduction potential for the program is estimated to be 64 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 959 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 37,795 customers and a load reduction potential of 1.06 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 359,000 customers enabling ComEd to clear 90 MW of summer only capacity from the program into the PJM capacity auction for the 2023-2024 Delivery Year, and 155 MW for the total portfolio in the 2024-2025 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) |
|---|---|---|---|
| 2024[7] | 8,508 | 0.1% | 8.51 |
| 2025 | 8,636 | 0.1% | 8.64 |
| 2026 | 8,698 | 0.1% | 8.70 |
| 2027 | 8,781 | 0.1% | 8.78 |
| 2028 | 8,786 | 0.1% | 8.79 |

### (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.

[7] ComEd's filed Energy Efficiency and Demand Response Plan ("Revised Plan 6") in ICC Docket No. 21-0155 is a four-year plan, 2022-2025. For 2026-2029, which is not covered in Revised Plan 6, 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 cumulative kWh targets based on a percentage of the deemed average weather normalized sales of electric power and energy during calendar years 2014, 2015, and 2016 of 88,000 GWh. Additionally, there is a spending cap that limits the amount of expenditures on energy efficiency measures in any year. As of September 15, 2021, the Climate and Equitable Jobs Act ("CEJA") modified key provisions of Section 8-103B of the PUA to include an eligible large private customer opt-out option, increased annual budgets and spending flexibility, increased income eligible expenditure requirements, electrification energy savings, and increased non-electricity energy savings.

##### (A) kWh Targets

The kWh target for energy efficiency is based on a percentage of the deemed average weather normalized sales of electric power and energy during calendar years 2014, 2015, and 2016 of 88,000 GWh, as reduced by the number of GWh equal to the sum of the annual consumption of eligible large private retail customers that have opted out of applicable subsections averaged across calendar years 2014, 2015, and 2016. 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. As a result of CEJA's modifications to the energy efficiency framework, ComEd filed, and the Commission approved, ComEd's Revised 2022-2025 Energy Efficiency and Demand Response Plan ("Revised Plan 6") in ICC Docket No. 21-0155 on April 27, 2022. Also, for purposes of this Forecast only,[8] 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).

[8] 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.

### (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 Eligible Customer Type[9]**

| Planning Year | Residential Allocation (GWh) | Watt-Hour Allocation (GWh) | 0-100 kW Allocation (GWh) |
|---|---|---|---|
| **2024** | 3,748 | 50 | 1,460 |
| **2025** | 3,692 | 51 | 1,523 |
| **2026** | 3,581 | 51 | 1,546 |
| **2027** | 3,528 | 53 | 1,642 |
| **2028** | 3,455 | 55 | 1,707 |
| **2029** | 3,399 | 55 | 1,737 |

### 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] 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, 2024 through May 31, 2025:

**Table II-9**

| ComEd Procurement Period Load Forecast (Expected Load)<br>Projected Energy Usage and Average Demand For Eligible Retail Customers<br>(Weather Normal, Line Loss and DSM Adjusted) | | | | | |
|---|---|---|---|---|---|
| **Year** | **Month** | **Total Load (MWh)** | | **Average Load (MW)** | |
| | | **On-Peak** | **Off-Peak** | **On-Peak** | **Off-Peak** |
| 2024 | 6 | 1,155,820 | 1,244,224 | 3,612 | 3,111 |
| 2024 | 7 | 1,573,490 | 1,468,949 | 4,470 | 3,747 |
| 2024 | 8 | 1,468,724 | 1,370,643 | 4,173 | 3,497 |
| 2024 | 9 | 955,402 | 1,080,034 | 2,986 | 2,700 |
| 2024 | 10 | 945,993 | 898,590 | 2,571 | 2,390 |
| 2024 | 11 | 936,732 | 1,080,094 | 2,927 | 2,694 |
| 2024 | 12 | 1,158,760 | 1,302,107 | 3,449 | 3,191 |
| 2025 | 1 | 1,251,963 | 1,316,171 | 3,557 | 3,358 |
| 2025 | 2 | 1,047,886 | 1,105,329 | 3,275 | 3,140 |
| 2025 | 3 | 930,523 | 1,095,778 | 2,769 | 2,692 |
| 2025 | 4 | 832,726 | 864,499 | 2,366 | 2,349 |
| 2025 | 5 | 806,139 | 937,354 | 2,399 | 2,297 |
| **Totals** | | **13,064,158** | **13,763,772** | | |

