EXH. CDP-3
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: CURT D. PUCKETT

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-240004** **Docket UG-240005**

SECOND EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

CURT D. PUCKETT

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024

Gas Load Research

Daily Load Analysis:
July 1, 2022 – June 30, 2023

Puget Sound Energy

Date of first issue: October 26, 2023
Date of this revision: December 18, 2023

Customer Details

Customer Name:	Puget Sound Energy
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About this document

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Confidentiality

for Markets & Risk

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1 EXECUTIVE SUMMARY

This study was conducted to develop daily gas load profiles for use in cost-of-service, rate design, and other internal planning activities. The analysis period was July 1, 2022, through June 30, 2023. This analysis focuses on the following gas rate classes of interest:

- SCH 23 – Residential General Service
- SCH 31 – Commercial and Industrial General Service
- SCH 41 – Large Volume High Load Factor
- SCH 41T – Distribution System Transportation Service (Firm-Large Volume High Load Factor)
- SCH 85 – Interruptible Gas Service with Firm Option
- SCH 85T – Distribution System Transportation Service (Interruptible with Firm Option)
- SCH 86 – Limited Interruptible Gas Service with Firm Option
- SCH 86T – Distribution System Transportation Service (Limited Interruptible with Firm Option)
- SCH 87 – Non-Exclusive Interruptible Service with Firm Option
- SCH 87T – Distribution System Transportation Service (Non-Exclusive Interruptible with Firm Option)
- Special Contracts

The analysis used daily data that were available for each rate schedule, which is about 98% of population of interest. Table EX 1 summarizes the number of accounts and the total annual usage in Therms for each rate schedule. The table is divided between Sales and Transportation domains. In addition, these statistics were reported by commercial and Industrial levels wherever appropriate. The Sales schedules represent 99.98% of the total number of accounts and 82.56% of the total annual gas usage.

Table EX 1 – Overall Summary of Rates and Domains

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)	Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
41-Industrial	69	9,417,004	136,478	86T-Commercial	2	1,512,056	756,028
85-Commercial	28	19,904,154	710,863	86T-Industrial	4	616,915	154,229
85-Industrial	5	4,702,369	940,474	87T-Ccommercial	3	17,775,915	5,925,305
86-Commercial	101	5,654,559	55,986	87T-Industrial	7	73,610,467	10,515,781
86-Industrial	6	384,580	64,097	Special Contracts	9	33,066,238	3,674,026
87-Commercial	4	20,026,822	5,006,705	Total Transport	201	207,529,084	1,032,483
Total Sales	872,186	982,408,329	1,126	Sales & Transport	872,387	1,189,937,413	1,364

Figure EX 1 presents vertical EnergyPrints that display the total daily use of each Sales schedule. The EnergyPrint displays day of year on the y-axis and the daily use as a color gradient with low levels of load in the black to blue spectrum and high levels of load in the yellow to white spectrum. The EnergyPrints present a “helicopter” view of the data providing a

perspective on the average weekday, average weekend, and seasonality of the load. The EnergyPrints start on July 1, 2022, and present the daily use throughout the study period ending on June 30, 2023. In this figure, we present the average daily temperature, followed by the PSE system load and each of the rate Sales class schedule loads beginning with Schedule 23 Residential. Schedules 23- Residential and 31- General Service loads mimic the system load characteristics. The remaining classes are slightly different with Schedule 85 being the most different from the system load. Schedule 85 show much higher more consistent use during the summer months. In addition, the dark lines throughout show the lower loads experienced by this class on weekends.

Figure EX 1 – Sales Schedule Loads

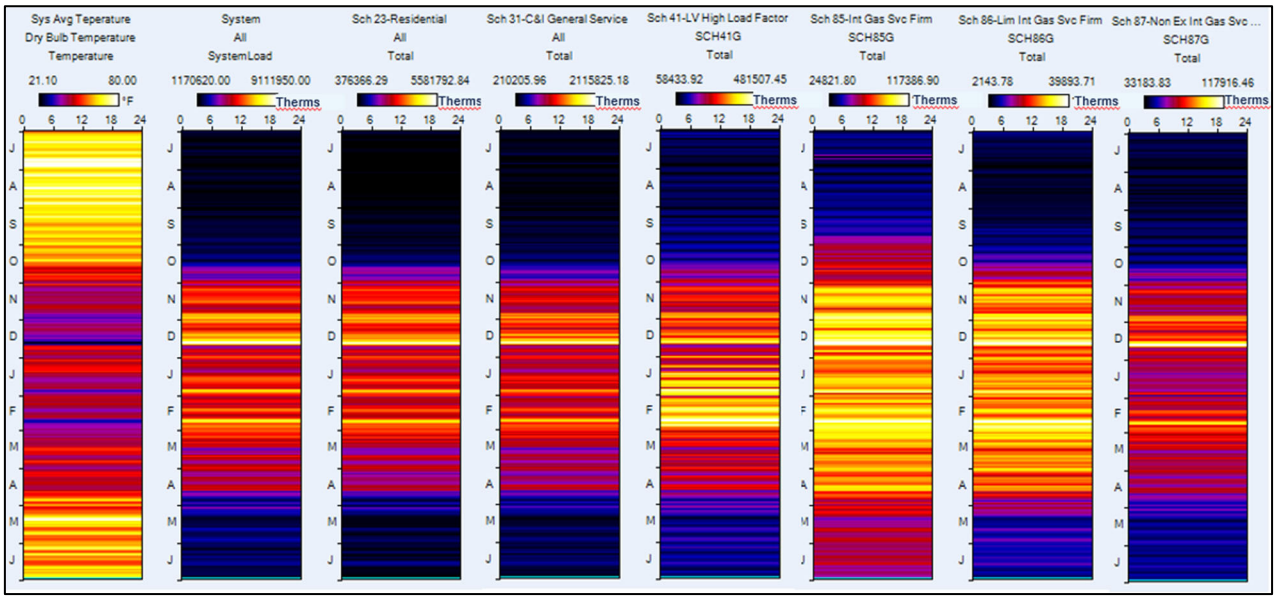


Figure EX 2 presents the vertical EnergyPrints for the Transportation schedules. Once again, we present the average daily temperature, the PSE system load, followed by the various transportation schedules. Here, most of the schedules show a substantial difference when compared to the System load. Schedules 41Transportation, 85 Transportation, and 87 Transportation show consistently higher weekday load throughout the year when compared to the system load. In general, the transportation loads have higher and more consistent load when compared to their Sales counterparts.

Figure EX 2 – Transportation Schedule Loads

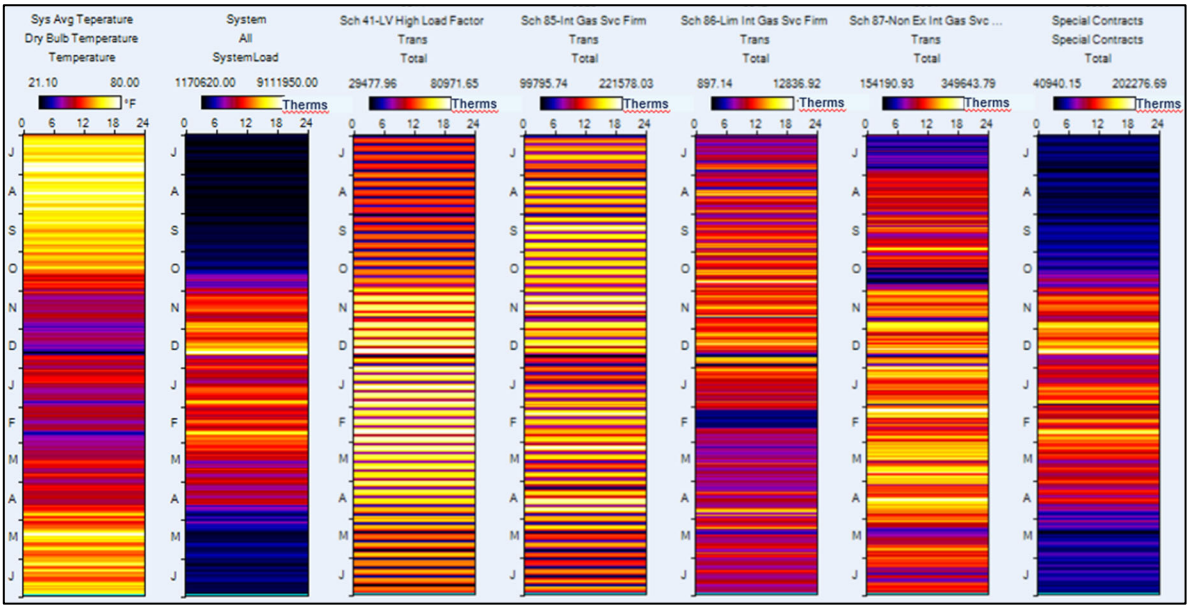


Table EX 2 summarizes the annual use, average daily use, annual class peak date, annual class peak demand, load factor, class demand at the time of the system peak, system peak load factor and coincidence factor. Schedule 23-Residential dominates, accounting for 51% of the total annual Therms use and an even higher portion (61%) of the system peak demand. Schedules 23, 31, 85, 86 and 87are coincident with the system peak. In addition to the coincident schedules, Schedule 41 T and special contracts have a coincidence factor above 90%. Schedule 86T has the lowest coincidence with the system load calculated at 34%.

Table EX 2 – Summary of Results

Schedule	Annual Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Non-Coincident (Class Peak) Demand (Therms)	Non-Coincident Load Factor (%)	Coincident (System Peak), Thursday December 22, 2022		Coincidence Factor (%)
						Class Demand (Therms)	Load Factor (%)	
Sales								
23	615,458,748	1,686,188	Thursday, December 22, 2022	5,581,793	30.2%	5,581,793	30.2%	100.0%
31	246,669,561	675,807	Thursday, December 22, 2022	2,115,825	31.9%	2,115,825	31.9%	100.0%
41	69,607,535	190,706	Thursday, February 23, 2023	481,507	39.6%	419,957	45.4%	87.2%
85	24,606,524	67,415	Thursday, December 22, 2022	117,387	57.4%	117,387	57.4%	100.0%
86	6,039,139	16,546	Thursday, December 22, 2022	39,894	41.5%	39,894	41.5%	100.0%
87	20,026,822	54,868	Thursday, December 22, 2022	117,916	46.5%	117,916	46.5%	100.0%
Sales Totals	982,408,329	2,691,530	Thursday, December 22, 2022	8,392,772	32.1%	8,392,772	32.1%	100.0%
Transportation								
41T	21,068,717	57,723	Wednesday, December 21, 2022	80,972	71.3%	77,741	74.3%	96.0%
85T	59,878,774	164,051	Thursday, November 17, 2022	221,578	74.0%	171,749	95.5%	77.5%
86T	2,128,972	5,833	Thursday, October 27, 2022	12,837	45.4%	4,392	132.8%	34.2%
87T	91,386,383	250,374	Monday, February 6, 2023	349,644	71.6%	277,515	90.2%	79.4%
Special Contracts	33,066,238	90,592	Wednesday, December 21, 2022	202,277	44.8%	186,231	48.6%	92.1%
Transportation Totals	207,529,084	568,573	Monday, December 19, 2022	775,573	73.3%	717,628	79.2%	92.5%

Puget Sound Energy
Gas Load Research Analysis
Daily Load Profiles

2 INTRODUCTION

DNV was hired to support Puget Sound Energy ("PSE") staff in the development of daily gas load profiles for use in cost-of-service, rate design, and other internal planning activities. The analysis period was July 1, 2022 through June 30, 2023. This analysis used daily data available at PSE and focused on the following gas rate classes of interest:

- SCH 23 – Residential General Service
- SCH 31 – Commercial and Industrial General Service
- SCH 41 – Large Volume High Load Factor
- SCH 41T – Distribution System Transportation Service (Firm-Large Volume High Load Factor)
- SCH 85 – Interruptible Gas Service with Firm Option
- SCH 85T – Distribution System Transportation Service (Interruptible with Firm Option)
- SCH 86 – Limited Interruptible Gas Service with Firm Option
- SCH 86T – Distribution System Transportation Service (Limited Interruptible with Firm Option)
- SCH 87 – Non-Exclusive Interruptible Service with Firm Option
- SCH 87T – Distribution System Transportation Service (Non-Exclusive Interruptible with Firm Option)
- Special Contracts

To gain greater insight, the class domains, i.e., commercial, industrial, and sales and Transportation components, are analyzed and reported on separately.

3 DAILY ANALYSIS OVERVIEW

3.1 Analysis Overview

The analysis begins by identifying the population frame of interest. This is accomplished by securing billing information on the full complement of customers on each of the rate schedules and domains of interest. This is followed by securing all available daily gas use data for all customers. While we expect the daily data to be available for most of the population, there are instances where the daily data will not be available due to a variety of reasons like equipment and communication failures as well as customers with manual reads that do not show up in the daily data stream. To maximize the amount of data available for analysis, the project team screened the data by rate for all customers to identify outlier values and sites with incomplete data to be removed from the analysis data set. All other data provided by PSE was included in the analysis.

Next, we use the available data in classic load research analysis framework to extrapolate the sample to the full population of interest. This starts by matching the available sample data to the various schedules and domains of interest to create case weights for use in the analysis. Case weights are simply the number of customers in the population represented by each sample point. In an ideal world, the case weights will be at or near 1.0. Next, the case weights are applied to estimate daily use for each class-domain. The estimated daily loads are then trued up to the official annual sales totals to get the final daily load profiles. This weighted analysis yields the best estimate of the daily total for each domain that are rolled up

to the classes of interest. Finally, the total number of customers are used to create the best estimate of average daily use for use in further analysis and reporting. Classic load research statistics are calculated for each daily estimated load profiles including the total load and mean load.

3.2 Population Frame

To construct a population frame for the analysis, the monthly billing data for the full population identified above was used. The monthly billing data was aggregated to annual totals for each customer. Table 1 presents a summary of the annual population billing data used in the analysis by rate schedule. Note, several of the rate schedules have a commercial domain, an industrial domain and corresponding Transportation domains. There are eleven rate schedules and nineteen domains of interest covered in this study.

The following summarizes the findings from Table 1.

- Schedule 23 (Residential) contains nearly 93% of the total number of accounts and consumes 51% of the total annual gas usage. The average residential annual use is calculated to be 757 Therms.
- Schedule 31 (General Service) contains nearly 7% of the total number of accounts and consumes just over 20% of the total gas usage. This schedule is dominated by commercial customers accounting for 94% of the overall schedule use. The average Schedule 31 customer uses 4,260 Therms per year.
- Schedule 41 (Large Volume High Load Factor) contains 1,330 customers with an average annual use of 68,199 Therms. These customers account for approximately 8% of the total annual gas usage. Commercial sales customers represent 88% of the accounts and nearly 66% of the total Therms use of this schedule.
- Schedule 85 (Interruptible Gas Service with Firm Option) contains just 116 accounts with an average annual gas usage of over 727,799 Therms. Most of the customers on this schedule are Transportation customers. In aggregate this schedule represents just over 7% of the total annual gas usage.
- Schedule 86 (Limited Interruptible Gas Service with Firm Option) contains just under 113 accounts with an average annual gas usage of 199,325 Therms. The consumption on this schedule is dominated by just four commercial transportation customers accounting for 89% of the total annual consumption
- Schedule 87 (Non-Exclusive Interruptible Service with Firm Option) contains relatively few (15) very large accounts with an average annual use of 7.6 million Therms. This class has eleven Transportation customers.
- Special Contracts has 9 accounts with an average annual use of 3.7 million Therms.

Table 1 – Population Frame Characteristics[1]

Schedule/Domain	Number of Accounts	% of Schedule Accounts	% of Total Accounts	Annual Use (Therms)	% of Schedule Use	% of Total Use	Average Annual Use (Therms)
23-Residential	812,902	100.00%		615,458,748	100.00%		757
Schedule 23 Total	812,902	100.00%	93.18%	615,458,748	100.00%	51.72%	757
31-Commercial	55,712	96.21%		232,925,969	94.43%		4,181
31-Industrial	2,192	3.79%		13,743,592	5.57%		6,270
Schedule 31 Total	57,904	100.00%	6.64%	246,669,561	100.00%	20.73%	4,260
41-Commercial	1,167	87.74%		60,190,531	66.38%		51,577
41-Industrial	69	5.19%		9,417,004	10.39%		136,478
41T-Commercial	77	5.79%		14,711,698	16.22%		191,061
41T-Industrial	17	1.28%		6,357,019	7.01%		373,942
Schedule 41 Total	1,330	100.00%	0.15%	90,676,252	100.00%	7.62%	68,178
85-Commercial	28	24.35%		19,904,154	23.56%		710,863
85-Industrial	5	4.35%		4,702,369	5.57%		940,474
85T-Commercial	23	20.00%		16,510,606	19.54%		717,852
85T-Industrial	59	51.30%		43,368,168	51.33%		735,054
Schedule 85 Total	115	100.00%	0.01%	84,485,298	100.00%	7.10%	734,655
86-Commercial	101	89.38%		5,654,559	69.23%		55,986
86-Industrial	6	5.31%		384,580	4.71%		64,097
86T-Commercial	2	1.77%		1,512,056	18.51%		756,028
86T-Industrial	4	3.54%		616,915	7.55%		154,229
Schedule 86 Total	113	100.00%	0.01%	8,168,111	100.00%	0.69%	72,284
87-Commercial	4	28.57%		20,026,822	17.98%		5,006,705
87T-Ccommercial	3	21.43%		17,775,915	15.95%		5,925,305
87T-Industrial	7	50.00%		73,610,467	66.07%		10,515,781
Schedule 87 Total	14	100.00%	0.00%	111,413,204	100.00%	9.36%	7,958,086
Special Contracts	9	100.00%		33,066,238	100.00%		3,674,026
Special Contracts Total	9	100.00%	0.00%	33,066,238	100.00%	2.78%	3,674,026
Schedule Totals	872,387		100.00%	1,189,937,413		100.00%	1,364

3.3 Available Sample Data and Associated Case Weights

The project used daily data available for the full complement of customers for the period July 1, 2022, through June 30, 2023. In the best of worlds, data would be available for all customers contained in the population frame. Unfortunately, the real world often results in a reduced set of data. Data are not captured for a variety of reasons including metrology, communication issues, outages or equipment failure. Prior to analysis, the available sample data are subjected to a series of quality checks. The first check was to verify sufficient data was available for each customer to be included in the analysis. Any customer with less than 180 days (approximately 50% of available days) was removed from the analysis. After this, each customer was screened for outliers by looking at the annual maximum value, 99th percentile, and 90th percentile. Any customers where the annual maximum was 100 times greater or more than the 99th percentile had the maximum removed. Additionally, for any customers where the annual maximum was more than 50 times the 90th percentile all values larger than the 90th percentile were removed. This resulted in a maximum of 3 days of data being removed from any given customer due to the identification of outliers.

Table 2 presents a summary of the daily data available for this analysis after the data validation. This table show population counts, the number of customers with available daily data, and the percentage of data that are available and used in the analysis. It is important to note that in load research relatively modest sized stratified samples are often used to represent classes that are many times larger. For example, it is not uncommon to see the residential class represented by a stratified sample of just 300 or so sample points. For this analysis, we have nearly 99% of all residential customers represented or a

[1] For Sales the number of accounts are based on device location and for Transportation the number of accounts are based on installation number.

sample of more than 816,000 accounts. For some of the larger rates, data are managed manually outside the PSE standard AMR/AMI metering system. For these, currently, daily data are not available.

The analysis approach uses a classic load research methodology detailed in Appendix A – Analysis Approach. We are leveraging the daily information known for the sample of customers with other correlated information, e.g., monthly, seasonal, or annual billing data that is known for the full population of customers. Classically, we would stratify the population and map the sample customers into the stratification schema based on annual usage. Since we have most of the customers from the population represented in the sample (over 90 %), we have used a simple methodology to construct the case weights where the case weights are the number of customers in the population represented by each sample point. The case weights for each analysis class have been included in the associated tables and most are around 1.0. For schedules 85 industrial & 87 commercial sales we did not have sufficient daily data and had to leverage the daily allocation from their Transportation counterpart to create the respective allocations.

Table 2 – Sales Accounts with Available Daily Data[2] and Associated Case Weights

Schedule/Domain	Number of Accounts (N)	Available Daily Data (n)	Percentage of Data Available	Case Weight (N/n)
23-Residential	819,584	816,836		1.00
Schedule 23 Total	819,584	816,836	99.7%	
31-Commercial	58,272	57,740		1.01
31-Industrial	2,342	2,322		1.01
Schedule 31 Total	60,614	60,062	99.1%	
41-Commercial	1,356	1,184		1.15
41-Industrial	76	62		1.23
41T-Commercial	77	77		1.00
41T-Industrial	18	18		1.00
Schedule 41 Total	1,527	1,341	87.8%	
85-Commercial	35	13		2.69
85-Industrial	7	Deemed		
85T-Commercial	25	23		1.09
85T-Industrial	61	61		1.00
Schedule 85 Total	128	97	75.8%	
86-Commercial	119	112		1.06
86-Industrial	7	5		1.40
86T-Commercial	2	2		1.00
86T-Industrial	5	5		1.00
Schedule 86 Total	133	124	93.2%	
87-Commercial	4	Deemed		
87T-Commercial	3	3		1.00
87T-Industrial	8	7		1.14
Schedule 87 Total	15	10	66.7%	
Special Contracts	9	9		1.00
Special Contracts Total	9	9	100.0%	
Schedule Totals	882,010	878,479	99.6%	

[2] The number of accounts in this table will differ from the "official" books and records presented earlier. The population counts in this table were based on the raw billing data provided and used to structure the weights used in the analysis. The totals and means presented throughout the report are based on the official "books and records" presented in Table 1.

4 DAILY ANALYSIS

In this section we present the results of our analyses by each rate schedule. We begin with a look at the overall gas system load followed by each rate schedule.

4.1 System Load

Figure 1 presents the PSE System gas load plotted against temperature. The figure to the left is a vertical EnergyPrint which displays the time on the x-axis, the day of the year on the y-axis and the magnitude of load as a color gradient with low levels of load in the black to blue spectrum and high levels of load in the yellow to white spectrum. In the two-dimensional graph to the right, the daily gas system load is plotted in blue and the average daily temperature is plotted in red. The data goes from July 1, 2022, through June 30, 2023. During this period the system peaked at approximately 9,111,950 Therms on Thursday, December 22, 2022. On this day the average outside temperature was 21.1ºF.

Table 3 presents the monthly demand and energy usage for the system. The table presents the month, the date of the system peak, the peak demand, the total monthly use, the load factor and the coincidence factor based on the annual system peak. The monthly load factor ranges from a low of 60.2% in May to a high of 87% in August. The annual load factor for the system is 36.5%.

Figure 1 – System Load

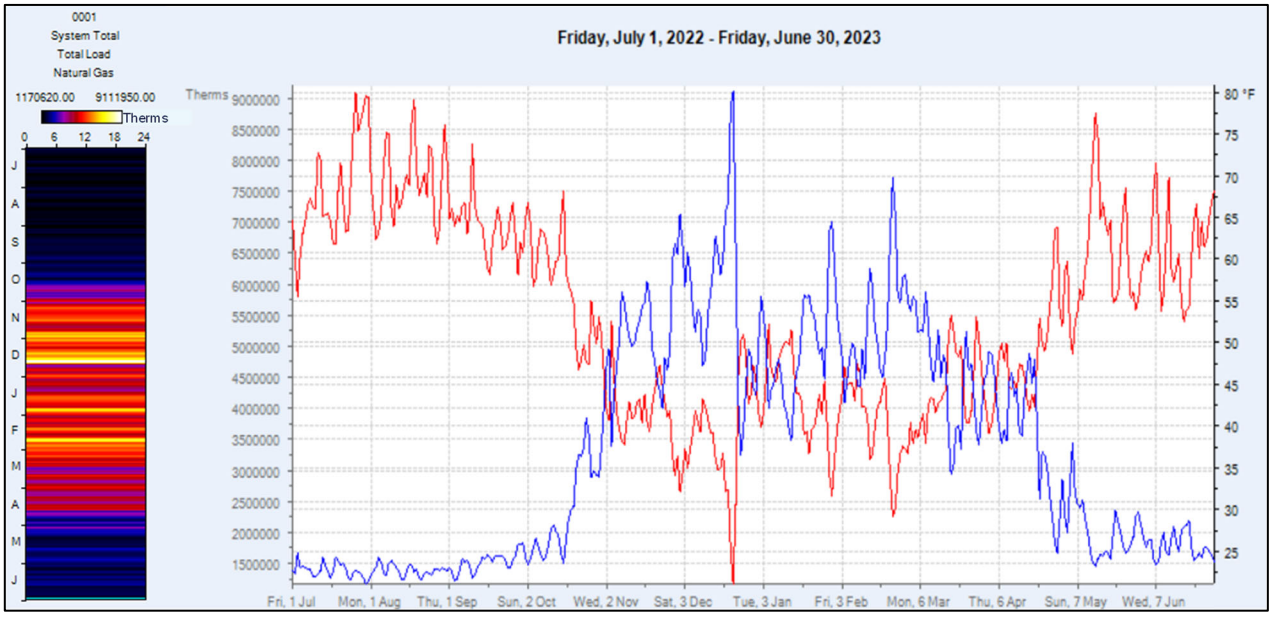


Table 3 – System Load Characteristics

Month	Date of Daily Coincident (System Peak) Demand	Maximum Day Use (Therms)	Total Monthly Use (Therms)	Load Factor (%)	Coincidence Factor (%)
July	Sunday, July 3, 2022	1,669,730	42,985,400	83.0%	18.3%
August	Thursday, August 4, 2022	1,596,410	43,075,730	87.0%	17.5%
September	Friday, September 30, 2022	1,839,450	45,737,620	82.9%	20.2%
October	Tuesday, October 25, 2022	3,830,270	72,200,450	60.8%	42.0%
November	Tuesday, November 29, 2022	6,663,310	153,446,130	76.8%	73.1%
December	Thursday, December 22, 2022	9,111,950	180,020,770	63.7%	100.0%
January	Monday, January 30, 2023	7,015,790	155,641,660	71.6%	77.0%
February	Thursday, February 23, 2023	7,705,680	150,116,510	69.6%	84.6%
March	Wednesday, March 8, 2023	5,871,360	142,171,640	78.1%	64.4%
April	Sunday, April 2, 2023	4,912,110	111,364,230	75.6%	53.9%
May	Friday, May 5, 2023	3,427,250	63,942,750	60.2%	37.6%
June	Tuesday, June 20, 2023	2,180,860	53,737,800	82.1%	23.9%
12-Month Ending	Thursday, December 22, 2022	9,111,950	1,214,440,690	36.5%	100.0%

Figure 2 presents the system load during the system peak week. The table presents the system load and the average outdoor temperature. The gas system peaked on Thursday, December 22, 2022. During the week of system peak, load ranged from 4.10 million Therms to the peak of 9.11 million Therms. .

Figure 2 – Coincident (System) Peak Week

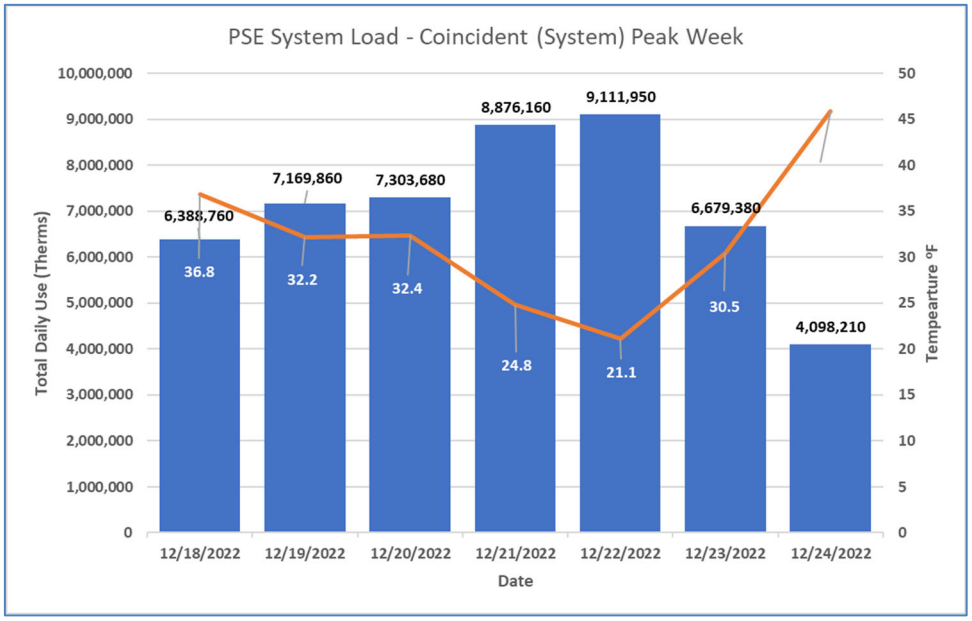
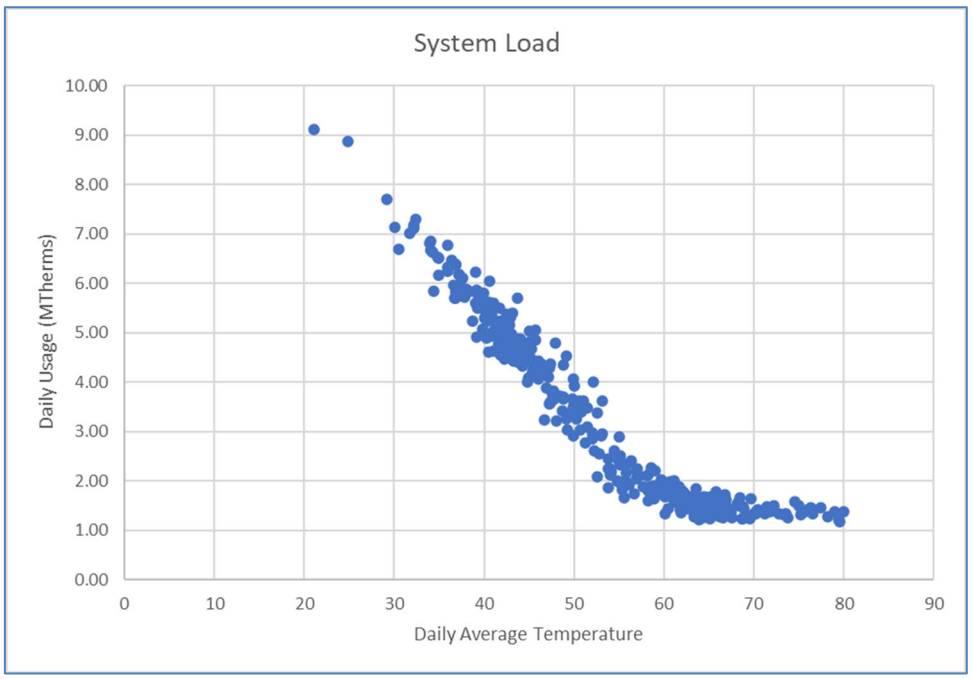


Figure 3 presents the daily load plotted against average daily temperature showing significant temperature sensitivity.

Figure 3 – Temperature Sensitivity of System Load



4.2 Schedule 23 – Residential

Table 4 presents a high-level summary of Schedule 23 – Residential load. This class is comprised of 812,902 accounts with a total annual usage of 615.46 million Therms. The average annual usage per account is 757 Therms.

Table 4 – Schedule 23: Billing Summary

Schedule/Domain	Accounts	Total Annual Usage (Therms)	Average Annual Usage (Therms)
23-Residential	812,902	615,458,748	757
23- Sales Totals	812,902	615,458,748	757

Figure 4 presents the daily profile of Schedule 23: Residential customers. The total Schedule 23 load is plotted in blue with the average daily temperature plotted in red. Clearly, the total daily gas use is highly weather sensitive with the peak usage corresponding to the coldest day. The peak of 5.58 million Therms occurred coincident with the system peak day, Thursday, December 22, 2022, with a corresponding average daily temperature of 21.1°F.

Figure 4 – Schedule 23 Residential: Total Daily Use

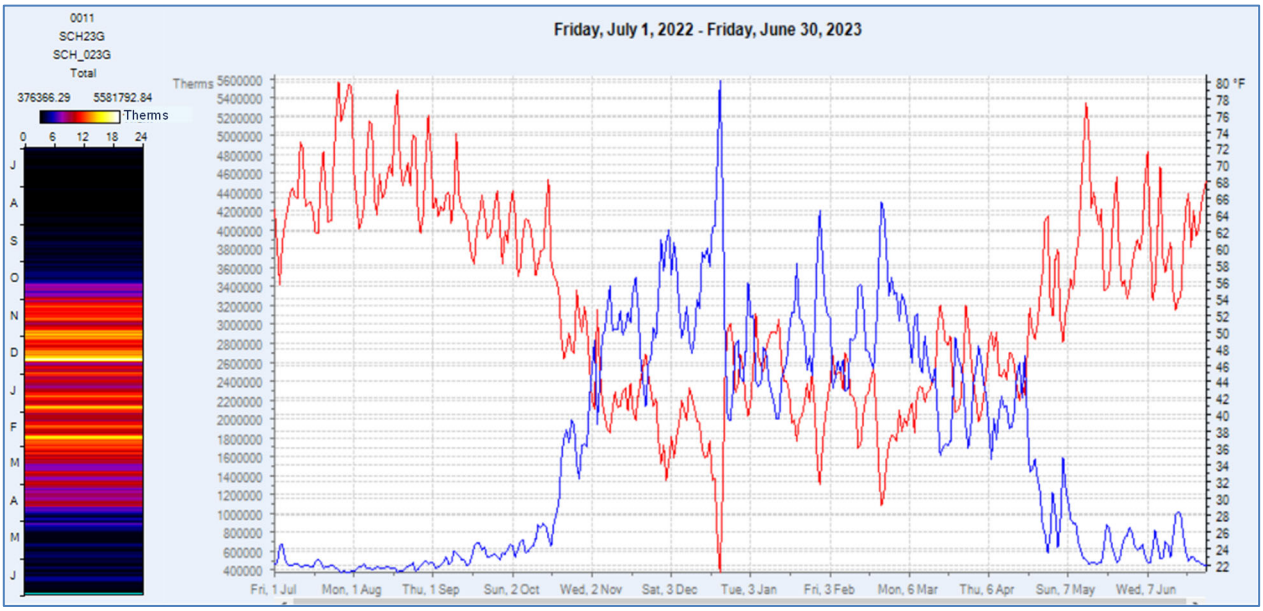


Table 5 presents selected monthly characteristics of Schedule 23: Residential load on a total class basis. The information includes monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The residential class peaked on a weekend in one of the 12 months and was coincident with the system peak on seven of the 12 months. The monthly class peak load factor ranged from a low of 47% to a high of 86% with an annual load factor of 30%.

Table 5 – Schedule 23 Residential: Total Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	14,126,936	455,708	Monday, July 4, 2022	674,082	67.6%	Sunday, July 3, 2022	654,565	69.6%	97.1%
Aug	13,294,751	428,863	Monday, August 29, 2022	496,229	86.4%	Thursday, August 4, 2022	441,939	97.0%	89.1%
Sep	16,259,769	541,992	Monday, September 19, 2022	692,459	78.3%	Friday, September 30, 2022	612,579	88.5%	88.5%
Oct	33,915,491	1,094,048	Tuesday, October 25, 2022	1,985,988	55.1%	Tuesday, October 25, 2022	1,985,988	55.1%	100.0%
Nov	87,236,462	2,907,882	Tuesday, November 29, 2022	3,900,074	74.6%	Tuesday, November 29, 2022	3,900,074	74.6%	100.0%
Dec	103,201,365	3,329,076	Thursday, December 22, 2022	5,581,793	59.6%	Thursday, December 22, 2022	5,581,793	59.6%	100.0%
Jan	87,426,485	2,820,209	Monday, January 30, 2023	4,199,093	67.2%	Monday, January 30, 2023	4,199,093	67.2%	100.0%
Feb	84,613,577	3,021,913	Thursday, February 23, 2023	4,286,187	70.5%	Thursday, February 23, 2023	4,286,187	70.5%	100.0%
Mar	76,800,262	2,477,428	Wednesday, March 1, 2023	3,327,357	74.5%	Wednesday, March 8, 2023	3,079,760	80.4%	92.6%
Apr	56,362,877	1,878,763	Sunday, April 2, 2023	2,775,512	67.7%	Sunday, April 2, 2023	2,775,512	67.7%	100.0%
May	23,254,217	750,136	Friday, May 5, 2023	1,594,984	47.0%	Friday, May 5, 2023	1,594,984	47.0%	100.0%
Jun	18,966,556	632,219	Monday, June 19, 2023	1,018,372	62.1%	Tuesday, June 20, 2023	995,999	63.5%	97.8%
12-Mths	615,458,748	1,686,188	Thursday, December 22, 2022	5,581,793	30.2%	Thursday, December 22, 2022	5,581,793	30.2%	100.0%

Figure 5 presents the same information on a per customer basis. The average peak demand was estimated to be 6.87 Therms.

