EXH. CD-4
DOCKETS 240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: DR. CHHANDITA DAS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

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

THIRD EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

DR. CHHANDITA DAS

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024

Class Hourly Load Profile for Net Meter Customers

1 INTRODUCTION

1.1 Background

This document gives an overview of PSE's net meter customers. At the end of June 2023 there were 19,777 active net meter device locations.[1] **Table 1** shows majority of these are residential (94%) followed by small general service (5%).

Rate Class	(Device Location Count)	Sample (Device Location Count)
8 & 24 (C & I)	923	343
7	18,639	9,229
25 (C)	164	28
25 (I)	2	-
26 C	20	-
31 (C & I)	22	-
43	6	-
29	1	-
Total	19,777	9,600

Table 1: Net Meter Customer Count by Rate Class

Table 2 shows the generation type by rate schedule. As expected majority of net meter customers are solar PV (99.7%); the Wind, Hybrid: Solar and Micro Hydro make up the remaining 0.3%. Further, only about 6% of these devices have batteries to store extra productions for consumption during non-generating hours.

Rate Class	Hybrid: Solar	Micro Hydro	Solar PV	Wind	Total	Batteries
7	11	4	18,604	20	18,639	1,219
8 & 24 (commercial)	1	2	911	5	919	34
24 Industrial	1	-	3	-	4	3
25 (commercial)	2	2	159	1	164	-
25 (Industrial)	-	-	2	-	2	-
26 (commercial)	-	-	20	-	20	-
31 (commercial)	-	-	20	1	21	-
31 (Industrial)	-	-	1	-	1	-
43	-	-	6	-	6	-
29	-	-	1	-	1	-
Total	15	8	19,727	27	19,777	1,256

Table 2: Generation Type by Rate Class

Based on the population counts and availability of interval data, this study estimates net meter load profiles for residential, small general service (commercial & Industrial) and medium general service-Commercial class. Since interval data were not available for the whole population, this study post-stratifies the class profiles based on the available data using the post-stratification class weights as described in the Load Research Report (Exh. CD-3).

Table *3* shows the breakdown of annual sales by customer types for the 7 and 8 & 24, and 11 & 25 - commercial class. PSE does not publish official billing data by different customer types, therefore this break down is calculated by determining the proportion of net meter and non-net meter customers' usage in the total estimated use and then applying these

[1] Note, since this analyses combines data from different sources, this count might be different from the number of net meter device locations registered within the PSE system.

ratios to the actual official class billed total. The net meter customers' account for less than 1% of class sales for each rate class.

Rate Class	No. of Accounts	Total Annual kWh Use	Avg. kWh use per account	% of Total kWh Sales
7 - NM	17,710	92,135,650	5,202	0.53%
7 - Non NM	1,072,410	11,639,620,199	10,854	66.84%
8 & 24 (C & I) - NM	798	16,630,323	20,840	0.10%
8 & 24 (C & I) - Non-NM	125,899	2,779,857,684	22,080	15.96%
11 & 25 (C) - NM	52	8,910,197	171,350	0.05%
11 & 25 (C) - Non-NM	7,846	2,878,044,378	366,817	16.53%
Total	1,224,715	17,415,198,431	14,220	100%

Note: For net meters, the net kWh is reported in the table.

Table 3: Population Count[2] and Consumption[3] by Net Meter Rate Class

2 NET METER RATES CLASS LOAD PROFILES

2.1 Residential Class (Schedule 7)

Residential class load profile is the sum of net meter customers' hourly load profiles and non-net meter customers' hourly load profile. Both types of load profiles were estimated using the same methodology as discussed in the Load Research Report (Exh. CD-3). As shown in **Table *3*** majority of residential class is non-net meter customers. Net meter customers makes about 2% of all residential customers. In this section we present a detail summary characteristics of the net-meter and non-net meter customers.

Figure 1 presents the hourly load profile for the non-net meter residential customers. The figure displays the EnergyPrint to the left of a more standard two-dimensional x-y plot. The vertical form of the EnergyPrint displays time on the x-axis, day of the year on the y-axis and the magnitude of the load on the z-axis. The magnitude of load is displayed as a color gradient with low levels of load in the black-blue spectrum and high levels of load in the yellow-white spectrum. Since majority of the residential customers are non-net meter, the total non-net meter profile is very similar to the total class load with the dominance of the winter load and bi-modal peaks occurring in the morning and early evening periods.

[2] Number of Accounts is average of monthly account counts for the test period ranging from July, 2022 to June, 2023.
[3] Total Annual Energy Use is the annual delivered energy sales (billed & unbilled) for the test period from July, 2022 to June, 2023.

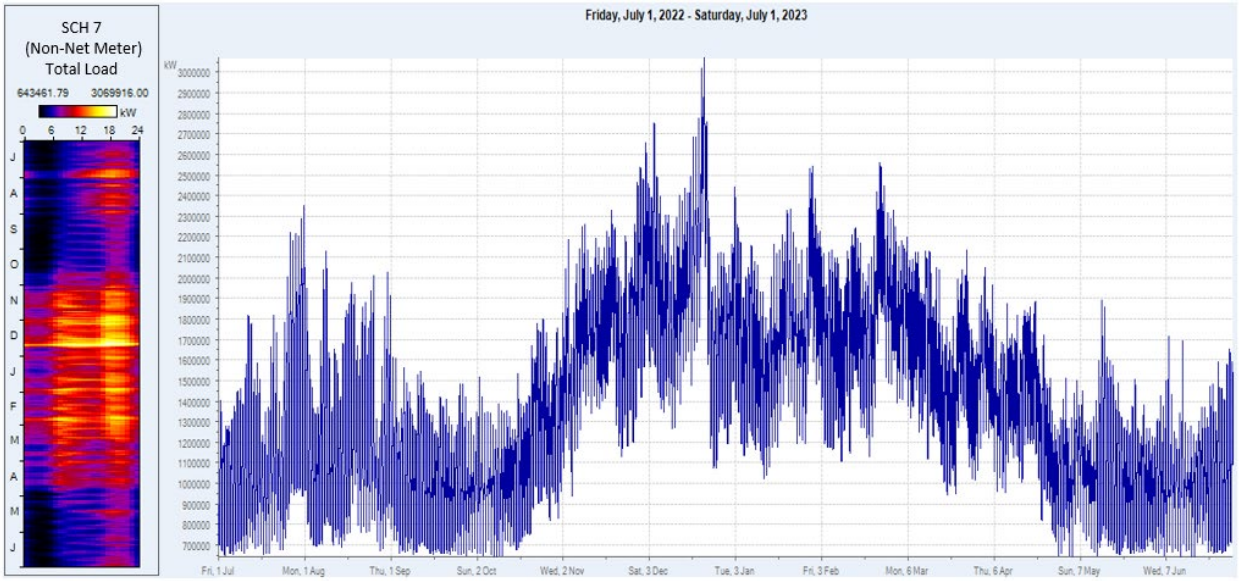

Figure 1: Residential Class Non Net Meter Total Load

Figure 2 presents the hourly load profile for the net meter residential customers. The higher negative load during the summer months are consistent with high production in the warmer months.