The forecast set forth above shows ComEd's expected load for the 2024 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 2024 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)<br>Projected Energy Usage and Average Demand For Eligible Retail Customers<br>(Line Loss and DSM Adjusted) | | | | | |
|---|---|---|---|---|---|
| **Year** | **Month** | **Total Load (MWh)** | | **Average Load (MW)** | |
| | | **On-Peak** | **Off-Peak** | **On-Peak** | **Off-Peak** |
| 2024 | 6 | 970,313 | 1,104,706 | 3,032 | 2,762 |
| 2024 | 7 | 1,249,587 | 1,236,912 | 3,550 | 3,155 |
| 2024 | 8 | 1,124,000 | 1,076,995 | 3,193 | 2,747 |
| 2024 | 9 | 941,688 | 1,011,649 | 2,943 | 2,529 |
| 2024 | 10 | 921,993 | 810,389 | 2,505 | 2,155 |
| 2024 | 11 | 885,051 | 978,307 | 2,766 | 2,440 |
| 2024 | 12 | 1,115,604 | 1,244,463 | 3,320 | 3,050 |
| 2025 | 1 | 1,273,925 | 1,255,894 | 3,619 | 3,204 |
| 2025 | 2 | 1,004,891 | 1,034,189 | 3,140 | 2,938 |
| 2025 | 3 | 877,817 | 979,004 | 2,613 | 2,405 |
| 2025 | 4 | 825,224 | 774,944 | 2,344 | 2,106 |
| 2025 | 5 | 801,451 | 827,439 | 2,385 | 2,028 |
| **Totals** | | **11,991,544** | **12,334,891** | | |

## Table II-11

| ComEd Procurement Period Load Forecast (High Load)<br>Projected Energy Usage and Average Demand For Eligible Retail Customers<br>(Line Loss and DSM Adjusted) | | | | | |
|---|---|---|---|---|---|
| **Year** | **Month** | **Total Load (MWh)** | | **Average Load (MW)** | |
| | | **On-Peak** | **Off-Peak** | **On-Peak** | **Off-Peak** |
| 2024 | 6 | 1,251,573 | 1,255,428 | 3,911 | 3,139 |
| 2024 | 7 | 1,807,671 | 1,723,947 | 5,135 | 4,398 |
| 2024 | 8 | 1,778,629 | 1,584,682 | 5,053 | 4,043 |
| 2024 | 9 | 934,240 | 1,094,725 | 2,920 | 2,737 |
| 2024 | 10 | 1,012,755 | 882,382 | 2,752 | 2,347 |
| 2024 | 11 | 988,780 | 1,108,972 | 3,090 | 2,766 |
| 2024 | 12 | 1,298,129 | 1,461,726 | 3,863 | 3,583 |
| 2025 | 1 | 1,370,175 | 1,390,020 | 3,893 | 3,546 |
| 2025 | 2 | 1,129,271 | 1,141,890 | 3,529 | 3,244 |
| 2025 | 3 | 971,984 | 1,079,432 | 2,893 | 2,652 |
| 2025 | 4 | 904,782 | 823,725 | 2,570 | 2,238 |
| 2025 | 5 | 892,560 | 1,044,582 | 2,656 | 2,560 |
| **Totals** | | **14,340,549** | **14,591,511** | | |

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 three percentage points over the course of the calendar years 2024 and 2025. This switching change equates to approximately 540 GWh less for Program Year 2024 and 800 GWh less for Program Year 2025 in ultimate procurement quantities. The percentage of Eligible Retail Customers taking Blended Service in this switching scenario is 67% (based on usage) as of December 2025 compared to 70% 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 two percentage points over the course of the calendar years 2024 and 2025. This switching change equates to approximately 540 GWh more for Program Year 2024 and 540 GWh more for Program Year 2025 in ultimate procurement quantities. The percentage of Eligible Retail Customers taking Blended Service in this switching scenario is 72% as of December 2025 compared to 70% 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, 2024 through May 31, 2029 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** |
| CONST | 0.864 | 24.75 | Constant term |
| Calendar.Monday | -0.096 | -9.12 | Daily Binary - Monday |
| Calendar.Tuesday | -0.095 | -8.26 | Daily Binary - Tuesday |
| Calendar.Wednesday | -0.095 | -8.00 | Daily Binary - Wednesday |
| Calendar.Thursday | -0.101 | -8.46 | Daily Binary - Thursday |
| Calendar.Friday | -0.103 | -8.86 | Daily Binary - Friday |
| Calendar.Saturday | -0.031 | -3.96 | Daily Binary - Saturday |
| Calendar.MLK | 0.088 | 1.87 | Martin Luther King's Day |
| Calendar.PresDay | 0.078 | 1.67 | President's Day |
| Calendar.GoodFri | 0.015 | 0.34 | Good Friday |
| Calendar.MemDay | 0.167 | 3.45 | Memorial Day |
| Calendar.July4th | 0.025 | 0.43 | July 4th. |
| Calendar.LaborDay | 0.280 | 5.80 | Labor Day |
| Calendar.Thanks | 0.170 | 3.47 | Thanksgiving Day |
| Calendar.FriAThanks | 0.056 | 1.09 | Friday after Thanksgiving Day |
| Calendar.XMasWkB4 | 0.108 | 1.85 | Week before Christmas |
| Calendar.XMasEve | 0.236 | 3.36 | Christmas Eve |
| Calendar.XMasDay | 0.159 | 2.58 | Christmas Day |
| Calendar.XMasWk | 0.097 | 1.51 | Christmas Week |
| Calendar.NYEve | 0.116 | 1.51 | New Year's Eve Day |
| Calendar.NYDay | 0.127 | 2.11 | New Year's Day |
| DayType.Feb | -0.044 | -1.12 | Monthly Binary - February |
| DayType.Mar | -0.134 | -3.53 | Monthly Binary - March |
| DayType.MarDLS | 0.003 | 0.08 | Day That Daylight Savings Begins In March |
| DayType.Apr | -0.132 | -3.32 | Monthly Binary - April |
| DayType.May | -0.162 | -3.95 | Monthly Binary - May |
| DayType.Jun | 0.144 | 3.38 | Monthly Binary - June |
| DayType.Jul | 0.184 | 4.07 | Monthly Binary - July |
| DayType.Aug | 0.225 | 5.10 | Monthly Binary - August |
| DayType.Sep | 0.127 | 2.91 | Monthly Binary - September |
| DayType.Oct | 0.006 | 0.15 | Monthly Binary - October |
| DayType.NovDLS | 0.015 | 0.35 | Day That Daylight Savings Ends In November |
| DayType.Nov | -0.138 | -3.14 | Monthly Binary - November |
| DayType.Dec | -0.018 | -0.45 | Monthly Binary - December |
| DayType.JanWalk | -0.001 | -0.95 | Monthly Time Trend - January |
| DayType.FebWalk | -0.003 | -1.74 | Monthly Time Trend - February |
| DayType.MarWalk | 0.000 | 0.22 | Monthly Time Trend - March |
| DayType.AprWalk | 0.000 | 0.31 | Monthly Time Trend - April |
| DayType.MayWalk | 0.006 | 4.57 | Monthly Time Trend - May |
| DayType.JunWalk | 0.000 | -0.17 | Monthly Time Trend - June |
| DayType.JulWalk | 0.000 | 0.17 | Monthly Time Trend - July |
| DayType.AugWalk | -0.003 | -1.95 | Monthly Time Trend - August |