Figure 5 – Schedule 23 Residential: Mean Daily Use

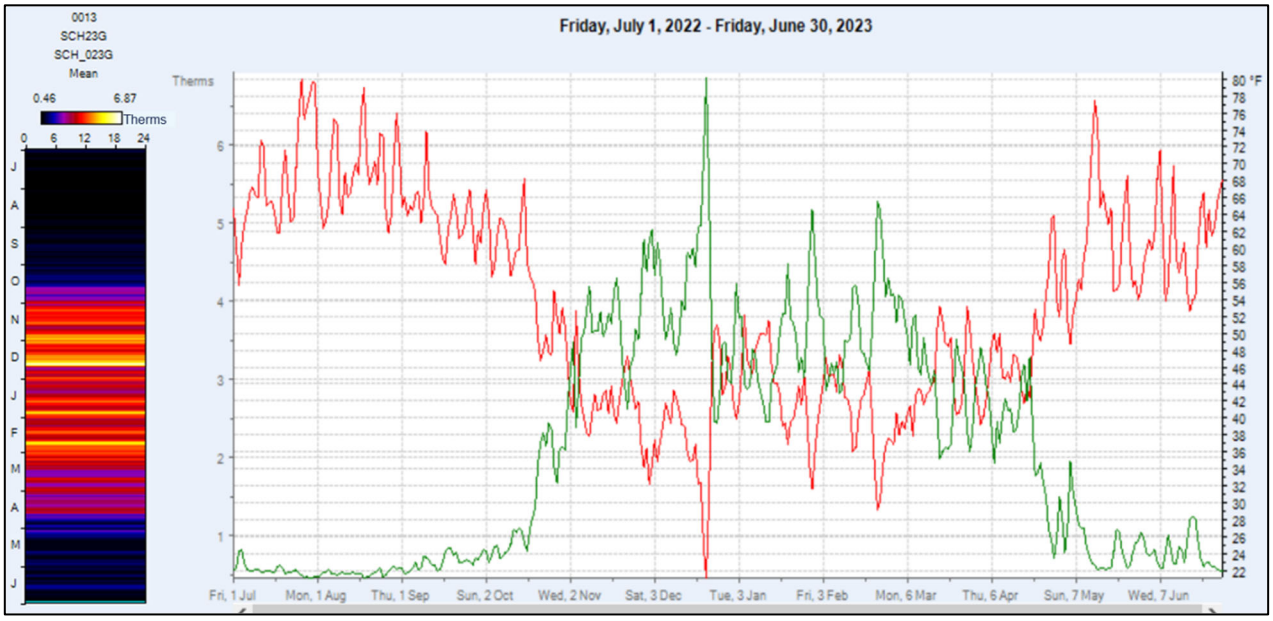


Table 6 presents the same information as Table 5 only on a per customer basis. The average monthly use ranges from a low of 16 Therms to a high of 127 Therms. Average daily use in the winter was approximately 5 times higher than the average daily use in the summer.

Table 6 – Schedule 23 Residential: Mean Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	17.4	0.56	Monday, July 4, 2022	0.83	67.6%	Sunday, July 3, 2022	0.81	69.6%	97.1%
Aug	16.4	0.53	Monday, August 29, 2022	0.61	86.4%	Thursday, August 4, 2022	0.54	97.0%	89.1%
Sep	20.0	0.67	Monday, September 19, 2022	0.85	78.3%	Friday, September 30, 2022	0.75	88.5%	88.5%
Oct	41.7	1.35	Tuesday, October 25, 2022	2.44	55.1%	Tuesday, October 25, 2022	2.44	55.1%	100.0%
Nov	107.3	3.58	Tuesday, November 29, 2022	4.80	74.6%	Tuesday, November 29, 2022	4.80	74.6%	100.0%
Dec	127.0	4.10	Thursday, December 22, 2022	6.87	59.6%	Thursday, December 22, 2022	6.87	59.6%	100.0%
Jan	107.5	3.47	Monday, January 30, 2023	5.17	67.2%	Monday, January 30, 2023	5.17	67.2%	100.0%
Feb	104.1	3.72	Thursday, February 23, 2023	5.27	70.5%	Thursday, February 23, 2023	5.27	70.5%	100.0%
Mar	94.5	3.05	Wednesday, March 1, 2023	4.09	74.5%	Wednesday, March 8, 2023	3.79	80.4%	92.6%
Apr	69.3	2.31	Sunday, April 2, 2023	3.41	67.7%	Sunday, April 2, 2023	3.41	67.7%	100.0%
May	28.6	0.92	Friday, May 5, 2023	1.96	47.0%	Friday, May 5, 2023	1.96	47.0%	100.0%
Jun	23.3	0.78	Monday, June 19, 2023	1.25	62.1%	Tuesday, June 20, 2023	1.23	63.5%	97.8%
12-Mths	757.1	2.07	Thursday, December 22, 2022	6.87	30.2%	Thursday, December 22, 2022	6.87	30.2%	100.0%

Figure 6 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred coincident with the system peak on Thursday, December 22, 2022.

Figure 6 – Schedule 23 Residential: System Peak Week Demand

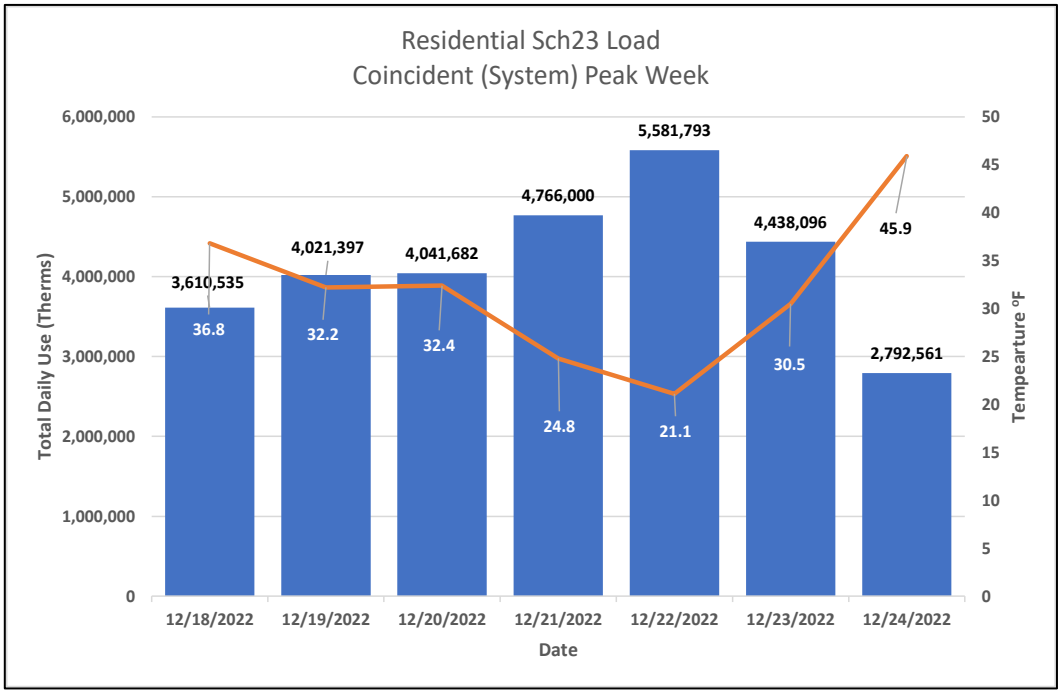
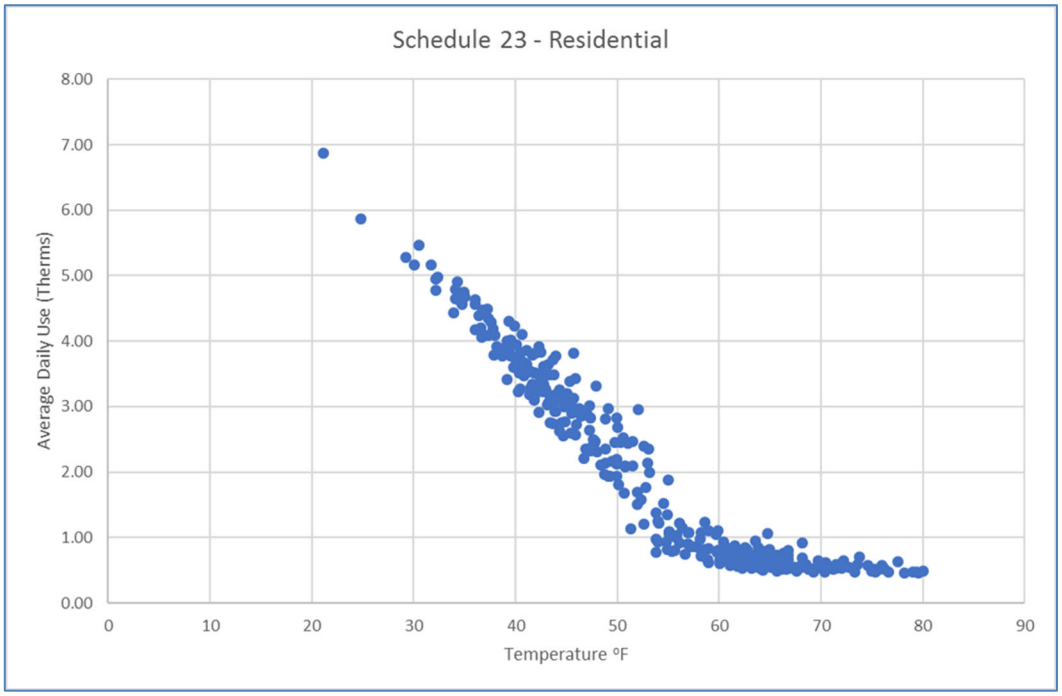


Figure 7 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the residential gas demand is highly temperature sensitive with a very strong correlation to temperature. The system peak day with an average temperature of 21.1°F was substantially colder than most cold days.

Figure 7 – Schedule 23 Residential: Temperature Sensitivity



4.3 Schedule 31 – Commercial & Industrial General Service

Table 7 presents a high-level summary of Schedule 31 – Commercial & Industrial General Service. This class is comprised of commercial and industrial customers. There are 57,903 accounts with a total annual gas use of 246.669 million Therms. The average annual usage per account is 4,260 Therms. Industrial customers consumed approximately 50% more energy than their commercial counterparts on average.

Table 7 – Schedule 31 Sales: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
31-Commercial	55,712	232,925,969	4,181
31-Industrial	2,192	13,743,592	6,270
Schedule 31 Total	57,904	246,669,561	4,260

Figure 8 presents the daily profile of Schedule 31, i.e., 31-C and 31-I. The figure to the left is a vertical Energy Print that presents the day of the year on the y-axis and the magnitude of load as a color gradient with low levels of daily use in the black-blue spectrum and high levels of daily use in the yellow-white spectrum. The figure to the right is a more conventional two-dimensional view of the data with the magnitude of load on the y-axis and the day on the x-axis. The Schedule 31 load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is highly weather sensitive with the peak usage occurring coincident with the system peak day, Thursday, December 22, 2022. The peak is estimated to be 2.12 million Therms with a corresponding average daily temperature of 21.1°F.

Figure 8 – Schedule 31 Sales: Total Daily Use

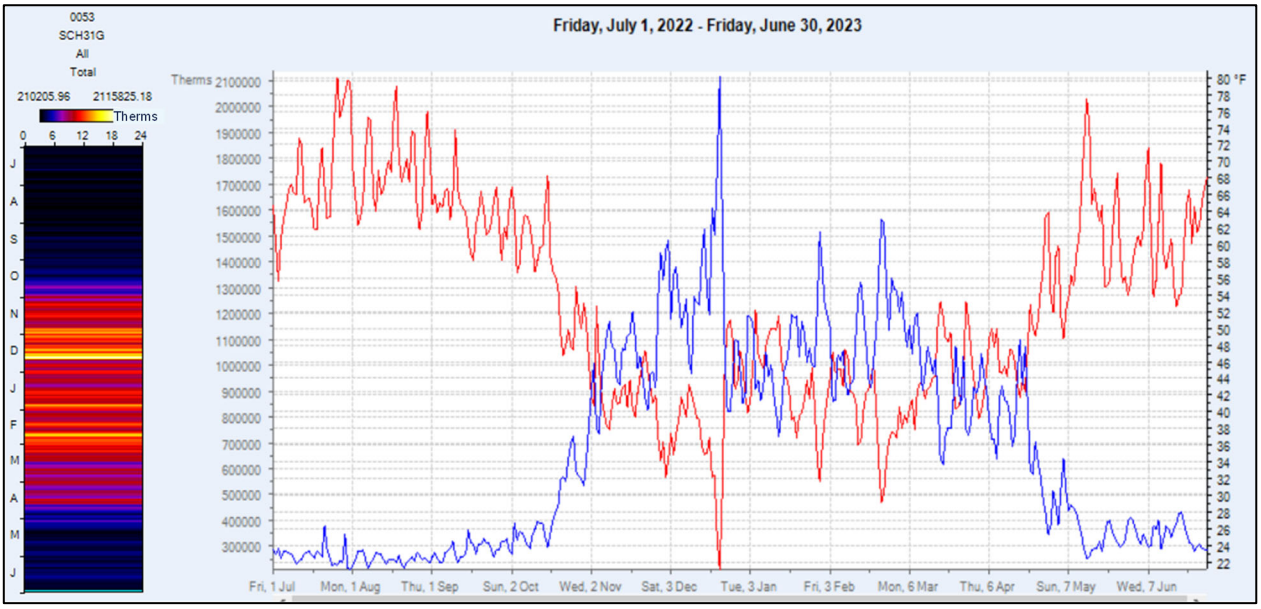


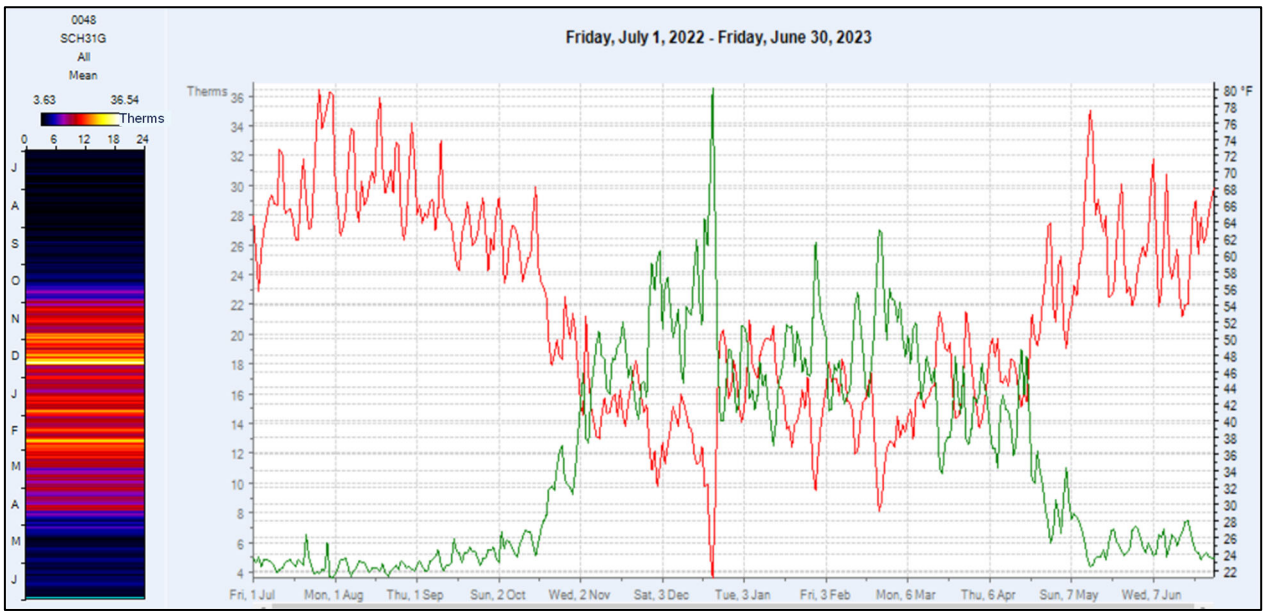
Table 8 presents selected monthly characteristics of Schedule 31: Sales on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on six of the twelve months including the annual PSE system peak. The monthly load factor based on class peak ranged from a low of 59% to a high of 87%.

Table 8 – Schedule 31 Sales: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident (System Peak) Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	8,201,242	264,556	Thursday, July 21, 2022	375,725	70.4%	Sunday, July 3, 2022	290,596	91.0%	77.3%
Aug	7,770,292	250,655	Friday, August 5, 2022	287,456	87.2%	Thursday, August 4, 2022	283,043	88.6%	98.5%
Sep	8,596,967	286,566	Thursday, September 15, 2022	359,402	79.7%	Friday, September 30, 2022	330,480	86.7%	92.0%
Oct	13,667,712	440,894	Wednesday, October 26, 2022	724,379	60.9%	Tuesday, October 25, 2022	703,186	62.7%	97.1%
Nov	30,641,308	1,021,377	Tuesday, November 29, 2022	1,431,226	71.4%	Tuesday, November 29, 2022	1,431,226	71.4%	100.0%
Dec	39,048,390	1,259,625	Thursday, December 22, 2022	2,115,825	59.5%	Thursday, December 22, 2022	2,115,825	59.5%	100.0%
Jan	32,435,220	1,046,297	Monday, January 30, 2023	1,515,967	69.0%	Monday, January 30, 2023	1,515,967	69.0%	100.0%
Feb	31,634,108	1,129,790	Thursday, February 23, 2023	1,563,278	72.3%	Thursday, February 23, 2023	1,563,278	72.3%	100.0%
Mar	29,866,052	963,421	Wednesday, March 1, 2023	1,287,787	74.8%	Wednesday, March 8, 2023	1,180,506	81.6%	91.7%
Apr	22,926,817	764,227	Tuesday, April 18, 2023	1,095,629	69.8%	Sunday, April 2, 2023	923,591	82.7%	84.3%
May	11,649,364	375,786	Friday, May 5, 2023	638,648	58.8%	Friday, May 5, 2023	638,648	58.8%	100.0%
Jun	10,232,090	341,070	Tuesday, June 20, 2023	432,356	78.9%	Tuesday, June 20, 2023	432,356	78.9%	100.0%
12-Mths	246,669,561	675,807	Thursday, December 22, 2022	2,115,825	31.9%	Thursday, December 22, 2022	2,115,825	31.9%	100.0%

Figure 9 and Table 9 presents the same information as above but on a per customer basis. The peak demand was estimated to be 36.5 Therms.

Figure 9 – Schedule 31 Sales: Mean Daily Use



The average monthly use per account ranges from a low of 134 Therms in August to a high of 674 Therms in December. The maximum class peak demand was nearly five times higher than the summer class peak demands.

Table 9 – Schedule 31 Sales: Mean Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	141.64	4.57	Thursday, July 21, 2022	6.49	70.4%	Sunday, July 3, 2022	5.0	91.0%	77.3%
Aug	134.19	4.33	Friday, August 5, 2022	4.96	87.2%	Thursday, August 4, 2022	4.9	88.6%	98.5%
Sep	148.47	4.95	Thursday, September 15, 2022	6.21	79.7%	Friday, September 30, 2022	5.7	86.7%	92.0%
Oct	236.04	7.61	Wednesday, October 26, 2022	12.51	60.9%	Tuesday, October 25, 2022	12.1	62.7%	97.1%
Nov	529.18	17.64	Tuesday, November 29, 2022	24.72	71.4%	Tuesday, November 29, 2022	24.7	71.4%	100.0%
Dec	674.37	21.75	Thursday, December 22, 2022	36.54	59.5%	Thursday, December 22, 2022	36.5	59.5%	100.0%
Jan	560.16	18.07	Monday, January 30, 2023	26.18	69.0%	Monday, January 30, 2023	26.2	69.0%	100.0%
Feb	546.33	19.51	Thursday, February 23, 2023	27.00	72.3%	Thursday, February 23, 2023	27.0	72.3%	100.0%
Mar	515.79	16.64	Wednesday, March 1, 2023	22.24	74.8%	Wednesday, March 8, 2023	20.4	81.6%	91.7%
Apr	395.95	13.20	Tuesday, April 18, 2023	18.92	69.8%	Sunday, April 2, 2023	16.0	82.7%	84.3%
May	201.19	6.49	Friday, May 5, 2023	11.03	58.8%	Friday, May 5, 2023	11.0	58.8%	100.0%
Jun	176.71	5.89	Tuesday, June 20, 2023	7.47	78.9%	Tuesday, June 20, 2023	7.5	78.9%	100.0%
12-Mths	4,260.04	11.67	Thursday, December 22, 2022	36.54	31.9%	Thursday, December 22, 2022	36.54	31.9%	100.0%

Figure 10 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred coincident with the system peak on Thursday, December 22, 2022.

Figure 10 – Schedule 31 Sales: System Peak Week Demand

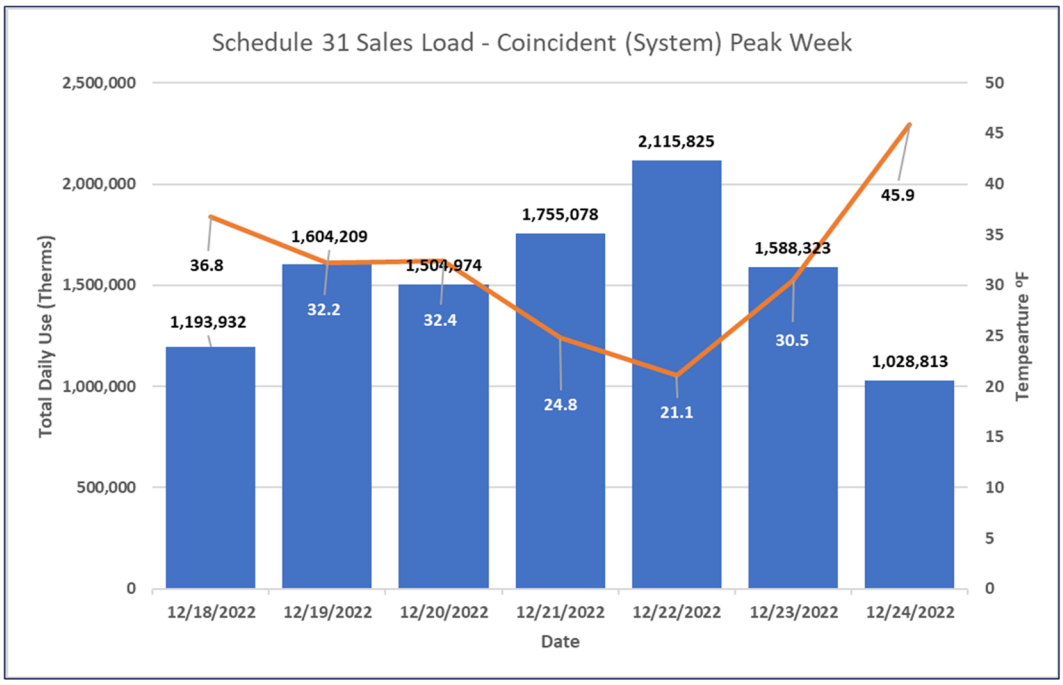
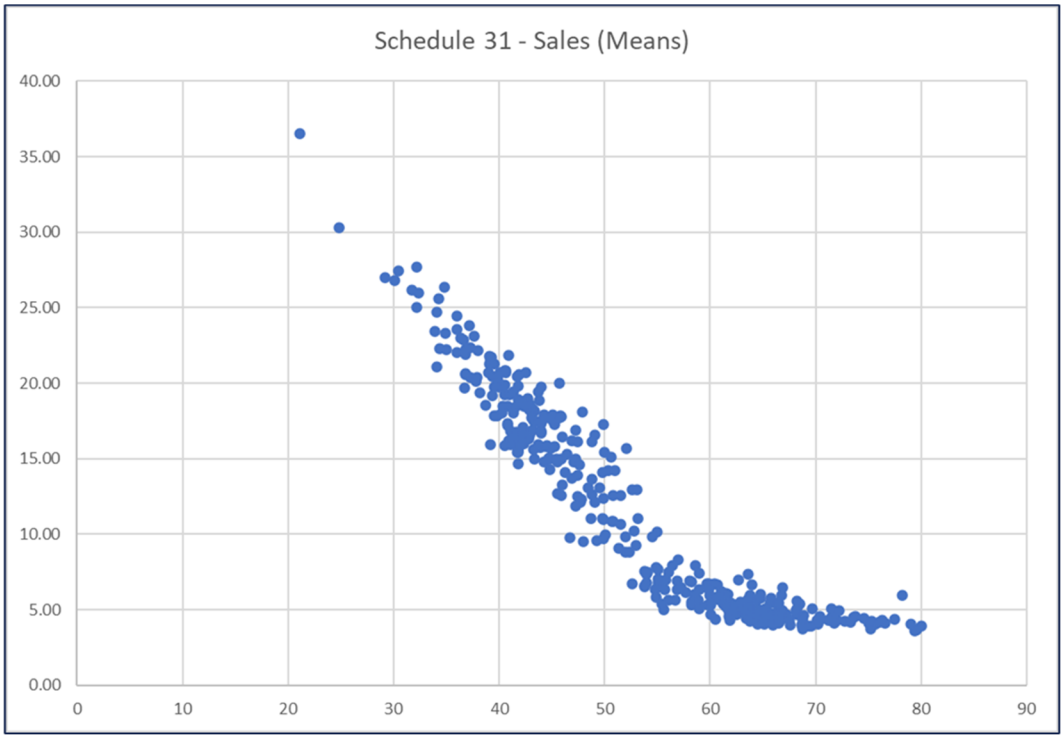


Figure 11 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, like the residential class, the schedule 31 gas load is highly temperature sensitive.

Figure 11 – Schedule 31 Sales: Temperature Sensitivity



4.4 Schedule 41 – Large Volume High Load Factor

Table 10 presents a high-level summary of Schedule 41 – Large Volume High Load Factor. For the Sales component of the rate, there are 1,236 accounts with a total annual gas use of 69.61 million Therms. The average annual usage per account is 56,328 Therms. This class is dominated by commercial accounts with a total annual usage of 60.19 million Therms accounting for 66% of the class usage.

Table 10 – Schedule 41 Sales: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
41-Commercial	1,167	60,190,531	51,577
41-Industrial	69	9,417,004	136,478
Schedule 41 Sales Total	1,236	69,607,535	56,317

4.3.1 Schedule 41 Sales

Figure 12 presents the daily profile of aggregate Sales component of Sales part of Schedule 41, i.e., 41-Commercial and 41-Industrial. The figure to the left is a vertical EnergyPrint that presents the day of the year on the y-axis and the magnitude of load as a color gradient with low levels of daily use in the black-blue spectrum and high levels of daily use in the yellow-white spectrum. The figure to the right is a more conventional two-dimensional view of the data with the magnitude of load on the y-axis and the day on the x-axis. The total Schedule 41 Sales load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is less weather sensitive than Schedule 31 with the peak usage occurring on Thursday, February 23, 2023. The peak is estimated to be 481,507 Therms.

Figure 12 – Schedule 41 Sales: Total Daily Use

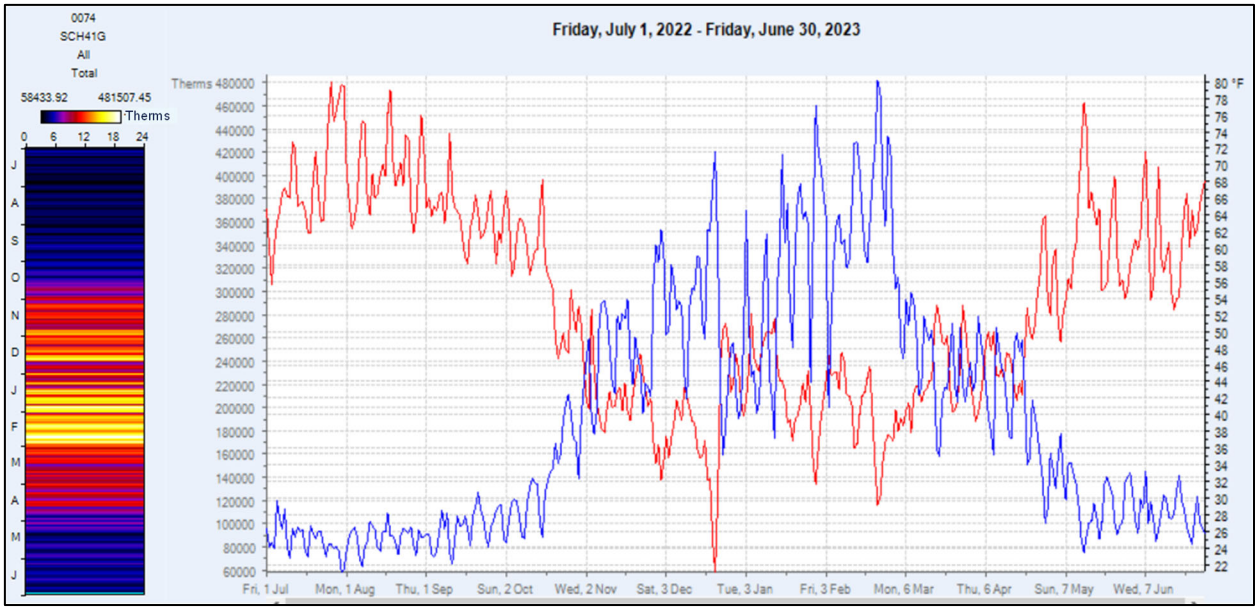


Table 11 presents selected monthly characteristics of Schedule 41: Sales on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The monthly load factor based on class peak ranged from a low of 65% to a high of 81%. The class peak was coincident with the system peak in five of the 12 months including the winter months of November through February.

Table 11 – Schedule 41 Sales: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	2,674,659	86,279	Tuesday, July 5, 2022	119,816	72.0%	Sunday, July 3, 2022	83,435	103.4%	69.6%
Aug	2,722,903	87,836	Wednesday, August 17, 2022	108,784	80.7%	Thursday, August 4, 2022	96,694	90.8%	88.9%
Sep	2,903,926	96,798	Wednesday, September 21, 2022	126,638	76.4%	Friday, September 30, 2022	115,651	83.7%	91.3%
Oct	4,270,760	137,766	Wednesday, October 26, 2022	211,543	65.1%	Tuesday, October 25, 2022	202,222	68.1%	95.6%
Nov	7,515,637	250,521	Tuesday, November 29, 2022	339,322	73.8%	Tuesday, November 29, 2022	339,322	73.8%	100.0%
Dec	8,763,603	282,697	Thursday, December 22, 2022	419,957	67.3%	Thursday, December 22, 2022	419,957	67.3%	100.0%
Jan	9,458,590	305,116	Monday, January 30, 2023	460,342	66.3%	Monday, January 30, 2023	460,342	66.3%	100.0%
Feb	10,420,421	372,158	Thursday, February 23, 2023	481,507	77.3%	Thursday, February 23, 2023	481,507	77.3%	100.0%
Mar	7,633,516	246,242	Wednesday, March 1, 2023	331,958	74.2%	Wednesday, March 8, 2023	299,008	82.4%	90.1%
Apr	6,140,456	204,682	Monday, April 3, 2023	278,203	73.6%	Sunday, April 2, 2023	224,405	91.2%	80.7%
May	3,796,205	122,458	Friday, May 5, 2023	177,576	69.0%	Friday, May 5, 2023	177,576	69.0%	100.0%
Jun	3,306,859	110,229	Wednesday, June 7, 2023	145,242	75.9%	Tuesday, June 20, 2023	141,223	78.1%	97.2%
12-Mths	69,607,535	190,706	Thursday, February 23, 2023	481,507	39.6%	Thursday, December 22, 2022	419,957	45.4%	87.2%

Figure 13 presents the same information on a per customer basis. The peak demand was estimated to be 390 Therms.

Figure 13 – Schedule 41 Sales: Mean Daily Use

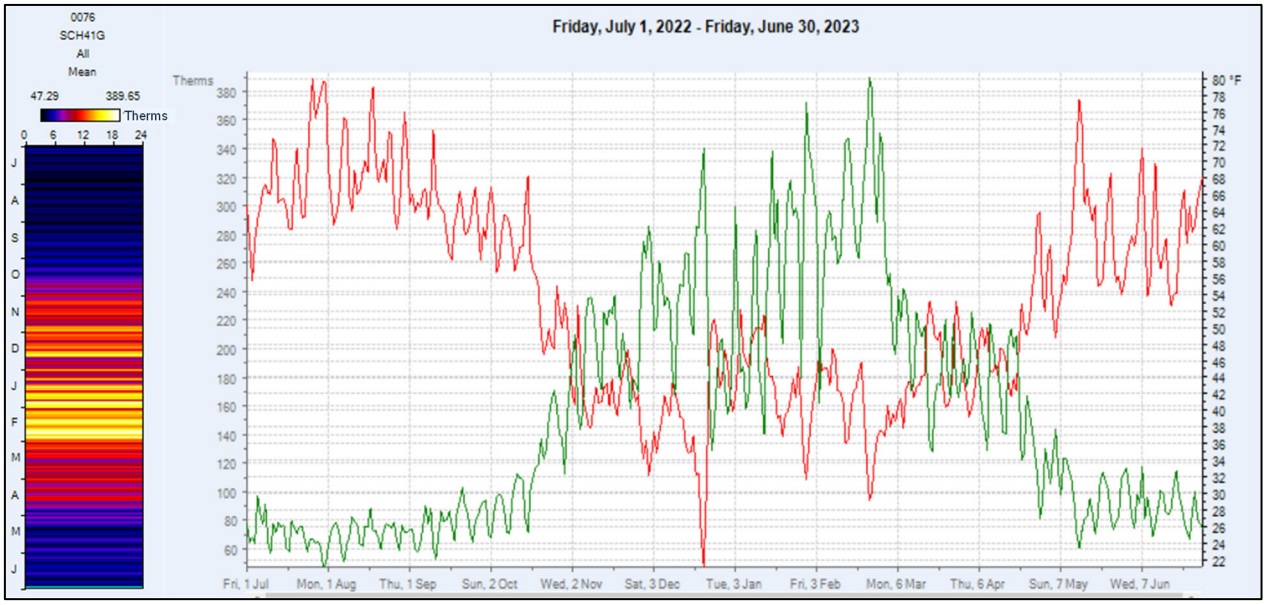


Table 12 presents the same information as Table 11 only on a per customer basis. The average monthly use per account ranges from a low of 2,164 Therms in July to a high of 8,432 Therms in February. The maximum class peak demand was nearly four times the summer class peak demands.

Table 12 – Schedule 41 Sales: Mean Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	2,164	69.82	Tuesday, July 5, 2022	96.96	72.0%	Sunday, July 3, 2022	67.52	103.4%	69.6%
Aug	2,203	71.08	Wednesday, August 17, 2022	88.03	80.7%	Thursday, August 4, 2022	78.25	90.8%	88.9%
Sep	2,350	78.33	Wednesday, September 21, 2022	102.48	76.4%	Friday, September 30, 2022	93.59	83.7%	91.3%
Oct	3,456	111.48	Wednesday, October 26, 2022	171.19	65.1%	Tuesday, October 25, 2022	163.64	68.1%	95.6%
Nov	6,082	202.73	Tuesday, November 29, 2022	274.59	73.8%	Tuesday, November 29, 2022	274.59	73.8%	100.0%
Dec	7,092	228.77	Thursday, December 22, 2022	339.84	67.3%	Thursday, December 22, 2022	339.84	67.3%	100.0%
Jan	7,654	246.91	Monday, January 30, 2023	372.52	66.3%	Monday, January 30, 2023	372.52	66.3%	100.0%
Feb	8,432	301.16	Thursday, February 23, 2023	389.65	77.3%	Thursday, February 23, 2023	389.65	77.3%	100.0%
Mar	6,177	199.27	Wednesday, March 1, 2023	268.63	74.2%	Wednesday, March 8, 2023	241.96	82.4%	90.1%
Apr	4,969	165.63	Monday, April 3, 2023	225.13	73.6%	Sunday, April 2, 2023	181.59	91.2%	80.7%
May	3,072	99.10	Friday, May 5, 2023	143.70	69.0%	Friday, May 5, 2023	143.70	69.0%	100.0%
Jun	2,676	89.20	Wednesday, June 7, 2023	117.53	75.9%	Tuesday, June 20, 2023	114.28	78.1%	97.2%
12-Mths	56,328	154.32	Thursday, February 23, 2023	389.65	39.6%	Thursday, December 22, 2022	339.84	45.4%	87.2%

Figure 14 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The February class peak had a coincidence factor of just under 90% when compared to the demand on the system peak day, Thursday, December 22, 2022.