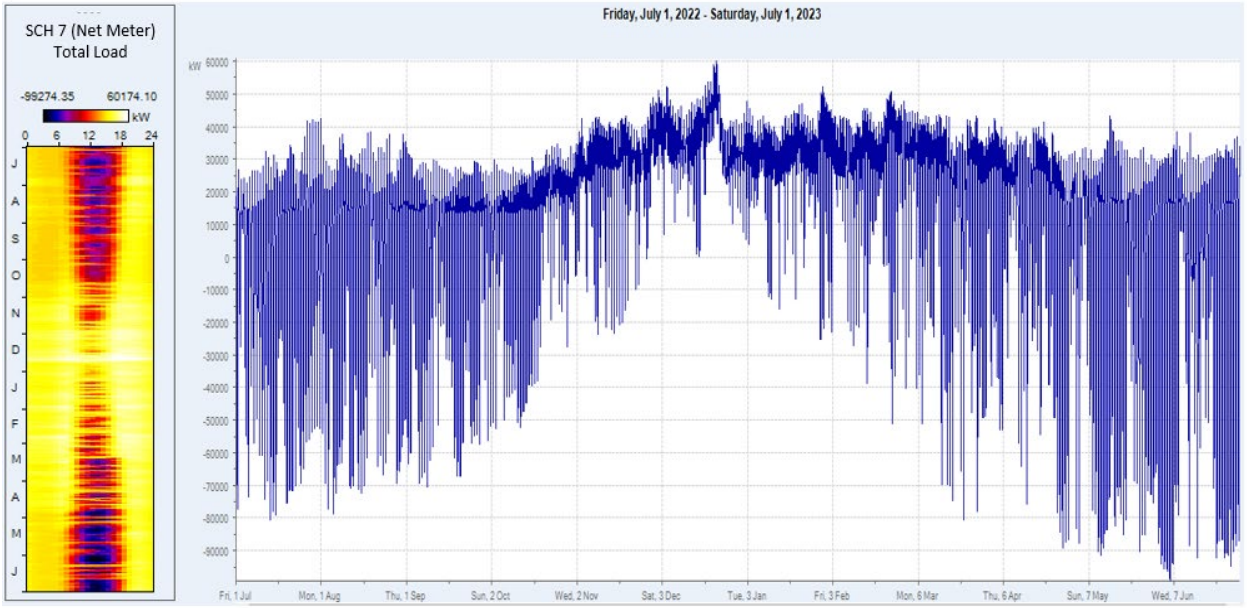

Figure 2: Residential Class Net Meter Total Load

Table 4 shows the monthly total load, average load and average demand by customer types. The total monthly load for net meter customers varies from -43 MW in August, 2022 to 26,715 MW in December, 2022. The total monthly load for non-net meter customer varies from 732,956 MW in September, 2022 to 1,450,403 MW in December 2022. The annual average load for a net meter customer is 6.8 MWH, about 58% of the non-net meter customer's average load of 11.8 MWH.

Month	Non Net Meter Monthly Energy Use (kWh)	Net Meter Monthly Energy Use (kWh)	Non Net Meter Avg. Load (kWh)	Net Meter Avg. Load (kWh)	Non Net Meter Avg. Demand (kW)	Net Meter Avg. Demand (kW)
July-22	880,085,594	(2,288,583)	856	(172)	1,182,911	(3,076)
August-22	895,671,945	(43,774)	871	(3)	1,203,860	(59)
September-22	732,955,768	1,428,555	712	102	1,017,994	1,984
October-22	827,170,446	7,677,608	803	537	1,111,788	10,319
November-22	1,237,398,323	19,096,726	1,199	1,296	1,718,609	26,523
December-22	1,450,403,209	26,715,319	1,405	1,762	1,949,467	35,908
January-23	1,275,733,877	22,174,272	1,235	1,422	1,714,696	29,804
February-23	1,187,179,954	17,930,361	1,150	1,115	1,766,637	26,682
March-23	1,180,458,182	12,496,841	1,142	759	1,586,637	16,797
April-23	984,612,361	7,350,775	953	437	1,367,517	10,209
May-23	789,470,872	(2,651,090)	763	(154)	1,061,117	(3,563)
June-23	742,984,177	(4,837,290)	718	(275)	1,031,922	(6,718)
Annual	**12,184,124,710**	**105,049,721**	11,808	6,817	1,390,882	11,992

Table 4: Total Load Summary by Customer Types

Table *5* Shows the peak demand at the system peak for the both types of residential customers. Non-net meter customers' demand was 3,069.9 MW at the time of system peak, December 22, 2022 at 6 PM. The corresponding demand for net meter customers was 60.1 MW. At the monthly system peak, average demands for a net meter customers are lower than the average demand for a non-net meter customers during the summer months and higher during the winter months. The non-net meter peak demand is fairly co-incident to the system peak with annual average co-incidence factor of 97%. On the other hand, the net meter customers' peak demand is fairly coincident to the system peak during winter months but during the summer months, co-incident factors are significantly lower due to higher returned energy.