| | | | |
|---|---|---|---|
| DayType.SepWalk | -0.003 | -2.15 | Monthly Time Trend - September |
| DayType.OctWalk | -0.004 | -2.90 | Monthly Time Trend - October |
| DayType.NovWalk | 0.005 | 2.81 | Monthly Time Trend - November |
| DayType.DecWalk | 0.002 | 0.98 | Monthly Time Trend - December |
| HDD.SeasonHDD | 0.007 | 11.97 | Seasonal Heating Degree Days Spline |
| HDD.LagHDD | 0.000 | -0.42 | 1 Day Lag Seasonal Heating Degree Days Spline |
| HDD.Lag2HDD | 0.001 | 1.31 | 2 Day Lag Seasonal Heating Degree Days Spline |
| THI.SeasonTDD | 0.156 | 81.79 | Seasonal Cooling Degree Days Spline |
| THI.LagTDD | -0.002 | -0.89 | 1 Day Lag Seasonal Cooling Degree Days Spline |
| THI.Lag2TDD | 0.017 | 9.56 | 2 Day Lag Seasonal Cooling Degree Days Spline |
| HDD.HDDWkEnd | 0.000 | 0.72 | Weekend Seasonal Heating Degree Days Spline |
| THI.TDDWkEnd | 0.002 | 0.86 | Weekend Seasonal Cooling Degree Days Spline |
| Binary.Yr2016 | 0.024 | 2.01 | An End Shift to describe usage for 2016 |
| Binary.Yr2017 | -0.011 | -0.94 | An End Shift to describe usage for 2017 |
| Binary.Yr2020 | 0.013 | 1.12 | An End Shift to describe usage for 2020 |
| AR(1) | 0.363 | 20.58 | 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 an absolute 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 3.3%. The 3.3% 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 | 2655.457 | 577.208 | 4.601 |
| CalVars.Jan | 62.07 | 31.406 | 1.976 |
| CalVars.Feb | -253.3 | 63.405 | -3.995 |
| CalVars.Mar | -281.205 | 82.052 | -3.427 |
| CalVars.Apr | -480.023 | 67.532 | -7.108 |
| CalVars.May | -340.882 | 74.625 | -4.568 |
| CalVars.Jun | -193.799 | 76.008 | -2.550 |
| CalVars.Jul | -17.379 | 87.157 | -0.199 |
| CalVars.Aug | 24.384 | 80.253 | 0.304 |
| CalVars.Sep | -240 | 67.325 | -3.565 |
| CalVars.Oct | -275.694 | 68.823 | -4.006 |
| CalVars.Nov | -287.933 | 83.385 | -3.453 |
| CalVars.WkEndHols | -13.217 | 7.482 | -1.766 |
| CalHDD.HDD_Spring | 2.276 | 0.205 | 11.096 |
| CalHDD.HDD_Fall | 2.305 | 0.241 | 9.549 |
| CalHDD.HDD_Winter | 1.912 | 0.091 | 21.016 |
| CalCDD.SpringTDD | 11.908 | 0.963 | 12.368 |
| CalCDD.SummerTDD | 13.243 | 0.324 | 40.860 |
| CalCDD.FallTDD | 9.942 | 2.380 | 4.177 |
| Monthly.EconIndex15 | 5387.858 | 548.014 | 9.832 |
| EE_Savings.Total | -0.938 | 0.050 | -18.913 |
| CalVars.Yr22Plus | -65.981 | 43.831 | -1.505 |
| AR(1) | 0.497 | 0.069 | 7.219 |