Figure 14 – Schedule 41 Sales: System Peak Week Demand

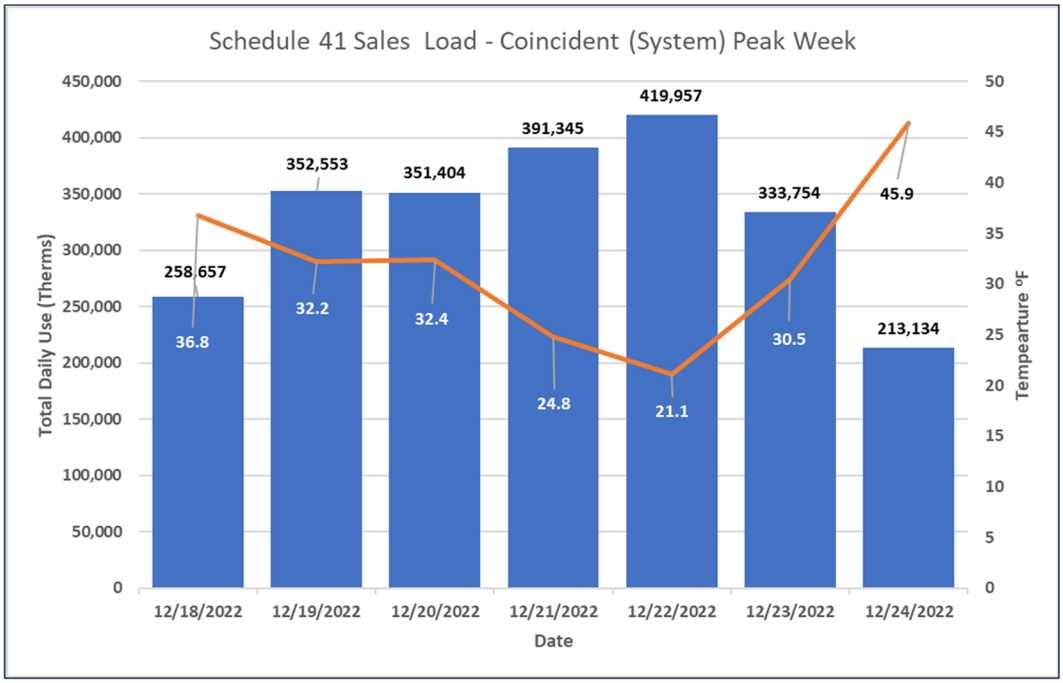
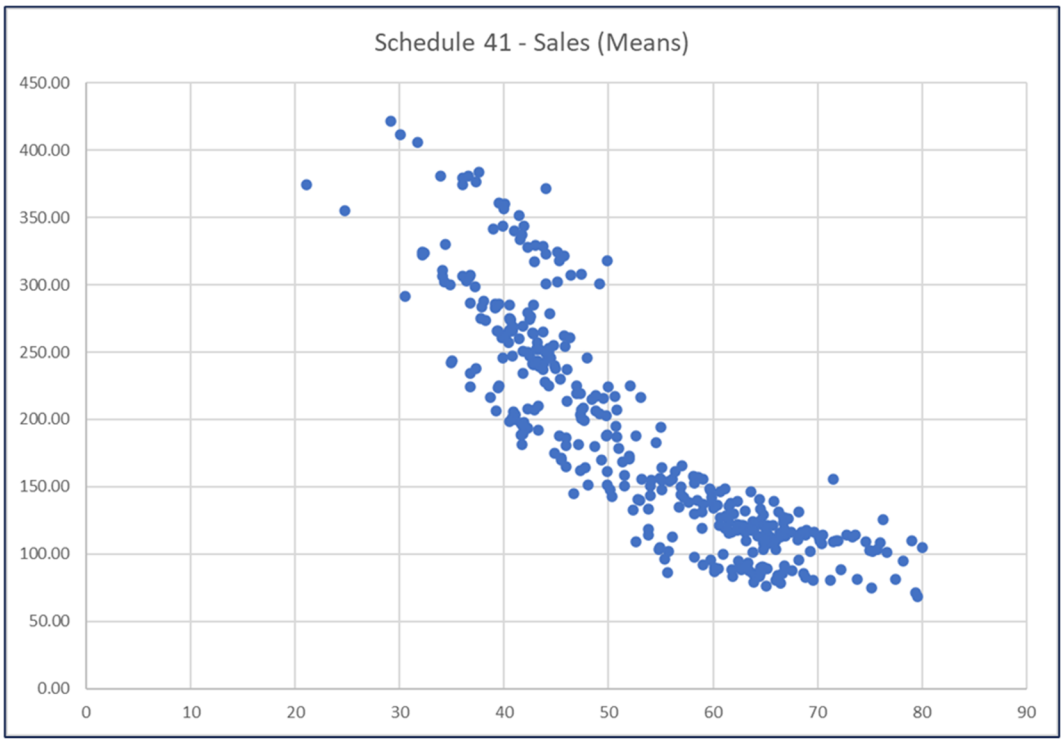


Figure 15 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 41 Sales gas demand is temperature sensitive but there are selective days that show high demand at relatively modest temperatures.

Figure 15 – Schedule 41 Sales: Temperature Sensitivity



4.3.2 Schedule 41T – Large Volume High Load Factor Transportation Service

Table 13 presents a billing summary for Schedule 41 – Transportation. In aggregate, there are a total of 94 Transportation customers with a total annual usage of 21.07 million Therms or an average annual use of 224,533 Therms. The class is dominated by commercial customers representing 81% of the accounts and 69%of the total energy use.

Table 13 – Schedule 41 Transportation: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
41T-Commercial	77	14,711,698	191,061
41T-Industrial	17	6,357,019	373,942
Schedule 41 Trans Total	94	21,068,717	224,135

Figure 16 presents the daily profile of aggregate Sales component of Transportation part of Schedule 41, i.e., 41-Commercial plus 41-Industrial. The total Schedule 41 Transportation load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is substantially less weather sensitive than its Sales counterpart. The peak is estimated to be 80,972 Therms on Wednesday, December 21 with a corresponding average daily temperature of 24.8°F. The lower weekend loads are evident in the EnergyPrint and by the sharp dips in the two-dimensional graph.

Figure 16 – Schedule 41 Transportation: Total Daily Use

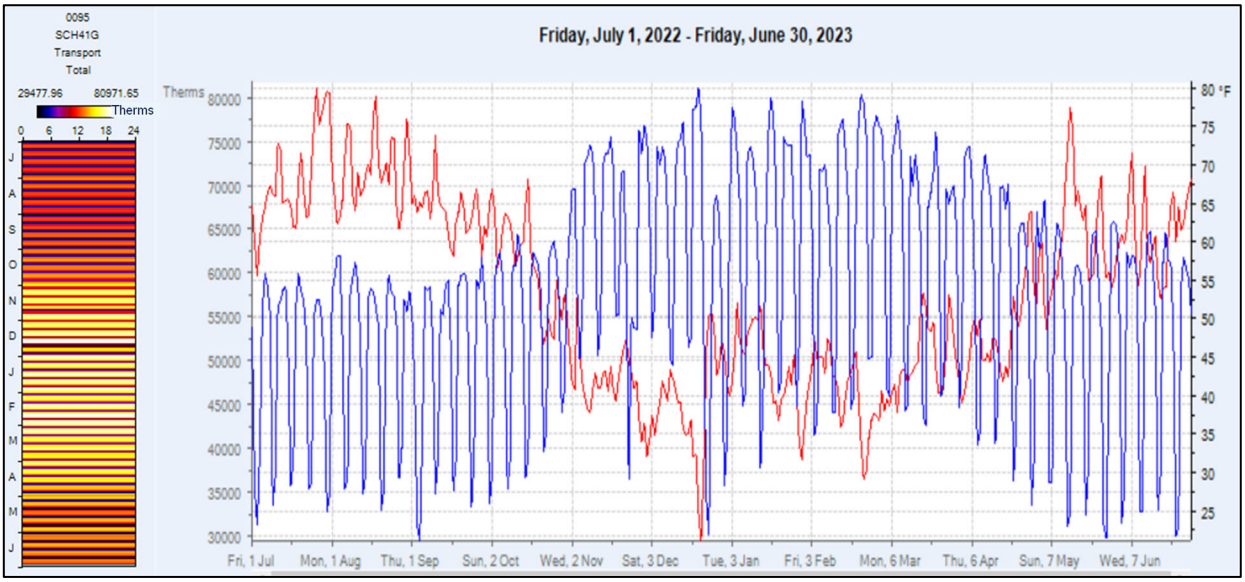


Table 14 presents selected monthly characteristics of Schedule 41 - Transportation on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on one of the twelve months. The monthly load factor based on class peak was consistently higher than 81% in every month.

Table 14 – Schedule 41 Transportation: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	1,510,400	48,723	Wednesday, July 6, 2022	59,947	81.3%	Sunday, July 3, 2022	31,393	155.2%	52.4%
Aug	1,610,871	51,964	Wednesday, August 3, 2022	62,012	83.8%	Thursday, August 4, 2022	61,893	84.0%	99.8%
Sep	1,508,660	50,289	Wednesday, September 28, 2022	61,720	81.5%	Friday, September 30, 2022	53,076	94.7%	86.0%
Oct	1,655,924	53,417	Wednesday, October 12, 2022	64,270	83.1%	Tuesday, October 25, 2022	62,867	85.0%	97.8%
Nov	1,938,477	64,616	Wednesday, November 30, 2022	76,842	84.1%	Tuesday, November 29, 2022	73,643	87.7%	95.8%
Dec	1,968,408	63,497	Wednesday, December 21, 2022	80,972	78.4%	Thursday, December 22, 2022	77,741	81.7%	96.0%
Jan	2,011,739	64,895	Wednesday, January 18, 2023	79,934	81.2%	Monday, January 30, 2023	79,493	81.6%	99.4%
Feb	1,830,590	65,378	Wednesday, February 22, 2023	80,303	81.4%	Thursday, February 23, 2023	79,438	82.3%	98.9%
Mar	2,002,186	64,587	Wednesday, March 8, 2023	77,816	83.0%	Wednesday, March 8, 2023	77,816	83.0%	100.0%
Apr	1,760,784	58,693	Wednesday, April 5, 2023	74,316	79.0%	Sunday, April 2, 2023	50,078	117.2%	67.4%
May	1,675,609	54,052	Thursday, May 4, 2023	68,273	79.2%	Friday, May 5, 2023	62,043	87.1%	90.9%
Jun	1,595,068	53,169	Thursday, June 1, 2023	65,211	81.5%	Tuesday, June 20, 2023	64,544	82.4%	99.0%
12-Mths	21,068,717	57,723	Wednesday, December 21, 2022	80,972	71.3%	Thursday, December 22, 2022	77,741	74.3%	96.0%

Figure 17 presents the same information on a per customer basis. The peak demand was estimated to be 863 Therms.

Figure 17 – Schedule 41 Transportation: Mean Daily Use

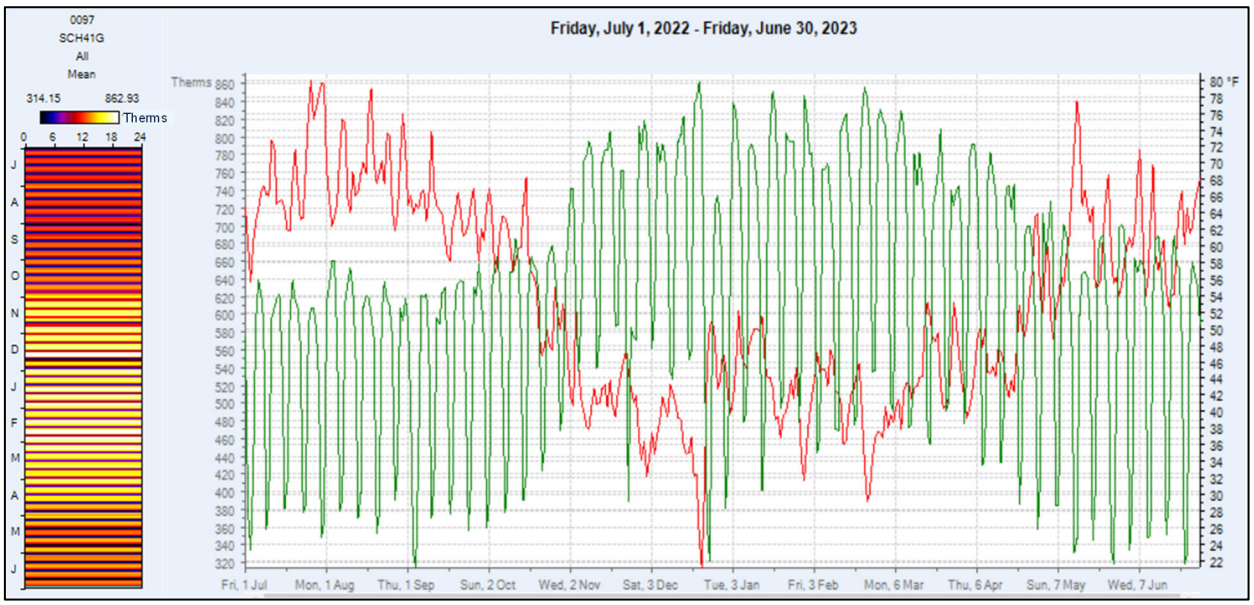


Table 15 presents the same information as Table 14 only on a per customer basis. The average monthly use per account ranges from a low of 16,078 Therms in September to a high of 21,439 Therms in January. This class had a monthly coincidence factor over 90% in nine of the twelve months.

Table 15 – Schedule 41 Transportation: Mean Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand	Coincident Load Factor	Coincidence Factor
Jul	16,097	519	Wednesday, July 6, 2022	639	81.3%	Sunday, July 3, 2022	335	155.2%	52.4%
Aug	17,167	554	Wednesday, August 3, 2022	661	83.8%	Thursday, August 4, 2022	660	84.0%	99.8%
Sep	16,078	536	Wednesday, September 28, 2022	658	81.5%	Friday, September 30, 2022	566	94.7%	86.0%
Oct	17,648	569	Wednesday, October 12, 2022	685	83.1%	Tuesday, October 25, 2022	670	85.0%	97.8%
Nov	20,659	689	Wednesday, November 30, 2022	819	84.1%	Tuesday, November 29, 2022	785	87.7%	95.8%
Dec	20,978	677	Wednesday, December 21, 2022	863	78.4%	Thursday, December 22, 2022	828	81.7%	96.0%
Jan	21,439	692	Wednesday, January 18, 2023	852	81.2%	Monday, January 30, 2023	847	81.6%	99.4%
Feb	19,509	697	Wednesday, February 22, 2023	856	81.4%	Thursday, February 23, 2023	847	82.3%	98.9%
Mar	21,338	688	Wednesday, March 8, 2023	829	83.0%	Wednesday, March 8, 2023	829	83.0%	100.0%
Apr	18,765	626	Wednesday, April 5, 2023	792	79.0%	Sunday, April 2, 2023	534	117.2%	67.4%
May	17,857	576	Thursday, May 4, 2023	728	79.2%	Friday, May 5, 2023	661	87.1%	90.9%
Jun	16,999	567	Thursday, June 1, 2023	695	81.5%	Tuesday, June 20, 2023	688	82.4%	99.0%
12-Mths	224,533	615	Wednesday, December 21, 2022	863	71.3%	Thursday, December 22, 2022	828	74.3%	96.0%

Figure 18 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred on Wednesday, December 21, 2022, the day before the system peak.

Figure 18 – Schedule 41 Transportation: System Peak Week Demand

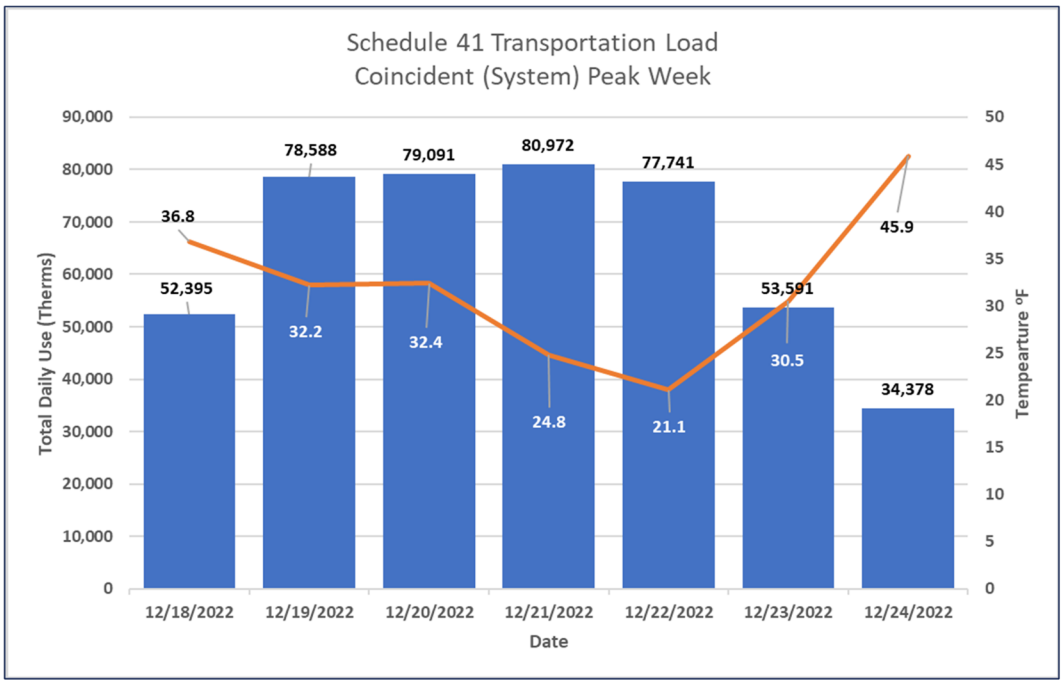
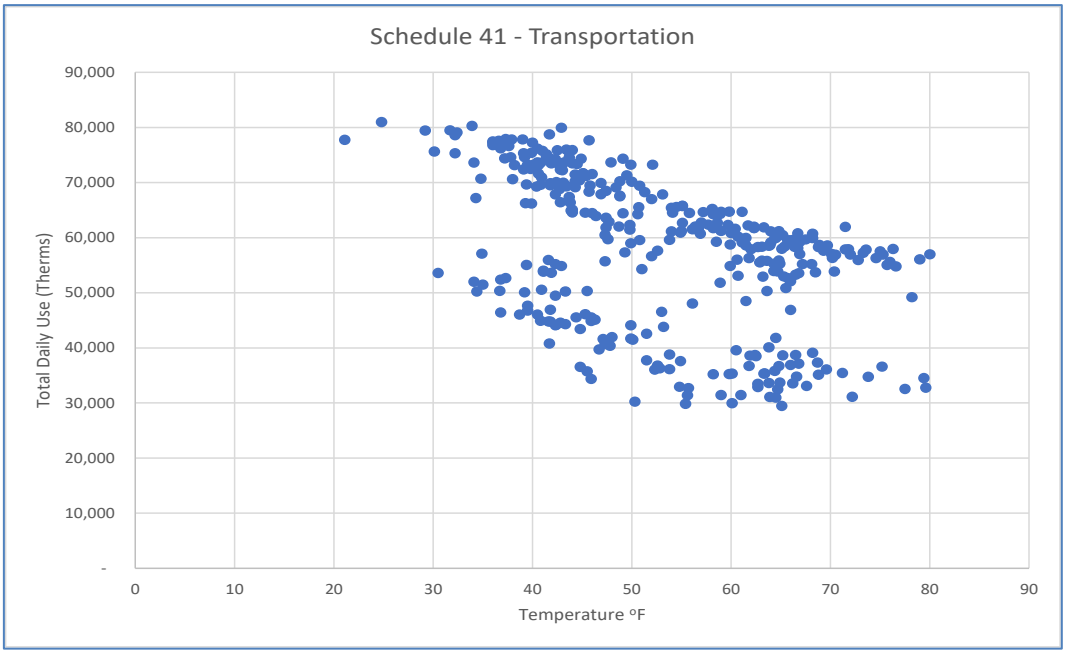


Figure 19 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 41 – Transportation load shows a distinction between weekdays and weekend load levels. The weekend load is much lower than the weekday load. This is also evident in the EnergyPrint with the systematic dark channels that can be observed.

Figure 19 – Schedule 41 Transportation: Temperature Sensitivity



4.4 Schedule 85 – Interruptible Service with Firm Option

Table 16 presents a high-level summary of Schedule 85 – Interruptible Service with Firm Options. For the Sales component, there are 34 accounts with a total annual gas use of 24.61 million Therms. The average annual usage per account is 730,887 Therms. All but five of the customers are commercial customers.

Table 16 – Schedule 85: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
85-Commercial	28	19,904,154	710,863
85-Industrial	5	4,702,369	940,474
Schedule 85 Saes Total	33	24,606,524	745,652

4.3.3 Schedule 85 Sales

Figure 20 presents the daily profile of aggregate Sales component of Sales part of Schedule 85, i.e., 85-C and 85-I. The total Schedule 85 Sales load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is weather sensitive with the peak usage occurring coincident with the system peak day on Thursday, December 22 at a demand of 117,387 Therms and a corresponding average daily temperature of 21.1ºF.

Figure 20 – Schedule 85 Sales: Total Daily Use

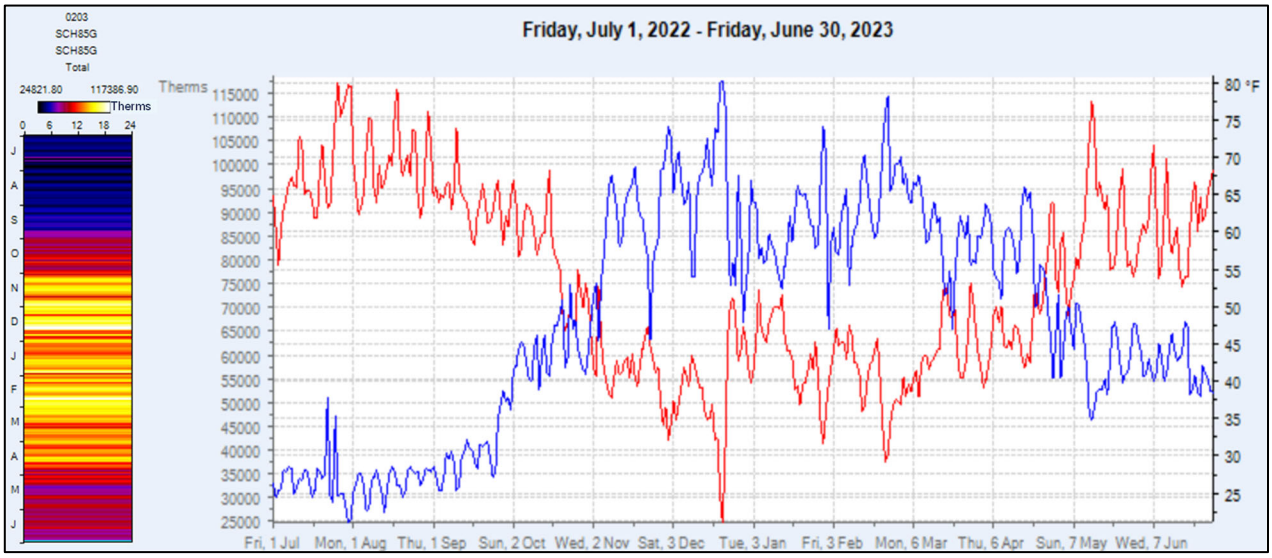


Table 17 presents selected monthly characteristics off Schedule 85 – Sales on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on two of the twelve months and had a coincidence factor greater than 90% on another eight months.

Table 17 – Schedule 85 Sales: Total Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	1,036,297	33,429	Friday, July 22, 2022	50,903	65.7%	Sunday, July 3, 2022	31,614	105.7%	62.1%
Aug	1,033,238	33,330	Tuesday, August 16, 2022	36,471	91.4%	Thursday, August 4, 2022	35,164	94.8%	96.4%
Sep	1,184,242	39,475	Wednesday, September 28, 2022	52,374	75.4%	Friday, September 30, 2022	51,024	77.4%	97.4%
Oct	1,884,320	60,785	Monday, October 24, 2022	74,688	81.4%	Tuesday, October 25, 2022	65,508	92.8%	87.7%
Nov	2,586,608	86,220	Wednesday, November 30, 2022	103,033	83.7%	Tuesday, November 29, 2022	99,143	87.0%	96.2%
Dec	2,933,140	94,617	Thursday, December 22, 2022	117,387	80.6%	Thursday, December 22, 2022	117,387	80.6%	100.0%
Jan	2,700,244	87,105	Monday, January 30, 2023	108,063	80.6%	Monday, January 30, 2023	108,063	80.6%	100.0%
Feb	2,558,192	91,364	Friday, February 24, 2023	114,455	79.8%	Thursday, February 23, 2023	110,920	82.4%	96.9%
Mar	2,683,152	86,553	Wednesday, March 1, 2023	101,549	85.2%	Wednesday, March 8, 2023	97,603	88.7%	96.1%
Apr	2,413,809	80,460	Tuesday, April 18, 2023	95,116	84.6%	Sunday, April 2, 2023	87,427	92.0%	91.9%
May	1,862,765	60,089	Monday, May 1, 2023	72,529	82.8%	Friday, May 5, 2023	70,176	85.6%	96.8%
Jun	1,730,517	57,684	Monday, June 19, 2023	66,964	86.1%	Tuesday, June 20, 2023	66,302	87.0%	99.0%
12-Mths	24,606,524	67,415	Thursday, December 22, 2022	117,387	57.4%	Thursday, December 22, 2022	117,387	57.4%	100.0%

Figure 21 presents the same information on a per customer basis. The peak demand was estimated to be 3,487 Therms.

Figure 21 – Schedule 85 Sales: Mean Daily Use

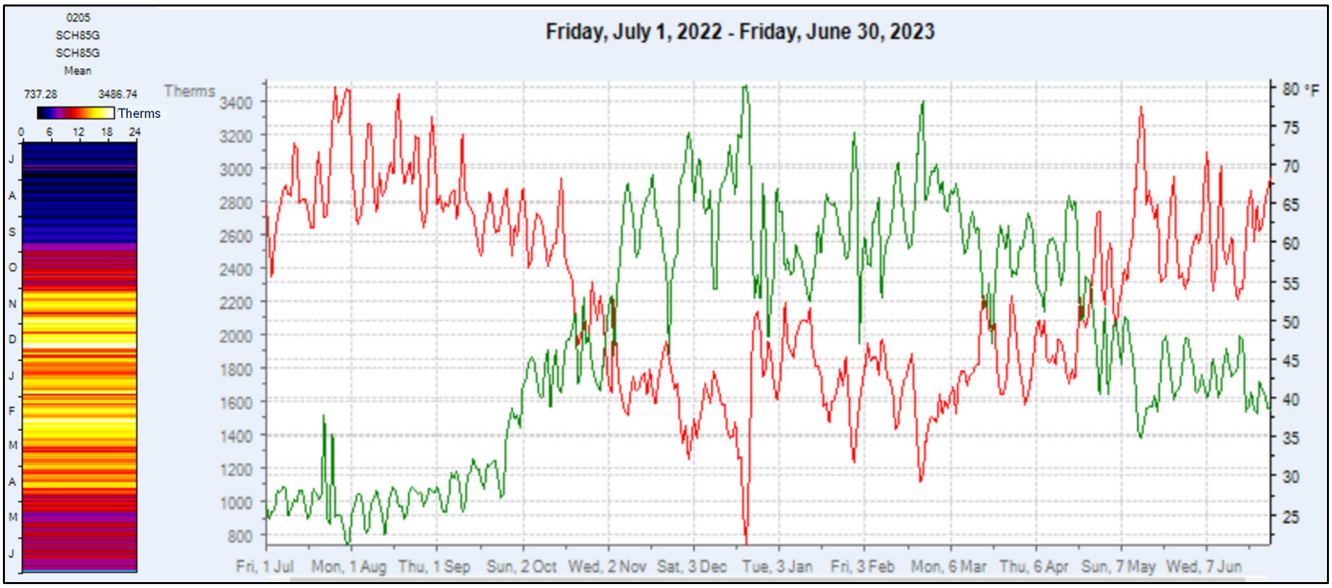


Table 18 presents the same information as Table 17 only on a per customer basis. The average daily use per account ranges from a low of 990 Therms in August to a high of 2,810 Therms in December. The maximum class peak demand was substantially higher than the summer class peak demands.

Table 18 – Schedule 85 Sales: Mean Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	30,781	993	Friday, July 22, 2022	1,512	65.7%	Sunday, July 3, 2022	939	105.7%	62.1%
Aug	30,690	990	Tuesday, August 16, 2022	1,083	91.4%	Thursday, August 4, 2022	1,044	94.8%	96.4%
Sep	35,176	1,173	Wednesday, September 28, 2022	1,556	75.4%	Friday, September 30, 2022	1,516	77.4%	97.4%
Oct	55,970	1,805	Monday, October 24, 2022	2,218	81.4%	Tuesday, October 25, 2022	1,946	92.8%	87.7%
Nov	76,830	2,561	Wednesday, November 30, 2022	3,060	83.7%	Tuesday, November 29, 2022	2,945	87.0%	96.2%
Dec	87,123	2,810	Thursday, December 22, 2022	3,487	80.6%	Thursday, December 22, 2022	3,487	80.6%	100.0%
Jan	80,205	2,587	Monday, January 30, 2023	3,210	80.6%	Monday, January 30, 2023	3,210	80.6%	100.0%
Feb	75,986	2,714	Friday, February 24, 2023	3,400	79.8%	Thursday, February 23, 2023	3,295	82.4%	96.9%
Mar	79,698	2,571	Wednesday, March 1, 2023	3,016	85.2%	Wednesday, March 8, 2023	2,899	88.7%	96.1%
Apr	71,697	2,390	Tuesday, April 18, 2023	2,825	84.6%	Sunday, April 2, 2023	2,597	92.0%	91.9%
May	55,330	1,785	Monday, May 1, 2023	2,154	82.8%	Friday, May 5, 2023	2,084	85.6%	96.8%
Jun	51,402	1,713	Monday, June 19, 2023	1,989	86.1%	Tuesday, June 20, 2023	1,969	87.0%	99.0%
12-Mths	730,887	2,002	Thursday, December 22, 2022	3,487	57.4%	Thursday, December 22, 2022	3,487	57.4%	100.0%

Figure 22 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak was coincident with the system peak occurring on Thursday, December 22, 2022.

Figure 22 – Schedule 85 Sales: System Peak Week Demand

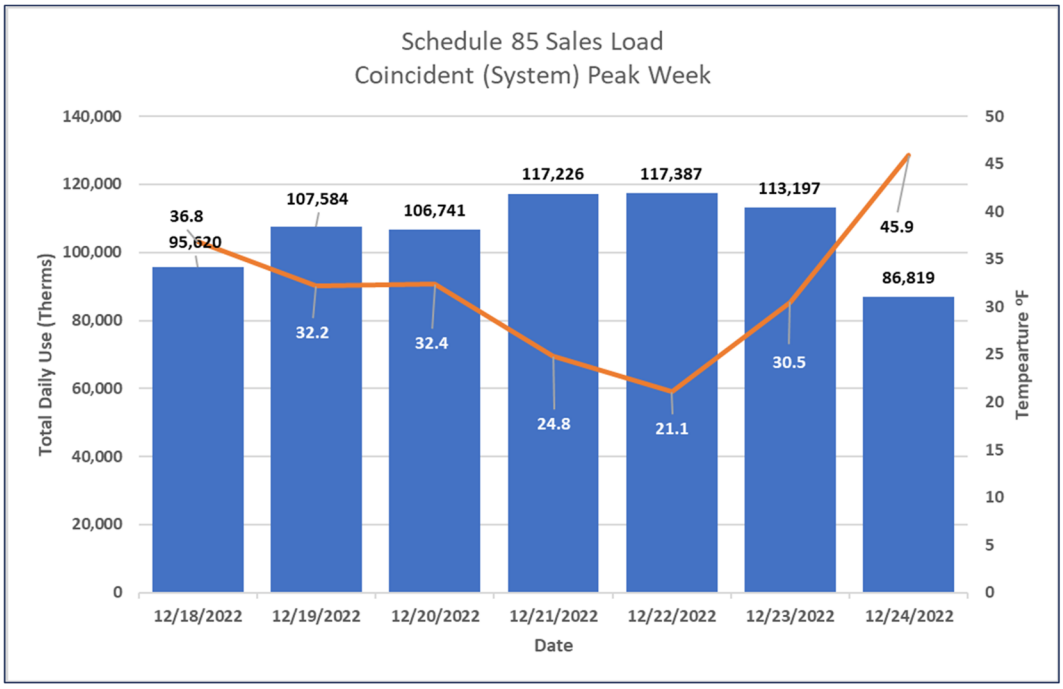
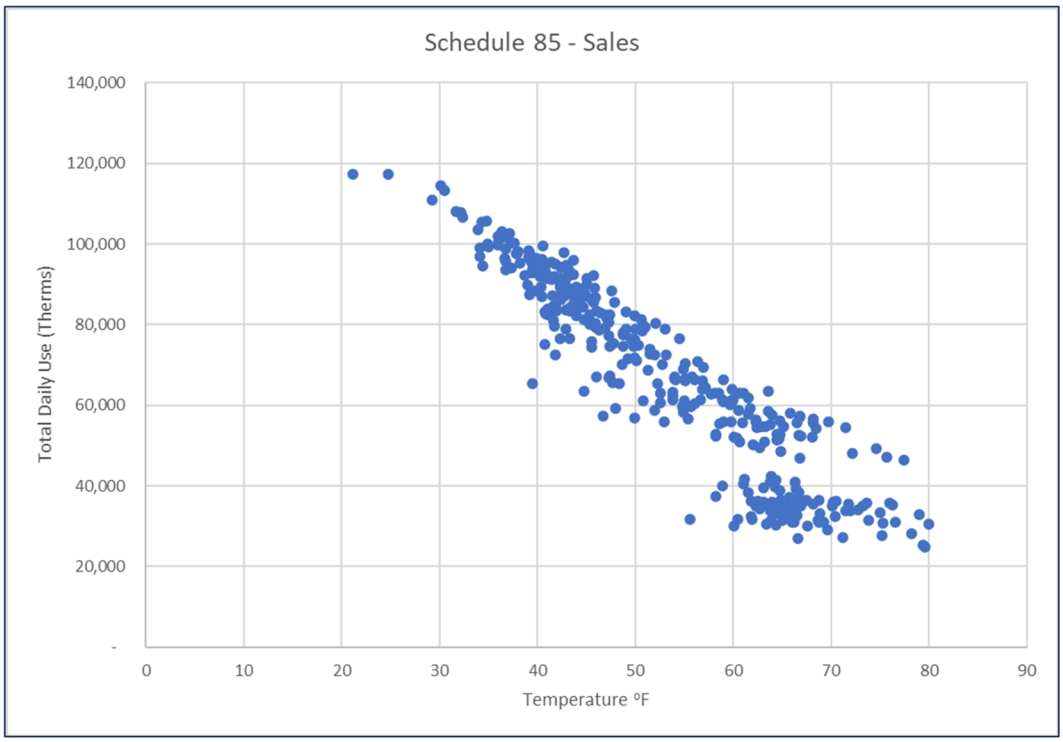


Figure 23 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 85 gas demand is moderately temperature sensitive.

