STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange, Chair **Dan Lipschultz, Commissioner** **Matt Schuerger, Commissioner** **Katie Sieben, Commissioner** **John Tuma, Commissioner**	**In the Matter of Xcel's Residential Time of Use Rate Design Pilot** **Docket No. E002/M-17-775**

COMMENTS OF FRESH ENERGY AND MINNESOTA CENTER FOR ENVIRONMENTAL ADVOCACY

February 5, 2018

Fresh Energy and Minnesota Center for Environmental Advocacy (MCEA) submit these comments regarding Xcel Energy's Residential Time of Use (TOU) Rate Design Pilot Program proposal filed on November 1, 2017 in this docket.[1] We recommend that the Commission approve the pilot with two modifications described below.

Overview

Fresh Energy and MCEA greatly appreciate the stakeholder process implemented by Xcel Energy (Xcel), with support from Great Plains Institute and Center for Energy and Environment, ahead of filing its program proposal. The process consisted of extensive stakeholder engagement, information sharing, and detailed discussions around the value of TOU rates generally, the goals of a pilot program, and the priorities of each party in assessing a proposal. In addition, parties were able to inform Xcel about key criteria that needed to be part of the filed proposal. This allowed for significant progress to be made in developing consensus on some issues before the formal docket process started, allowing parties to be better informed about the intent, purpose, and justification for specific aspects of the pilot proposal.

In comments filed in the Alternative Rate Design docket on March 31, 2017, Fresh Energy and MCEA provided strong arguments supporting the advancement of TOU rates for Xcel residential customers.[2] To summarize those comments, TOU rates would likely reduce Xcel's peak demand, result in overall energy savings as demonstrated in other pilots across the

[1] Initial Filing. Xcel Energy. Docket No. E002/M-17-775. Filed November 1, 2017. Here to referred to as "Xcel initial filing."
[2] Comments of Fresh Energy and Minnesota Center for Environmental Advocacy. Docket No. E002/M-15-662. Filed March 31, 2017.

country, drive growth of cost-effective wind generation, and give customers stronger price signals and opportunities to save money and energy.

Fresh Energy and MCEA submit that the pilot program proposed by Xcel Energy meets the criteria outlined in our March 31 comments, incorporates the significant feedback provided in the stakeholder process, and is in the public interest. Furthermore, testing TOU rates in a pilot setting provides a significant opportunity to learn how Xcel residential customers respond to the rate design to fully inform potential rollout of the rate across the residential customer class. Therefore, we recommend that the Commission approve Xcel's TOU Rate Design Pilot Program.

We also request that the Commission make two modifications to the pilot that will optimize the value of the program moving forward. As discussed below, we recommend that the Commission change the on-peak period from Xcel's proposed 3-8pm to 2-6pm, and that net-metered customers be allowed to participate in the program if they choose.

Peak period duration

According to Attachment E of Xcel's petition in this docket, Xcel determined the duration and timing of its on-peak period using its forecast for the average weekday load in July 2024. This approach is inappropriate for at least four reasons: first, the periods should be set according to peak days and hours, rather than average days; second, historical and near-term forecast years should be given more weight than forecasts for years beyond the pilot period; third, if average weekday consumption is considered, it should include both July and August; and fourth, Xcel's proposed peak could inadvertently increase its Midcontinent Independent System Operator (MISO) resource adequacy requirements.

Overall, the hourly load data are clear and consistent: using either average or peak days, forecasted or actual historical data, Xcel's proposed peak period of 3-8pm is both too long and falls too late in the day. We recommend a peak period of 2-6pm. This period more accurately reflects Xcel's actual system peak and will make it easier for customers to respond to the rate design, which will both enhance customer satisfaction and increase the reduction in peak demand.

Peak days and hours

Rather than using average summer days to set the peak period, as Xcel did, it is more appropriate to set the peak period using peak days and hours. Because electricity storage has not yet been deployed at scale, utilities must match electricity supply and demand in real time throughout the year. This means the grid must be sized to meet maximum demand, even if those usage levels only occur a few hours a year. The result is an over-built, inefficient system,

where peaking plants may run just a handful of hours a year. Setting the peak periods according to annual peak demand will be more effective at reducing system peaks, thereby maximizing long-term cost savings for customers.