| Residential Customer Class Model | | | |
|---|---|---|---|
| **Variable** | **Coefficient** | **StdErr** | **T-Stat** |
| Monthly.Jan | 18.963 | 0.924 | 20.524 |
| Monthly.Feb | 17.909 | 0.935 | 19.161 |
| Monthly.Mar | 17.431 | 0.881 | 19.796 |
| Monthly.Apr | 16.776 | 0.858 | 19.555 |
| Monthly.May | 16.854 | 0.811 | 20.784 |
| Monthly.Jun | 18.008 | 0.811 | 22.206 |
| Monthly.Jul | 20.318 | 0.813 | 24.992 |
| Monthly.Aug | 20.408 | 0.825 | 24.740 |
| Monthly.Sep | 19.402 | 0.833 | 23.295 |
| Monthly.Oct | 18.336 | 0.807 | 22.733 |
| Monthly.Nov | 17.707 | 0.871 | 20.322 |
| Monthly.Dec | 18.332 | 0.872 | 21.021 |
| CycWthrT.ResHDD_Spring | 0.276 | 0.03 | 9.336 |
| CycWthrT.ResHDD_Fall | 0.233 | 0.041 | 5.693 |
| CycWthrT.ResHDD_Winter | 0.253 | 0.013 | 20.080 |
| CycWthrT.ResCDD_Spring | 2.344 | 0.373 | 6.276 |
| CycWthrT.ResCDD_Jun | 2.569 | 0.127 | 20.206 |
| CycWthrT.ResCDD_Jul | 2.216 | 0.062 | 35.579 |
| CycWthrT.ResCDD_Aug | 2.344 | 0.068 | 34.244 |
| CycWthrT.ResCDD_Sep | 2.498 | 0.086 | 28.925 |
| CycWthrT.ResCDD_Fall | 2.616 | 0.164 | 15.950 |
| CycVars.ResEE_PerDay | -0.504 | 0.042 | -12.115 |
| CycVars.ResBill_MA_Index | -1.274 | 0.713 | -1.786 |
| Monthly.Yr2018Plus | -0.536 | 0.147 | -3.655 |
| Monthly.Avg_IHME_Mobility_Cyc | -0.013 | 0.006 | -2.068 |
| AR(1) | 0.431 | 0.074 | 5.816 |

| Small C&I Customer Class Model | | | |
|---|---|---|---|
| **Variable** | **Coefficient** | **StdErr** | **T-Stat** |
| Monthly.Jan | 33.621 | 7.806 | 4.307 |
| Monthly.Feb | 36.574 | 7.83 | 4.671 |
| Monthly.Mar | 36.055 | 7.794 | 4.626 |
| Monthly.Apr | 34.957 | 7.803 | 4.48 |
| Monthly.May | 33.32 | 7.789 | 4.278 |
| Monthly.Jun | 33.97 | 7.837 | 4.334 |
| Monthly.Jul | 34.993 | 7.956 | 4.398 |
| Monthly.Aug | 38.231 | 7.984 | 4.788 |
| Monthly.Sep | 37.575 | 7.934 | 4.736 |
| Monthly.Oct | 36.748 | 7.864 | 4.673 |
| Monthly.Nov | 34.125 | 7.826 | 4.360 |
| Monthly.Dec | 32.311 | 7.846 | 4.118 |
| CycWthrT.SCI_HDD | 0.518 | 0.041 | 12.494 |
| CycWthrT.SCI_CDD | 2.403 | 0.177 | 13.552 |
| CycWthrT.SCI_CDDTrend_2021_Cap | -0.035 | 0.009 | -3.721 |
| CycVars.SCI_Econ_Index3 | 47.133 | 8.112 | 5.81 |
| SCI.DelayedBill2 | -0.025 | 0.003 | -8.101 |
| CycVars.SCI_EEPerDay | -0.591 | 0.065 | -9.022 |
| Monthly.Avg_IHME_Mobility_Cyc | 0.061 | 0.035 | 1.741 |
| AR(1) | 0.235 | 0.077 | 3.054 |

| StreetLighting Class Model | | | |
|---|---|---|---|
| **Variable** | **Coefficient** | **StdErr** | **T-Stat** |
| Monthly.Jan | 2.765 | 0.039 | 71.296 |
| Monthly.Feb | 2.689 | 0.040 | 66.751 |
| Monthly.Mar | 2.281 | 0.041 | 56.129 |
| Monthly.Apr | 2.131 | 0.039 | 54.463 |
| Monthly.May | 1.839 | 0.041 | 44.823 |
| Monthly.Jun | 1.823 | 0.038 | 47.602 |
| Monthly.Jul | 1.724 | 0.038 | 44.859 |
| Monthly.Aug | 1.807 | 0.036 | 50.143 |
| Monthly.Sep | 2.009 | 0.036 | 56.001 |
| Monthly.Oct | 2.208 | 0.036 | 60.966 |
| Monthly.Nov | 2.387 | 0.036 | 66.153 |
| Monthly.Dec | 2.555 | 0.036 | 71.756 |
| CycVars.SL_DelayedBillsPerDay | -0.618 | 0.134 | -4.611 |
| CycVars.SL_DelayedBillsPerDayLag | 1.018 | 0.05 | 20.25 |
| CycVars.SL_EEPerDay | -0.83 | 0.066 | -12.657 |
| Monthly.Yr2019Plus | -0.076 | 0.055 | -1.379 |