Figure 23 – Schedule 85 Sales: Temperature Sensitivity



4.3.4 Schedule 85T – Interruptible Transportation Service with Firm Option

Table 19 presents a high-level summary of Schedule 85 – Interruptible Transportation Service with Firm Options. For Schedule 85 the Transportation component is dominated by Industrial customers representing 72% of the customers and overall energy use. There are a total of 82 Transportation customers with a total annual usage of 59.88 million Therms and an annual average use of 730,229 Therms.

Table 19 – Schedule 85Transportation: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
85T-Commercial	23	16,510,606	717,852
85T-Industrial	59	43,368,168	735,054
Schedule 85 Trans Total	82	59,878,774	730,229

Figure 24 presents the daily profile of aggregate Transportation component of Schedule 85, i.e., 85TG-C plus 85TG-I. The total Schedule 85 Transportation load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is not particularly weather sensitive with the class peak occurring on Thursday, November 17, 2022, at a level of 221,578 Therms. The average ambient temperature on this day was 44ºF.

Figure 24 – Schedule 85 Transportation: Total Daily Use

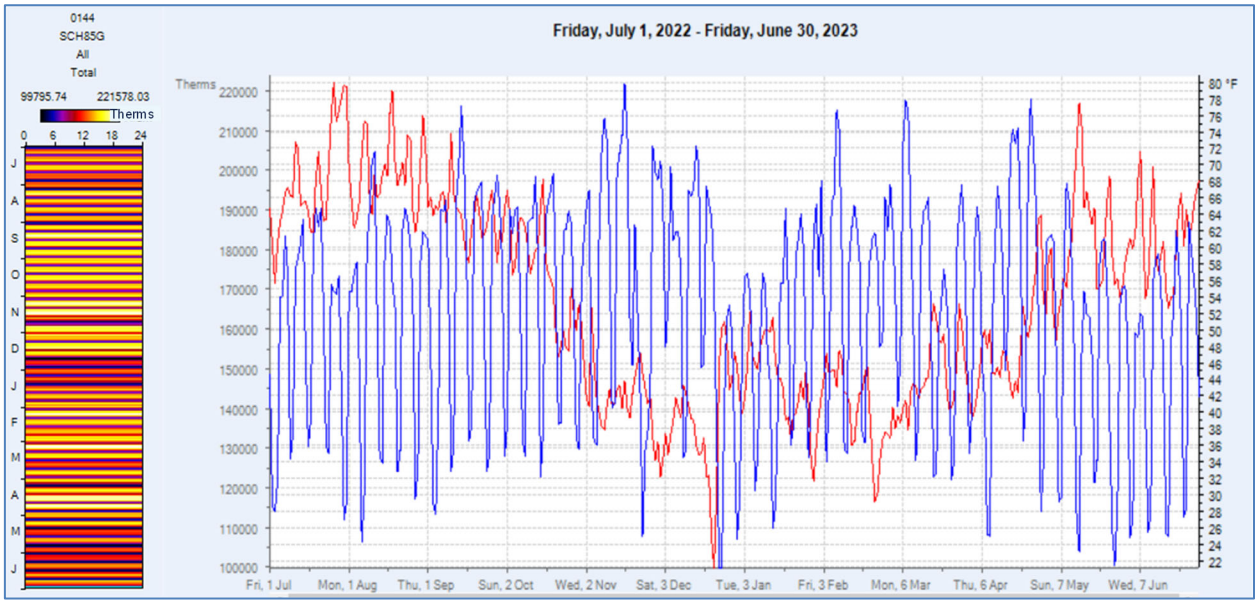


Table 20 presents selected monthly characteristics of Schedule 85 - Transportation on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was not coincident with the system on any month but was at or above 90% in four months. The monthly load factor based on class peak was consistently high, above 77% in all months.

Table 20 – Schedule 85 Transportation: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	4,826,287	155,687	Thursday, July 21, 2022	190,505	81.7%	Sunday, July 3, 2022	114,186	136.3%	59.9%
Aug	5,102,278	164,590	Thursday, August 11, 2022	204,678	80.4%	Thursday, August 4, 2022	176,614	93.2%	86.3%
Sep	5,097,568	169,919	Wednesday, September 14, 2022	216,126	78.6%	Friday, September 30, 2022	176,053	96.5%	81.5%
Oct	5,205,298	167,913	Thursday, October 20, 2022	199,214	84.3%	Tuesday, October 25, 2022	185,122	90.7%	92.9%
Nov	5,228,727	174,291	Thursday, November 17, 2022	221,578	78.7%	Tuesday, November 29, 2022	199,379	87.4%	90.0%
Dec	5,137,783	165,735	Thursday, December 15, 2022	206,173	80.4%	Thursday, December 22, 2022	171,749	96.5%	83.3%
Jan	4,846,974	156,354	Tuesday, January 31, 2023	191,339	81.7%	Monday, January 30, 2023	183,718	85.1%	96.0%
Feb	4,814,989	171,964	Wednesday, February 8, 2023	215,235	79.9%	Thursday, February 23, 2023	183,978	93.5%	85.5%
Mar	5,236,567	168,922	Tuesday, March 7, 2023	217,691	77.6%	Wednesday, March 8, 2023	215,155	78.5%	98.8%
Apr	5,056,600	168,553	Tuesday, April 25, 2023	218,022	77.3%	Sunday, April 2, 2023	139,551	120.8%	64.0%
May	4,794,815	154,671	Tuesday, May 9, 2023	196,751	78.6%	Friday, May 5, 2023	154,252	100.3%	78.4%
Jun	4,530,889	151,030	Monday, June 26, 2023	186,856	80.8%	Tuesday, June 20, 2023	164,920	91.6%	88.3%
12-Mths	59,878,774	164,051	Thursday, November 17, 2022	221,578	74.0%	Thursday, December 22, 2022	171,749	95.5%	77.5%

Figure 25 presents the same information on a per customer basis. The peak demand was estimated to be 2,689 Therms.

Figure 25 – Schedule 85 Transportation: Mean Daily Use

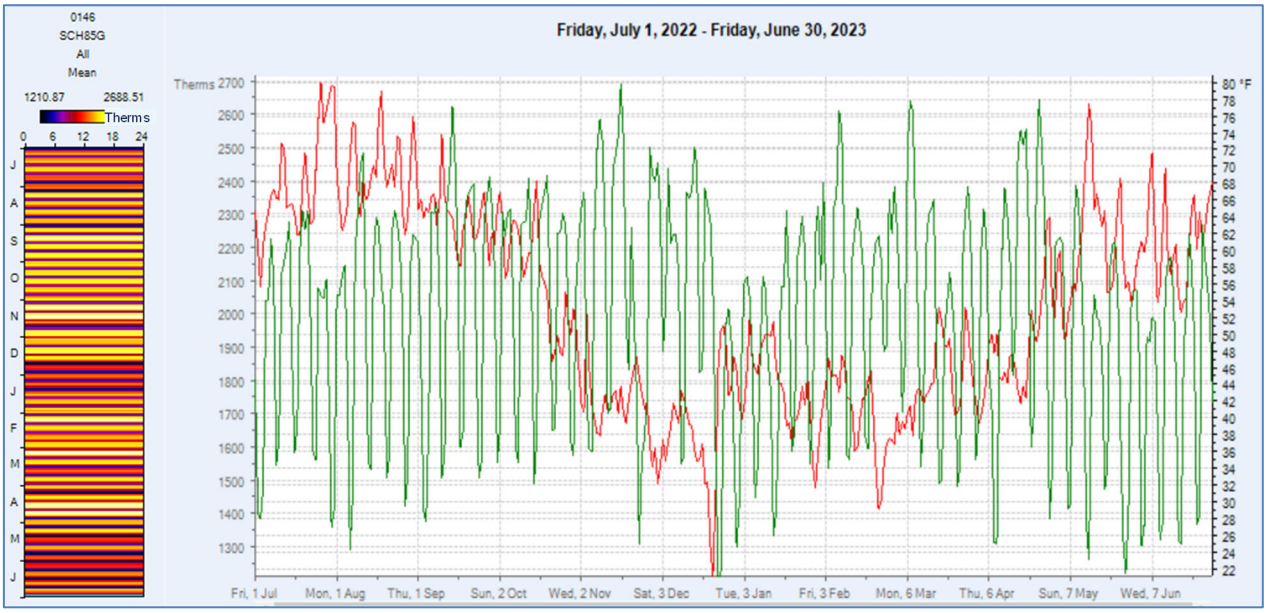


Table 21 presents the same information as Table 20 only on a per customer basis. The average daily use per account was reasonably consistent ranging from a low of 1,833 to a high of 2,115 Therms. The class peak demands were all close to one another.

Table 21 – Schedule 85 Transportation: Mean Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	58,560	1,889	Thursday, July 21, 2022	2,311	81.7%	Sunday, July 3, 2022	1,385	136.3%	59.9%
Aug	61,908	1,997	Thursday, August 11, 2022	2,483	80.4%	Thursday, August 4, 2022	2,143	93.2%	86.3%
Sep	61,851	2,062	Wednesday, September 14, 2022	2,622	78.6%	Friday, September 30, 2022	2,136	96.5%	81.5%
Oct	63,158	2,037	Thursday, October 20, 2022	2,417	84.3%	Tuesday, October 25, 2022	2,246	90.7%	92.9%
Nov	63,443	2,115	Thursday, November 17, 2022	2,689	78.7%	Tuesday, November 29, 2022	2,419	87.4%	90.0%
Dec	62,339	2,011	Thursday, December 15, 2022	2,502	80.4%	Thursday, December 22, 2022	2,084	96.5%	83.3%
Jan	58,811	1,897	Tuesday, January 31, 2023	2,322	81.7%	Monday, January 30, 2023	2,229	85.1%	96.0%
Feb	58,423	2,087	Wednesday, February 8, 2023	2,612	79.9%	Thursday, February 23, 2023	2,232	93.5%	85.5%
Mar	63,538	2,050	Tuesday, March 7, 2023	2,641	77.6%	Wednesday, March 8, 2023	2,611	78.5%	98.8%
Apr	61,354	2,045	Tuesday, April 25, 2023	2,645	77.3%	Sunday, April 2, 2023	1,693	120.8%	64.0%
May	58,178	1,877	Tuesday, May 9, 2023	2,387	78.6%	Friday, May 5, 2023	1,872	100.3%	78.4%
Jun	54,975	1,833	Monday, June 26, 2023	2,267	80.8%	Tuesday, June 20, 2023	2,001	91.6%	88.3%
12-Mths	726,537	1,991	Thursday, November 17, 2022	2,689	74.0%	Thursday, December 22, 2022	2,084	95.5%	77.5%

Figure 26 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred on Thursday, November 17, 2022.

Figure 26 – Schedule 85 Transportation: System Peak Week Demand

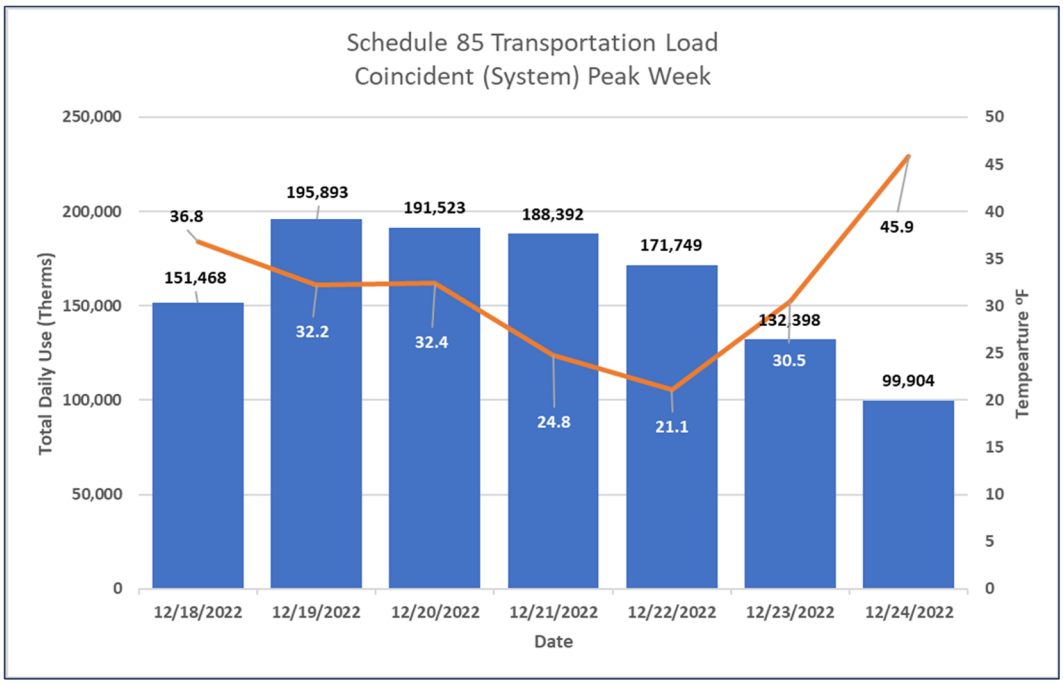
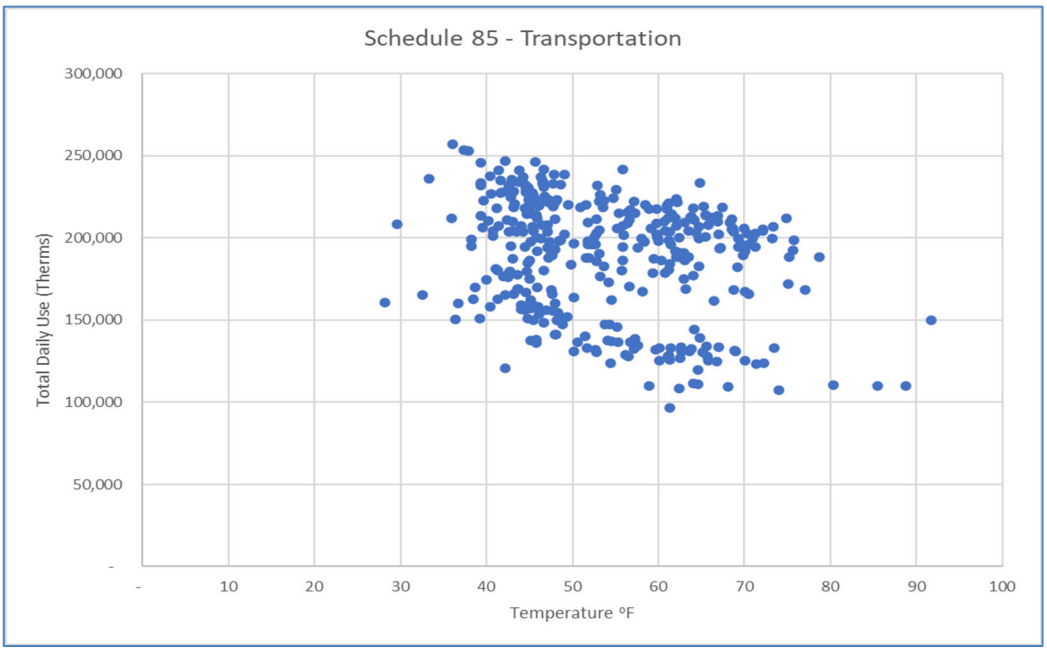


Figure 27 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, there seems to be some separation between weekends and weekdays with less weather sensitivity than observed in other classes.

Figure 27 – Schedule 85 Transportation: Temperature Sensitivity



4.4 Schedule 86 – Limited Interruptible Service with Firm Option

Table 22 presents a high-level summary of Schedule 86 – Limited Interruptible Service with Firm Options. For the Sales component there are 107 accounts with a total annual gas use of 6.039 million Therms. The average annual usage per account is 56,529 Therms. The class is dominated by commercial customers representing nearly 94% of both total number of accounts and total usage.

Table 22 – Schedule 86 Sales: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
86-Commercial	101	5,654,559	55,986
86-Industrial	6	384,580	64,097
Schedule 86 Sales Total	107	6,039,139	56,441

4.4.1 Schedule 86 Sales

Figure 28 presents the daily profile of aggregate Sales component of Sales part of Schedule 86, i.e., 86-C plus 86-I. The total Schedule 86 Sales load is plotted in blue with the average daily temperature plotted in red. The peak is estimated to be 39,894 Therms occurring on Thursday, December 22, 2022, with a corresponding average daily temperature of 21.1°F. The class peak is coincident with the overall system peak.

Figure 28 – Schedule 86 Sales: Total Daily Use

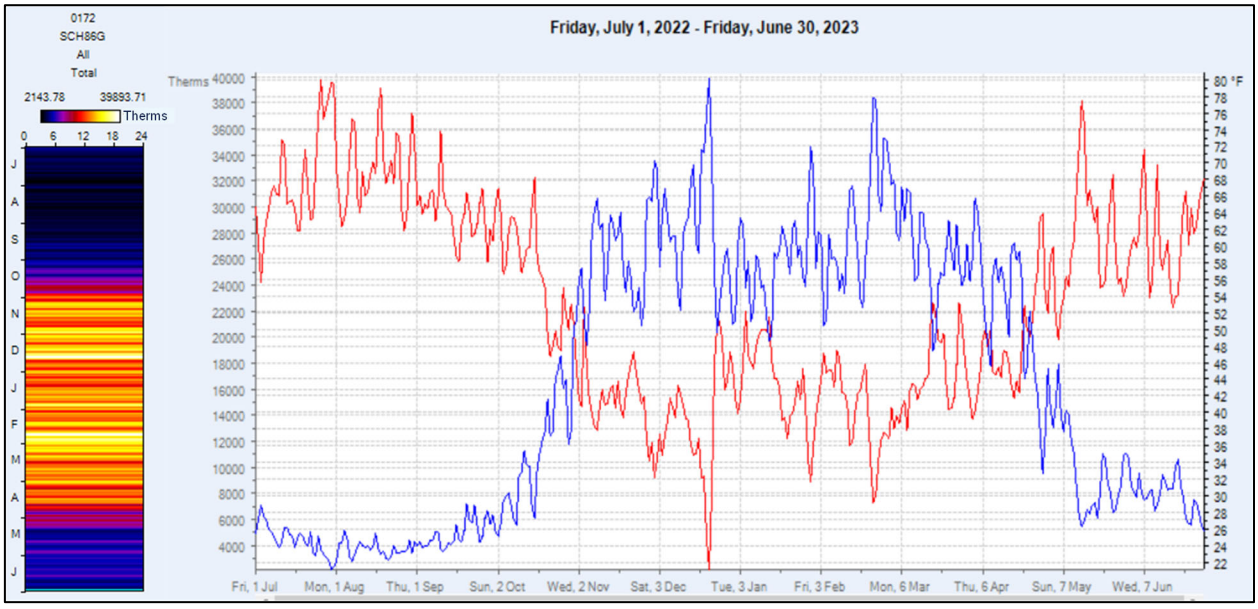


Table 23 presents selected monthly characteristics of Schedule 86 Sales on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on seven of the twelve months and had a coincidence factor over 90% for an additional two months. The monthly load factor based on class peak ranged from a low of 53% in October to a high of 84% in November.

Table 23 – Schedule 86 Sales: Total Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	138,018	4,452	Sunday, July 3, 2022	7,113	62.6%	Sunday, July 3, 2022	7,113	62.6%	100.0%
Aug	115,858	3,737	Thursday, August 4, 2022	5,172	72.3%	Thursday, August 4, 2022	5,172	72.3%	100.0%
Sep	147,216	4,907	Tuesday, September 20, 2022	7,172	68.4%	Friday, September 30, 2022	6,278	78.2%	87.5%
Oct	338,123	10,907	Monday, October 31, 2022	20,652	52.8%	Tuesday, October 25, 2022	17,510	62.3%	84.8%
Nov	772,246	25,742	Tuesday, November 29, 2022	30,784	83.6%	Tuesday, November 29, 2022	30,784	83.6%	100.0%
Dec	884,754	28,540	Thursday, December 22, 2022	39,894	71.5%	Thursday, December 22, 2022	39,894	71.5%	100.0%
Jan	802,694	25,893	Monday, January 30, 2023	34,618	74.8%	Monday, January 30, 2023	34,618	74.8%	100.0%
Feb	787,897	28,139	Thursday, February 23, 2023	38,409	73.3%	Thursday, February 23, 2023	38,409	73.3%	100.0%
Mar	840,619	27,117	Wednesday, March 1, 2023	33,585	80.7%	Wednesday, March 8, 2023	31,383	86.4%	93.4%
Apr	662,642	22,088	Monday, April 3, 2023	30,693	72.0%	Sunday, April 2, 2023	25,887	85.3%	84.3%
May	313,780	10,122	Friday, May 5, 2023	17,869	56.6%	Friday, May 5, 2023	17,869	56.6%	100.0%
Jun	235,293	7,843	Thursday, June 1, 2023	10,682	73.4%	Tuesday, June 20, 2023	10,630	73.8%	99.5%
12-Mths	6,039,139	16,546	Thursday, December 22, 2022	39,894	41.5%	Thursday, December 22, 2022	39,894	41.5%	100.0%

Figure 29 presents the same information on a per customer basis. The peak demand was estimated to be 373 Therms.

Figure 29 – Schedule 86 Sales: Mean Daily Use

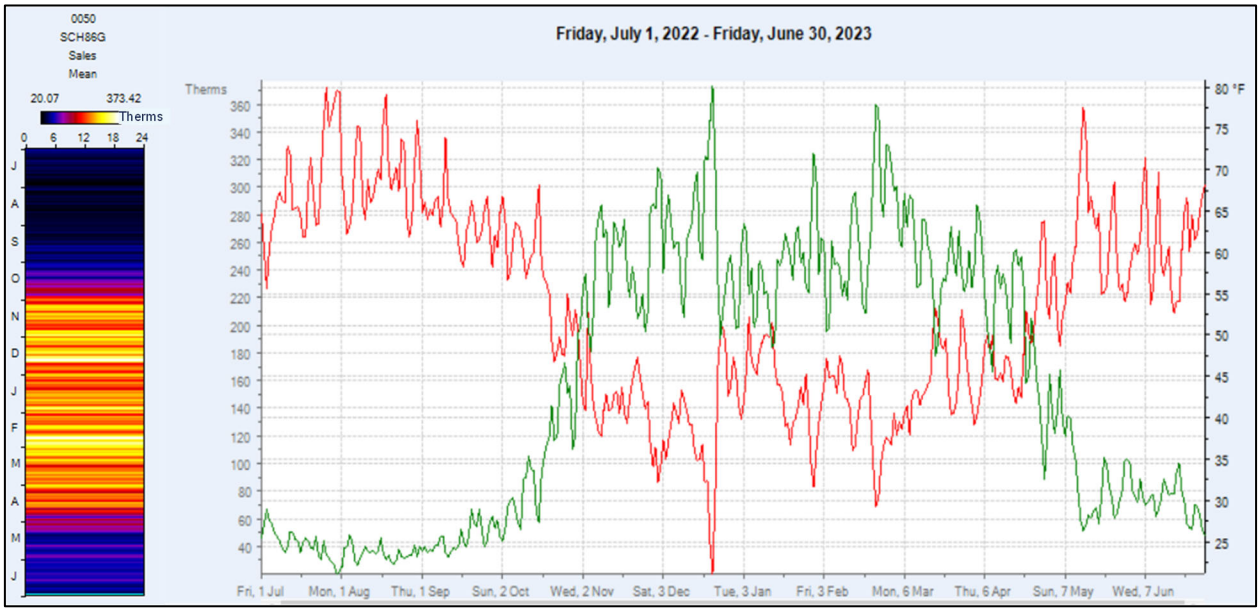


Table 24 presents the same information as Table 23 only on a per customer basis. The average monthly use per account ranges from a low of 1,084 Therms in August to a high of 8,282 Therms in December.

Table 24 – Schedule 86 Sales: Mean Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	1,292	42	Sunday, July 3, 2022	66.6	62.6%	Sunday, July 3, 2022	66.6	62.6%	100.0%
Aug	1,084	35	Thursday, August 4, 2022	48.4	72.3%	Thursday, August 4, 2022	48.4	72.3%	100.0%
Sep	1,378	46	Tuesday, September 20, 2022	67.1	68.4%	Friday, September 30, 2022	58.8	78.2%	87.5%
Oct	3,165	102	Monday, October 31, 2022	193.3	52.8%	Tuesday, October 25, 2022	163.9	62.3%	84.8%
Nov	7,229	241	Tuesday, November 29, 2022	288.1	83.6%	Tuesday, November 29, 2022	288.1	83.6%	100.0%
Dec	8,282	267	Thursday, December 22, 2022	373.4	71.5%	Thursday, December 22, 2022	373.4	71.5%	100.0%
Jan	7,514	242	Monday, January 30, 2023	324.0	74.8%	Monday, January 30, 2023	324.0	74.8%	100.0%
Feb	7,375	263	Thursday, February 23, 2023	359.5	73.3%	Thursday, February 23, 2023	359.5	73.3%	100.0%
Mar	7,869	254	Wednesday, March 1, 2023	314.4	80.7%	Wednesday, March 8, 2023	293.8	86.4%	93.4%
Apr	6,203	207	Monday, April 3, 2023	287.3	72.0%	Sunday, April 2, 2023	242.3	85.3%	84.3%
May	2,937	95	Friday, May 5, 2023	167.3	56.6%	Friday, May 5, 2023	167.3	56.6%	100.0%
Jun	2,202	73	Thursday, June 1, 2023	100.0	73.4%	Tuesday, June 20, 2023	99.5	73.8%	99.5%
12-Mths	56,529	155	Thursday, December 22, 2022	373.4	41.5%	Thursday, December 22, 2022	373.4	41.5%	100.0%

Figure 30 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred at the same time as the system peak.

Figure 30 – Schedule 86 Sales: System Peak Week Demand

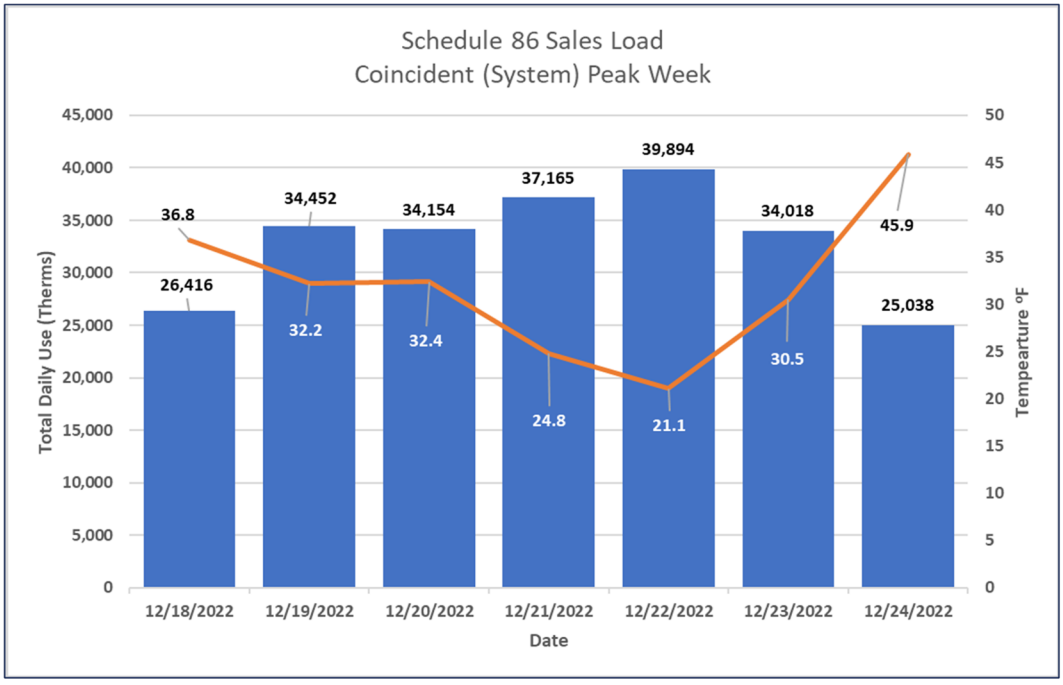
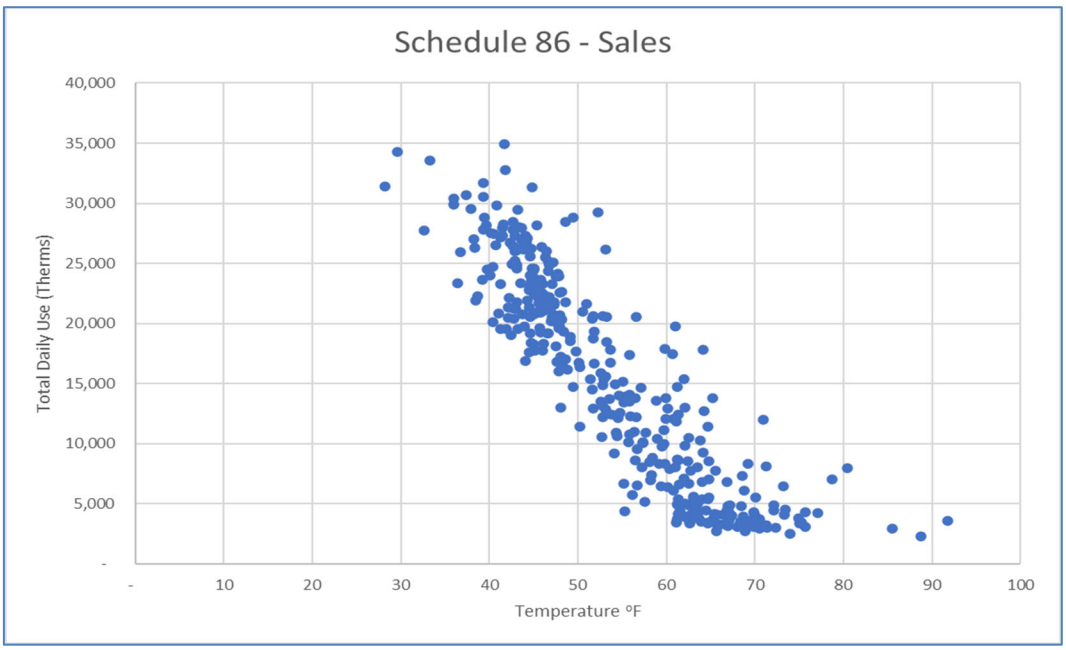


Figure 31 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 86 – Sales is highly temperature sensitive.

Figure 31 – Schedule 86 Sales: Temperature Sensitivity



4.4.2 Schedule 86T – Limited Interruptible Transportation Service with Firm Option

Table 25 presents a high-level summary of Schedule 86 Transportation – Limited Interruptible Service with Firm Options. There are a total of 6 Transportation customers with a total annual usage of 2.13 million Therms or an average of 340,635 Therms. Four of the six customers are industrial customers.

Table 25 – Schedule 86 Transportation: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
86T-Commercial	2	1,512,056	756,028
86T-Industrial	4	616,915	154,229
Schedule 86 Trans Total	6	2,128,972	354,829

Figure 32 presents the daily profile of aggregate Transportation component of Schedule 86, i.e., 86TG-C plus 86TG-I. The total Schedule 86 Transportation load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is not weather sensitive with the peak usage occurring in September. The class peak was 12,837 Therms on Thursday, October 27, 2022. The ambient average temperature on this day was 55ºF.

Figure 32 – Schedule 86 Transportation: Total Daily Use

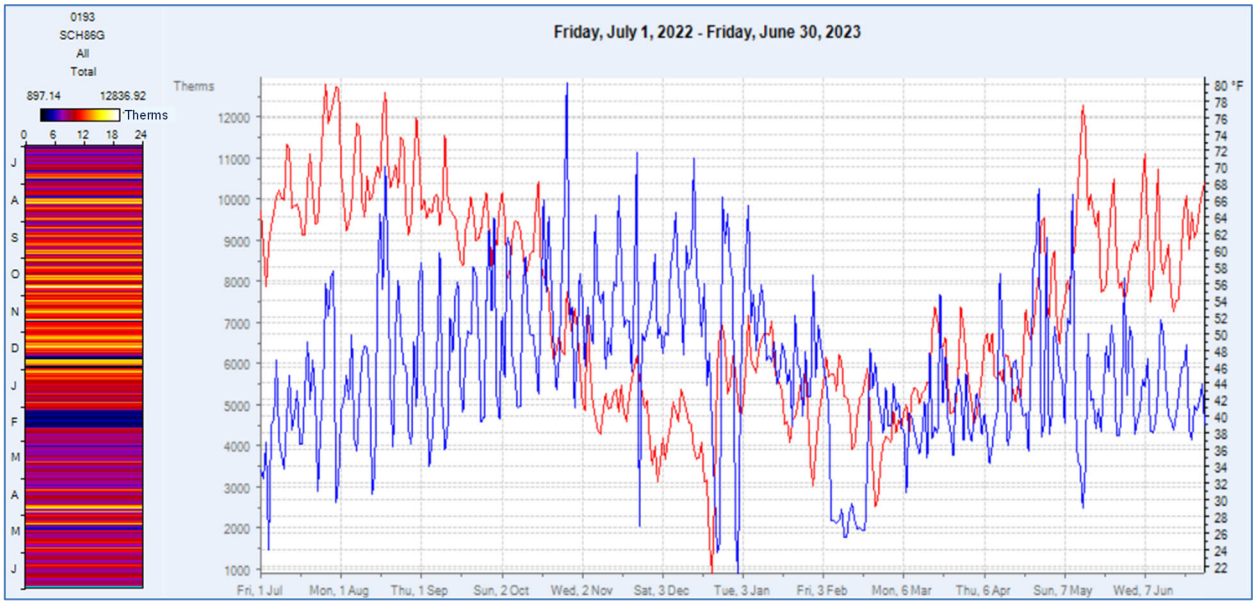


Table 26 presents selected monthly characteristics of Schedule 86 Transportation on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was not coincident with the system in any of the twelve months. The monthly load factor based on class peak ranged from a low of 54% in April to a high of 74% in June.

Table 26 – Schedule 86 Transportation: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	150,040	4,840	Friday, July 29, 2022	8,245	58.7%	Sunday, July 3, 2022	4,099	118.1%	49.7%
Aug	186,738	6,024	Thursday, August 18, 2022	10,788	55.8%	Thursday, August 4, 2022	5,144	117.1%	47.7%
Sep	190,529	6,351	Thursday, September 29, 2022	9,540	66.6%	Friday, September 30, 2022	5,194	122.3%	54.4%
Oct	222,515	7,178	Thursday, October 27, 2022	12,837	55.9%	Tuesday, October 25, 2022	8,150	88.1%	63.5%
Nov	219,687	7,323	Wednesday, November 23, 2022	11,123	65.8%	Tuesday, November 29, 2022	7,609	96.2%	68.4%
Dec	218,138	7,037	Thursday, December 15, 2022	11,015	63.9%	Thursday, December 22, 2022	4,392	160.2%	39.9%
Jan	194,886	6,287	Thursday, January 5, 2023	9,850	63.8%	Monday, January 30, 2023	8,144	77.2%	82.7%
Feb	105,385	3,764	Wednesday, February 1, 2023	6,943	54.2%	Thursday, February 23, 2023	6,008	62.6%	86.5%
Mar	147,904	4,771	Monday, March 20, 2023	7,683	62.1%	Wednesday, March 8, 2023	4,785	99.7%	62.3%
Apr	165,944	5,531	Thursday, April 27, 2023	10,257	53.9%	Sunday, April 2, 2023	4,589	120.5%	44.7%
May	169,227	5,459	Wednesday, May 10, 2023	10,108	54.0%	Friday, May 5, 2023	5,859	93.2%	58.0%
Jun	157,978	5,266	Tuesday, June 13, 2023	7,076	74.4%	Tuesday, June 20, 2023	5,253	100.2%	74.2%
12-Mths	2,128,972	5,833	Thursday, October 27, 2022	12,837	45.4%	Thursday, December 22, 2022	4,392	132.8%	34.2%

Figure 33 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The overall class peak coincidence factor in was just 34%.