Figure 1: Xcel annual peak days, 2012-2016[3]

Hour Ending	7/2/2012	8/26/2013	7/21/2014	8/14/2015	7/20/2016	Average
1	0.627	0.659	0.618	0.632	0.628	0.633
2	0.593	0.631	0.589	0.596	0.593	0.600
3	0.575	0.613	0.565	0.568	0.572	0.579
4	0.562	0.605	0.558	0.554	0.560	0.568
5	0.564	0.608	0.569	0.561	0.566	0.574
6	0.593	0.645	0.608	0.604	0.605	0.611
7	0.650	0.710	0.671	0.663	0.667	0.672
8	0.726	0.758	0.731	0.717	0.727	0.732
9	0.782	0.800	0.775	0.767	0.764	0.778
10	0.832	0.839	0.821	0.818	0.800	0.822
11	0.881	0.880	0.869	0.866	0.844	0.868
12	0.921	0.921	0.905	0.907	0.880	0.907
13	0.947	0.950	0.945	0.942	0.915	0.940
14	0.969	0.974	0.975	0.970	0.954	0.969
15	0.987	0.992	0.997	0.989	0.980	0.989
16	0.999	0.997	0.996	1.000	0.999	0.998
17	1.000	1.000	1.000	1.000	1.000	1.000
18	0.984	0.989	0.984	0.985	0.989	0.986
19	0.954	0.966	0.964	0.953	0.968	0.961
20	0.926	0.941	0.940	0.917	0.944	0.934
21	0.899	0.932	0.914	0.892	0.925	0.912
22	0.887	0.891	0.897	0.863	0.910	0.890
23	0.828	0.815	0.831	0.785	0.847	0.821
24	0.757	0.748	0.759	0.717	0.784	0.753

Figure 1 above displays the hourly demand for each of the last five years (for which hourly data are available). The values are indexed to the peak hour in that year to show how hourly demand changed throughout the day. As the table shows, the two highest usage hours in each of the last five years have occurred between 3pm and 5pm. And in each of these years, the top four highest-demand hours have occurred from 2-6pm. There is also a significant drop-off

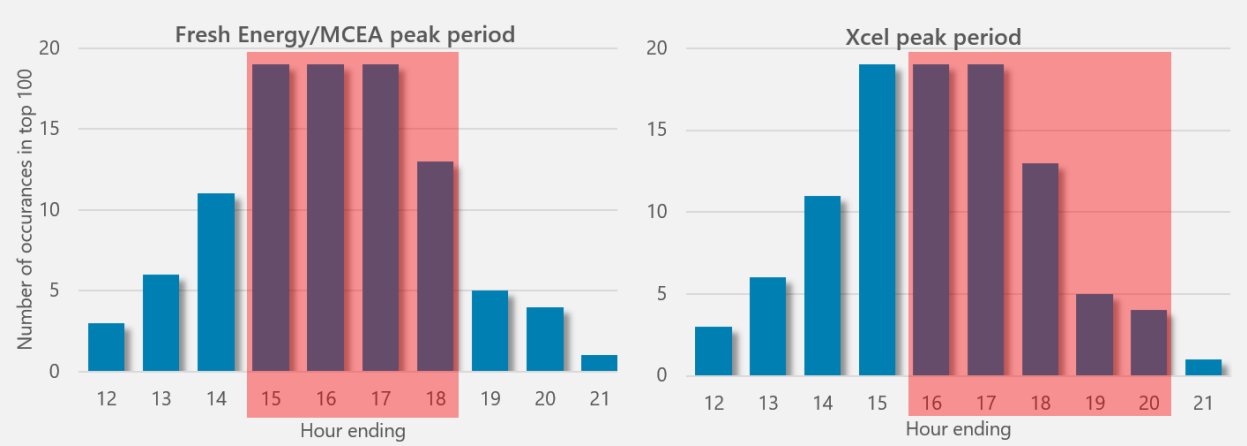
[3] Xcel Response to Fresh Energy & MCEA Information Request No. 1. Received November 16, 2017.

between the peak hours (2-6pm) and the next closest hours (1-2pm and 6-7pm). It is also worth noting that the "drop-off" between the peak and shoulder hours is larger here than in the data Xcel used to justify its peak period.[4] The historical peak data strongly suggest that Xcel's proposed peak period of 3pm-8pm is both too late and too long: it excludes the higher-usage hour of 2-3pm and includes the lower-usage hours of 6-8pm.

As shown in Figure A-1 in the Appendix, Xcel's net forecasts follow the same pattern. While there is more variability in the forecasted peaks—especially in the out years—the average over the forecasted period follows the same pattern: the peak hours fall between 2-6pm, and there is a significant drop-off in the "shoulder" hours. And, as with historical peak days, Xcel's proposed peak period swaps out a higher-usage hour (2-3pm) for two lower-usage hours (6-8pm). In short, whether for forecast or historical peak days, Fresh Energy and MCEA's recommended peak period of 2-6pm matches Xcel's actual peak demand much more closely than Xcel's recommendation of 3-8pm.

In addition to peak days, it is also instructive to look at where the peak hours of the year fall relative to the peak periods. Figure 2 below shows the distribution of Xcel's 100 highest-usage hours in 2012-2016. Of the top 100 hours over the last five years, 70 of them would have fallen in our recommended peak period; by contrast, only 60 of the top 100 hours would have fallen within Xcel's proposed peak. In other words, even though Xcel's peak period is 20% longer than our recommended peak period, a peak period of 2-6pm captures more of the historical peak hours.