Date of System Peak	Time of System Peak	Non Net Meters Peak Demand (kW)	Net Meters Peak Demand (kW)	Non Net Meters Avg. Demand (kW)	Net Meters Avg. Demand (kW)	Non Net Meters Coincidence Factor	Net Meters Coincidence Factor
Thursday, July 28, 2022	18.00	2,170,646	6,791	2.11	0.51	92%	16%
Monday, August 8, 2022	18.00	2,031,910	10,764	1.98	0.79	95%	28%
Thursday, September 1, 2022	18.00	1,555,891	4,234	1.51	0.30	97%	13%
Tuesday, October 25, 2022	19.00	1,797,218	34,714	1.74	2.43	100%	100%
Tuesday, November 29, 2022	18.00	2,534,206	48,939	2.46	3.32	100%	100%
Thursday, December 22, 2022	18.00	3,069,916	60,174	2.97	3.97	100%	100%
Monday, January 30, 2023	9.00	2,502,561	42,172	2.42	2.70	98%	81%
Friday, February 24, 2023	8.00	2,545,211	48,991	2.47	3.05	99%	97%
Wednesday, March 1, 2023	8.00	2,246,883	42,841	2.17	2.60	100%	95%
Monday, April 3, 2023	9.00	1,843,852	31,302	1.78	1.86	90%	74%
Monday, May 15, 2023	18.00	1,824,356	6,821	1.76	0.40	96%	16%
Wednesday, June 7, 2023	19.00	1,714,828	13,008	1.66	0.74	100%	34%
		3,069,916	**60,174**	2.98	3.90	100%	100.0%

Table 5: Class Demand by Customer Types at System Peak

Table 6 shows class peak demand and time for both net meter and non-net meter customers. Non net meter customers' behavior is similar to the whole residential class with same class peak date and time. The Residential non-net meter class peak and the total class peak occurred at 6 PM on Thursday, December 2022. Net meter customers' class peak coincided with non-net meter class peak and system peak.

Peak demand per customer is higher for net meter customers than for non-net meter customer types in all month with average annual peak demand of 3.90 kW for net meter customer types compared to 2.98 kW average peak demand for the non-net meter customers.

	Non Net Meters			Net Meters			
Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)	Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)
Sunday, July 31, 2022	19	2,352,715	2.29	July 31, 2022	21	42,404	3.18
Monday, August 8, 2022	19	2,129,861	2.07	August 18, 2022	21	38,316	2.81
Thursday, September 1, 2022	19	1,610,566	1.56	September 1, 2022	21	31,735	2.27
Tuesday, October 25, 2022	19	1,797,218	1.74	October 25, 2022	19	34,714	2.43
Tuesday, November 29, 2022	19	2,536,857	2.46	November 29, 2022	18	48,939	3.32
Thursday, December 22, 2022	18	3,069,916	2.97	December 22, 2022	18	60,174	3.97
Monday, January 30, 2023	19	2,540,795	2.46	January 30, 2023	8	52,014	3.34
Thursday, February 23, 2023	20	2,561,109	2.48	February 24, 2023	7	50,723	3.15
Wednesday, March 1, 2023	8	2,246,883	2.17	March 1, 2023	7	45,250	2.75
Sunday, April 2, 2023	20	2,049,662	1.98	April 2, 2023	20	42,270	2.52
Sunday, May 14, 2023	20	1,893,341	1.83	May 14, 2023	21	43,320	2.52
Wednesday, June 7, 2023	19	1,714,828	1.66	June 7, 2023	22	38,259	2.17
Annual		3,069,916	2.98	Annual		60,174	3.90

Table 6: Class Peak Demand Summary by Customer Types

Table 7 shows the date and time when the net meter customers' demand is at the minimum indicating when the net meter customers were returning maximum energy to the grid. The minimum times are mostly in the afternoon at 1 PM or 2 PM which is expected as this is the time when the sun is often at peak and production is at the maximum. As expected, the negative demands (net production) are higher in the warmer months than in the winter months. The production pattern follows the sun exposure as majority of net meters in PSE jurisdiction are solar PVs. The total system minimum demand does not coincide with class minimum demand dates which is informative for system planning purposes. The residential net meter customers' minimum load was on June 5, 2023 at 2 PM with -99.3 MW of net load (returned load of 101.4 MW).

Date of Class Minimum	Time of Class Minimum	Minimum Demand (kW)	Avg. Minimum Demand (kW)	Date of System Minimum	Time of System Minimum
July 13, 2022	14	(80,680)	(6.05)	July 5, 2022	4
August 5, 2022	13	(78,861)	(5.78)	August 28, 2022	5
September 8, 2022	13	(70,497)	(5.05)	September 25, 2022	4
October 3, 2022	14	(52,408)	(3.66)	October 9, 2022	4
November 9, 2022	13	(23,881)	(1.62)	November 5, 2022	3
December 16, 2022	13	368	0.02	December 26, 2022	4
January 29, 2023	13	(25,257)	(1.62)	January 14, 2023	4
February 24, 2023	13	(50,998)	(3.17)	February 10, 2023	3
March 22, 2023	15	(80,514)	(4.89)	March 20, 2023	3
April 27, 2023	14	(89,180)	(5.31)	April 30, 2023	4
May 11, 2023	14	(91,286)	(5.30)	May 28, 2023	4
June 5, 2023	14	(99,274)	(5.64)	June 11, 2023	4
Annual		(99,274)	(6.05)		

Table 7: Minimum Demand for Net Meter Customers

2.2 Small General Service Class - Commercial (Schedule 8 & 24)

For Small General Service Residential class, load profiles are estimated separately for the commercial and Industrial customers and then combined to get the class profile. Similar to residential class, only about 0.6% of all small general service class has net meters. This section discuss load summary characteristics of the net-meter and non-net meter customers for this rate class.

Figure and presents the hourly load profile for the non-net meter Schedule 24 – *Commercial* customers and **Figure *4*** for the *Industrial* customers. The figures display the EnergyPrint to the left of a more standard two-dimensional x-y plot. The vertical form of the EnergyPrint displays time on the x-axis, day of the year on the y-axis and the magnitude of the load on the z-axis. The magnitude of load is displayed as a color gradient with low levels of load in the black-blue spectrum and high levels of load in the yellow-white spectrum. Since majority of the Schedule 8 & 24 customers are commercial customers (~98%), non-net meter commercial 8 & 24 profile is very similar to the total class load with the dominance of the winter load with peaks occurring in the early to late mornings. The Schedule 8 & 24 (C) non-net meter class usage varies from a low 207.5 MW to high of 588 MW. The Schedule 8 & 24 (I) non-net meter class comprises of 2% of the total accounts, and their usage varies from a low 4.7 MW to high of 21.5 MW.