Figure 33 – Schedule 86 Transportation: System Peak Week Demand

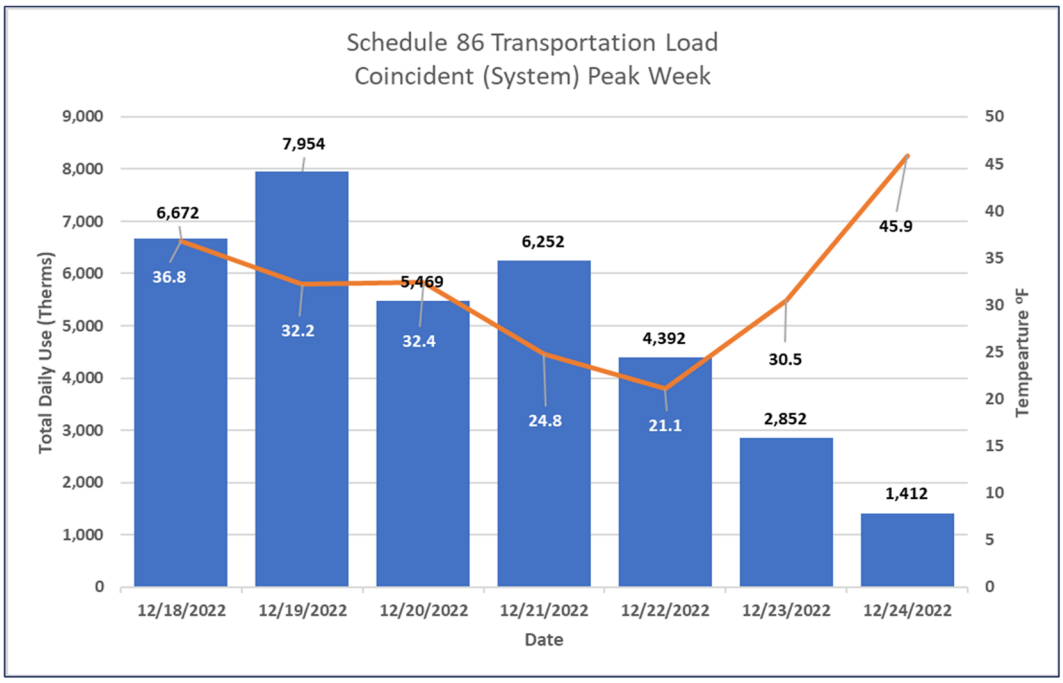
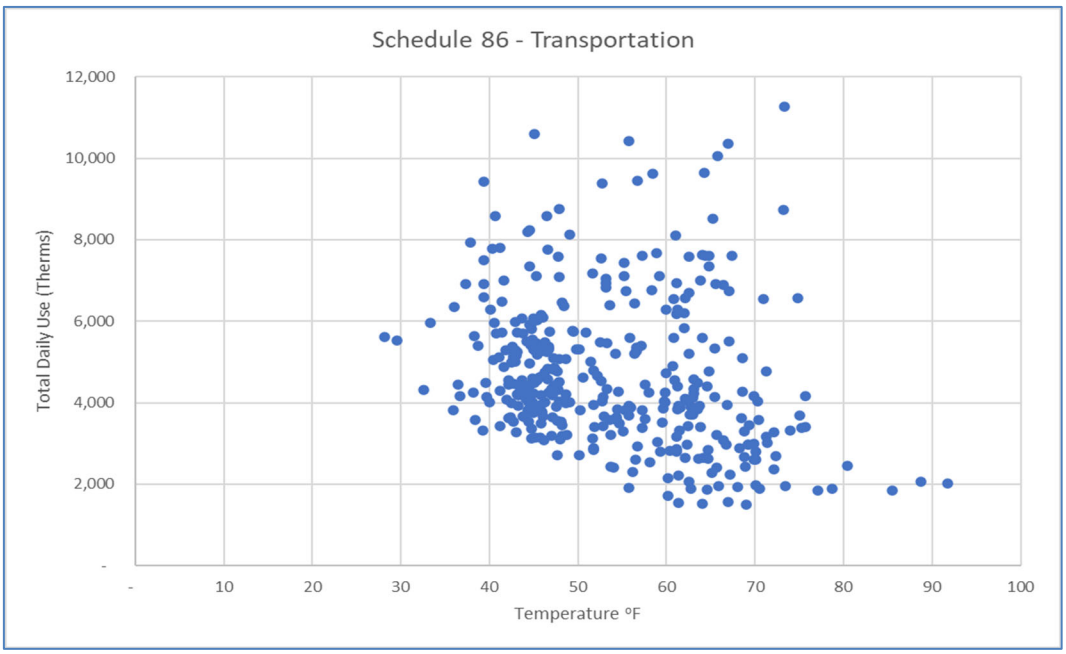


Figure 34 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 86-Transportation gas demand is not temperature sensitive.

Figure 34 – Schedule 86 Transportation: Temperature Sensitivity



4.5 Schedule 87 – Non-Exclusive Interruptible Service with Firm Option

Table 27 presents a high-level summary of Schedule 87 – Non-Exclusive Interruptible Service with Firm Options. For the Sales there are just four commercial accounts with a total annual gas use of 20.03 million Therms. The average annual usage per account is 5.01 million Therms.

Table 27 – Schedule 87 Sales: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
87-Commercial	4	20,026,822	5,006,705
Schedule 87 Sales Total	4	20,026,822	5,006,705

4.5.1 Schedule 87 Sales

Figure 35 presents the daily profile of aggregate Sales component of Schedule 87, i.e., commercial. The figure to the left is a vertical EnergyPrint that presents the day of the year on the y-axis and the magnitude of load as a color gradient with low levels of daily use in the black-blue spectrum and high levels of daily use in the yellow-white spectrum. The figure to the right is a more conventional two-dimensional view of the data with the magnitude of load on the y-axis and the day on the x-axis. The total Schedule 87 Sales load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is highly weather sensitive with the peak usage occurring at an estimated demand of 117,916 Therms, coincident with the system peak on December 22, 2022.

Figure 35 – Schedule 87 Sales: Total Daily Use

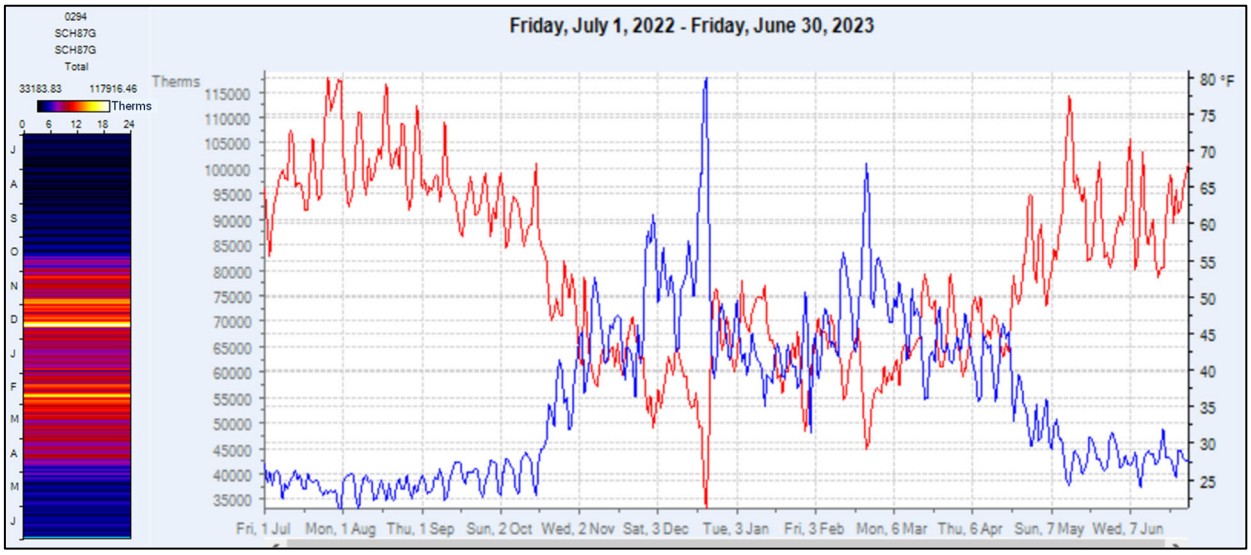


Table 28 presents selected monthly characteristics of Schedule 87 Sales on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on eight of the twelve months. The monthly load factor based on class peak ranged from a low of 67% to a high of 93%.

Table 28 – Schedule 87 Sales: Total Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	1,176,479	37,951	Friday, July 1, 2022	41,845	90.7%	Sunday, July 3, 2022	40,255	94.3%	96.2%
Aug	1,158,390	37,367	Thursday, August 4, 2022	40,056	93.3%	Thursday, August 4, 2022	40,056	93.3%	100.0%
Sep	1,181,772	39,392	Wednesday, September 28, 2022	42,486	92.7%	Friday, September 30, 2022	42,126	93.5%	99.2%
Oct	1,425,121	45,972	Tuesday, October 25, 2022	62,223	73.9%	Tuesday, October 25, 2022	62,223	73.9%	100.0%
Nov	2,035,108	67,837	Tuesday, November 29, 2022	87,680	77.4%	Tuesday, November 29, 2022	87,680	77.4%	100.0%
Dec	2,449,253	79,008	Thursday, December 22, 2022	117,916	67.0%	Thursday, December 22, 2022	117,916	67.0%	100.0%
Jan	1,953,213	63,007	Monday, January 30, 2023	75,766	83.2%	Monday, January 30, 2023	75,766	83.2%	100.0%
Feb	2,044,073	73,003	Thursday, February 23, 2023	100,813	72.4%	Thursday, February 23, 2023	100,813	72.4%	100.0%
Mar	2,114,682	68,216	Wednesday, March 1, 2023	79,837	85.4%	Wednesday, March 8, 2023	77,591	87.9%	97.2%
Apr	1,804,375	60,146	Monday, April 3, 2023	71,550	84.1%	Sunday, April 2, 2023	66,884	89.9%	93.5%
May	1,396,031	45,033	Friday, May 5, 2023	54,556	82.5%	Friday, May 5, 2023	54,556	82.5%	100.0%
Jun	1,288,326	42,944	Tuesday, June 20, 2023	48,742	88.1%	Tuesday, June 20, 2023	48,742	88.1%	100.0%
12-Mths	20,026,822	54,868	Thursday, December 22, 2022	117,916	46.5%	Thursday, December 22, 2022	117,916	46.5%	100.0%

Figure 36 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class had its second highest peak coincident with the system peak on Thursday, December 22, 2022.

Figure 36 – Schedule 87 Sales: System Peak Week Demand

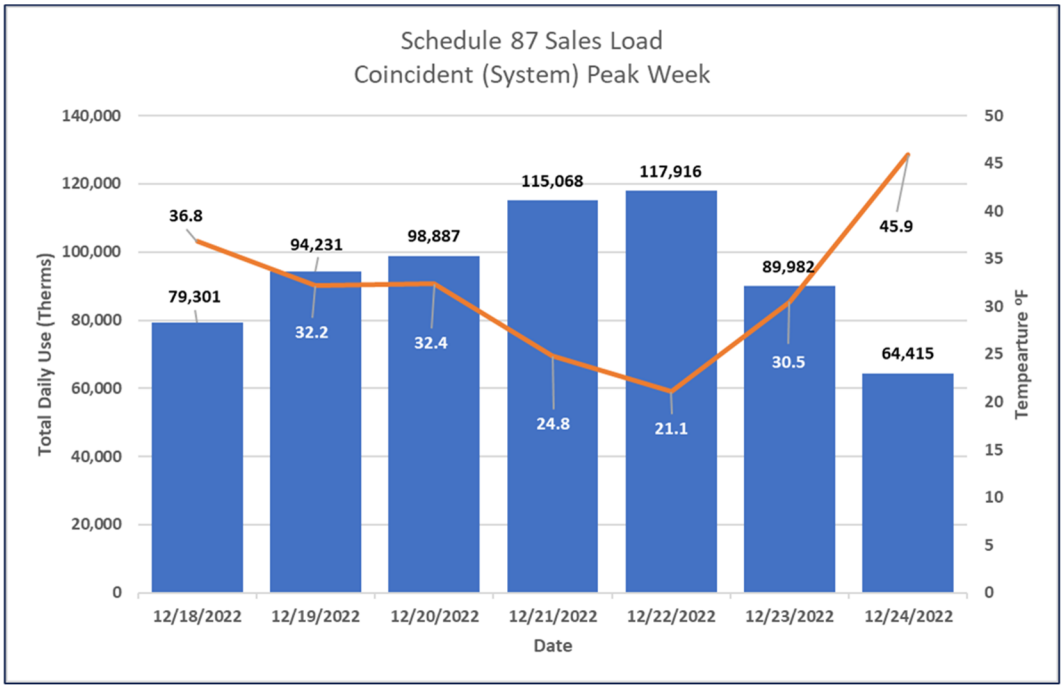
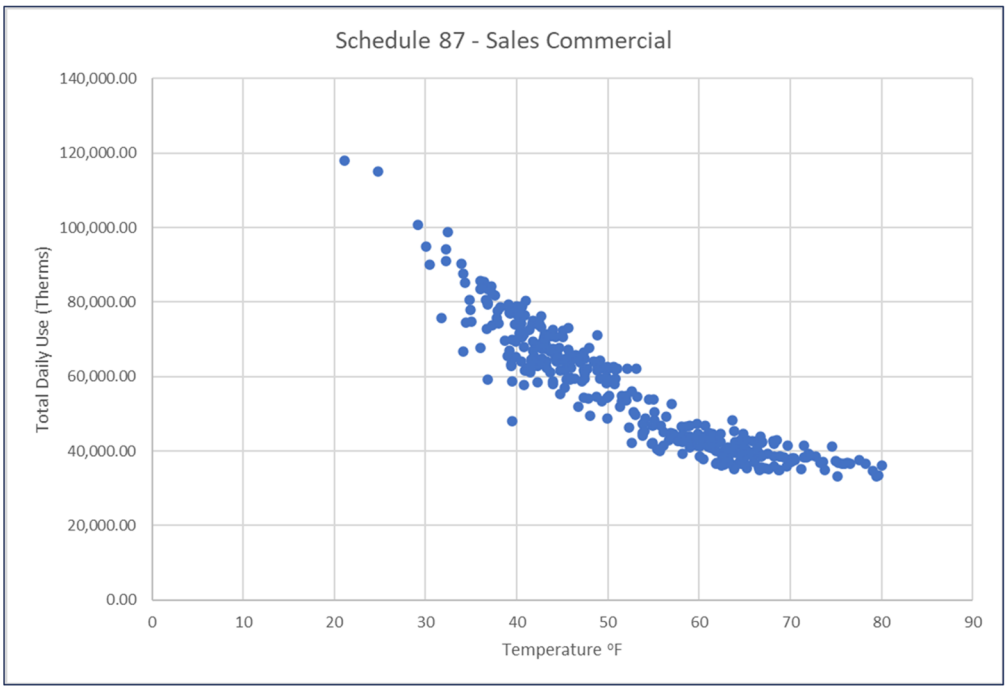


Figure 37 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, the Schedule 87 Sales gas demand is highly temperature sensitive with a few outliers occurring throughout the year.

Figure 37 – Schedule 87 Sales: Temperature Sensitivity



4.5.2 Schedule 87T – Non-Exclusive Interruptible Transportation Service with Firm Option

Table 29 presents a high-level summary of Schedule 87 Transportation – Non-Exclusive Interruptible Service with Firm Options. This class is comprised of commercial and Industrial customers with the Industrial component being dominate. There are a total of 11 Transportation customers with a total annual usage of 91.386 million Therms or an average of 8.635 million Therms per account. The industrial class represents 94% of the total annual usage.

Table 29 – Schedule 87 Transportation: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
87T-Ccommercial	3	17,775,915	5,925,305
87T-Industrial	7	73,610,467	10,515,781
Schedule 87 Total	10	91,386,383	9,138,638

Figure 38 presents the daily profile of aggregate Transportation component of Schedule 87, i.e., 87TG-C and 87TG-I. The total Schedule 87 Transportation load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is weather sensitive with the peak usage occurring on Monday, February 6, 2023 at an estimated peak of 349,644 Therms with a corresponding average daily temperature of 45.1ºF.

Figure 38 – Schedule 87 Transportation: Total Daily Use

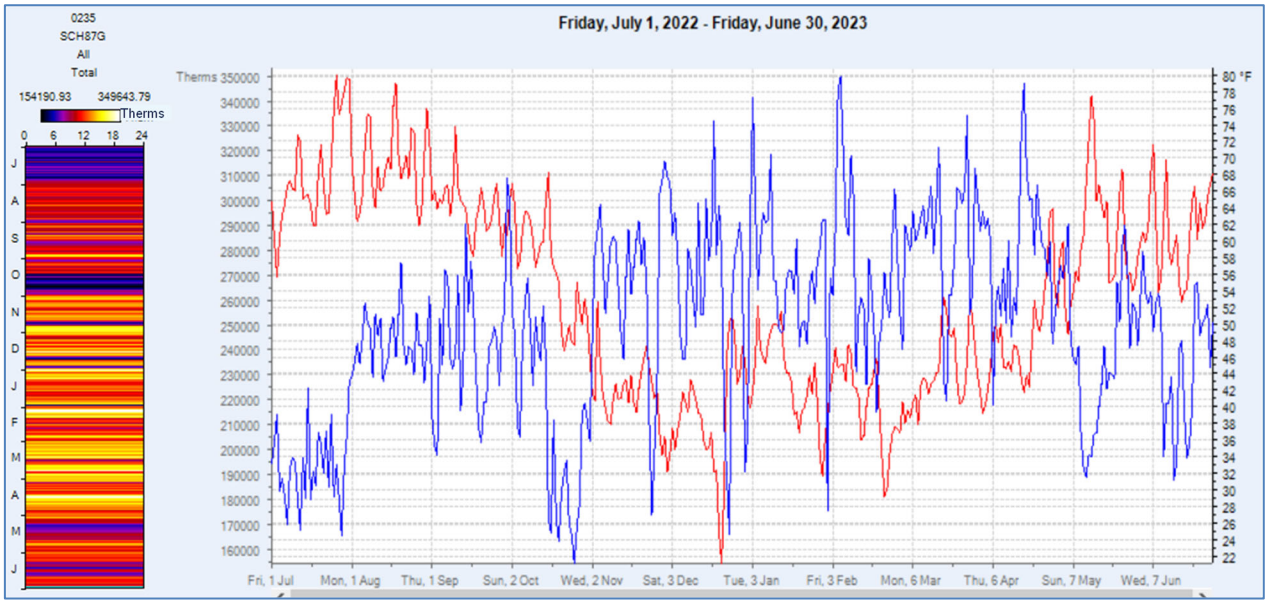


Table 30 presents selected monthly characteristics of Schedule 87-Transportation on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The monthly load factors are high at or above 71.4% for all months. The annual load factor was 72%. This class had a system peak coincidence factor above 90% for just four of the twelve months.

Table 30 – Schedule 87 Transportation: Total Use Characteristics

			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	5,975,859	192,770	Sunday, July 31, 2022	227,672	84.7%	Sunday, July 3, 2022	213,879	90.1%	93.9%
Aug	7,545,928	243,417	Saturday, August 20, 2022	274,691	88.6%	Thursday, August 4, 2022	234,534	103.8%	85.4%
Sep	7,235,030	241,168	Friday, September 30, 2022	309,219	78.0%	Friday, September 30, 2022	309,219	78.0%	100.0%
Oct	6,620,323	213,559	Saturday, October 1, 2022	299,254	71.4%	Tuesday, October 25, 2022	165,662	128.9%	55.4%
Nov	7,945,036	264,835	Wednesday, November 30, 2022	315,939	83.8%	Tuesday, November 29, 2022	308,650	85.8%	97.7%
Dec	8,252,184	266,199	Monday, December 19, 2022	331,677	80.3%	Thursday, December 22, 2022	277,515	95.9%	83.7%
Jan	8,439,863	272,254	Tuesday, January 3, 2023	341,460	79.7%	Monday, January 30, 2023	292,091	93.2%	85.5%
Feb	7,582,689	270,810	Monday, February 6, 2023	349,644	77.5%	Thursday, February 23, 2023	271,210	99.9%	77.6%
Mar	8,795,800	283,735	Monday, March 27, 2023	333,911	85.0%	Wednesday, March 8, 2023	287,421	98.7%	86.1%
Apr	8,376,899	279,230	Tuesday, April 18, 2023	346,944	80.5%	Sunday, April 2, 2023	295,378	94.5%	85.1%
May	7,440,833	240,027	Friday, May 5, 2023	290,756	82.6%	Friday, May 5, 2023	290,756	82.6%	100.0%
Jun	7,175,939	239,198	Saturday, June 3, 2023	279,341	85.6%	Tuesday, June 20, 2023	196,772	121.6%	70.4%
12-Mths	91,386,383	250,374	Monday, February 6, 2023	349,644	71.6%	Thursday, December 22, 2022	277,515	90.2%	79.4%

Figure 39 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. While the class peak occurred on Monday, February 6, the class demand on Monday, December 19 was approximately 95% of the class peak demand. This class had a coincidence factor of 84% on the system peak day.

Figure 39 – Schedule 87 Transportation: System Peak Week Demand

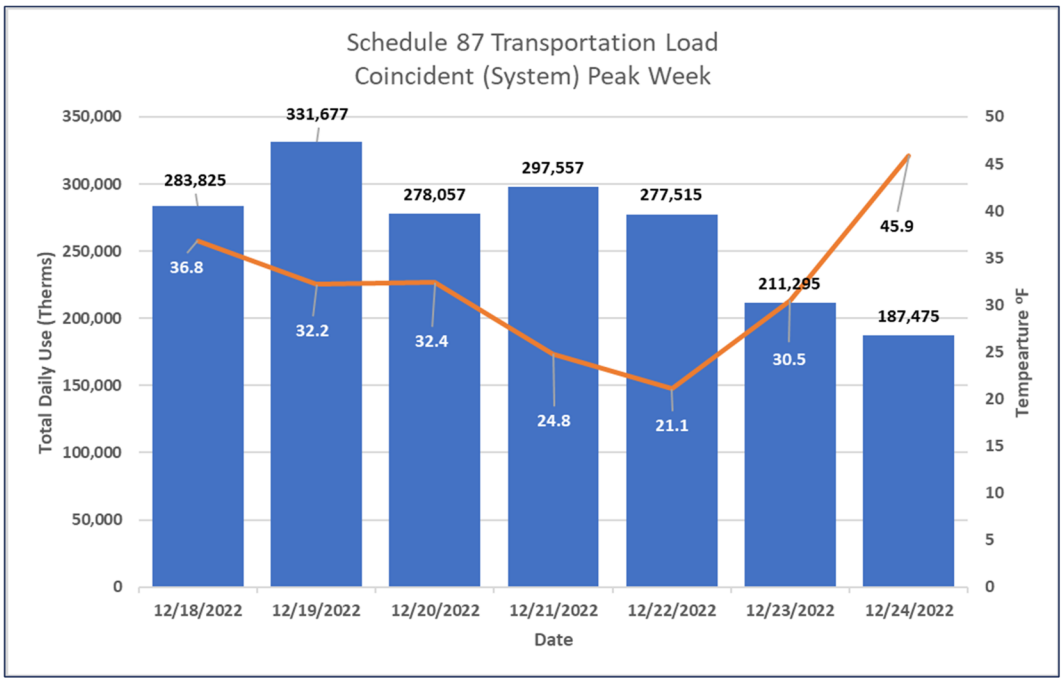
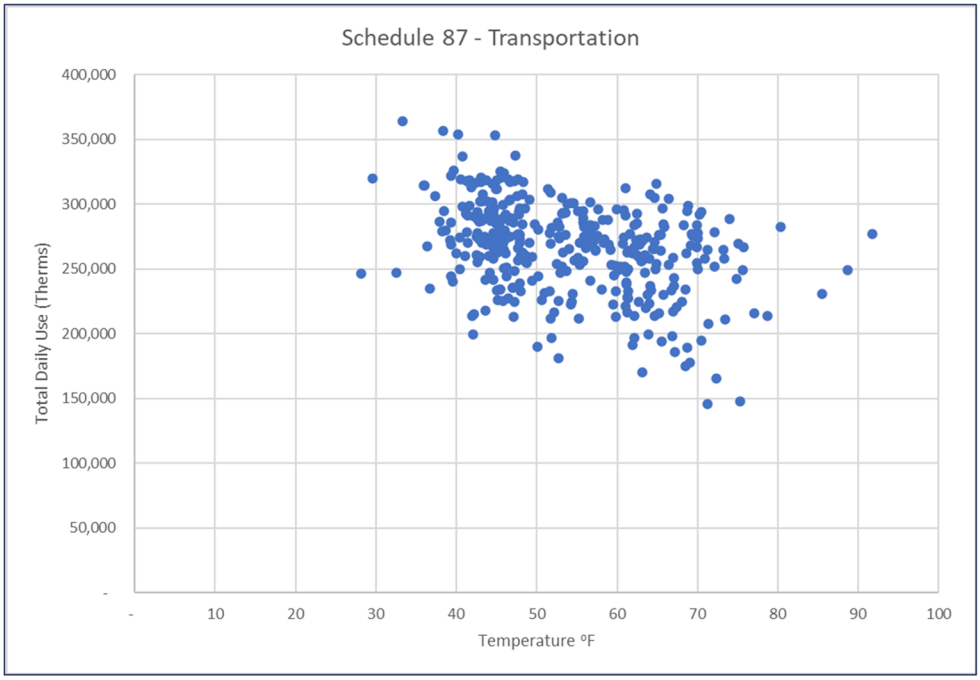


Figure 40 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, this class is less weather sensitive.

Figure 40 – Schedule 87 Transportation: Temperature Sensitivity



4.6 Special Contracts

Table 31 presents a high-level summary of Special Contracts. This class is comprised of 9 accounts with a total annual gas use of 33.07million Therms. The average annual usage per account is 3.67 million Therms.

Table 31 – Special Contracts: Billing Summary

Schedule/Domain	Number of Accounts	Annual Use (Therms)	Average Annual Use (Therms)
Special Contracts	9	33,066,238	3,674,026
Special Contracts Total	9	33,066,238	3,674,026

Figure 41 presents the daily profile of aggregate Special Contracts. The figure to the left is a vertical EnergyPrint that presents the day of the year on the y-axis and the magnitude of load as a color gradient with low levels of daily use in the black-blue spectrum and high levels of daily use in the yellow-white spectrum. The figure to the right is a more conventional two-dimensional view of the data with the magnitude of load on the y-axis and the day on the x-axis. The total Special Contract load is plotted in blue with the average daily temperature plotted in red. The total daily gas use is highly weather sensitive with the peak usage occurring one day before the system peak day of December 22, 2022. The class peak of 202,277 Therms occurred on Wednesday, December 21, the day before the system peak. The corresponding average daily temperature on this day was 24.8ºF.

Figure 41 – Special Contracts: Total Daily Use

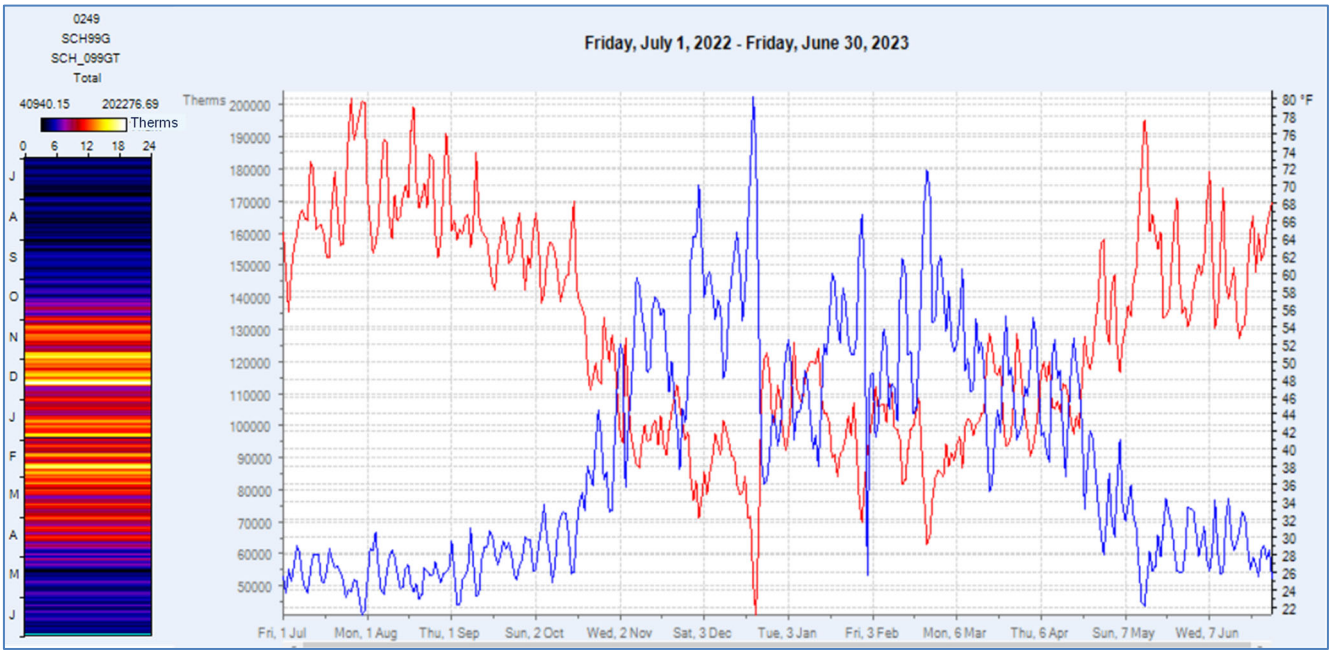


Table 32 presents selected monthly characteristics of Special Contracts on a total class basis. The information includes the monthly use, average daily use, date of class peak, class peak demand, load factor based on the class peak, date of the system peak, system peak demand, load factor based on the system peak and the monthly coincidence factor. The class was coincident with the system on six of the twelve months and had a coincidence factor greater than 90% in all but one month. The monthly load factor based on class peak was near or above 70% in most months.

Table 32 – Special Contracts: Total Use Characteristics

Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident Peaks			Coincident Peaks			Coincidence Factor
			Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	
Jul	1,641,159	52,941	Wednesday, July 6, 2022	62,570	84.6%	Sunday, July 3, 2022	55,153	96.0%	88.1%
Aug	1,675,916	54,062	Thursday, August 4, 2022	66,599	81.2%	Thursday, August 4, 2022	66,599	81.2%	100.0%
Sep	1,739,538	57,985	Thursday, September 8, 2022	67,942	85.3%	Friday, September 30, 2022	64,540	89.8%	95.0%
Oct	2,262,458	72,983	Tuesday, October 25, 2022	104,571	69.8%	Tuesday, October 25, 2022	104,571	69.8%	100.0%
Nov	3,687,951	122,932	Wednesday, November 30, 2022	158,910	77.4%	Tuesday, November 29, 2022	158,765	77.4%	99.9%
Dec	4,177,789	134,767	Wednesday, December 21, 2022	202,277	66.6%	Thursday, December 22, 2022	186,231	72.4%	92.1%
Jan	3,783,147	122,037	Monday, January 30, 2023	165,686	73.7%	Monday, January 30, 2023	165,686	73.7%	100.0%
Feb	3,540,944	126,462	Thursday, February 23, 2023	179,657	70.4%	Thursday, February 23, 2023	179,657	70.4%	100.0%
Mar	3,589,940	115,805	Wednesday, March 8, 2023	148,858	77.8%	Wednesday, March 8, 2023	148,858	77.8%	100.0%
Apr	3,032,009	101,067	Monday, April 3, 2023	133,432	75.7%	Sunday, April 2, 2023	120,227	84.1%	90.1%
May	2,053,819	66,252	Friday, May 5, 2023	95,727	69.2%	Friday, May 5, 2023	95,727	69.2%	100.0%
Jun	1,881,568	62,719	Wednesday, June 14, 2023	76,969	81.5%	Tuesday, June 20, 2023	71,656	87.5%	93.1%
12-Mths	33,066,238	90,592	Wednesday, December 21, 2022	202,277	44.8%	Thursday, December 22, 2022	186,231	48.6%	92.1%

Figure 42 presents the daily demand and temperature for the peak week December 18, 2022, through December 24, 2022. The class peak occurred one day before the system peak. The system peak coincided factor was 92%.

Figure 42 – Special Contracts: System Peak Week Demand

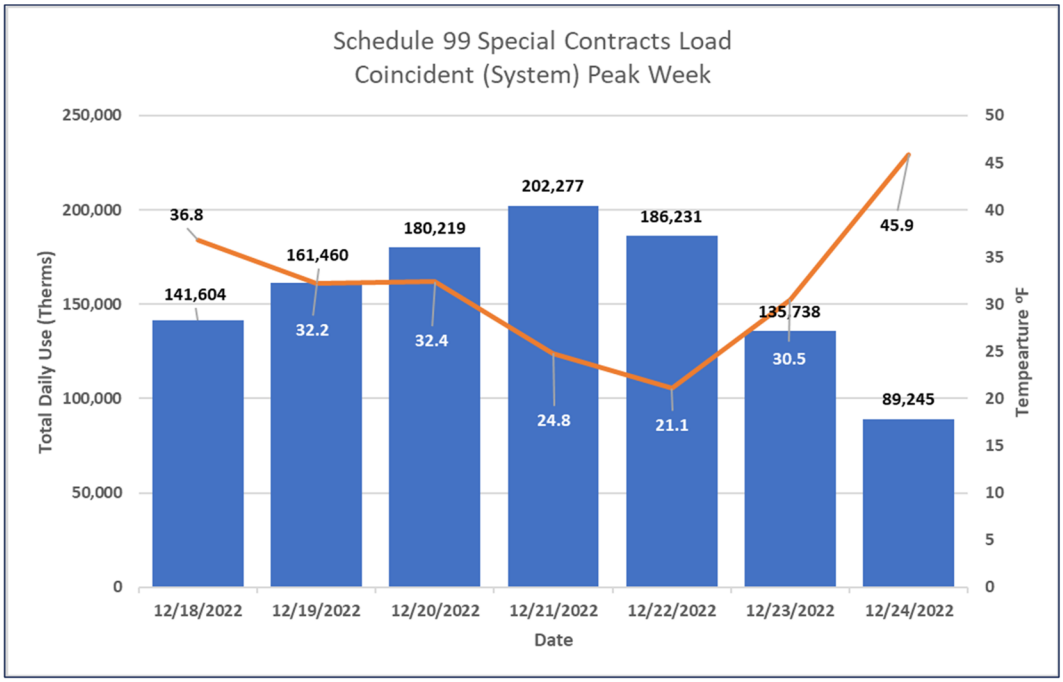
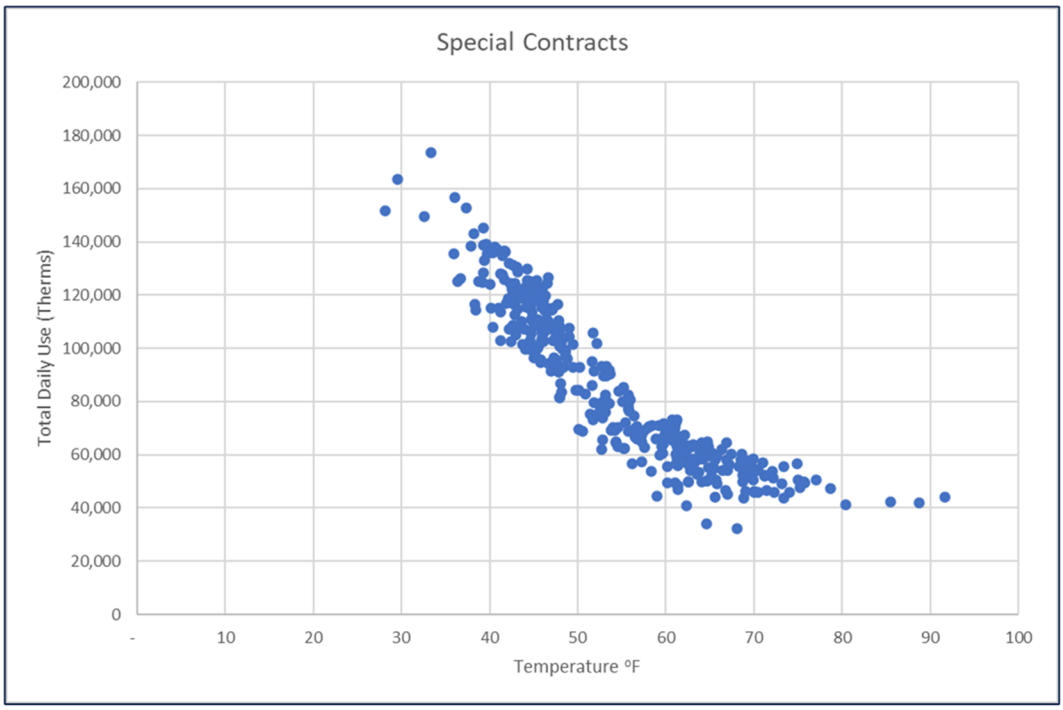


Figure 43 displays the total daily Therms plotted against average daily temperature. As evidenced by the figure, this schedule is highly temperature sensitive.