# Appendix A-3

## ComEd Model Regression Statistics

| Regression Statistics | Zone | Residential | Small C&I | Street Lighting |
|---|---|---|---|---|
| Iterations | 12 | 14 | 13 | 1 |
| Adjusted Observations | 184 | 178 | 181 | 113 |
| Deg. of Freedom for Error | 161 | 152 | 161 | 97 |
| R-Squared | 0.992 | 0.994 | 0.971 | 0.969 |
| Adjusted R-Squared | 0.991 | 0.993 | 0.968 | 0.964 |
| AIC | 9.183 | -1.89 | 0.633 | -4.484 |
| BIC | 9.585 | -1.425 | 0.986 | -4.098 |
| Log-Likelihood | -1,082.89 | -58.39 | -294.11 | 109 |
| Model Sum of Squares | 170,764,101 | 3,528.69 | 9,183.16 | 29.9 |
| Sum of Squared Errors | 1,393,841.56 | 20.09 | 273.26 | 0.96 |
| Mean Squared Error | 8,657.40 | 0.13 | 1.7 | 0.01 |
| Std. Error of Regression | 93.05 | 0.36 | 1.3 | 0.1 |
| Mean Abs. Dev. (MAD) | 68.27 | 0.28 | 1 | 0.07 |
| Mean Abs. % Err. (MAPE) | 0.83% | 1.30% | 1.18% | 4.10% |
| Durbin-Watson Statistic | 2.121 | 1.890 | 1.996 | 1.152 |
| Ljung-Box Statistic | 24.08 | 15.39 | 17.6 | 44.87 |
| Prob (Ljung-Box) | 0.457 | 0.9089 | 0.8222 | 0.006 |
| Prob (Jarque-Bera) | 0.8314 | 0.6824 | 0.6956 | 0.2962 |

## 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 1993 to 2022 for the forecast years of 2024 to 2028. 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 Year 2022 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 2022 and thereafter. By forcing all the residuals to sum to zero for the months January 2022 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 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 Avg_IHME_Mobility_Cyc variable is designed to capture the impacts of the COVID-19 pandemic on usage. It is an estimate of the monthly percentage deviation of customer mobility (i.e., movement in and out of the household) from a pre-COVID baseline due the dynamics of social distancing, mandated business closures and remote work over the last few years.

- 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 Avg_IHME_Mobility_Cyc variable in the Residential Model section above for description. The Avg_IHME_Mobility_Cyc variable is intended 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 |
| 2024 | 6 | 1,155,820 | 1,244,224 | 3,612 | 3,111 |
| 2024 | 7 | 1,573,490 | 1,468,949 | 4,470 | 3,747 |
| 2024 | 8 | 1,468,724 | 1,370,643 | 4,173 | 3,497 |
| 2024 | 9 | 955,402 | 1,080,034 | 2,986 | 2,700 |
| 2024 | 10 | 945,993 | 898,590 | 2,571 | 2,390 |
| 2024 | 11 | 936,732 | 1,080,094 | 2,927 | 2,694 |
| 2024 | 12 | 1,158,760 | 1,302,107 | 3,449 | 3,191 |
| 2025 | 1 | 1,251,963 | 1,316,171 | 3,557 | 3,358 |
| 2025 | 2 | 1,047,886 | 1,105,329 | 3,275 | 3,140 |
| 2025 | 3 | 930,523 | 1,095,778 | 2,769 | 2,692 |
| 2025 | 4 | 832,726 | 864,499 | 2,366 | 2,349 |
| 2025 | 5 | 806,139 | 937,354 | 2,399 | 2,297 |
| 2025 | 6 | 1,189,466 | 1,197,278 | 3,540 | 3,118 |
| 2025 | 7 | 1,556,234 | 1,470,618 | 4,421 | 3,752 |
| 2025 | 8 | 1,383,633 | 1,431,753 | 4,118 | 3,509 |
| 2025 | 9 | 993,806 | 1,030,470 | 2,958 | 2,684 |
| 2025 | 10 | 936,377 | 901,291 | 2,545 | 2,397 |
| 2025 | 11 | 874,648 | 1,139,192 | 2,877 | 2,732 |
| 2025 | 12 | 1,222,799 | 1,271,090 | 3,474 | 3,243 |
| 2026 | 1 | 1,185,210 | 1,371,741 | 3,527 | 3,362 |
| 2026 | 2 | 1,039,245 | 1,110,287 | 3,248 | 3,154 |
| 2026 | 3 | 962,127 | 1,063,558 | 2,733 | 2,720 |
| 2026 | 4 | 811,857 | 866,413 | 2,306 | 2,354 |
| 2026 | 5 | 730,575 | 971,234 | 2,283 | 2,291 |
| 2026 | 6 | 1,223,865 | 1,150,896 | 3,477 | 3,127 |
| 2026 | 7 | 1,588,363 | 1,414,666 | 4,316 | 3,762 |
| 2026 | 8 | 1,359,838 | 1,438,806 | 4,047 | 3,526 |
| 2026 | 9 | 981,670 | 1,029,401 | 2,922 | 2,681 |
| 2026 | 10 | 891,778 | 932,103 | 2,533 | 2,378 |
| 2026 | 11 | 931,478 | 1,103,252 | 2,911 | 2,751 |
| 2026 | 12 | 1,227,688 | 1,279,776 | 3,488 | 3,265 |
| 2027 | 1 | 1,129,175 | 1,434,232 | 3,529 | 3,383 |
| 2027 | 2 | 1,036,100 | 1,125,740 | 3,238 | 3,198 |
| 2027 | 3 | 999,475 | 1,041,291 | 2,716 | 2,777 |
| 2027 | 4 | 793,944 | 878,759 | 2,256 | 2,388 |
| 2027 | 5 | 716,907 | 974,803 | 2,240 | 2,299 |
| 2027 | 6 | 1,225,906 | 1,146,946 | 3,483 | 3,117 |
| 2027 | 7 | 1,439,327 | 1,553,989 | 4,284 | 3,809 |
| 2027 | 8 | 1,424,109 | 1,396,923 | 4,046 | 3,564 |
| 2027 | 9 | 982,666 | 1,033,775 | 2,925 | 2,692 |
| 2027 | 10 | 846,548 | 973,553 | 2,519 | 2,386 |