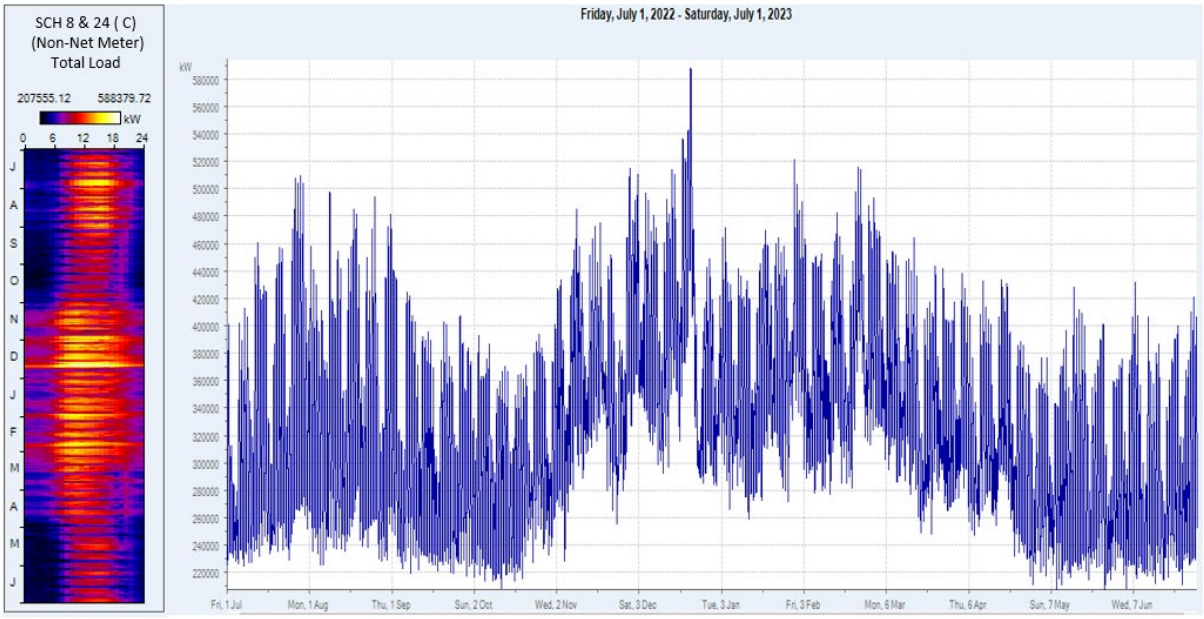

Figure 3: Small General Service (Commercial) Non Net Meter Total Load

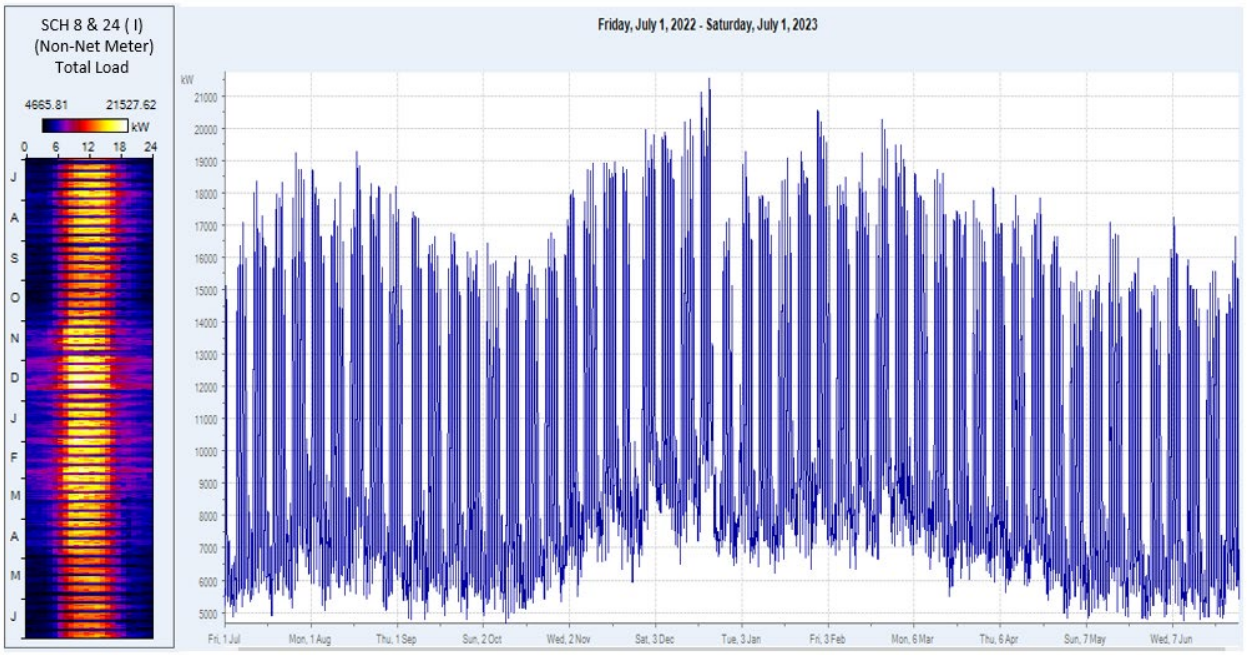

Figure 4: Small General Service (Industrial) Non Net Meter Total Load

Figure 5 below presents the hourly load profile for the net meter 8 & 24 commercial customers and **Figure 6** shows the same for the industrial customers. The higher negative load during the day time of the summer month indicates higher production for the warmer months.