Figure 43 – Special Contracts: Temperature Sensitivity



5 APPENDIX A – VALIDATION, EDITING, AND ESTIMATION (VEE) APPROACH

This appendix highlights the validation, editing, and estimation (VEE) approaches we used during the analysis process.

5.1 Outlier Identification

The system contains several strategies for identifying and correcting outliers. Currently, we have included four approaches into the system for detecting outliers. The idea of having four approaches is so the user can define which method(s) they would like to apply for an analysis. The overarching goal is to identify the "true" outliers while minimizing false positives. Two of the methods in the system compare values within a given day and as such are not applicable for a daily analysis. The two remaining methods were both used to identify outliers in the daily data set.

For each approach, we have developed default cut off values to identify outliers. The approaches used in this analysis include:

- **Weather Regression Modelled Approach:** This approach builds a weather model to predict the value of each interval and identifies intervals where the observed value deviates from the predicted value by more than a defined number of studentized residuals[3].
- **Malyack Approach:** This approach is a variation on the California method that compares intervals **across calendar weeks** (Sunday-Saturday) instead of within a single day.

5.2 Metered to Billing Comparison

Validating the load data is an important part of the VEE process, whether it is load data that fully exists for any sample point or if estimation was used to fill in gaps. The main goal of the bill-to-meter process is to be a validation check on the load data when comparing to a known, true value. This value is often the billed usage obtained for the same sample point. The user can compare the load data on a bill-by-bill basis or at an aggregate level for the study frame being compared. Whether the user uses the actual bill read dates and days in the billing cycle to define the start and end frames for comparison or a read cycle definition to define these time frames, the process ensures that the load data being compared to the billing data are examining an appropriate time frame allowing for an "apples-to-apples" comparison.

When comparing the billing usage against the load data, the ratio between the two are compared to a defined threshold. The calculation of this comparison is:

$$1 - (RatioThreshold - 1) < \frac{\sum LoadData_i}{\sum BillData_i} < RatioThreshold$$

Where,

- *RatioThreshold* is the percent difference the load data is allowed to be within to be considered "ok". This value should be greater than 1. If the allowed threshold is 5%, then this value should be set to 1.05;
- *LoadData* is the sum of the interval usage for the given time frame *i;*
- *BillData* is the sum of the billing usage for the given time frame *i*. It could just be the billed usage as is without doing any summation; and
- *i* is the representation of a given bill or timeframe. The user could choose to sum all *i* bills for comparison or do each of them individually.

[3] A studentized residual is the quotient resulting from the division of a residual by an estimate of its standard deviation

5.3 Time-Temperature Regression Modelling

The project team uses a time-temperature modelling strategy as the fundamental basis to build models for use to fill gaps and missing data. The approach develops a mathematical model that represents the relationship between energy usage and temperature. Using this model, intervals with missing load data can be predicted applying the temperature of that hour to the model of best fit for that hour.

This normalization analysis recognizes that each customer reacts differently to varying heating and cooling degree days, and each customer has unique space conditioning characteristics. Buildings with more efficient heating or cooling equipment, radiant barriers, more insulation, and efficient windows will consume less energy because they will require less heating and/or cooling.

The simplest model where the specifications is such that energy consumptions depends on either heating or cooling degree days only is shown in Equation 1.

Equation 1 – Basic Model

$$U_i = \alpha + \beta * DD_i(\tau) + e$$

Where;

U_i = average daily consumption in interval i.
$DD_i(\tau)$ = average degree days in interval i, based on reference temperature
α,β = parameters to be estimated to minimize e.
e = a random error term.

The base model reflects that a customer's energy usage is equal to some base level α, and a linear function between a reference temperature τ, and the outside temperature. The constant proportionality, β, represents a customer's effective heat-loss or heat-gain rate. As mentioned, the model recognizes that each customer has unique space conditioning operating characteristics. To capture these unique space conditioning characteristics, the modelling runs regressions for a range of heating and cooling reference temperatures (i.e., temperatures at which users tend to turn on heating or cooling equipment) against usage. The model chosen to represent a customer's energy use is the model that best linearizes the relationship between usage and degree days. A degree day is the difference between the recorded temperature for a period (could be 15 minute, hourly, or daily depending on how the modelling approach is being applied) and the point at which an occupant will act in response to temperature (either turning on the heating or air conditioning). For example, if a building occupant will turn on the AC at 74°F and the recorded temperature for an hour was 85°F, the total cooling degrees would be 11. A cooling degree day is the sum of cooling degrees for each day. For each customer, an optimal model based on a unique reference temperature (τ is identified by the minimum mean squared error (MSE) of the modelling regression) is selected. Models for each site are built by DOW and hour. Users can specify to use individual days or weekday/weekend for the model DOW.

When the model regression is applied to a customer's heating characteristics, it is referred to as the *heating only model* (HOM). When the model regression is applied to a customer's cooling characteristics, it is referred to as the *cooling only model* (COM). When the model regression model is applied to both heating and cooling characteristics, it is referred to as the *heating and cooling model* (HCM). One example of a customer that would use the HCM would be a customer that had electric heating as well as air conditioning. For this analysis all customers used an HOM because we are conducting a gas analysis where cooling is not relevant.

The analysis identifies the optimum HDD and/or CDD for each customer, which will be used to fill in gaps in the load data file using actual temperature for that DOW.

6 APPENDIX B – ANALYSIS APPROACH

Our approach follows the principals of model-based statistical sampling ("MBSS") as the basis for analysis. MBSS techniques have been used to create a very efficient and flexible structure for collecting data on countless energy efficiency evaluations, demand response evaluations, and interval load data analyses, e.g., load research and end-use metering, projects. This project uses near population-based samples requiring little or no post-stratification.

6.1 Background

Conventional methods are documented in standard texts such as Cochran's *Sampling Techniques*.[4] MBSS is grounded in theory of model-assisted survey sampling developed by C.E. Sarndal and others.[5] [6] MBSS methodology has been applied in load research for more than fifty years and in energy efficiency evaluation for more than thirty years. This fusion of theory and practice has led to important advances in both model-based theory and interval load data collection practice, including the use of the error ratio for preliminary sample design, the model-based methodology for efficient stratified ratio estimation, and effective methods for domains estimation.

MBSS and conventional methodologies are currently taught in the Association of Edison Illuminating Companies' *Advanced Methods in Load Research* seminar. MBSS methodology is also documented in *The California Evaluation Framework*.[7] MBSS has been used successfully for decades in countless load research and program evaluation studies. It has also been examined in public utility hearings and in at least two EPRI studies.

6.2 The Role of the Statistical Model

MBSS uses a statistical model to guide the planning and the sample design. The parameters of the model, especially the error ratio, are used to represent prior information about the population to be sampled. The model describes the nature of the variation in the relationship between any target *y variable* of the study, in our case the normalized daily consumption of the customer, and one or more *x variable*s that can be developed from known billing data and other supporting information. The *x variable* is usually a measure of the size of the customer, e.g., annual use, and assumes good information is available in the billing to support the analysis. The model is used to help choose the sample size *n*, to assess the expected statistical precision of any sample design, and to help formulate a sample design that is efficiently stratified for ratio estimation using case weights.

The model is used as a *guide* to the sample design, but the results of the study itself are *not* strongly dependent on the accuracy of the model.[8] Once the sample design is selected, the subsequent analysis of the data is based only on the sample design and not on the model used to develop the sample design. The resulting estimates will be essentially unbiased in repeated sampling and the confidence intervals will also be valid, provided that the sample design has been followed to select the sample customers. The results will be consistent with traditional sampling theory as found in texts such as Cochran's *Sampling Techniques* and consistent with standard load and market research practice.

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[4] *Sampling Techniques*, by W. G. Cochran, 3rd. Ed. Wiley, 1977.

[5] *Model Assisted Survey Sampling*, by Carl Erik Sarndal, Bengt Swensson and Jan Wretman, Springer-Verlag, 1992.

[6] Wright, R. L. (1983), "Finite population sampling with multivariate auxiliary information," *Journal of the American Statistical Association*, **78**, 879-884.

[7] The report can be downloaded from the webaccount http://www.calmac.org/calmac-filings.asp

[8] Other methods, called model-dependent sampling, are much more dependent on the accuracy of the model. Such methods are not commonly used in load research applications since they would be more difficult to defend than MBSS and conventional methods.

6.3 Stratified Ratio Estimation

We assume that the data collected and analysed in the study is for a given population of *N* premises in a given customer class. In this study, daily therm use will be the unit of measure. We let *y* denote any customer characteristic to be determined from the customer's interval load data, i.e., weather normalized daily usage, and we let *x* denote any suitable characteristic of the customer that is known from billing system data such as annual use or daily use.

We define the population ratio *B* by the equation

$$B = \frac{\sum_{i=1}^{N} y_i}{\sum_{i=1}^{N} x_i}.$$

Here the summations are over the entire *N* units (e.g., customers) in the target population. We note that the population mean or total of *y* is equal to *B* times the population mean or total of *x*. The latter is assumed to be known from the billing data.

We assume that a sample of *n* customers is selected following a stratified sample design. But in this case, we have near population-based samples requiring little or no post-stratification. For each sample customer we define the case weight *w* to be equal to the number of customers in the target population within the stratum containing the given customer divided by the number of customers in the sample within the given stratum. Here again, by using near population-based sample we simply construct the weight as the population count (N) divided by customers with available daily data (n). In most instances the weight will be close to 1.0. Typically, the case weight is used to avoid any bias that might otherwise arise from the different sampling fractions used from one stratum to another.

Using the case weight, we define the combined ratio estimator of *B* by the equation: [9]

$$b = \frac{\sum_{i=1}^{n} w_i\, y_i}{\sum_{i=1}^{n} w_i\, x_i}$$

Then, if desired, the population mean or total of *y* can be estimated as *b* times the population mean or total of *x,* known from the billing data.

Using the case weights, we calculate the relative precision at the 90% level of confidence in three steps:

1. Calculate the sample residual $e_i = y_i - bx_i$ for each unit in the sample.

[9] This equation gives the same result as the conventional stratum-weighted equation: $b = \frac{\sum_{h=1}^{L} N_h\, \bar{y}_h}{\sum_{h=1}^{L} N_h\, \bar{x}_h}$.

2. Calculate[10] $se(b) = \frac{\sqrt{\sum_{i=1}^{n} w_i (w_i - 1) e_i^2}}{\sum_{i=1}^{n} w_i x_i}$.

3. Calculate $rp = \frac{1.645\ se(b)}{b}$.

A 90% confidence interval for *B* is calculated using the equation $b \pm rp\ b$. A confidence interval for the mean or total can be calculated in a similar way. The total is calculated by multiplying the ratio by the known population total from the billing system (Equation 2).

Equation 2 – Estimating Totals

$$\hat{Y} = \hat{B}\ X$$

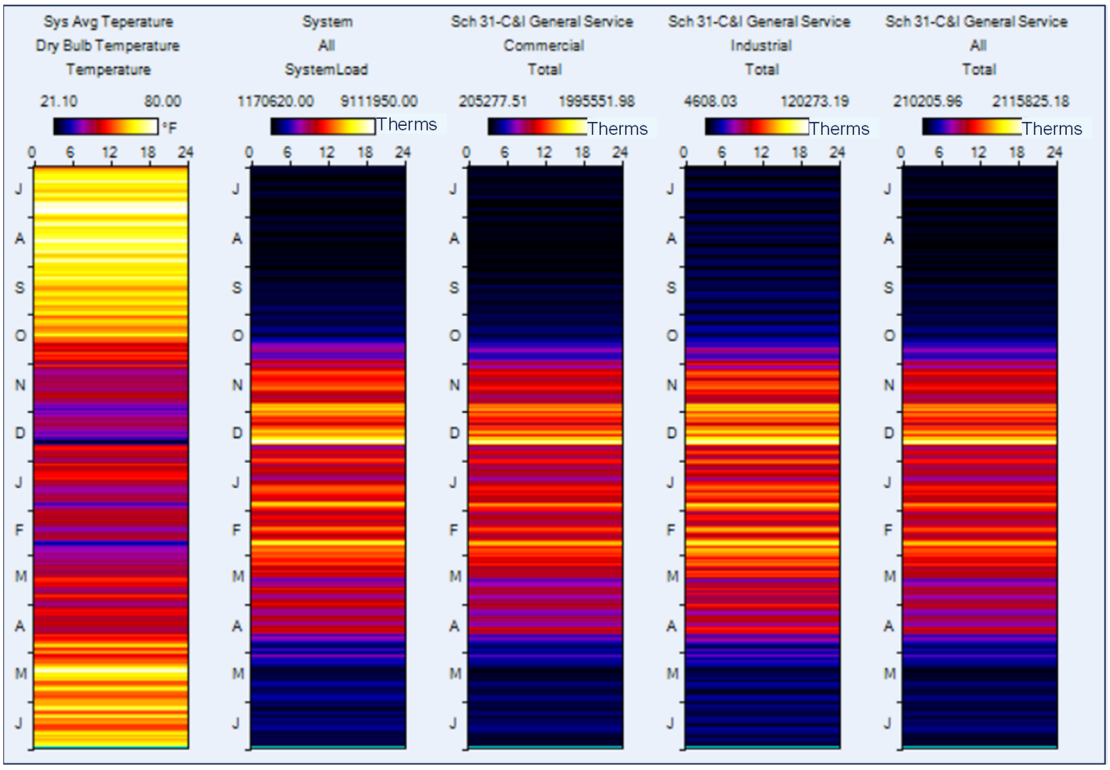
[10] The conventional equation is $se(b) = \frac{1}{\sum_{h=1}^{L} N_h \bar{x}_h} \sqrt{\sum_{h=1}^{L} N_h^2 \left(1 - \frac{n_h}{N_h}\right) \frac{s_h^2(e)}{n_h}}$ where $s_h^2(e) = \frac{1}{n_h - 1} \sum_{i=1}^{n_h} (e_i - \bar{e})^2$. Our equation assumes that $\frac{1}{n_h - 1} \sum_{i=1}^{n_h} (e_i - \bar{e})^2$ is approximately equal to $\frac{1}{n_h} \sum_{i=1}^{n_h} (e_i)^2$ in each stratum.

7 APPENDIX C – COMMERCIAL AND INDUSTRIAL DETAIL

7.1 Schedules 31 C&I Components

Figure 44 presents the vertical EnergyPrints for the system load to the left and then each component of the Schedule's 31, namely, Sales commercial, Sales industrial, and aggregate Sales. The EnergyPrints are presented on a total class basis. There are striking similarities between the Schedule 31 loads.

Figure 44 – Schedule 31 C&I Components: EnergyPrints



The following tables highlight the energy usage and demand characteristics by presenting monthly summaries, first as class totals followed by class means..

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Table 33 – Schedule 31 Commercial & Industrial Summary (Totals)

Schedule 31 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	7,923,505	255,597	Thursday, July 21, 2022	363,538	70.3%	Sunday, July 3, 2022	282,924	90.3%	77.8%
Aug	7,435,225	239,846	Friday, August 5, 2022	277,298	86.5%	Thursday, August 4, 2022	270,646	88.6%	97.6%
Sep	8,229,597	274,320	Thursday, September 15, 2022	346,173	79.2%	Friday, September 30, 2022	317,157	86.5%	91.6%
Oct	13,000,586	419,374	Wednesday, October 26, 2022	681,667	61.5%	Tuesday, October 25, 2022	661,665	63.4%	97.1%
Nov	28,806,493	960,216	Tuesday, November 29, 2022	1,341,485	71.6%	Tuesday, November 29, 2022	1,341,485	71.6%	100.0%
Dec	36,732,009	1,184,904	Thursday, December 22, 2022	1,995,552	59.4%	Thursday, December 22, 2022	1,995,552	59.4%	100.0%
Jan	30,485,597	983,406	Monday, January 30, 2023	1,418,083	69.3%	Monday, January 30, 2023	1,418,083	69.3%	100.0%
Feb	29,716,694	1,061,311	Thursday, February 23, 2023	1,464,444	72.5%	Thursday, February 23, 2023	1,464,444	72.5%	100.0%
Mar	28,057,081	905,067	Wednesday, March 1, 2023	1,206,082	75.0%	Wednesday, March 8, 2023	1,105,278	81.9%	91.6%
Apr	21,615,294	720,510	Tuesday, April 18, 2023	1,030,565	69.9%	Sunday, April 2, 2023	875,354	82.3%	84.9%
May	11,110,918	358,417	Friday, May 5, 2023	606,634	59.1%	Friday, May 5, 2023	606,634	59.1%	100.0%
Jun	9,812,969	327,099	Tuesday, June 20, 2023	412,824	79.2%	Tuesday, June 20, 2023	412,824	79.2%	100.0%
12-Mths	232,925,969	638,153	Thursday, December 22, 2022	1,995,552	32.0%	Thursday, December 22, 2022	1,995,552	32.0%	100.0%
Schedule 31 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	277,737	8,959	Wednesday, July 20, 2022	14,088	63.6%	Sunday, July 3, 2022	7,672	116.8%	54.5%
Aug	335,067	10,809	Monday, August 15, 2022	14,668	73.7%	Thursday, August 4, 2022	12,397	87.2%	84.5%
Sep	367,370	12,246	Monday, September 19, 2022	17,360	70.5%	Friday, September 30, 2022	13,323	91.9%	76.7%
Oct	667,126	21,520	Wednesday, October 26, 2022	42,712	50.4%	Tuesday, October 25, 2022	41,522	51.8%	97.2%
Nov	1,834,815	61,161	Tuesday, November 29, 2022	89,741	68.2%	Tuesday, November 29, 2022	89,741	68.2%	100.0%
Dec	2,316,381	74,722	Thursday, December 22, 2022	120,273	62.1%	Thursday, December 22, 2022	120,273	62.1%	100.0%
Jan	1,949,623	62,891	Monday, January 30, 2023	97,884	64.3%	Monday, January 30, 2023	97,884	64.3%	100.0%
Feb	1,917,413	68,479	Thursday, February 23, 2023	98,834	69.3%	Thursday, February 23, 2023	98,834	69.3%	100.0%
Mar	1,808,971	58,354	Wednesday, March 1, 2023	81,705	71.4%	Wednesday, March 8, 2023	75,229	77.6%	92.1%
Apr	1,311,523	43,717	Monday, April 3, 2023	65,313	66.9%	Sunday, April 2, 2023	48,237	90.6%	73.9%
May	538,446	17,369	Friday, May 5, 2023	32,013	54.3%	Friday, May 5, 2023	32,013	54.3%	100.0%
Jun	419,121	13,971	Tuesday, June 20, 2023	19,532	71.5%	Tuesday, June 20, 2023	19,532	71.5%	100.0%
12-Mths	13,743,592	37,654	Thursday, December 22, 2022	120,273	31.3%	Thursday, December 22, 2022	120,273	31.3%	100.0%

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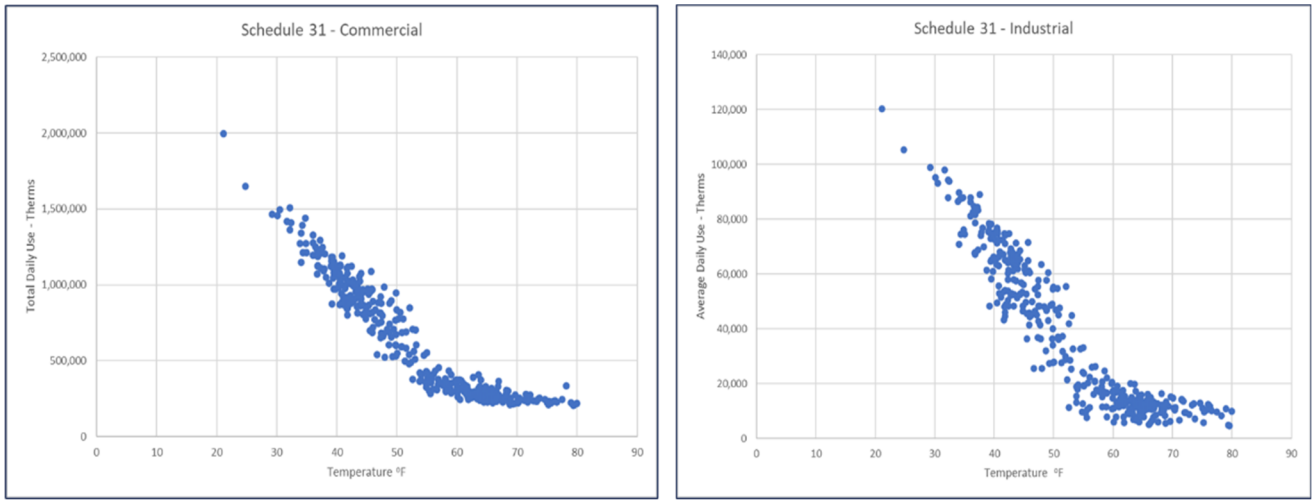
Table 34 – Schedule 31 Commercial & Industrial Summary (Means)

Schedule 31 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	142.22	4.59	Thursday, July 21, 2022	6.53	70.3%	Sunday, July 3, 2022	5.1	90.3%	77.8%
Aug	133.46	4.31	Friday, August 5, 2022	4.98	86.5%	Thursday, August 4, 2022	4.9	88.6%	97.6%
Sep	147.72	4.92	Thursday, September 15, 2022	6.21	79.2%	Friday, September 30, 2022	5.7	86.5%	91.6%
Oct	233.36	7.53	Wednesday, October 26, 2022	12.24	61.5%	Tuesday, October 25, 2022	11.9	63.4%	97.1%
Nov	517.06	17.24	Tuesday, November 29, 2022	24.08	71.6%	Tuesday, November 29, 2022	24.1	71.6%	100.0%
Dec	659.32	21.27	Thursday, December 22, 2022	35.82	59.4%	Thursday, December 22, 2022	35.8	59.4%	100.0%
Jan	547.20	17.65	Monday, January 30, 2023	25.45	69.3%	Monday, January 30, 2023	25.5	69.3%	100.0%
Feb	533.40	19.05	Thursday, February 23, 2023	26.29	72.5%	Thursday, February 23, 2023	26.3	72.5%	100.0%
Mar	503.61	16.25	Wednesday, March 1, 2023	21.65	75.0%	Wednesday, March 8, 2023	19.8	81.9%	91.6%
Apr	387.99	12.93	Tuesday, April 18, 2023	18.50	69.9%	Sunday, April 2, 2023	15.7	82.3%	84.9%
May	199.44	6.43	Friday, May 5, 2023	10.89	59.1%	Friday, May 5, 2023	10.9	59.1%	100.0%
Jun	176.14	5.87	Tuesday, June 20, 2023	7.41	79.2%	Tuesday, June 20, 2023	7.4	79.2%	100.0%
12-Mths	4,180.93	11.45	Thursday, December 22, 2022	35.82	32.0%	Thursday, December 22, 2022	35.82	32.0%	100.0%
Schedule 31 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	126.73	4.09	Wednesday, July 20, 2022	6.43	63.6%	Sunday, July 3, 2022	3.5	116.8%	54.5%
Aug	152.89	4.93	Monday, August 15, 2022	6.69	73.7%	Thursday, August 4, 2022	5.7	87.2%	84.5%
Sep	167.63	5.59	Monday, September 19, 2022	7.92	70.5%	Friday, September 30, 2022	6.1	91.9%	76.7%
Oct	304.40	9.82	Wednesday, October 26, 2022	19.49	50.4%	Tuesday, October 25, 2022	18.9	51.8%	97.2%
Nov	837.21	27.91	Tuesday, November 29, 2022	40.95	68.2%	Tuesday, November 29, 2022	40.9	68.2%	100.0%
Dec	1,056.94	34.10	Thursday, December 22, 2022	54.88	62.1%	Thursday, December 22, 2022	54.9	62.1%	100.0%
Jan	889.60	28.70	Monday, January 30, 2023	44.66	64.3%	Monday, January 30, 2023	44.7	64.3%	100.0%
Feb	874.90	31.25	Thursday, February 23, 2023	45.10	69.3%	Thursday, February 23, 2023	45.1	69.3%	100.0%
Mar	825.42	26.63	Wednesday, March 1, 2023	37.28	71.4%	Wednesday, March 8, 2023	34.3	77.6%	92.1%
Apr	598.44	19.95	Monday, April 3, 2023	29.80	66.9%	Sunday, April 2, 2023	22.0	90.6%	73.9%
May	245.69	7.93	Friday, May 5, 2023	14.61	54.3%	Friday, May 5, 2023	14.6	54.3%	100.0%
Jun	191.24	6.37	Tuesday, June 20, 2023	8.91	71.5%	Tuesday, June 20, 2023	8.9	71.5%	100.0%
12-Mths	6,271.08	17.18	Thursday, December 22, 2022	54.88	31.3%	Thursday, December 22, 2022	54.88	31.3%	100.0%

Figure 45 shows the weather sensitivity of the load components. All domains are quite weather sensitive.

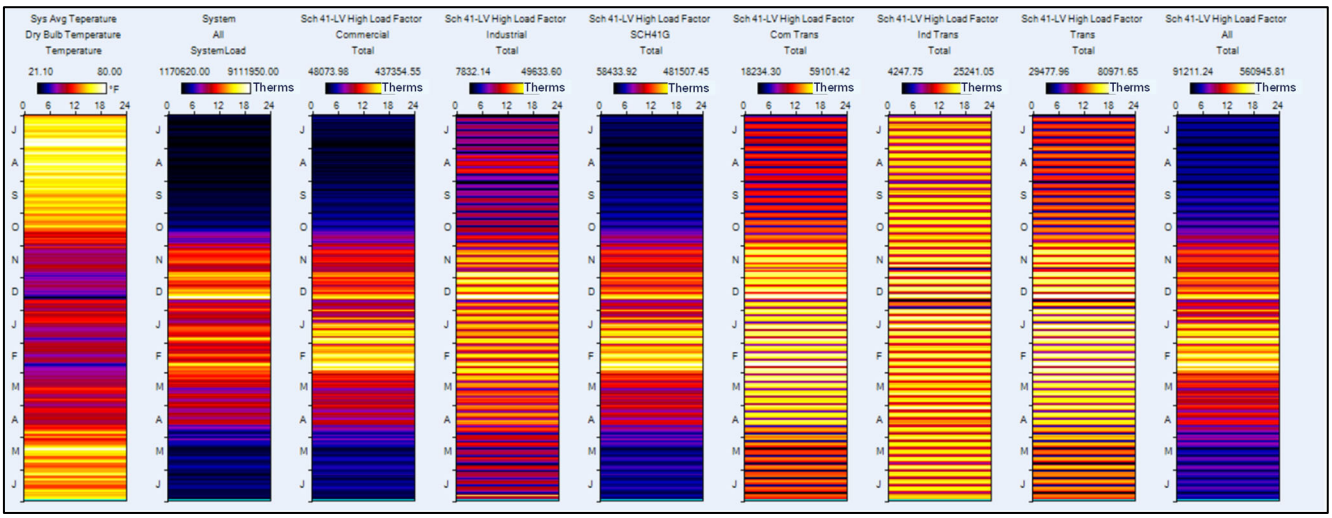
Figure 45 – Schedule 31 C&I Components: Temperature Sensitivity



7.2 Schedules 41 & 41T C&I Components

Schedule's 41 and 41T serve the same class of customers with Sales customers taking service on Schedule 41 and Transportation customers taking service on Schedule 41T. Within the Sales and Transportation Schedules, the customers are segmented by commercial and industrial. Figure 46 presents the vertical EnergyPrints for the system load to the left and then each component of the Schedule's 41 and 41T, namely, Sales commercial, Sales industrial, aggregate Sales, Transportation commercial, Transportation industrial and aggregate Transportation. The EnergyPrints are presented on a total class basis. The industrial load shows less weather sensitivity and distinct weekend patterning.

Figure 46 – Schedule 41 C&I Components: EnergyPrints



The following tables highlight the energy usage and demand characteristics by presenting monthly summaries, first as class totals followed by class means. Here we provide tables for just the Commercial and Industrial domains for Sales and Transportation since the aggregate tables are presented in the body of the report.

Table 35 - Schedule 41: Commercial & Industrial Summary (Totals)

Schedule 41 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	2,138,573	68,986	Tuesday, July 5, 2022	102,991	67.0%	Sunday, July 3, 2022	75,549	91.3%	73.4%
Aug	2,048,873	66,093	Wednesday, August 17, 2022	81,212	81.4%	Thursday, August 4, 2022	73,919	89.4%	91.0%
Sep	2,369,060	78,969	Wednesday, September 21, 2022	102,557	77.0%	Friday, September 30, 2022	93,209	84.7%	90.9%
Oct	3,632,648	117,182	Wednesday, October 26, 2022	182,017	64.4%	Tuesday, October 25, 2022	173,905	67.4%	95.5%
Nov	6,588,715	219,624	Tuesday, November 29, 2022	292,862	75.0%	Tuesday, November 29, 2022	292,862	75.0%	100.0%
Dec	7,684,503	247,887	Thursday, December 22, 2022	370,324	66.9%	Thursday, December 22, 2022	370,324	66.9%	100.0%
Jan	8,455,428	272,756	Monday, January 30, 2023	418,804	65.1%	Monday, January 30, 2023	418,804	65.1%	100.0%
Feb	9,494,776	339,099	Thursday, February 23, 2023	437,355	77.5%	Thursday, February 23, 2023	437,355	77.5%	100.0%
Mar	6,681,733	215,540	Wednesday, March 1, 2023	288,891	74.6%	Wednesday, March 8, 2023	260,532	82.7%	90.2%
Apr	5,320,205	177,340	Monday, April 3, 2023	244,469	72.5%	Sunday, April 2, 2023	203,589	87.1%	83.3%
May	3,124,131	100,778	Friday, May 5, 2023	154,191	65.4%	Friday, May 5, 2023	154,191	65.4%	100.0%
Jun	2,651,886	88,396	Wednesday, June 7, 2023	120,891	73.1%	Tuesday, June 20, 2023	115,158	76.8%	95.3%
12-Mths	60,190,531	164,906	Thursday, February 23, 2023	437,355	37.7%	Thursday, December 22, 2022	370,324	44.5%	84.7%

Schedule 41 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	536,086	17,293	Thursday, July 7, 2022	24,110	71.7%	Sunday, July 3, 2022	7,886	219.3%	32.7%
Aug	674,030	21,743	Wednesday, August 10, 2022	29,858	72.8%	Thursday, August 4, 2022	22,775	95.5%	76.3%
Sep	534,866	17,829	Tuesday, September 20, 2022	25,832	69.0%	Friday, September 30, 2022	22,442	79.4%	86.9%
Oct	638,112	20,584	Wednesday, October 26, 2022	29,526	69.7%	Tuesday, October 25, 2022	28,317	72.7%	95.9%
Nov	926,922	30,897	Tuesday, November 29, 2022	46,461	66.5%	Tuesday, November 29, 2022	46,461	66.5%	100.0%
Dec	1,079,100	34,810	Thursday, December 22, 2022	49,634	70.1%	Thursday, December 22, 2022	49,634	70.1%	100.0%
Jan	1,003,162	32,360	Monday, January 30, 2023	41,538	77.9%	Monday, January 30, 2023	41,538	77.9%	100.0%
Feb	925,645	33,059	Thursday, February 23, 2023	44,153	74.9%	Thursday, February 23, 2023	44,153	74.9%	100.0%
Mar	951,783	30,703	Wednesday, March 1, 2023	43,067	71.3%	Wednesday, March 8, 2023	38,477	79.8%	89.3%
Apr	820,251	27,342	Tuesday, April 18, 2023	36,827	74.2%	Sunday, April 2, 2023	20,816	131.4%	56.5%
May	672,075	21,680	Tuesday, May 23, 2023	29,342	73.9%	Friday, May 5, 2023	23,384	92.7%	79.7%
Jun	654,973	21,832	Tuesday, June 27, 2023	42,578	51.3%	Tuesday, June 20, 2023	26,065	83.8%	61.2%
12-Mths	9,417,004	25,800	Thursday, December 22, 2022	49,634	52.0%	Thursday, December 22, 2022	49,634	52.0%	100.0%

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Table 36 – Schedule 41 Transportation: Commercial & Industrial Summary (Totals)

Schedule 41 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	2,138,573	68,986	Tuesday, July 5, 2022	102,991	67.0%	Sunday, July 3, 2022	75,549	91.3%	73.4%
Aug	2,048,873	66,093	Wednesday, August 17, 2022	81,212	81.4%	Thursday, August 4, 2022	73,919	89.4%	91.0%
Sep	2,369,060	78,969	Wednesday, September 21, 2022	102,557	77.0%	Friday, September 30, 2022	93,209	84.7%	90.9%
Oct	3,632,648	117,182	Wednesday, October 26, 2022	182,017	64.4%	Tuesday, October 25, 2022	173,905	67.4%	95.5%
Nov	6,588,715	219,624	Tuesday, November 29, 2022	292,862	75.0%	Tuesday, November 29, 2022	292,862	75.0%	100.0%
Dec	7,684,503	247,887	Thursday, December 22, 2022	370,324	66.9%	Thursday, December 22, 2022	370,324	66.9%	100.0%
Jan	8,455,428	272,756	Monday, January 30, 2023	418,804	65.1%	Monday, January 30, 2023	418,804	65.1%	100.0%
Feb	9,494,776	339,099	Thursday, February 23, 2023	437,355	77.5%	Thursday, February 23, 2023	437,355	77.5%	100.0%
Mar	6,681,733	215,540	Wednesday, March 1, 2023	288,891	74.6%	Wednesday, March 8, 2023	260,532	82.7%	90.2%
Apr	5,320,205	177,340	Monday, April 3, 2023	244,469	72.5%	Sunday, April 2, 2023	203,589	87.1%	83.3%
May	3,124,131	100,778	Friday, May 5, 2023	154,191	65.4%	Friday, May 5, 2023	154,191	65.4%	100.0%
Jun	2,651,886	88,396	Wednesday, June 7, 2023	120,891	73.1%	Tuesday, June 20, 2023	115,158	76.8%	95.3%
12-Mths	60,190,531	164,906	Thursday, February 23, 2023	437,355	37.7%	Thursday, December 22, 2022	370,324	44.5%	84.7%

Schedule 41 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	536,086	17,293	Thursday, July 7, 2022	24,110	71.7%	Sunday, July 3, 2022	7,886	219.3%	32.7%
Aug	674,030	21,743	Wednesday, August 10, 2022	29,858	72.8%	Thursday, August 4, 2022	22,775	95.5%	76.3%
Sep	534,866	17,829	Tuesday, September 20, 2022	25,832	69.0%	Friday, September 30, 2022	22,442	79.4%	86.9%
Oct	638,112	20,584	Wednesday, October 26, 2022	29,526	69.7%	Tuesday, October 25, 2022	28,317	72.7%	95.9%
Nov	926,922	30,897	Tuesday, November 29, 2022	46,461	66.5%	Tuesday, November 29, 2022	46,461	66.5%	100.0%
Dec	1,079,100	34,810	Thursday, December 22, 2022	49,634	70.1%	Thursday, December 22, 2022	49,634	70.1%	100.0%
Jan	1,003,162	32,360	Monday, January 30, 2023	41,538	77.9%	Monday, January 30, 2023	41,538	77.9%	100.0%
Feb	925,645	33,059	Thursday, February 23, 2023	44,153	74.9%	Thursday, February 23, 2023	44,153	74.9%	100.0%
Mar	951,783	30,703	Wednesday, March 1, 2023	43,067	71.3%	Wednesday, March 8, 2023	38,477	79.8%	89.3%
Apr	820,251	27,342	Tuesday, April 18, 2023	36,827	74.2%	Sunday, April 2, 2023	20,816	131.4%	56.5%
May	672,075	21,680	Tuesday, May 23, 2023	29,342	73.9%	Friday, May 5, 2023	23,384	92.7%	79.7%
Jun	654,973	21,832	Tuesday, June 27, 2023	42,578	51.3%	Tuesday, June 20, 2023	26,065	83.8%	61.2%
12-Mths	9,417,004	25,800	Thursday, December 22, 2022	49,634	52.0%	Thursday, December 22, 2022	49,634	52.0%	100.0%