| ComEd Procurement Period Load Forecast (Expected Load)<br>Projected Energy Usage and Average Demand For Eligible Retail Customers<br>(Weather Normal, Line Loss and DSM Adjusted) | | | | | |
|---|---|---|---|---|---|
| **Year** | **Month** | **Total Load (MWh)** | | **Average Load (MW)** | |
| | | **On-Peak** | **Off-Peak** | **On-Peak** | **Off-Peak** |
| 2027 | 11 | 986,208 | 1,081,865 | 2,935 | 2,810 |
| 2027 | 12 | 1,299,470 | 1,237,227 | 3,531 | 3,290 |
| 2028 | 1 | 1,199,133 | 1,382,905 | 3,569 | 3,389 |
| 2028 | 2 | 1,078,199 | 1,152,548 | 3,209 | 3,202 |
| 2028 | 3 | 992,031 | 1,051,864 | 2,696 | 2,805 |
| 2028 | 4 | 715,828 | 928,949 | 2,237 | 2,322 |
| 2028 | 5 | 793,247 | 914,633 | 2,254 | 2,333 |
| 2028 | 6 | 1,226,830 | 1,146,131 | 3,485 | 3,114 |
| 2028 | 7 | 1,370,566 | 1,612,213 | 4,283 | 3,802 |
| 2028 | 8 | 1,497,354 | 1,347,494 | 4,069 | 3,584 |
| 2028 | 9 | 918,592 | 1,092,824 | 2,871 | 2,732 |
| 2028 | 10 | 889,252 | 953,054 | 2,526 | 2,431 |
| 2028 | 11 | 998,369 | 1,092,536 | 2,971 | 2,838 |
| 2028 | 12 | 1,124,565 | 1,415,468 | 3,514 | 3,338 |
| 2029 | 1 | 1,278,780 | 1,354,703 | 3,633 | 3,456 |
| 2029 | 2 | 1,044,414 | 1,147,539 | 3,264 | 3,260 |
| 2029 | 3 | 951,040 | 1,090,430 | 2,702 | 2,789 |
| 2029 | 4 | 763,199 | 896,352 | 2,271 | 2,334 |
| 2029 | 5 | 790,926 | 914,406 | 2,247 | 2,333 |
| **Totals** | | **64,666,975** | **69,310,749** | | |