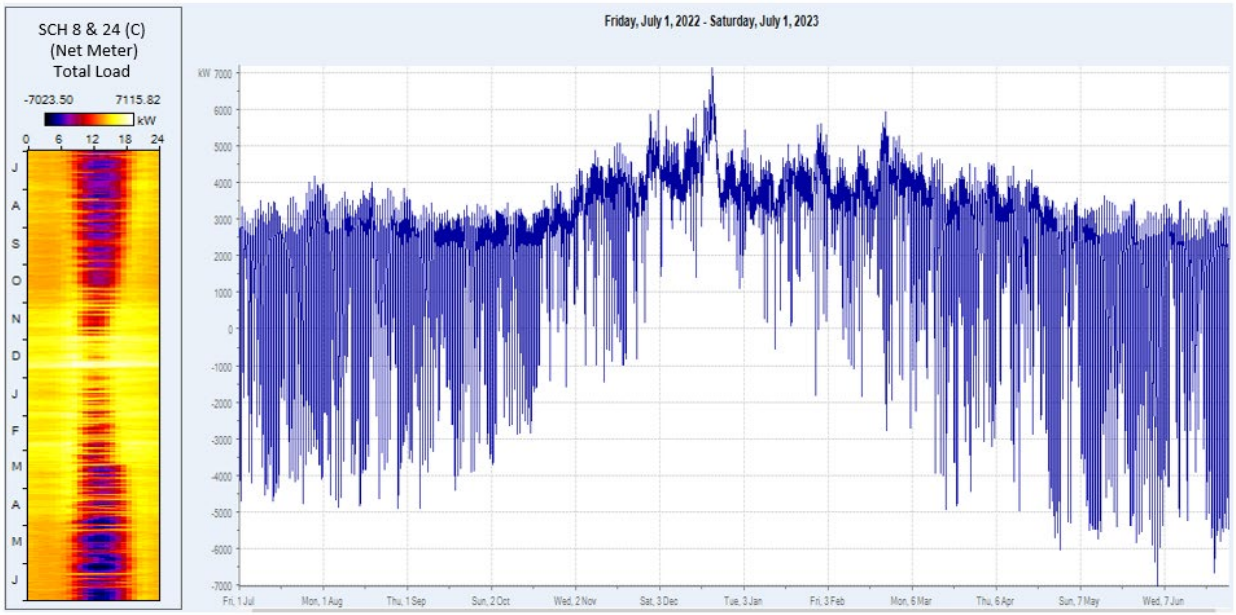

Figure 5: Small General Service (Commercial) Net Meter Total Load

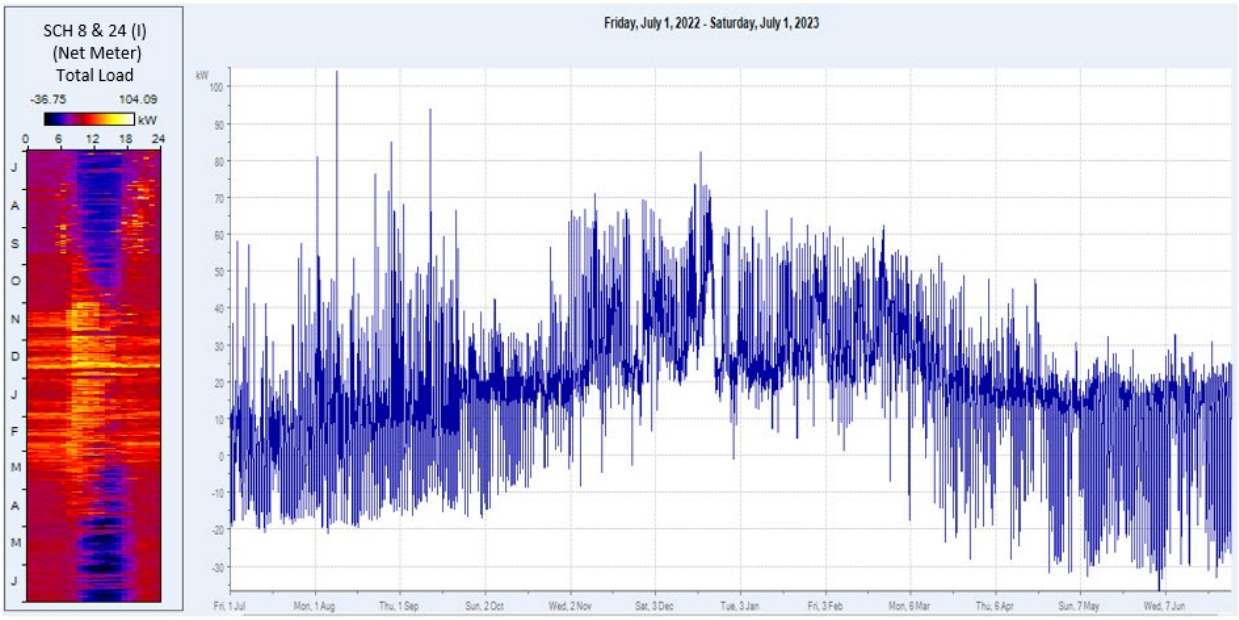

Figure 6: Small General Service (Industrial) Net Meter Total Load

The tables bellow show summary statistics of the combined (commercial and industrial) 8 & 24 class load by customer types. **Table 8** shows the monthly total load, average load and average demand by customer types for schedule 24 class. The total monthly load for net meter customers varies from 316.8 MWH in June, 2023 to 3,261.5 MWH in December, 2022. The total monthly load for non-net meter customers varies from 213,819.6 MWH in June, 2023 to 299,871 MWH in December, 2022. The annual average load for a net meter customer was 22.9 MWH and non-net meter customers' average annual load was 23.1 MWH.

Month	Non Net Meter Monthly Energy Use (kWh)	Net Meter Monthly Energy Use (kWh)	Non Net Meter Avg. Load (kWh)	Net Meter Avg. Load (kWh)	Non Net Meter Avg. Demand (kW)	Net Meter Avg. Demand (kW)
July-22	242,284,537	674,308	1,878	878	325,651	906
August-22	250,906,209	918,716	1,949	1,184	337,240	1,235
September-22	220,045,220	964,836	1,706	1,224	305,618	1,340
October-22	222,079,126	1,445,538	1,728	1,814	298,493	1,943
November-22	266,030,451	2,438,216	2,063	3,036	369,487	3,386
December-22	299,870,855	3,261,422	2,330	4,007	403,052	4,384
January-23	278,357,420	2,706,477	2,158	3,285	374,136	3,638
February-23	258,237,679	2,293,402	2,009	2,766	384,282	3,413
March-23	266,788,089	1,859,643	2,068	2,227	358,586	2,500
April-23	233,110,969	1,337,604	1,811	1,589	323,765	1,858
May-23	220,297,451	524,528	1,706	618	296,099	705
June-23	213,819,639	316,801	1,660	367	296,972	440
Annual	**2,971,827,644**	**18,741,490**	23,066	22,977	339,250	2,139

Table 8: Total Class Load Summary by Customer Types

Table 9 Shows the class Peak demand at the system peak for the both type customers. Non-net meter customers' demand was 544.4 MW at the time of system peak on December 22, 2022 at 6 PM. The corresponding demand for net meter customers was 6.7 MW. Similar to residential customer class, at the system peak, average monthly demands for the net meter customers are lower than the non-net meter customers during the summer months and higher during the winter months. Coincidence factors are more than 80% for all 12 months for the non-net meter

customers. Net meter customers have a high coincidence factor during winter months but during the summer the coincidence factors are significantly lower.