Table 37 - Schedule 41: Commercial & Industrial Summary (Means)

Schedule 41 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	1,833	59.11	Tuesday, July 5, 2022	88.25	67.0%	Sunday, July 3, 2022	64.74	91.3%	73.4%
Aug	1,756	56.63	Wednesday, August 17, 2022	69.59	81.4%	Thursday, August 4, 2022	63.34	89.4%	91.0%
Sep	2,030	67.67	Wednesday, September 21, 2022	87.88	77.0%	Friday, September 30, 2022	79.87	84.7%	90.9%
Oct	3,113	100.41	Wednesday, October 26, 2022	155.97	64.4%	Tuesday, October 25, 2022	149.02	67.4%	95.5%
Nov	5,646	188.20	Tuesday, November 29, 2022	250.95	75.0%	Tuesday, November 29, 2022	250.95	75.0%	100.0%
Dec	6,585	212.41	Thursday, December 22, 2022	317.33	66.9%	Thursday, December 22, 2022	317.33	66.9%	100.0%
Jan	7,245	233.72	Monday, January 30, 2023	358.87	65.1%	Monday, January 30, 2023	358.87	65.1%	100.0%
Feb	8,136	290.57	Thursday, February 23, 2023	374.77	77.5%	Thursday, February 23, 2023	374.77	77.5%	100.0%
Mar	5,726	184.70	Wednesday, March 1, 2023	247.55	74.6%	Wednesday, March 8, 2023	223.25	82.7%	90.2%
Apr	4,559	151.96	Monday, April 3, 2023	209.49	72.5%	Sunday, April 2, 2023	174.46	87.1%	83.3%
May	2,677	86.36	Friday, May 5, 2023	132.13	65.4%	Friday, May 5, 2023	132.13	65.4%	100.0%
Jun	2,272	75.75	Wednesday, June 7, 2023	103.59	73.1%	Tuesday, June 20, 2023	98.68	76.8%	95.3%
12-Mths	51,577	141.31	Thursday, February 23, 2023	374.77	37.7%	Thursday, December 22, 2022	317.33	44.5%	84.7%

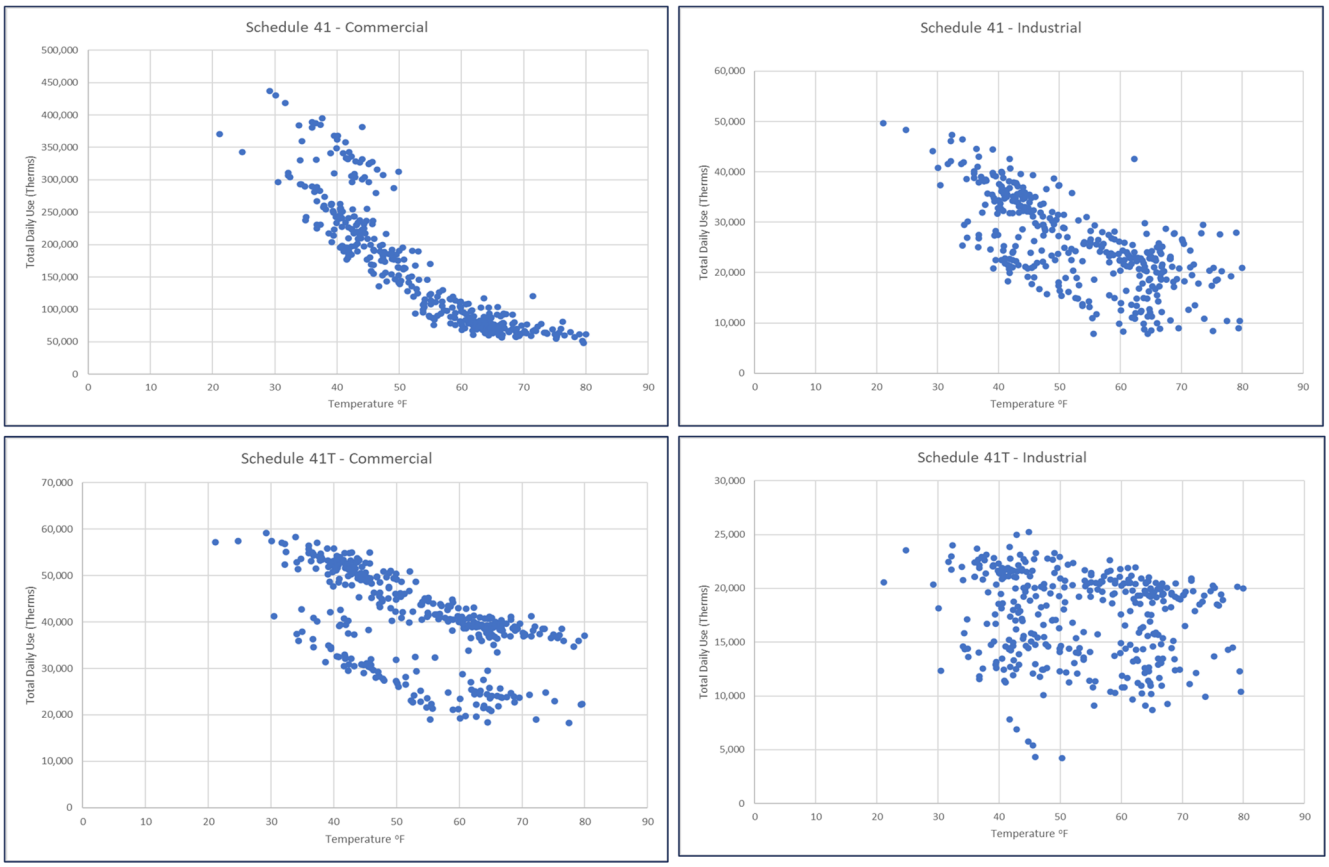
Schedule 41 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	7,798	251.54	Thursday, July 7, 2022	350.70	71.7%	Sunday, July 3, 2022	114.70	219.3%	32.7%
Aug	9,804	316.26	Wednesday, August 10, 2022	434.30	72.8%	Thursday, August 4, 2022	331.28	95.5%	76.3%
Sep	7,780	259.33	Tuesday, September 20, 2022	375.74	69.0%	Friday, September 30, 2022	326.43	79.4%	86.9%
Oct	9,282	299.41	Wednesday, October 26, 2022	429.47	69.7%	Tuesday, October 25, 2022	411.88	72.7%	95.9%
Nov	13,482	449.42	Tuesday, November 29, 2022	675.79	66.5%	Tuesday, November 29, 2022	675.79	66.5%	100.0%
Dec	15,696	506.32	Thursday, December 22, 2022	721.94	70.1%	Thursday, December 22, 2022	721.94	70.1%	100.0%
Jan	14,591	470.69	Monday, January 30, 2023	604.19	77.9%	Monday, January 30, 2023	604.19	77.9%	100.0%
Feb	13,464	480.85	Thursday, February 23, 2023	642.22	74.9%	Thursday, February 23, 2023	642.22	74.9%	100.0%
Mar	13,844	446.58	Wednesday, March 1, 2023	626.43	71.3%	Wednesday, March 8, 2023	559.66	79.8%	89.3%
Apr	11,931	397.70	Tuesday, April 18, 2023	535.66	74.2%	Sunday, April 2, 2023	302.78	131.4%	56.5%
May	9,776	315.34	Tuesday, May 23, 2023	426.80	73.9%	Friday, May 5, 2023	340.14	92.7%	79.7%
Jun	9,527	317.56	Tuesday, June 27, 2023	619.32	51.3%	Tuesday, June 20, 2023	379.13	83.8%	61.2%
12-Mths	136,975	375.27	Thursday, December 22, 2022	721.94	52.0%	Thursday, December 22, 2022	721.94	52.0%	100.0%

Table 38 - Schedule 41 Transportation: Commercial & Industrial Summary (Means)

Schedule 41 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	13,224	427	Tuesday, July 19, 2022	529	80.6%	Sunday, July 3, 2022	291	146.4%	55.0%
Aug	14,080	454	Thursday, August 4, 2022	535	84.8%	Thursday, August 4, 2022	535	84.8%	100.0%
Sep	13,330	444	Wednesday, September 28, 2022	524	84.8%	Friday, September 30, 2022	505	87.9%	96.5%
Oct	14,716	475	Tuesday, October 25, 2022	581	81.7%	Tuesday, October 25, 2022	581	81.7%	100.0%
Nov	18,402	613	Monday, November 28, 2022	710	86.4%	Tuesday, November 29, 2022	691	88.7%	97.3%
Dec	18,955	611	Wednesday, December 21, 2022	750	81.5%	Thursday, December 22, 2022	747	81.8%	99.6%
Jan	18,736	604	Monday, January 30, 2023	746	81.0%	Monday, January 30, 2023	746	81.0%	100.0%
Feb	17,220	615	Thursday, February 23, 2023	773	79.6%	Thursday, February 23, 2023	773	79.6%	100.0%
Mar	18,690	603	Thursday, March 9, 2023	716	84.2%	Wednesday, March 8, 2023	715	84.3%	99.8%
Apr	16,223	541	Monday, April 3, 2023	698	77.5%	Sunday, April 2, 2023	457	118.2%	65.6%
May	14,733	475	Monday, May 1, 2023	611	77.8%	Friday, May 5, 2023	589	80.7%	96.5%
Jun	13,999	467	Tuesday, June 13, 2023	585	79.7%	Tuesday, June 20, 2023	580	80.5%	99.1%
12-Mths	192,310	527	Thursday, February 23, 2023	773	68.2%	Thursday, December 22, 2022	747	70.5%	96.7%
Schedule 41 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	28,773	928	Wednesday, July 6, 2022	1,213	76.5%	Sunday, July 3, 2022	525	176.6%	43.3%
Aug	30,791	993	Wednesday, August 3, 2022	1,266	78.5%	Thursday, August 4, 2022	1,207	82.3%	95.4%
Sep	28,208	940	Wednesday, September 28, 2022	1,248	75.4%	Friday, September 30, 2022	831	113.1%	66.6%
Oct	30,585	987	Wednesday, October 5, 2022	1,244	79.3%	Tuesday, October 25, 2022	1,063	92.8%	85.5%
Nov	30,617	1,021	Wednesday, November 30, 2022	1,367	74.7%	Tuesday, November 29, 2022	1,198	85.2%	87.6%
Dec	29,904	965	Tuesday, December 20, 2022	1,384	69.7%	Thursday, December 22, 2022	1,187	81.3%	85.8%
Jan	33,371	1,076	Wednesday, January 18, 2023	1,442	74.6%	Monday, January 30, 2023	1,295	83.2%	89.8%
Feb	29,609	1,057	Wednesday, February 15, 2023	1,307	80.9%	Thursday, February 23, 2023	1,173	90.1%	89.8%
Mar	33,025	1,065	Wednesday, March 8, 2023	1,334	79.8%	Wednesday, March 8, 2023	1,334	79.8%	100.0%
Apr	29,983	999	Wednesday, April 5, 2023	1,456	68.6%	Sunday, April 2, 2023	870	114.9%	59.7%
May	31,645	1,021	Thursday, May 4, 2023	1,282	79.6%	Friday, May 5, 2023	980	104.1%	76.5%
Jun	30,239	1,008	Thursday, June 1, 2023	1,305	77.3%	Tuesday, June 20, 2023	1,165	86.5%	89.3%
12-Mths	366,751	1,005	Wednesday, April 5, 2023	1,456	69.0%	Thursday, December 22, 2022	1,187	84.6%	81.5%

Figure 47 shows the weather sensitivity of the load components. Three of the four domains show a load level difference between the weekday and weekend loads. The Transportation Industrial load is the least weather sensitive.

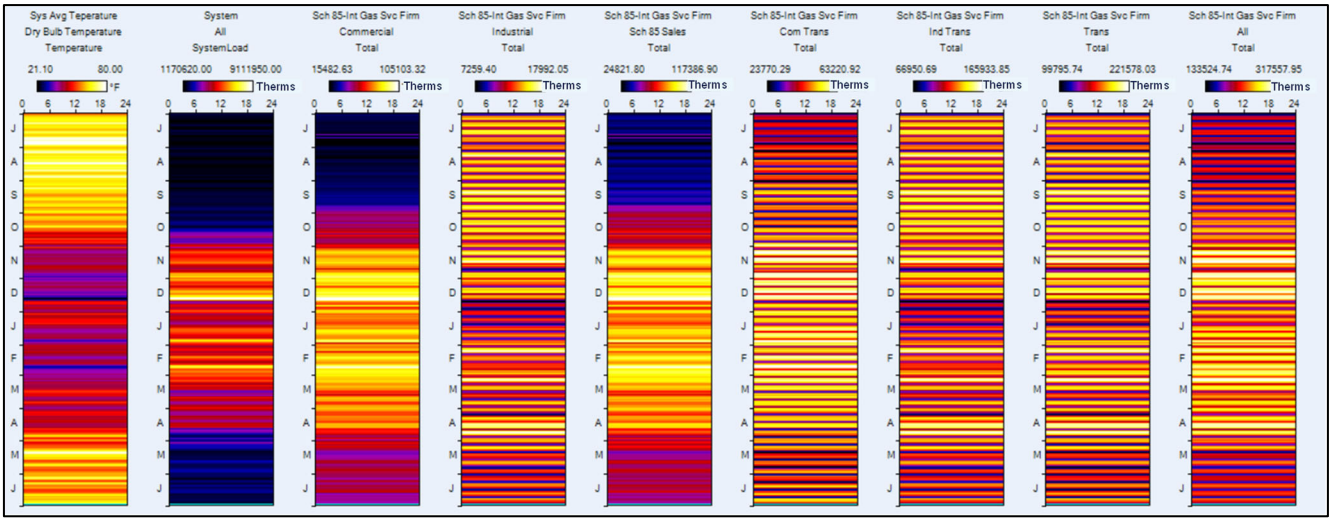
Figure 47 – Schedule 41 C&I Components: Temperature Sensitivity



7.3 Schedules 85 & 85T C&I Components

Schedule's 85 and 85T serve the same class of customers with Sales customers taking service on Schedule 85 and Transportation customers taking service on Schedule 85T. Within the Sales and Transportation Schedules, the customers are segmented by commercial and industrial. Figure 48 presents the vertical EnergyPrints for the system load to the left and then each component of the Schedule's 85 and 85T, namely, Sales commercial, Sales industrial, aggregate Sales, Transportation commercial, Transportation industrial and aggregate Transportation. The EnergyPrints are presented on a total class basis. There are striking differences between the commercial and industrial classes.

Figure 48 – Schedule 85 C&I Components: EnergyPrints



The following tables highlight the energy usage and demand characteristics by presenting monthly summaries, first as class totals followed by class means. Here we provide tables for just the Commercial and Industrial domains for Sales and Transportation since the aggregate tables are presented in the body of the report.

Table 39 - Schedule 85: Commercial & Industrial Summaries (Totals)

Schedule 85 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	635,379	20,496	Friday, July 22, 2022	37,114	55.2%	Sunday, July 3, 2022	22,195	92.3%	59.8%
Aug	617,390	19,916	Saturday, August 27, 2022	23,147	86.0%	Thursday, August 4, 2022	21,152	94.2%	91.4%
Sep	770,381	25,679	Friday, September 30, 2022	36,772	69.8%	Friday, September 30, 2022	36,772	69.8%	100.0%
Oct	1,463,322	47,204	Monday, October 24, 2022	60,051	78.6%	Tuesday, October 25, 2022	51,023	92.5%	85.0%
Nov	2,187,335	72,911	Wednesday, November 30, 2022	88,142	82.7%	Tuesday, November 29, 2022	84,152	86.6%	95.5%
Dec	2,548,587	82,212	Thursday, December 22, 2022	105,103	78.2%	Thursday, December 22, 2022	105,103	78.2%	100.0%
Jan	2,344,574	75,631	Monday, January 30, 2023	94,821	79.8%	Monday, January 30, 2023	94,821	79.8%	100.0%
Feb	2,189,337	78,191	Friday, February 24, 2023	101,650	76.9%	Thursday, February 23, 2023	97,744	80.0%	96.2%
Mar	2,280,102	73,552	Wednesday, March 1, 2023	86,448	85.1%	Wednesday, March 8, 2023	80,758	91.1%	93.4%
Apr	2,010,451	67,015	Tuesday, April 18, 2023	78,104	85.8%	Sunday, April 2, 2023	76,578	87.5%	98.0%
May	1,480,856	47,770	Friday, May 5, 2023	58,495	81.7%	Friday, May 5, 2023	58,495	81.7%	100.0%
Jun	1,376,442	45,881	Monday, June 19, 2023	54,785	83.7%	Tuesday, June 20, 2023	53,294	86.1%	97.3%
12-Mths	19,904,154	54,532	Thursday, December 22, 2022	105,103	51.9%	Thursday, December 22, 2022	105,103	51.9%	100.0%
Schedule 85 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	400,918	12,933	Tuesday, July 19, 2022	16,164	80.0%	Sunday, July 3, 2022	9,418	137.3%	58.3%
Aug	415,848	13,414	Thursday, August 11, 2022	17,295	77.6%	Thursday, August 4, 2022	14,012	95.7%	81.0%
Sep	413,861	13,795	Wednesday, September 14, 2022	17,712	77.9%	Friday, September 30, 2022	14,252	96.8%	80.5%
Oct	420,998	13,581	Thursday, October 13, 2022	16,246	83.6%	Tuesday, October 25, 2022	14,485	93.8%	89.2%
Nov	399,273	13,309	Thursday, November 17, 2022	17,816	74.7%	Tuesday, November 29, 2022	14,991	88.8%	84.1%
Dec	384,553	12,405	Thursday, December 15, 2022	15,601	79.5%	Thursday, December 22, 2022	12,284	101.0%	78.7%
Jan	355,670	11,473	Thursday, January 19, 2023	14,176	80.9%	Monday, January 30, 2023	13,241	86.6%	93.4%
Feb	368,855	13,173	Wednesday, February 8, 2023	17,306	76.1%	Thursday, February 23, 2023	13,176	100.0%	76.1%
Mar	403,050	13,002	Tuesday, March 7, 2023	17,370	74.9%	Wednesday, March 8, 2023	16,844	77.2%	97.0%
Apr	403,358	13,445	Tuesday, April 25, 2023	17,992	74.7%	Sunday, April 2, 2023	10,849	123.9%	60.3%
May	381,909	12,320	Tuesday, May 9, 2023	15,682	78.6%	Friday, May 5, 2023	11,682	105.5%	74.5%
Jun	354,076	11,803	Monday, June 26, 2023	14,646	80.6%	Tuesday, June 20, 2023	13,008	90.7%	88.8%
12-Mths	4,702,369	12,883	Tuesday, April 25, 2023	17,992	71.6%	Thursday, December 22, 2022	12,284	104.9%	68.3%

Table 40 - Schedule 85 Transportation: Commercial & Industrial Summaries (Totals)

Schedule 85 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class	Coincident Load Factor	Coincidence Factor
Jul	1,128,774	36,412	Wednesday, July 13, 2022	43,282	84.1%	Sunday, July 3, 2022	27,324	133.3%	63.1%
Aug	1,267,066	40,873	Tuesday, August 23, 2022	51,159	79.9%	Thursday, August 4, 2022	47,386	86.3%	92.6%
Sep	1,280,683	42,689	Thursday, September 15, 2022	52,943	80.6%	Friday, September 30, 2022	44,615	95.7%	84.3%
Oct	1,322,591	42,664	Thursday, October 20, 2022	53,379	79.9%	Tuesday, October 25, 2022	51,533	82.8%	96.5%
Nov	1,546,388	51,546	Tuesday, November 8, 2022	63,221	81.5%	Tuesday, November 29, 2022	61,119	84.3%	96.7%
Dec	1,591,196	51,329	Monday, December 19, 2022	62,345	82.3%	Thursday, December 22, 2022	58,463	87.8%	93.8%
Jan	1,566,762	50,541	Monday, January 30, 2023	61,599	82.0%	Monday, January 30, 2023	61,599	82.0%	100.0%
Feb	1,413,178	50,471	Wednesday, February 22, 2023	63,198	79.9%	Thursday, February 23, 2023	62,458	80.8%	98.8%
Mar	1,519,385	49,012	Wednesday, March 8, 2023	59,805	82.0%	Wednesday, March 8, 2023	59,805	82.0%	100.0%
Apr	1,336,585	44,553	Thursday, April 20, 2023	55,872	79.7%	Sunday, April 2, 2023	39,491	112.8%	70.7%
May	1,272,617	41,052	Tuesday, May 9, 2023	52,118	78.8%	Friday, May 5, 2023	46,516	88.3%	89.3%
Jun	1,265,381	42,179	Tuesday, June 27, 2023	54,551	77.3%	Tuesday, June 20, 2023	44,953	93.8%	82.4%
12-Mths	16,510,606	45,235	Tuesday, November 8, 2022	63,221	71.5%	Thursday, December 22, 2022	58,463	77.4%	92.5%

Schedule 85 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class	Coincident Load Factor	Coincidence Factor
Jul	3,697,513	119,275	Tuesday, July 19, 2022	149,073	80.0%	Sunday, July 3, 2022	86,862	137.3%	58.3%
Aug	3,835,212	123,717	Thursday, August 11, 2022	159,502	77.6%	Thursday, August 4, 2022	129,228	95.7%	81.0%
Sep	3,816,885	127,230	Wednesday, September 14, 2022	163,355	77.9%	Friday, September 30, 2022	131,438	96.8%	80.5%
Oct	3,882,707	125,249	Thursday, October 13, 2022	149,835	83.6%	Tuesday, October 25, 2022	133,589	93.8%	89.2%
Nov	3,682,339	122,745	Thursday, November 17, 2022	164,309	74.7%	Tuesday, November 29, 2022	138,260	88.8%	84.1%
Dec	3,546,587	114,406	Thursday, December 15, 2022	143,879	79.5%	Thursday, December 22, 2022	113,287	101.0%	78.7%
Jan	3,280,213	105,813	Thursday, January 19, 2023	130,736	80.9%	Monday, January 30, 2023	122,118	86.6%	93.4%
Feb	3,401,811	121,493	Wednesday, February 8, 2023	159,611	76.1%	Thursday, February 23, 2023	121,519	100.0%	76.1%
Mar	3,717,182	119,909	Tuesday, March 7, 2023	160,194	74.9%	Wednesday, March 8, 2023	155,350	77.2%	97.0%
Apr	3,720,015	124,001	Tuesday, April 25, 2023	165,934	74.7%	Sunday, April 2, 2023	100,060	123.9%	60.3%
May	3,522,198	113,619	Tuesday, May 9, 2023	144,634	78.6%	Friday, May 5, 2023	107,736	105.5%	74.5%
Jun	3,265,508	108,850	Monday, June 26, 2023	135,079	80.6%	Tuesday, June 20, 2023	119,967	90.7%	88.8%
12-Mths	43,368,168	118,817	Tuesday, April 25, 2023	165,934	71.6%	Thursday, December 22, 2022	113,287	104.9%	68.3%

Table 41 - Schedule 85: Commercial & Industrial Summaries (Means)

Schedule 85 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	22,491	726	Friday, July 22, 2022	1,314	55.2%	Sunday, July 3, 2022	786	92.3%	59.8%
Aug	21,854	705	Saturday, August 27, 2022	819	86.0%	Thursday, August 4, 2022	749	94.2%	91.4%
Sep	27,270	909	Friday, September 30, 2022	1,302	69.8%	Friday, September 30, 2022	1,302	69.8%	100.0%
Oct	51,799	1,671	Monday, October 24, 2022	2,126	78.6%	Tuesday, October 25, 2022	1,806	92.5%	85.0%
Nov	77,428	2,581	Wednesday, November 30, 2022	3,120	82.7%	Tuesday, November 29, 2022	2,979	86.6%	95.5%
Dec	90,215	2,910	Thursday, December 22, 2022	3,720	78.2%	Thursday, December 22, 2022	3,720	78.2%	100.0%
Jan	82,994	2,677	Monday, January 30, 2023	3,357	79.8%	Monday, January 30, 2023	3,357	79.8%	100.0%
Feb	77,499	2,768	Friday, February 24, 2023	3,598	76.9%	Thursday, February 23, 2023	3,460	80.0%	96.2%
Mar	80,712	2,604	Wednesday, March 1, 2023	3,060	85.1%	Wednesday, March 8, 2023	2,859	91.1%	93.4%
Apr	71,166	2,372	Tuesday, April 18, 2023	2,765	85.8%	Sunday, April 2, 2023	2,711	87.5%	98.0%
May	52,420	1,691	Friday, May 5, 2023	2,071	81.7%	Friday, May 5, 2023	2,071	81.7%	100.0%
Jun	48,724	1,624	Monday, June 19, 2023	1,939	83.7%	Tuesday, June 20, 2023	1,887	86.1%	97.3%
12-Mths	704,572	1,930	Thursday, December 22, 2022	3,720	51.9%	Thursday, December 22, 2022	3,720	51.9%	100.0%

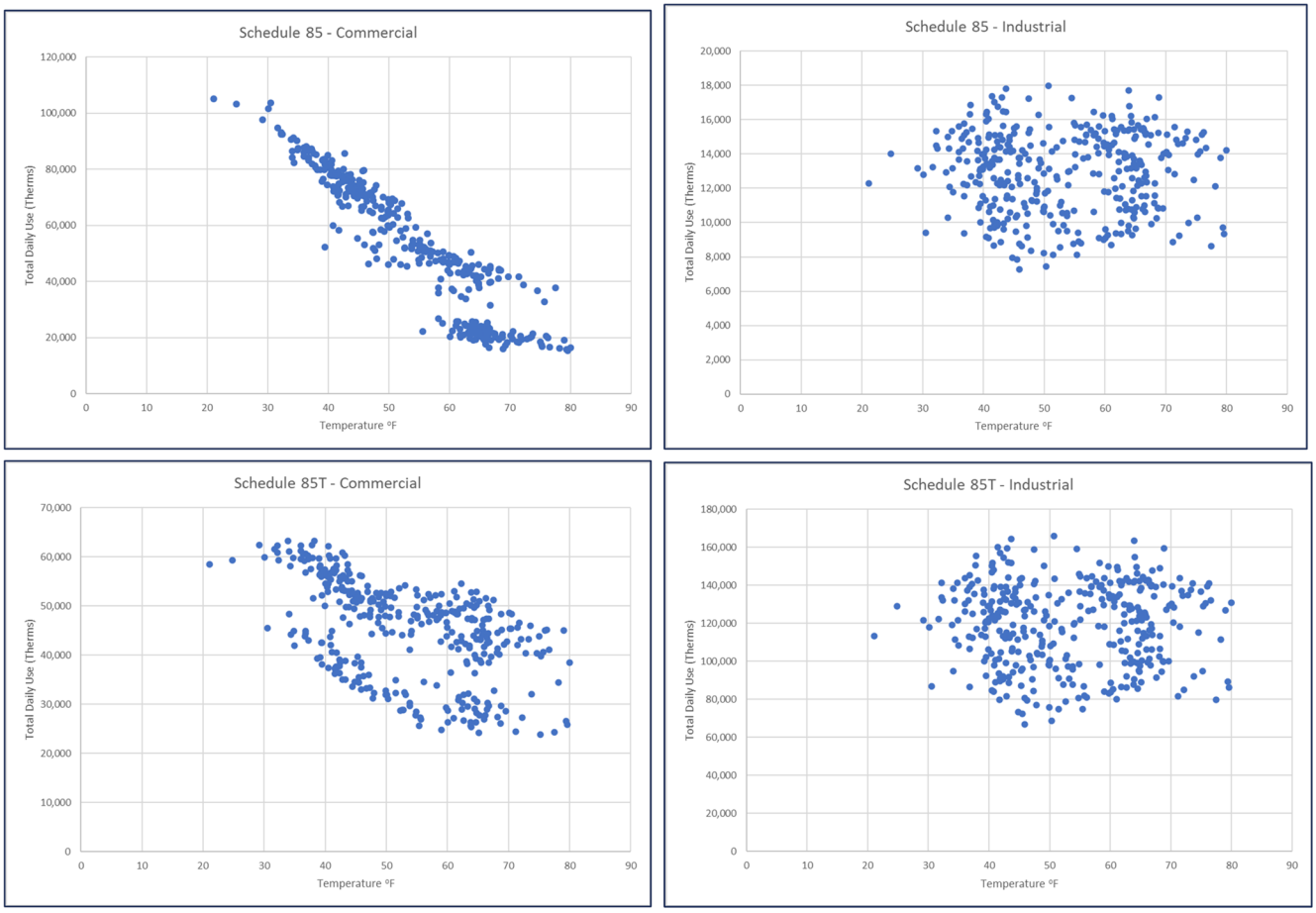
Schedule 85 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Deman	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	74,016	2,388	Tuesday, July 19, 2022	2,984	80.0%	Sunday, July 3, 2022	1,739	137.3%	58.3%
Aug	76,772	2,477	Thursday, August 11, 2022	3,193	77.6%	Thursday, August 4, 2022	2,587	95.7%	81.0%
Sep	76,405	2,547	Wednesday, September 14, 2022	3,270	77.9%	Friday, September 30, 2022	2,631	96.8%	80.5%
Oct	77,723	2,507	Thursday, October 13, 2022	2,999	83.6%	Tuesday, October 25, 2022	2,674	93.8%	89.2%
Nov	73,712	2,457	Thursday, November 17, 2022	3,289	74.7%	Tuesday, November 29, 2022	2,768	88.8%	84.1%
Dec	70,994	2,290	Thursday, December 15, 2022	2,880	79.5%	Thursday, December 22, 2022	2,268	101.0%	78.7%
Jan	65,662	2,118	Thursday, January 19, 2023	2,617	80.9%	Monday, January 30, 2023	2,445	86.6%	93.4%
Feb	68,096	2,432	Wednesday, February 8, 2023	3,195	76.1%	Thursday, February 23, 2023	2,433	100.0%	76.1%
Mar	74,409	2,400	Tuesday, March 7, 2023	3,207	74.9%	Wednesday, March 8, 2023	3,110	77.2%	97.0%
Apr	74,466	2,482	Tuesday, April 25, 2023	3,322	74.7%	Sunday, April 2, 2023	2,003	123.9%	60.3%
May	70,506	2,274	Tuesday, May 9, 2023	2,895	78.6%	Friday, May 5, 2023	2,157	105.5%	74.5%
Jun	65,368	2,179	Monday, June 26, 2023	2,704	80.6%	Tuesday, June 20, 2023	2,401	90.7%	88.8%
12-Mths	868,130	2,378	Tuesday, April 25, 2023	3,322	71.6%	Thursday, December 22, 2022	2,268	104.9%	68.3%

Table 42 - Schedule 85 Transportation: Commercial & Industrial Summaries (Means)

Schedule 85 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand	Coincident Load Factor	Coincidence Factor
Jul	48,376	1,561	Wednesday, July 13, 2022	1,855	84.1%	Sunday, July 3, 2022	1,171	133.3%	63.1%
Aug	54,303	1,752	Tuesday, August 23, 2022	2,193	79.9%	Thursday, August 4, 2022	2,031	86.3%	92.6%
Sep	54,886	1,830	Thursday, September 15, 2022	2,269	80.6%	Friday, September 30, 2022	1,912	95.7%	84.3%
Oct	56,682	1,828	Thursday, October 20, 2022	2,288	79.9%	Tuesday, October 25, 2022	2,209	82.8%	96.5%
Nov	66,274	2,209	Tuesday, November 8, 2022	2,709	81.5%	Tuesday, November 29, 2022	2,619	84.3%	96.7%
Dec	68,194	2,200	Monday, December 19, 2022	2,672	82.3%	Thursday, December 22, 2022	2,506	87.8%	93.8%
Jan	67,147	2,166	Monday, January 30, 2023	2,640	82.0%	Monday, January 30, 2023	2,640	82.0%	100.0%
Feb	60,565	2,163	Wednesday, February 22, 2023	2,708	79.9%	Thursday, February 23, 2023	2,677	80.8%	98.8%
Mar	65,117	2,101	Wednesday, March 8, 2023	2,563	82.0%	Wednesday, March 8, 2023	2,563	82.0%	100.0%
Apr	57,282	1,909	Thursday, April 20, 2023	2,395	79.7%	Sunday, April 2, 2023	1,692	112.8%	70.7%
May	54,541	1,759	Tuesday, May 9, 2023	2,234	78.8%	Friday, May 5, 2023	1,994	88.3%	89.3%
Jun	54,231	1,808	Tuesday, June 27, 2023	2,338	77.3%	Tuesday, June 20, 2023	1,927	93.8%	82.4%
12-Mths	707,597	1,939	Tuesday, November 8, 2022	2,709	71.5%	Thursday, December 22, 2022	2,506	77.4%	92.5%
Schedule 85 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand	Coincident Load Factor	Coincidence Factor
Jul	62,581	2,019	Tuesday, July 19, 2022	2,523	80.0%	Sunday, July 3, 2022	1,470	137.3%	58.3%
Aug	64,912	2,094	Thursday, August 11, 2022	2,700	77.6%	Thursday, August 4, 2022	2,187	95.7%	81.0%
Sep	64,602	2,153	Wednesday, September 14, 2022	2,765	77.9%	Friday, September 30, 2022	2,225	96.8%	80.5%
Oct	65,716	2,120	Thursday, October 13, 2022	2,536	83.6%	Tuesday, October 25, 2022	2,261	93.8%	89.2%
Nov	62,324	2,077	Thursday, November 17, 2022	2,781	74.7%	Tuesday, November 29, 2022	2,340	88.8%	84.1%
Dec	60,027	1,936	Thursday, December 15, 2022	2,435	79.5%	Thursday, December 22, 2022	1,917	101.0%	78.7%
Jan	55,518	1,791	Thursday, January 19, 2023	2,213	80.9%	Monday, January 30, 2023	2,067	86.6%	93.4%
Feb	57,576	2,056	Wednesday, February 8, 2023	2,701	76.1%	Thursday, February 23, 2023	2,057	100.0%	76.1%
Mar	62,914	2,029	Tuesday, March 7, 2023	2,711	74.9%	Wednesday, March 8, 2023	2,629	77.2%	97.0%
Apr	62,962	2,099	Tuesday, April 25, 2023	2,808	74.7%	Sunday, April 2, 2023	1,694	123.9%	60.3%
May	59,614	1,923	Tuesday, May 9, 2023	2,448	78.6%	Friday, May 5, 2023	1,823	105.5%	74.5%
Jun	55,270	1,842	Monday, June 26, 2023	2,286	80.6%	Tuesday, June 20, 2023	2,030	90.7%	88.8%
12-Mths	734,017	2,011	Tuesday, April 25, 2023	2,808	71.6%	Thursday, December 22, 2022	1,917	104.9%	68.3%

Figure 49 shows the weather sensitivity of the load components. The commercial domains are more weather sensitive than their industrial counterparts.

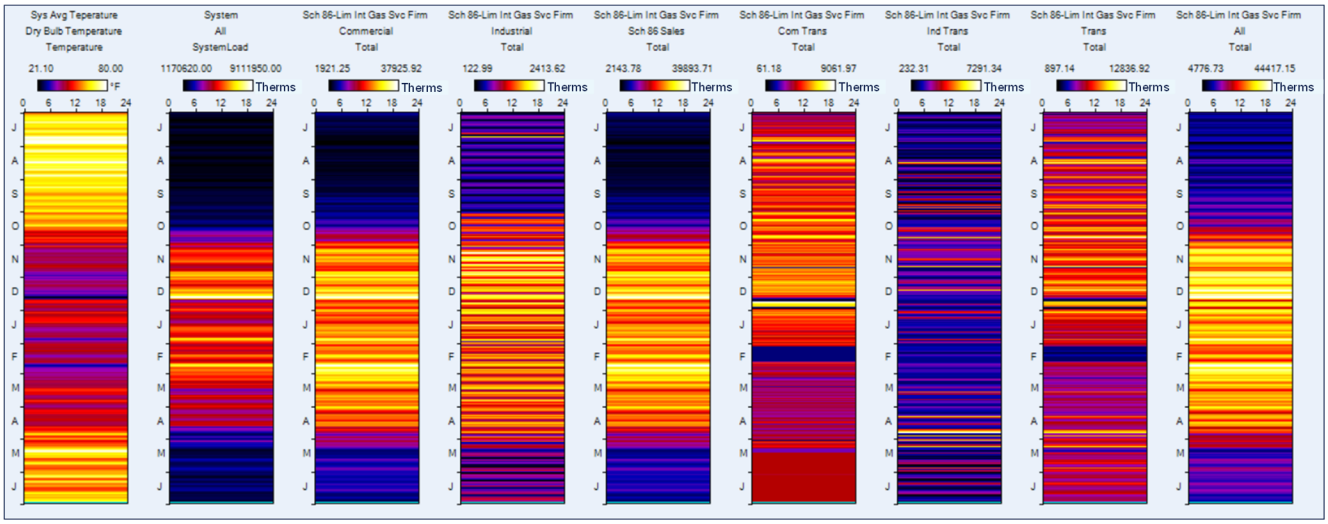
Figure 49 – Schedule 85 C&I Components: Temperature Sensitivity



7.4 Schedules 86 & 86T C&I Components

Schedule's 86 and 86T serve the same class of customers with Sales customers taking service on Schedule 86 and Transportation customers taking service on Schedule 86T. Within the Sales and Transportation Schedules, the customers are segmented by commercial and industrial. Figure 50 presents the vertical EnergyPrints for the system load to the left and then each component of the Schedule's 86 and 86T, namely, Sales commercial, Sales industrial, aggregate Sales, Transportation commercial, Transportation Industrial and aggregate Transportation. The EnergyPrints are presented on a total class basis. There are similarities between the Schedule 86-Commercial load and the system load. The Schedule 86-Industrial has different characteristics.