# Appendix B-2

**ComEd Procurement Period Load Forecast (Low 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 |
| 2024 | 6 | 970,313 | 1,104,706 | 3,032 | 2,762 |
| 2024 | 7 | 1,249,587 | 1,236,912 | 3,550 | 3,155 |
| 2024 | 8 | 1,124,000 | 1,076,995 | 3,193 | 2,747 |
| 2024 | 9 | 941,688 | 1,011,649 | 2,943 | 2,529 |
| 2024 | 10 | 921,993 | 810,389 | 2,505 | 2,155 |
| 2024 | 11 | 885,051 | 978,307 | 2,766 | 2,440 |
| 2024 | 12 | 1,115,604 | 1,244,463 | 3,320 | 3,050 |
| 2025 | 1 | 1,273,925 | 1,255,894 | 3,619 | 3,204 |
| 2025 | 2 | 1,004,891 | 1,034,189 | 3,140 | 2,938 |
| 2025 | 3 | 877,817 | 979,004 | 2,613 | 2,405 |
| 2025 | 4 | 825,224 | 774,944 | 2,344 | 2,106 |
| 2025 | 5 | 801,451 | 827,439 | 2,385 | 2,028 |
| 2025 | 6 | 988,757 | 988,895 | 2,943 | 2,575 |
| 2025 | 7 | 1,209,747 | 1,164,902 | 3,437 | 2,972 |
| 2025 | 8 | 999,162 | 1,098,615 | 2,974 | 2,693 |
| 2025 | 9 | 952,663 | 917,237 | 2,835 | 2,389 |
| 2025 | 10 | 882,376 | 781,892 | 2,398 | 2,080 |
| 2025 | 11 | 803,970 | 993,249 | 2,645 | 2,382 |
| 2025 | 12 | 1,144,227 | 1,170,418 | 3,251 | 2,986 |
| 2026 | 1 | 1,173,695 | 1,264,820 | 3,493 | 3,100 |
| 2026 | 2 | 979,462 | 991,329 | 3,061 | 2,816 |
| 2026 | 3 | 892,507 | 904,709 | 2,536 | 2,314 |
| 2026 | 4 | 783,924 | 747,373 | 2,227 | 2,031 |
| 2026 | 5 | 714,840 | 823,650 | 2,234 | 1,943 |
| 2026 | 6 | 1,015,871 | 888,524 | 2,886 | 2,414 |
| 2026 | 7 | 1,253,179 | 1,026,739 | 3,405 | 2,731 |
| 2026 | 8 | 987,134 | 1,031,275 | 2,938 | 2,528 |
| 2026 | 9 | 912,310 | 886,736 | 2,715 | 2,309 |
| 2026 | 10 | 810,474 | 789,327 | 2,302 | 2,014 |
| 2026 | 11 | 822,792 | 937,131 | 2,571 | 2,337 |
| 2026 | 12 | 1,109,595 | 1,146,244 | 3,152 | 2,924 |
| 2027 | 1 | 1,082,080 | 1,287,479 | 3,382 | 3,037 |
| 2027 | 2 | 968,577 | 952,250 | 3,027 | 2,705 |
| 2027 | 3 | 916,370 | 838,100 | 2,490 | 2,235 |
| 2027 | 4 | 758,949 | 719,537 | 2,156 | 1,955 |
| 2027 | 5 | 701,537 | 779,438 | 2,192 | 1,838 |
| 2027 | 6 | 1,016,449 | 826,195 | 2,888 | 2,245 |
| 2027 | 7 | 1,125,596 | 1,074,469 | 3,350 | 2,634 |
| 2027 | 8 | 1,060,297 | 909,738 | 3,012 | 2,321 |
| 2027 | 9 | 878,137 | 869,311 | 2,614 | 2,264 |
| 2027 | 10 | 747,673 | 798,872 | 2,225 | 1,958 |

**ComEd Procurement Period Load Forecast (Low 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 |
| 2027 | 11 | 851,783 | 881,829 | 2,535 | 2,290 |
| 2027 | 12 | 1,148,483 | 1,063,223 | 3,121 | 2,828 |
| 2028 | 1 | 1,094,023 | 1,219,210 | 3,256 | 2,988 |
| 2028 | 2 | 971,057 | 942,959 | 2,890 | 2,619 |
| 2028 | 3 | 882,691 | 818,701 | 2,399 | 2,183 |
| 2028 | 4 | 663,534 | 743,903 | 2,074 | 1,860 |
| 2028 | 5 | 725,227 | 722,984 | 2,060 | 1,844 |
| 2028 | 6 | 991,603 | 791,892 | 2,817 | 2,152 |
| 2028 | 7 | 1,017,557 | 1,104,672 | 3,180 | 2,605 |
| 2028 | 8 | 1,057,904 | 865,387 | 2,875 | 2,302 |
| 2028 | 9 | 813,538 | 874,550 | 2,542 | 2,186 |
| 2028 | 10 | 767,678 | 748,731 | 2,181 | 1,910 |
| 2028 | 11 | 840,526 | 857,630 | 2,502 | 2,228 |
| 2028 | 12 | 972,649 | 1,172,959 | 3,040 | 2,766 |
| 2029 | 1 | 1,132,806 | 1,154,219 | 3,218 | 2,944 |
| 2029 | 2 | 903,832 | 924,960 | 2,824 | 2,628 |
| 2029 | 3 | 816,799 | 830,410 | 2,320 | 2,124 |
| 2029 | 4 | 685,427 | 690,332 | 2,040 | 1,798 |
| 2029 | 5 | 692,663 | 707,962 | 1,968 | 1,806 |
| **Totals** | | **56,713,674** | **57,059,858** | | |