Date of System Peak	Time of System Peak	Non Net Meters Peak Demand (kW)	Net Meters Peak Demand (kW)	Non Net Meters Avg. Demand (kW)	Net Meters Avg. Demand (kW)	Non Net Meters Coincidence Factor	Net Meters Coincidence Factor
Thursday, July 28, 2022	18.00	479,883	901	3.72	1.17	91%	21%
Monday, August 8, 2022	18.00	446,951	1,011	3.47	1.30	87%	25%
Thursday, September 1, 2022	18.00	415,000	1,098	3.22	1.39	91%	31%
Tuesday, October 25, 2022	19.00	352,876	3,442	2.75	4.32	86%	86%
Tuesday, November 29, 2022	18.00	473,755	5,421	3.67	6.75	89%	91%
Thursday, December 22, 2022	18.00	544,413	6,727	4.23	8.26	89%	94%
Monday, January 30, 2023	9.00	530,902	5,074	4.12	6.16	98%	90%
Friday, February 24, 2023	8.00	511,086	5,986	3.98	7.22	95%	100%
Wednesday, March 1, 2023	8.00	473,442	5,310	3.67	6.36	93%	100%
Monday, April 3, 2023	9.00	435,192	4,224	3.38	5.02	96%	92%
Monday, May 15, 2023	18.00	395,119	862	3.06	1.02	89%	24%
Wednesday, June 7, 2023	19.00	375,359	1,240	2.91	1.44	84%	35%
		544,413	**6,727**	4.23	8.25	89%	94%

Table 9: Class Demand by Customer Types at System Peak

Table 10 shows class peak demand and time for both net meter and non-net meter customers. Non net meter customers' behavior is similar to the whole residential with same class peak date and time. Non net meter customer peak was on December 22, 2022 at 11 AM with 609.9 MW of load which was 99% of the system co-incident total class peak load. Net meter customers' peak was on the same day but at 9 AM with 7.2 MW of net load.

Peak demand per customer for net meter customers is higher than non-net meter customer in all months. The average annual peak demand for net meter customers was 8.83 kW, about 86% higher than the average annual peak demand of 4.74 kW for the non-net meter customers.

	Non Net Meters			Net Meters			
Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)	Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)
Thursday, July 28, 2022	15	527,863	4.09	July 28, 2022	21	4,193	5.46
Monday, August 8, 2022	14	514,073	3.99	August 18, 2022	21	4,046	5.21
Thursday, September 1, 2022	16	454,972	3.53	September 1, 2022	21	3,573	4.53
Monday, October 3, 2022	15	408,413	3.18	October 26, 2022	8	4,001	5.02
Tuesday, November 29, 2022	11	533,117	4.13	November 29, 2022	9	5,937	7.39
Thursday, December 22, 2022	11	609,907	4.74	December 22, 2022	9	7,185	8.83
Monday, January 30, 2023	10	541,446	4.20	January 31, 2023	9	5,632	6.84
Thursday, February 23, 2023	11	536,062	4.17	February 24, 2023	8	5,986	7.22
Wednesday, March 1, 2023	10	510,608	3.96	March 1, 2023	8	5,310	6.36
Monday, April 3, 2023	11	454,309	3.53	April 3, 2023	8	4,571	5.43
Monday, May 15, 2023	15	442,643	3.43	May 15, 2023	21	3,659	4.31
Wednesday, June 7, 2023	15	447,558	3.47	June 12, 2023	22	3,526	4.09
Annual		609,907	4.74	Annual		7,185	8.83

Table 10: Class Peak Demand Summary by Customer Types

Table 11 shows the date and time when the net meter customers' demand is at the minimum indicating when the net meter customers returning maximum energy to the grid. The minimum times are mostly in the afternoon between 1 PM to 3 PM which is expected as this is the time when the sun is often at peak. As expected, the negative demands are higher in the warmer months than in the winter months. The minimum net load was on June 4, 2022 at 2 PM with -7.1

MW of net load with a returned energy of 8 KW. The date and time when the system is at its minimum demand does not coincide with class minimum demand dates.

Date of Class Minimum	Time of Class Minimum	Minimum Demand (kW)	Avg. Minimum Demand (kW)	Date of System Minimum	Time of System Minimum
July 24, 2022	14	(4,799)	(6.25)	July 5, 2022	4
August 28, 2022	14	(4,905)	(6.32)	August 28, 2022	5
September 5, 2022	14	(4,911)	(6.23)	September 25, 2022	4
October 2, 2022	13	(3,706)	(4.65)	October 9, 2022	4
November 12, 2022	13	(1,405)	(1.75)	November 5, 2022	3
December 16, 2022	13	1,468	1.80	December 26, 2022	4
January 29, 2023	13	(1,779)	(2.16)	January 14, 2023	4
February 24, 2023	13	(2,749)	(3.32)	February 10, 2023	3
March 18, 2023	14	(4,951)	(5.93)	March 20, 2023	3
April 29, 2023	14	(6,046)	(7.18)	April 30, 2023	4
May 27, 2023	15	(5,863)	(6.91)	May 28, 2023	4
June 4, 2023	14	(7,060)	(8.18)	June 11, 2023	4
Annual		(7,060)	(8.18)		

Table 11: Minimum Demand for Net Meter Customers

2.3 Medium General Service Class – Commercial (Schedule 11 & 25)

For Medium General Service class, load profiles are estimated for the commercial customers only. As **Table 1** shows, for medium general service industrial customers there were only 2 locations with net meters, hence not used for estimating separate net meter load profiles. The commercial class had 52 net meters which were used to estimate separate profiles for net and non-net meter customers. This section discuss load summary characteristics of the net-meter and non-net meter customers for this rate class.

Figure presents the hourly load profile for the non-net meter Schedule 25 – *Commercial* customers. The figure displays the EnergyPrint to the left of a more standard two-dimensional x-y plot. The vertical form of the EnergyPrint displays time on the x-axis, day of the year on the y-axis and the magnitude of the load on the z-axis. The magnitude of load is displayed as a color gradient with low levels of load in the black-blue spectrum and high levels of load in the yellow-white spectrum. Since majority of the Schedule 11 & 25 customers are commercial customers (>96%), non-net meter commercial 11 & 25 profile is very similar to the total class load with the dominance of the winter load with peaks occurring in the early to late mornings.