Figure 50 – Schedule 86 C&I Components: EnergyPrints



The following tables highlight the energy usage and demand characteristics by presenting monthly summaries, first as class totals followed by class means. Here we provide tables for just the Commercial and Industrial domains for Sales and Transportation since the aggregate tables are presented in the body of the report.

Table 43 - Schedule 86: Commercial & Industrial Summaries (Totals)

Schedule 86 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	120,918	3,901	Sunday, July 3, 2022	6,850	56.9%	Sunday, July 3, 2022	6,850	56.9%	100.0%
Aug	100,779	3,251	Thursday, August 4, 2022	4,563	71.2%	Thursday, August 4, 2022	4,563	71.2%	100.0%
Sep	133,590	4,453	Tuesday, September 20, 2022	6,681	66.7%	Friday, September 30, 2022	5,790	76.9%	86.7%
Oct	305,802	9,865	Monday, October 31, 2022	19,153	51.5%	Tuesday, October 25, 2022	16,403	60.1%	85.6%
Nov	723,866	24,129	Wednesday, November 9, 2022	28,996	83.2%	Tuesday, November 29, 2022	28,993	83.2%	100.0%
Dec	836,466	26,983	Thursday, December 22, 2022	37,926	71.1%	Thursday, December 22, 2022	37,926	71.1%	100.0%
Jan	756,989	24,419	Monday, January 30, 2023	32,766	74.5%	Monday, January 30, 2023	32,766	74.5%	100.0%
Feb	749,725	26,776	Friday, February 24, 2023	36,649	73.1%	Thursday, February 23, 2023	36,564	73.2%	99.8%
Mar	796,544	25,695	Wednesday, March 1, 2023	31,948	80.4%	Wednesday, March 8, 2023	29,661	86.6%	92.8%
Apr	623,455	20,782	Monday, April 3, 2023	29,340	70.8%	Sunday, April 2, 2023	24,741	84.0%	84.3%
May	291,442	9,401	Friday, May 5, 2023	16,493	57.0%	Friday, May 5, 2023	16,493	57.0%	100.0%
Jun	214,985	7,166	Tuesday, June 20, 2023	10,045	71.3%	Tuesday, June 20, 2023	10,045	71.3%	100.0%
12-Mths	5,654,559	15,492	Thursday, December 22, 2022	37,926	40.8%	Thursday, December 22, 2022	37,926	40.8%	100.0%

Schedule 86 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	17,099	552	Monday, July 25, 2022	1,860	29.7%	Sunday, July 3, 2022	263	210.0%	14.1%
Aug	15,079	486	Monday, August 15, 2022	726	67.0%	Thursday, August 4, 2022	609	79.9%	83.8%
Sep	13,627	454	Thursday, September 8, 2022	723	62.8%	Friday, September 30, 2022	488	93.0%	67.5%
Oct	32,321	1,043	Wednesday, October 12, 2022	1,568	66.5%	Tuesday, October 25, 2022	1,107	94.2%	70.6%
Nov	48,380	1,613	Thursday, November 10, 2022	2,414	66.8%	Tuesday, November 29, 2022	1,791	90.0%	74.2%
Dec	48,288	1,558	Tuesday, December 20, 2022	2,091	74.5%	Thursday, December 22, 2022	1,968	79.2%	94.1%
Jan	45,705	1,474	Tuesday, January 17, 2023	2,037	72.4%	Monday, January 30, 2023	1,852	79.6%	90.9%
Feb	38,172	1,363	Thursday, February 23, 2023	1,845	73.9%	Thursday, February 23, 2023	1,845	73.9%	100.0%
Mar	44,075	1,422	Tuesday, March 28, 2023	2,014	70.6%	Wednesday, March 8, 2023	1,722	82.6%	85.5%
Apr	39,187	1,306	Tuesday, April 18, 2023	1,799	72.6%	Sunday, April 2, 2023	1,145	114.0%	63.7%
May	22,338	721	Monday, May 1, 2023	1,560	46.2%	Friday, May 5, 2023	1,376	52.4%	88.2%
Jun	20,308	677	Thursday, June 1, 2023	1,230	55.0%	Tuesday, June 20, 2023	584	115.9%	47.5%
12-Mths	384,580	1,054	Thursday, November 10, 2022	2,414	43.7%	Thursday, December 22, 2022	1,968	53.5%	81.5%

Table 44 - Schedule 86 Transportation: Commercial & Industrial Summaries (Totals)

Schedule 86 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	120,918	3,901	Sunday, July 3, 2022	6,850	56.9%	Sunday, July 3, 2022	6,850	56.9%	100.0%
Aug	100,779	3,251	Thursday, August 4, 2022	4,563	71.2%	Thursday, August 4, 2022	4,563	71.2%	100.0%
Sep	133,590	4,453	Tuesday, September 20, 2022	6,681	66.7%	Friday, September 30, 2022	5,790	76.9%	86.7%
Oct	305,802	9,865	Monday, October 31, 2022	19,153	51.5%	Tuesday, October 25, 2022	16,403	60.1%	85.6%
Nov	723,866	24,129	Wednesday, November 9, 2022	28,996	83.2%	Tuesday, November 29, 2022	28,993	83.2%	100.0%
Dec	836,466	26,983	Thursday, December 22, 2022	37,926	71.1%	Thursday, December 22, 2022	37,926	71.1%	100.0%
Jan	756,989	24,419	Monday, January 30, 2023	32,766	74.5%	Monday, January 30, 2023	32,766	74.5%	100.0%
Feb	749,725	26,776	Friday, February 24, 2023	36,649	73.1%	Thursday, February 23, 2023	36,564	73.2%	99.8%
Mar	796,544	25,695	Wednesday, March 1, 2023	31,948	80.4%	Wednesday, March 8, 2023	29,661	86.6%	92.8%
Apr	623,455	20,782	Monday, April 3, 2023	29,340	70.8%	Sunday, April 2, 2023	24,741	84.0%	84.3%
May	291,442	9,401	Friday, May 5, 2023	16,493	57.0%	Friday, May 5, 2023	16,493	57.0%	100.0%
Jun	214,985	7,166	Tuesday, June 20, 2023	10,045	71.3%	Tuesday, June 20, 2023	10,045	71.3%	100.0%
12-Mths	5,654,559	15,492	Thursday, December 22, 2022	37,926	40.8%	Thursday, December 22, 2022	37,926	40.8%	100.0%

Schedule 86 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	17,099	552	Monday, July 25, 2022	1,860	29.7%	Sunday, July 3, 2022	263	210.0%	14.1%
Aug	15,079	486	Monday, August 15, 2022	726	67.0%	Thursday, August 4, 2022	609	79.9%	83.8%
Sep	13,627	454	Thursday, September 8, 2022	723	62.8%	Friday, September 30, 2022	488	93.0%	67.5%
Oct	32,321	1,043	Wednesday, October 12, 2022	1,568	66.5%	Tuesday, October 25, 2022	1,107	94.2%	70.6%
Nov	48,380	1,613	Thursday, November 10, 2022	2,414	66.8%	Tuesday, November 29, 2022	1,791	90.0%	74.2%
Dec	48,288	1,558	Tuesday, December 20, 2022	2,091	74.5%	Thursday, December 22, 2022	1,968	79.2%	94.1%
Jan	45,705	1,474	Tuesday, January 17, 2023	2,037	72.4%	Monday, January 30, 2023	1,852	79.6%	90.9%
Feb	38,172	1,363	Thursday, February 23, 2023	1,845	73.9%	Thursday, February 23, 2023	1,845	73.9%	100.0%
Mar	44,075	1,422	Tuesday, March 28, 2023	2,014	70.6%	Wednesday, March 8, 2023	1,722	82.6%	85.5%
Apr	39,187	1,306	Tuesday, April 18, 2023	1,799	72.6%	Sunday, April 2, 2023	1,145	114.0%	63.7%
May	22,338	721	Monday, May 1, 2023	1,560	46.2%	Friday, May 5, 2023	1,376	52.4%	88.2%
Jun	20,308	677	Thursday, June 1, 2023	1,230	55.0%	Tuesday, June 20, 2023	584	115.9%	47.5%
12-Mths	384,580	1,054	Thursday, November 10, 2022	2,414	43.7%	Thursday, December 22, 2022	1,968	53.5%	81.5%

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Table 45 - Schedule 86 Sales: Commercial & Industrial Summaries (Means)

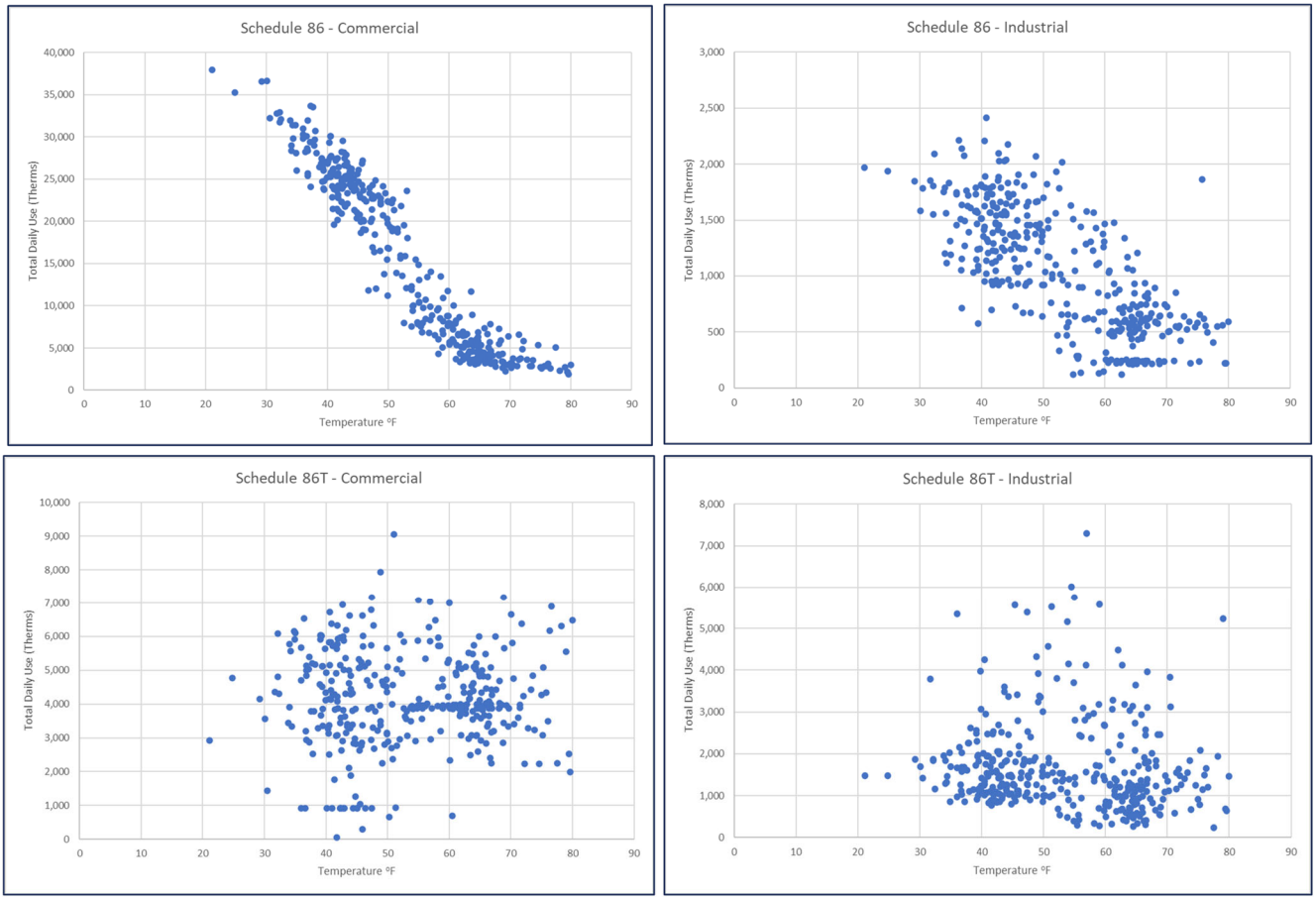
Schedule 86 - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	1,196	39	Sunday, July 3, 2022	68	56.9%	Sunday, July 3, 2022	68	56.9%	100.0%
Aug	997	32	Thursday, August 4, 2022	45	71.2%	Thursday, August 4, 2022	45	71.2%	100.0%
Sep	1,322	44	Tuesday, September 20, 2022	66	66.7%	Friday, September 30, 2022	57	76.9%	86.7%
Oct	3,025	98	Monday, October 31, 2022	189	51.5%	Tuesday, October 25, 2022	162	60.1%	85.6%
Nov	7,161	239	Wednesday, November 9, 2022	287	83.2%	Tuesday, November 29, 2022	287	83.2%	100.0%
Dec	8,275	267	Thursday, December 22, 2022	375	71.1%	Thursday, December 22, 2022	375	71.1%	100.0%
Jan	7,489	242	Monday, January 30, 2023	324	74.5%	Monday, January 30, 2023	324	74.5%	100.0%
Feb	7,417	265	Friday, February 24, 2023	363	73.1%	Thursday, February 23, 2023	362	73.2%	99.8%
Mar	7,880	254	Wednesday, March 1, 2023	316	80.4%	Wednesday, March 8, 2023	293	86.6%	92.8%
Apr	6,168	206	Monday, April 3, 2023	290	70.8%	Sunday, April 2, 2023	245	84.0%	84.3%
May	2,883	93	Friday, May 5, 2023	163	57.0%	Friday, May 5, 2023	163	57.0%	100.0%
Jun	2,127	71	Tuesday, June 20, 2023	99	71.3%	Tuesday, June 20, 2023	99	71.3%	100.0%
12-Mths	55,940	153	Thursday, December 22, 2022	375	40.8%	Thursday, December 22, 2022	375	40.8%	100.0%
Schedule 86 - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	2,974	96	Monday, July 25, 2022	324	29.7%	Sunday, July 3, 2022	46	210.0%	14.1%
Aug	2,622	85	Monday, August 15, 2022	126	67.0%	Thursday, August 4, 2022	106	79.9%	83.8%
Sep	2,370	79	Thursday, September 8, 2022	126	62.8%	Friday, September 30, 2022	85	93.0%	67.5%
Oct	5,621	181	Wednesday, October 12, 2022	273	66.5%	Tuesday, October 25, 2022	193	94.2%	70.6%
Nov	8,414	280	Thursday, November 10, 2022	420	66.8%	Tuesday, November 29, 2022	311	90.0%	74.2%
Dec	8,398	271	Tuesday, December 20, 2022	364	74.5%	Thursday, December 22, 2022	342	79.2%	94.1%
Jan	7,949	256	Tuesday, January 17, 2023	354	72.4%	Monday, January 30, 2023	322	79.6%	90.9%
Feb	6,639	237	Thursday, February 23, 2023	321	73.9%	Thursday, February 23, 2023	321	73.9%	100.0%
Mar	7,665	247	Tuesday, March 28, 2023	350	70.6%	Wednesday, March 8, 2023	299	82.6%	85.5%
Apr	6,815	227	Tuesday, April 18, 2023	313	72.6%	Sunday, April 2, 2023	199	114.0%	63.7%
May	3,885	125	Monday, May 1, 2023	271	46.2%	Friday, May 5, 2023	239	52.4%	88.2%
Jun	3,532	118	Thursday, June 1, 2023	214	55.0%	Tuesday, June 20, 2023	102	115.9%	47.5%
12-Mths	66,883	183	Thursday, November 10, 2022	420	43.7%	Thursday, December 22, 2022	342	53.5%	81.5%

Table 46 – Schedule 86 Transportation: Commercial & Industrial Summaries (Means)

Schedule 86 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	57,343	1,850	Thursday, July 28, 2022	3,451	53.6%	Sunday, July 3, 2022	1,779	104.0%	51.6%
Aug	71,790	2,316	Tuesday, August 16, 2022	3,589	64.5%	Thursday, August 4, 2022	2,079	111.4%	57.9%
Sep	68,575	2,286	Monday, September 12, 2022	2,999	76.2%	Friday, September 30, 2022	1,977	115.6%	65.9%
Oct	80,720	2,604	Wednesday, October 26, 2022	3,589	72.6%	Tuesday, October 25, 2022	3,164	82.3%	88.2%
Nov	78,529	2,618	Wednesday, November 30, 2022	3,263	80.2%	Tuesday, November 29, 2022	2,887	90.7%	88.5%
Dec	81,605	2,632	Monday, December 26, 2022	4,531	58.1%	Thursday, December 22, 2022	1,459	180.5%	32.2%
Jan	71,836	2,317	Saturday, January 7, 2023	3,309	70.0%	Monday, January 30, 2023	2,177	106.5%	65.8%
Feb	33,553	1,198	Wednesday, February 1, 2023	2,560	46.8%	Thursday, February 23, 2023	2,073	57.8%	81.0%
Mar	48,650	1,569	Thursday, March 2, 2023	2,073	75.7%	Wednesday, March 8, 2023	1,267	123.9%	61.1%
Apr	48,870	1,629	Monday, April 17, 2023	2,149	75.8%	Sunday, April 2, 2023	1,836	88.7%	85.4%
May	56,409	1,820	Saturday, May 6, 2023	2,453	74.2%	Friday, May 5, 2023	1,978	92.0%	80.6%
Jun	58,147	1,938	Sunday, June 4, 2023	1,976	98.1%	Tuesday, June 20, 2023	1,931	100.4%	97.7%
12-Mths	756,028	2,071	Monday, December 26, 2022	4,531	45.7%	Thursday, December 22, 2022	1,459	142.0%	32.2%
Schedule 86 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	8,319	268	Thursday, July 7, 2022	573	46.8%	Sunday, July 3, 2022	127	211.0%	22.2%
Aug	10,155	328	Thursday, August 18, 2022	1,232	26.6%	Thursday, August 4, 2022	232	141.2%	18.8%
Sep	12,560	419	Thursday, September 29, 2022	1,056	39.7%	Friday, September 30, 2022	292	143.6%	27.6%
Oct	14,371	464	Thursday, October 27, 2022	1,352	34.3%	Tuesday, October 25, 2022	429	108.2%	31.7%
Nov	14,736	491	Wednesday, November 23, 2022	1,268	38.7%	Tuesday, November 29, 2022	432	113.7%	34.1%
Dec	12,924	417	Thursday, December 15, 2022	1,258	33.1%	Thursday, December 22, 2022	347	120.2%	27.6%
Jan	12,050	389	Thursday, January 5, 2023	895	43.4%	Monday, January 30, 2023	892	43.6%	99.6%
Feb	9,007	322	Thursday, February 2, 2023	597	53.9%	Thursday, February 23, 2023	438	73.4%	73.4%
Mar	11,907	384	Monday, March 20, 2023	1,016	37.8%	Wednesday, March 8, 2023	530	72.5%	52.1%
Apr	16,048	535	Thursday, April 27, 2023	1,716	31.2%	Sunday, April 2, 2023	216	247.9%	12.6%
May	13,273	428	Wednesday, May 10, 2023	1,312	32.6%	Friday, May 5, 2023	448	95.6%	34.1%
Jun	9,808	327	Tuesday, June 13, 2023	750	43.6%	Tuesday, June 20, 2023	327	99.9%	43.6%
12-Mths	145,157	398	Thursday, April 27, 2023	1,716	23.2%	Thursday, December 22, 2022	347	114.6%	20.2%

Figure 51 shows the weather sensitivity of the load components. The commercial domains are much more weather sensitive when contrasted with the industrial domains.

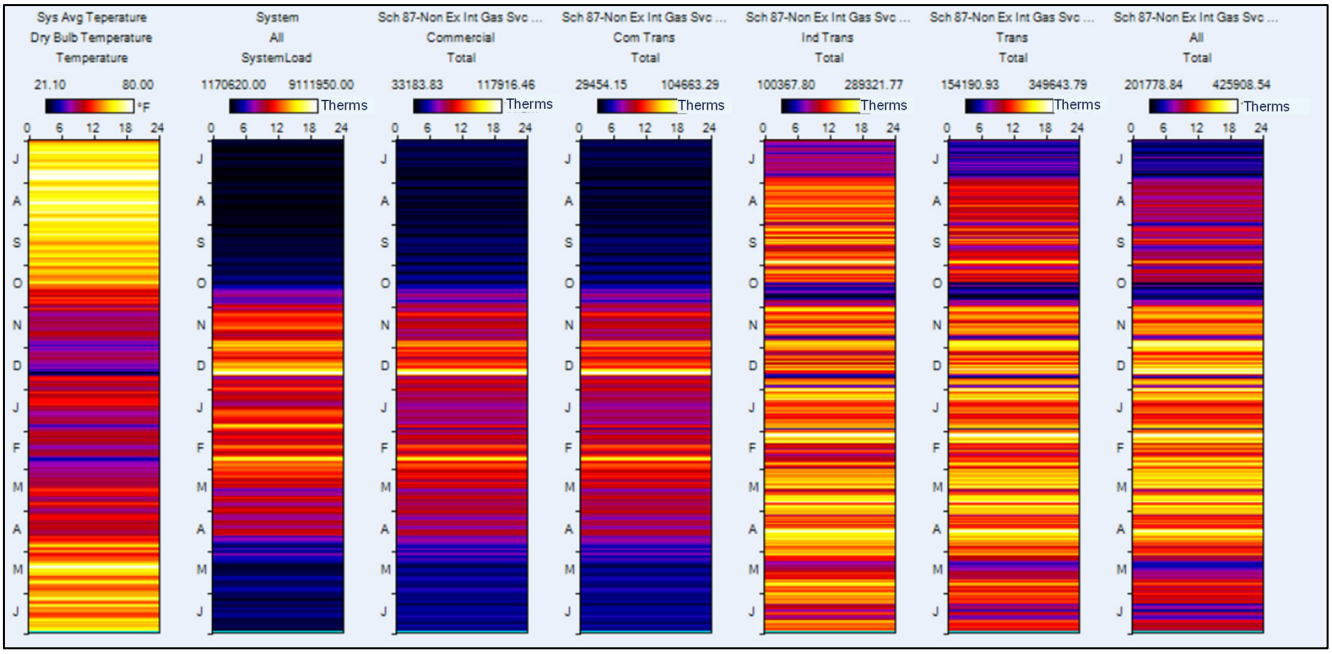
Figure 51 – Schedule 86 C&I Components: Temperature Sensitivity



7.4.1 Schedules 87 & 87T C&I Components

Schedule's 87 and 87T serve the same class of customers with Sales customers taking service on Schedule 87 and Transportation customers taking service on Schedule 87T. Within the Sales and Transportation Schedules, the customers are segmented by commercial and industrial. Figure 52 presents the vertical EnergyPrints for the system load to the left and then each component of the Schedule's 87 and 87T, namely, Sales Commercial, Transportation Commercial, Transportation Industrial and Aggregate Transportation. The EnergyPrints are presented on a total class basis. The commercial loads are very similar.

Figure 52 – Schedule 87G C&I Components: EnergyPrints



The following tables highlight the energy usage and demand characteristics by presenting monthly summaries, first as class totals followed by class means. Here we provide tables for just the Commercial and Industrial domains for the Transportation component of the schedule since the aggregate tables are presented in the body of the report.

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Table 47 - Schedule 87 Sales & Transportation: Commercial & Industrial Summaries (Totals)

Schedule 87 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	1,044,249	33,685	Friday, July 1, 2022	37,142	90.7%	Sunday, July 3, 2022	35,730	94.3%	96.2%
Aug	1,028,193	33,168	Thursday, August 4, 2022	35,554	93.3%	Thursday, August 4, 2022	35,554	93.3%	100.0%
Sep	1,048,947	34,965	Wednesday, September 28, 2022	37,711	92.7%	Friday, September 30, 2022	37,391	93.5%	99.2%
Oct	1,264,945	40,805	Tuesday, October 25, 2022	55,229	73.9%	Tuesday, October 25, 2022	55,229	73.9%	100.0%
Nov	1,806,373	60,212	Tuesday, November 29, 2022	77,825	77.4%	Tuesday, November 29, 2022	77,825	77.4%	100.0%
Dec	2,173,971	70,128	Thursday, December 22, 2022	104,663	67.0%	Thursday, December 22, 2022	104,663	67.0%	100.0%
Jan	1,733,683	55,925	Monday, January 30, 2023	67,251	83.2%	Monday, January 30, 2023	67,251	83.2%	100.0%
Feb	1,814,330	64,798	Thursday, February 23, 2023	89,482	72.4%	Thursday, February 23, 2023	89,482	72.4%	100.0%
Mar	1,877,003	60,548	Wednesday, March 1, 2023	70,864	85.4%	Wednesday, March 8, 2023	68,870	87.9%	97.2%
Apr	1,601,573	53,386	Monday, April 3, 2023	63,508	84.1%	Sunday, April 2, 2023	59,366	89.9%	93.5%
May	1,239,125	39,972	Friday, May 5, 2023	48,424	82.5%	Friday, May 5, 2023	48,424	82.5%	100.0%
Jun	1,143,525	38,117	Tuesday, June 20, 2023	43,263	88.1%	Tuesday, June 20, 2023	43,263	88.1%	100.0%
12-Mths	17,775,915	48,701	Thursday, December 22, 2022	104,663	46.5%	Thursday, December 22, 2022	104,663	46.5%	100.0%

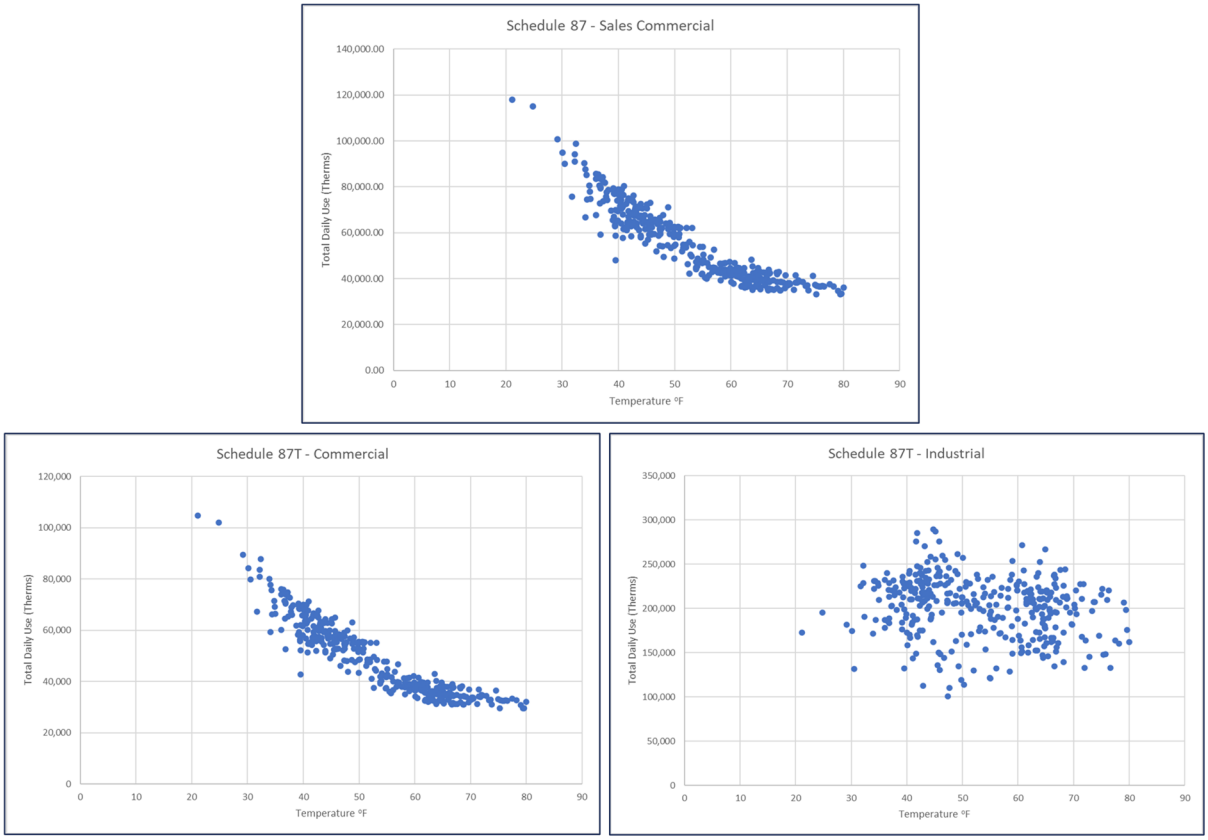
Schedule 87 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load Factor	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	4,931,610	159,084	Sunday, July 31, 2022	198,213	80.3%	Sunday, July 3, 2022	178,148	89.3%	89.9%
Aug	6,517,735	210,250	Saturday, August 20, 2022	243,572	86.3%	Thursday, August 4, 2022	198,980	105.7%	81.7%
Sep	6,186,083	206,203	Friday, September 30, 2022	271,828	75.9%	Friday, September 30, 2022	271,828	75.9%	100.0%
Oct	5,355,378	172,754	Saturday, October 1, 2022	266,996	64.7%	Tuesday, October 25, 2022	110,432	156.4%	41.4%
Nov	6,138,663	204,622	Saturday, November 5, 2022	245,819	83.2%	Tuesday, November 29, 2022	230,825	88.6%	93.9%
Dec	6,078,214	196,071	Monday, December 19, 2022	248,037	79.0%	Thursday, December 22, 2022	172,851	113.4%	69.7%
Jan	6,706,181	216,328	Tuesday, January 3, 2023	275,668	78.5%	Monday, January 30, 2023	224,840	96.2%	81.6%
Feb	5,768,359	206,013	Sunday, February 5, 2023	289,322	71.2%	Thursday, February 23, 2023	181,727	113.4%	62.8%
Mar	6,918,797	223,187	Monday, March 27, 2023	275,675	81.0%	Wednesday, March 8, 2023	218,550	102.1%	79.3%
Apr	6,775,326	225,844	Tuesday, April 18, 2023	285,389	79.1%	Sunday, April 2, 2023	236,012	95.7%	82.7%
May	6,201,708	200,055	Saturday, May 27, 2023	253,594	78.9%	Friday, May 5, 2023	242,332	82.6%	95.6%
Jun	6,032,414	201,080	Saturday, June 3, 2023	242,755	82.8%	Tuesday, June 20, 2023	153,509	131.0%	63.2%
12-Mths	73,610,467	201,673	Sunday, February 5, 2023	289,322	69.7%	Thursday, December 22, 2022	172,851	116.7%	59.7%

Table 48 - Schedule 87 Sales & Transportation: Commercial & Industrial Summaries (Means)

Schedule 87 Transportation - Commercial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	744,083	24,003	Friday, May 5, 2023	29,076	82.6%	Friday, May 5, 2023	29,076	82.6%	100.0%
Aug	717,594	23,920	Saturday, June 3, 2023	27,934	85.6%	Tuesday, June 20, 2023	19,677	121.6%	70.4%
Sep	349,649	11,655	Wednesday, September 28, 2022	12,570	92.7%	Friday, September 30, 2022	12,464	93.5%	99.2%
Oct	421,648	13,602	Tuesday, October 25, 2022	18,410	73.9%	Tuesday, October 25, 2022	18,410	73.9%	100.0%
Nov	602,124	20,071	Tuesday, November 29, 2022	25,942	77.4%	Tuesday, November 29, 2022	25,942	77.4%	100.0%
Dec	724,657	23,376	Thursday, December 22, 2022	34,888	67.0%	Thursday, December 22, 2022	34,888	67.0%	100.0%
Jan	577,894	18,642	Monday, January 30, 2023	22,417	83.2%	Monday, January 30, 2023	22,417	83.2%	100.0%
Feb	604,777	21,599	Thursday, February 23, 2023	29,827	72.4%	Thursday, February 23, 2023	29,827	72.4%	100.0%
Mar	625,668	20,183	Wednesday, March 1, 2023	23,621	85.4%	Wednesday, March 8, 2023	22,957	87.9%	97.2%
Apr	533,858	17,795	Monday, April 3, 2023	21,169	84.1%	Sunday, April 2, 2023	19,789	89.9%	93.5%
May	413,042	13,324	Friday, May 5, 2023	16,141	82.5%	Friday, May 5, 2023	16,141	82.5%	100.0%
Jun	381,175	12,706	Tuesday, June 20, 2023	14,421	88.1%	Tuesday, June 20, 2023	14,421	88.1%	100.0%
12-Mths	6,696,168	18,346	Thursday, December 22, 2022	34,888	52.6%	Thursday, December 22, 2022	34,888	52.6%	100.0%
Schedule 87 Transportation - Industrial									
			Non-Coincident Peaks			Coincident Peaks			
Month	Monthly Use (Therms)	Average Daily Use (Therms)	Non-Coincident (Class Peak) Date	Class Peak Demand (Therms)	Non-Coincident Load	Coincident System Peak Date	Coincident Class Demand (Therms)	Coincident Load Factor	Coincidence Factor
Jul	704,516	22,726	Sunday, July 31, 2022	28,316	80.3%	Sunday, July 3, 2022	25,450	89.3%	89.9%
Aug	931,105	30,036	Saturday, August 20, 2022	34,796	86.3%	Thursday, August 4, 2022	28,426	105.7%	81.7%
Sep	883,726	29,458	Friday, September 30, 2022	38,833	75.9%	Friday, September 30, 2022	38,833	75.9%	100.0%
Oct	765,054	24,679	Saturday, October 1, 2022	38,142	64.7%	Tuesday, October 25, 2022	15,776	156.4%	41.4%
Nov	876,952	29,232	Saturday, November 5, 2022	35,117	83.2%	Tuesday, November 29, 2022	32,975	88.6%	93.9%
Dec	868,316	28,010	Monday, December 19, 2022	35,434	79.0%	Thursday, December 22, 2022	24,693	113.4%	69.7%
Jan	958,026	30,904	Tuesday, January 3, 2023	39,381	78.5%	Monday, January 30, 2023	32,120	96.2%	81.6%
Feb	824,051	29,430	Sunday, February 5, 2023	41,332	71.2%	Thursday, February 23, 2023	25,961	113.4%	62.8%
Mar	988,400	31,884	Monday, March 27, 2023	39,382	81.0%	Wednesday, March 8, 2023	31,221	102.1%	79.3%
Apr	967,904	32,263	Tuesday, April 18, 2023	40,770	79.1%	Sunday, April 2, 2023	33,716	95.7%	82.7%
May	885,958	28,579	Saturday, May 27, 2023	36,228	78.9%	Friday, May 5, 2023	34,619	82.6%	95.6%
Jun	861,773	28,726	Saturday, June 3, 2023	34,679	82.8%	Tuesday, June 20, 2023	21,930	131.0%	63.2%
12-Mths	10,515,781	28,810	Sunday, February 5, 2023	41,332	69.7%	Thursday, December 22, 2022	24,693	116.7%	59.7%

Figure 53 shows the weather sensitivity of the load components. The commercial domains are quite weather sensitive, especially when contrasted against the industrial domain.

Figure 53 – Schedule 87 C&I Components: Temperature Sensitivity



About DNV

DNV is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.