# Appendix B-3

**ComEd Procurement Period Load Forecast (High 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 |
| 2024 | 6 | 1,251,573 | 1,255,428 | 3,911 | 3,139 |
| 2024 | 7 | 1,807,671 | 1,723,947 | 5,135 | 4,398 |
| 2024 | 8 | 1,778,629 | 1,584,682 | 5,053 | 4,043 |
| 2024 | 9 | 934,240 | 1,094,725 | 2,920 | 2,737 |
| 2024 | 10 | 1,012,755 | 882,382 | 2,752 | 2,347 |
| 2024 | 11 | 988,780 | 1,108,972 | 3,090 | 2,766 |
| 2024 | 12 | 1,298,129 | 1,461,726 | 3,863 | 3,583 |
| 2025 | 1 | 1,370,175 | 1,390,020 | 3,893 | 3,546 |
| 2025 | 2 | 1,129,271 | 1,141,890 | 3,529 | 3,244 |
| 2025 | 3 | 971,984 | 1,079,432 | 2,893 | 2,652 |
| 2025 | 4 | 904,782 | 823,725 | 2,570 | 2,238 |
| 2025 | 5 | 892,560 | 1,044,582 | 2,656 | 2,560 |
| 2025 | 6 | 1,358,220 | 1,221,199 | 4,042 | 3,180 |
| 2025 | 7 | 1,919,723 | 1,706,094 | 5,454 | 4,352 |
| 2025 | 8 | 1,723,333 | 1,710,345 | 5,129 | 4,192 |
| 2025 | 9 | 1,009,157 | 1,063,695 | 3,003 | 2,770 |
| 2025 | 10 | 1,029,722 | 905,538 | 2,798 | 2,408 |
| 2025 | 11 | 961,862 | 1,179,508 | 3,164 | 2,829 |
| 2025 | 12 | 1,396,216 | 1,455,680 | 3,967 | 3,713 |
| 2026 | 1 | 1,322,752 | 1,480,989 | 3,937 | 3,630 |
| 2026 | 2 | 1,151,859 | 1,160,679 | 3,600 | 3,297 |
| 2026 | 3 | 1,034,758 | 1,056,852 | 2,940 | 2,703 |
| 2026 | 4 | 911,718 | 831,866 | 2,590 | 2,261 |
| 2026 | 5 | 825,962 | 1,103,563 | 2,581 | 2,603 |
| 2026 | 6 | 1,436,404 | 1,181,650 | 4,081 | 3,211 |
| 2026 | 7 | 2,039,699 | 1,630,430 | 5,543 | 4,336 |
| 2026 | 8 | 1,759,304 | 1,723,160 | 5,236 | 4,223 |
| 2026 | 9 | 1,082,703 | 1,017,989 | 3,222 | 2,651 |
| 2026 | 10 | 991,560 | 967,721 | 2,817 | 2,469 |
| 2026 | 11 | 1,042,081 | 1,164,194 | 3,257 | 2,903 |
| 2026 | 12 | 1,441,346 | 1,483,669 | 4,095 | 3,785 |
| 2027 | 1 | 1,285,054 | 1,582,073 | 4,016 | 3,731 |
| 2027 | 2 | 1,187,035 | 1,184,799 | 3,709 | 3,366 |
| 2027 | 3 | 1,110,071 | 1,038,649 | 3,016 | 2,770 |
| 2027 | 4 | 924,490 | 847,762 | 2,626 | 2,304 |
| 2027 | 5 | 896,985 | 1,059,133 | 2,803 | 2,498 |
| 2027 | 6 | 1,427,079 | 1,241,103 | 4,054 | 3,373 |
| 2027 | 7 | 1,893,767 | 1,838,252 | 5,636 | 4,506 |
| 2027 | 8 | 1,891,439 | 1,689,182 | 5,373 | 4,309 |
| 2027 | 9 | 1,130,103 | 1,017,848 | 3,363 | 2,651 |
| 2027 | 10 | 961,754 | 1,032,284 | 2,862 | 2,530 |

| ComEd Procurement Period Load Forecast (High Load)<br>Projected Energy Usage and Average Demand For Eligible Retail Customers<br>(Weather Normal, Line Loss and DSM Adjusted) | | | | | |
|---|---|---|---|---|---|
| **Year** | **Month** | **Total Load (MWh)** | | **Average Load (MW)** | |
| | | **On-Peak** | **Off-Peak** | **On-Peak** | **Off-Peak** |
| 2027 | 11 | 1,119,849 | 1,166,714 | 3,333 | 3,030 |
| 2027 | 12 | 1,572,060 | 1,445,399 | 4,272 | 3,844 |
| 2028 | 1 | 1,395,203 | 1,549,883 | 4,152 | 3,799 |
| 2028 | 2 | 1,259,314 | 1,233,839 | 3,748 | 3,427 |
| 2028 | 3 | 1,141,197 | 1,053,469 | 3,101 | 2,809 |
| 2028 | 4 | 827,468 | 949,333 | 2,586 | 2,373 |
| 2028 | 5 | 1,062,771 | 950,468 | 3,019 | 2,425 |
| 2028 | 6 | 1,459,402 | 1,260,996 | 4,146 | 3,427 |
| 2028 | 7 | 1,844,775 | 1,948,270 | 5,765 | 4,595 |
| 2028 | 8 | 2,034,969 | 1,648,524 | 5,530 | 4,384 |
| 2028 | 9 | 1,048,489 | 1,136,537 | 3,277 | 2,841 |
| 2028 | 10 | 1,045,353 | 1,012,813 | 2,970 | 2,584 |
| 2028 | 11 | 1,158,324 | 1,198,911 | 3,447 | 3,114 |
| 2028 | 12 | 1,416,006 | 1,665,665 | 4,425 | 3,928 |
| 2029 | 1 | 1,522,529 | 1,539,769 | 4,325 | 3,928 |
| 2029 | 2 | 1,241,648 | 1,259,506 | 3,880 | 3,578 |
| 2029 | 3 | 1,123,185 | 1,112,251 | 3,191 | 2,845 |
| 2029 | 4 | 898,850 | 929,332 | 2,675 | 2,420 |
| 2029 | 5 | 1,066,463 | 984,779 | 3,030 | 2,512 |
| **Totals** | | **75,724,560** | **75,213,875** | | |