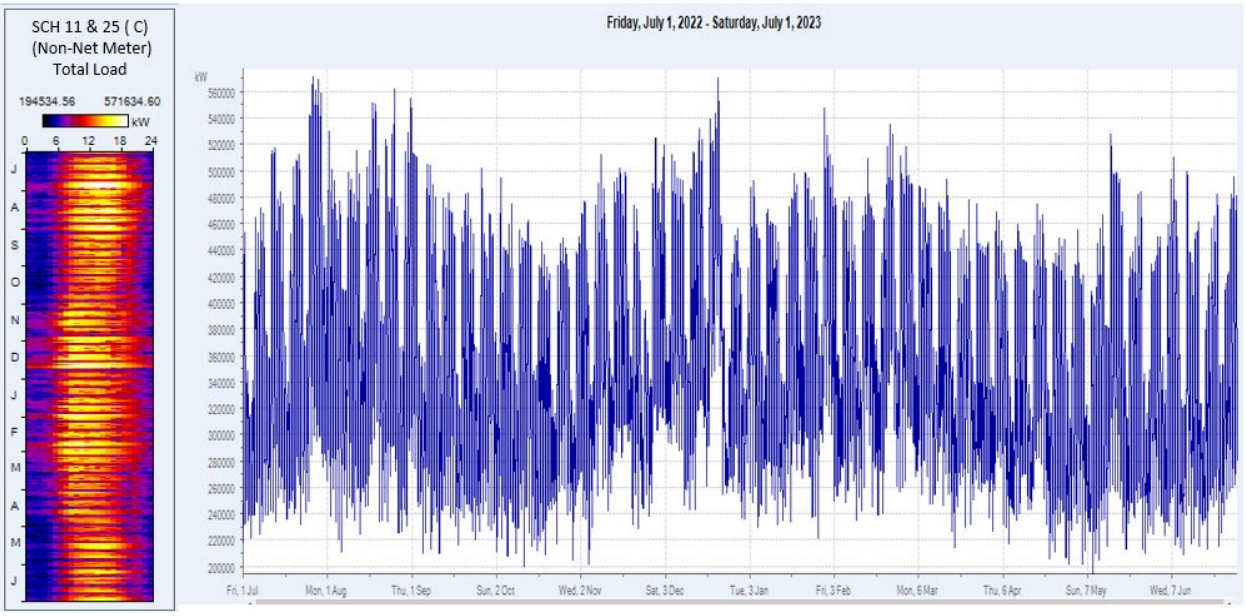

Figure 7: Medium General Service (Commercial) Non Net Meter Total Load

Error! Reference source not found. presents the hourly load profile for the net meter Schedule 25 – *Commercial* customers. The higher negative load during the day time of the summer month indicates higher production for the warmer months.

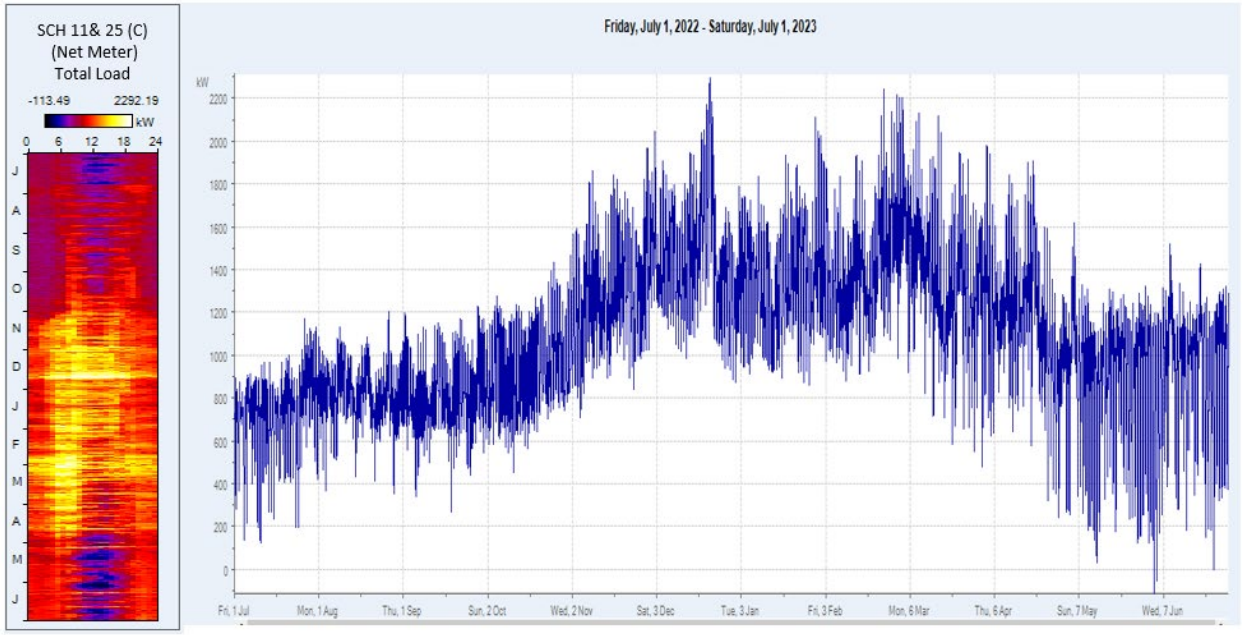

Figure 8: Medium General Service (Commercial) Net Meter Total Load

Table 8 shows the monthly total load, average load and average demand by customer types for schedule 25 commercial class. The total monthly load for net meter customers varies from 537.7 MW in July, 2022 to 1,093 MW in December, 2022. The total monthly load for non-net meter

customers varies from 236,490 MW in April, 2023 to 279,920 MW in December, 2022. The annual average load for a net meter customer is 221 MWH, about 56% of non-net meter customers' average annual load of 397 MWH.

Month	Non Net Meter Monthly Energy Use (kWh)	Net Meter Monthly Energy Use (kWh)	Non Net Meter Avg. Load (kWh)	Net Meter Avg. Load (kWh)	Non Net Meter Avg. Demand (kW)	Net Meter Avg. Demand (kW)
July-22	266,018,093	537,789	34,765	13,445	357,551	723
August-22	276,366,104	606,669	36,159	15,167	371,460	815
September-22	247,426,551	580,126	32,369	14,149	343,648	806
October-22	243,403,532	683,221	31,797	16,267	327,155	918
November-22	258,687,723	923,156	33,718	21,980	359,289	1,282
December-22	279,919,976	1,093,489	36,419	26,035	376,237	1,470
January-23	267,423,112	994,278	34,667	24,251	359,440	1,336
February-23	247,714,609	944,575	31,836	23,038	368,623	1,406
March-23	262,696,530	1,040,609	33,709	23,650	353,087	1,399
April-23	236,490,712	845,211	30,130	17,983	328,459	1,174
May-23	245,727,103	662,461	31,215	13,801	330,278	890
June-23	240,430,600	651,141	30,361	12,522	333,931	904
Annual	**3,072,304,644**	**9,562,722**	396,939	220,678	350,720	1,092

Table 12: Total Load Summary by Customer Types

Table 9 Shows the Peak demand at the system peak for the both type customers. Non-net meter customers' demand was 505.2 MW at the time of system peak, December 22, 2022 at 6 PM. The corresponding demand for net meter customers was 2.2 MW. At the system peak, average monthly demands for the net meter customers are lower than the non-net meter customers. Coincidence factors are more than 85% for all 12 months for the non-net meter customers. Net meter customers have a high coincidence factor during winter months but during the summer the coincidence factors are relatively low.

Date of System Peak	Time of System Peak	Non Net Meters Peak Demand (kW)	Net Meters Peak Demand (kW)	Non Net Meters Avg. Demand (kW)	Net Meters Avg. Demand (kW)	Non Net Meters Coincidence Factor	Net Meters Coincidence Factor
Thursday, July 28, 2022	18.00	528,133	1,069	69.02	26.72	92%	91%
Monday, August 8, 2022	18.00	494,183	1,133	64.66	28.32	88%	94%
Thursday, September 1, 2022	18.00	475,763	1,153	62.24	28.12	93%	94%
Tuesday, October 25, 2022	19.00	385,648	1,039	50.38	24.74	78%	73%
Tuesday, November 29, 2022	18.00	460,785	1,634	60.06	38.90	88%	83%
Thursday, December 22, 2022	18.00	505,166	2,179	65.73	51.87	89%	95%
Monday, January 30, 2023	9.00	546,976	1,780	70.91	43.41	100%	84%
Friday, February 24, 2023	8.00	517,139	2,243	66.46	54.72	97%	100%
Wednesday, March 1, 2023	8.00	498,042	2,216	63.91	50.37	96%	100%
Monday, April 3, 2023	9.00	464,907	1,958	59.23	41.65	98%	99%
Monday, May 15, 2023	18.00	467,307	1,047	59.36	21.81	89%	65%
Wednesday, June 7, 2023	19.00	440,124	1,009	55.58	19.40	86%	67%
		505,166	**2,179**	65.27	50.28	88%	95%

Table 13: Class Demand by Customer Types at System Peak

Table 10 shows class peak demand and time for both net meter and non-net meter customers. Non net meter customer peak was on July 26, 2022 at 2 PM with 571.6 MW of load which was 95% of total peak class load. Net meter customers' peak was on December 22, 2022 and 5 PM with 2.3 MW of net load.

Peak demand per customer for net meter customers is lower than non-net meter customer in all months. The average annual peak demand for net meter customers is 54.72 kW, about 26% lower than the average annual peak demand of 74.70 kW for the non-net meter customers.

Non Net Meters				Net Meters			
Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)	Date of Class Peak	Time of Class Peak	Peak Demand (kW)	Avg. Peak Demand (kW)
Tuesday, July 26, 2022	14	571,635	74.70	July 26, 2022	21	1,173	29.31
Thursday, August 25, 2022	15	561,432	73.46	August 26, 2022	15	1,201	30.03
Thursday, September 1, 2022	15	513,387	67.16	September 28, 2022	10	1,227	29.93
Monday, October 3, 2022	15	494,024	64.54	October 26, 2022	9	1,431	34.08
Tuesday, November 29, 2022	10	524,647	68.38	November 29, 2022	16	1,968	46.86
Thursday, December 22, 2022	11	570,575	74.24	December 22, 2022	17	2,292	54.58
Monday, January 30, 2023	9	546,976	70.91	January 30, 2023	7	2,111	51.49
Thursday, February 23, 2023	10	535,264	68.79	February 24, 2023	8	2,243	54.72
Wednesday, March 1, 2023	10	517,769	66.44	March 1, 2023	8	2,216	50.37
Tuesday, April 18, 2023	10	474,268	60.42	April 3, 2023	6	1,976	42.05
Monday, May 15, 2023	14	527,816	67.05	May 5, 2023	9	1,615	33.65
Wednesday, June 7, 2023	14	510,243	64.43	June 9, 2023	10	1,517	29.18
Annual		571,635	74.70	Annual		2,292	54.72

Table 14: Class Peak Demand Summary by Customer Types

Table 11 shows the date and time when the net meter customers' demand is at the minimum indicating when the net meter customers returning maximum energy to the grid. The minimum net load was on June 3, 2023 at 1 PM with -113 KW of net load with a returned energy of 546 kW. The date and time when the system is at its minimum demand does not coincide with class minimum demand dates.

Date of Class Minimum	Time of Class Minimum	Minimum Demand (kW)	Avg. Minimum Demand (kW)	Date of System Minimum	Time of System Minimum
July 10, 2022	14	121	3.02	July 5, 2022	4
August 28, 2022	13	355	8.87	August 28, 2022	5
September 18, 2022	14	268	6.53	September 25, 2022	4
October 11, 2022	14	450	10.71	October 9, 2022	4
November 5, 2022	1	711	16.93	November 5, 2022	3
December 31, 2022	24	875	20.83	December 26, 2022	4
January 28, 2023	2	861	21.01	January 14, 2023	4
February 10, 2023	13	878	21.40	February 10, 2023	3
March 29, 2023	15	550	12.50	March 20, 2023	3
April 29, 2023	14	245	5.21	April 30, 2023	4
May 13, 2023	13	33	0.69	May 28, 2023	4
June 3, 2023	13	(113)	(2.18)	June 11, 2023	4
Annual		(113)	(2.18)		

Table 15: Minimum Demand for Net Meter Customers