Figure 2: Distribution of Xcel's top 100 hours from 2012-2016[5]



In addition, as shown in Figures A-2 through A-4 in the Appendix, the same pattern holds whether you include the top 100 or 500 hours, or if you consider historical or forecasted (net) peak hours: our recommended peak period captures the four highest-usage hours, while

[4] *Compare to*: Xcel initial filing, Attachment E, page 6 of 8.
[5] Xcel Response to Fresh Energy & MCEA Information Request No. 1. Received November 16, 2017.

Xcel's proposed period swaps out a higher-usage hour (2-3pm) for two lower-usage hours (6-8pm). As with peak days, our recommended peak period matches the actual peak hours more closely than Xcel's recommendation.

Historical vs. forecasted data

According to the timeline laid out by Xcel, the pilot would run from approximately Q1 2020 through Q4 2021.[6] Yet, to determine its peak period, Xcel used its forecast for the year 2024. As Xcel explained in its petition, "this time period was used to more closely represent the conditions expected when it may be feasible to extend pilot results into an optional or default rate for all residential customers."[7] Xcel also based its period on "net" load—i.e. gross load minus renewable generation—to account for the significant amount of renewable generation Xcel plans to add over the next decade.

Xcel's approach introduces uncertainty into the peak period selection process. As the aphorism goes: it's difficult to make predictions, especially about the future. By their nature, the reliability of forecasts decreases the farther out they extend. And forecasting in today's energy sector is especially daunting: energy efficiency and conservation are eroding utility sales; customer-owned generation is expanding; utility scale wind is proliferating, due to its extraordinarily low levelized cost of energy, and utility scale solar likely also has a lower levelized cost than new fossil fuel resources in Minnesota; battery storage costs are falling dramatically to the point where grid-scale battery storage will soon be cost-effective; and, new sectors—such as transportation and space- and water-heating—will become increasingly electrified in the coming decades.

Generally, we agree with Xcel that it is appropriate to set TOU periods with any eye towards renewable generation. Xcel plans to add a considerable amount of renewable generation over the coming decades, and TOU rates can help integrate these renewables as cost-effectively as possible. However, there is simply too much uncertainty to rely as heavily on a 2024 net forecast as Xcel did. Xcel will certainly add considerable solar generation—likely even more than included in its forecast—but it remains to be seen what percentage of this generation will be fixed-tilt and what percentage will have tracking systems. Similarly, increased wind turbine hub heights and rotor diameters will not only increase capacity factors but may also change generation profiles. Furthermore, the proliferation of LED lighting, more efficient appliances and home entertainment systems, and greater electrification of transportation and space- and water-heating will likely change residential load shapes. Each of these factors has the potential to significantly alter Xcel's net load shape.

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[6] Xcel initial filing, page 35.
[7] Xcel initial filing, Attachment E, page 5 of 8.

Given this uncertainty, the design of peak periods for the pilot should give more weight to historical data and near-term forecasts. We acknowledge that the appropriate peak period will likely need to be re-evaluated before the pilot is expanded to include all customers. But Xcel will be in a much better position to predict 2024 net load shapes in 2022 than it was in 2017.

Average summer days

As explained above, it is more appropriate to use peak days than averages to set the peak period. However, if average weekdays are used, it is more reasonable to include both July and August in the averages. Historically, July and August have been Xcel's two highest-sales months of the year (by a considerable margin), and Table 1 above shows that two of Xcel's last five annual peaks (and 10 of the last 20 highest-usage hours) have occurred in August.

Figure 3 below shows the average weekday demand for July and August over the last five years. As with peak days and hours, Xcel's peak period is not justified by the historical data. In fact, the historical average days suggest an optimal peak period of 2-5pm. As displayed in Figure A-5 in the Appendix, the net forecasts project a slightly later peak. Overall, however, the average of the forecasts follows the same pattern as the historical average: the four highest-usage hours are from 2-6pm, and Xcel's proposed period (3-8pm) exchanges a higher-usage hour for two lower-usage hours.

Figure 3: Average weekday demand, July and August[8]

Hour Ending	2012	2013	2014	2015	2016	Average
1	0.688	0.692	0.699	0.688	0.684	0.690
2	0.651	0.656	0.664	0.652	0.647	0.654
3	0.626	0.633	0.643	0.630	0.624	0.631
4	0.612	0.622	0.633	0.620	0.614	0.620
5	0.617	0.629	0.643	0.630	0.622	0.628
6	0.654	0.667	0.686	0.673	0.662	0.669
7	0.711	0.730	0.754	0.743	0.725	0.733
8	0.771	0.793	0.818	0.808	0.786	0.795
9	0.821	0.840	0.864	0.855	0.833	0.843
10	0.862	0.878	0.898	0.892	0.871	0.880
11	0.901	0.916	0.934	0.927	0.908	0.917
12	0.931	0.946	0.957	0.951	0.936	0.944
13	0.956	0.966	0.973	0.970	0.959	0.965
14	0.979	0.985	0.990	0.987	0.981	0.984

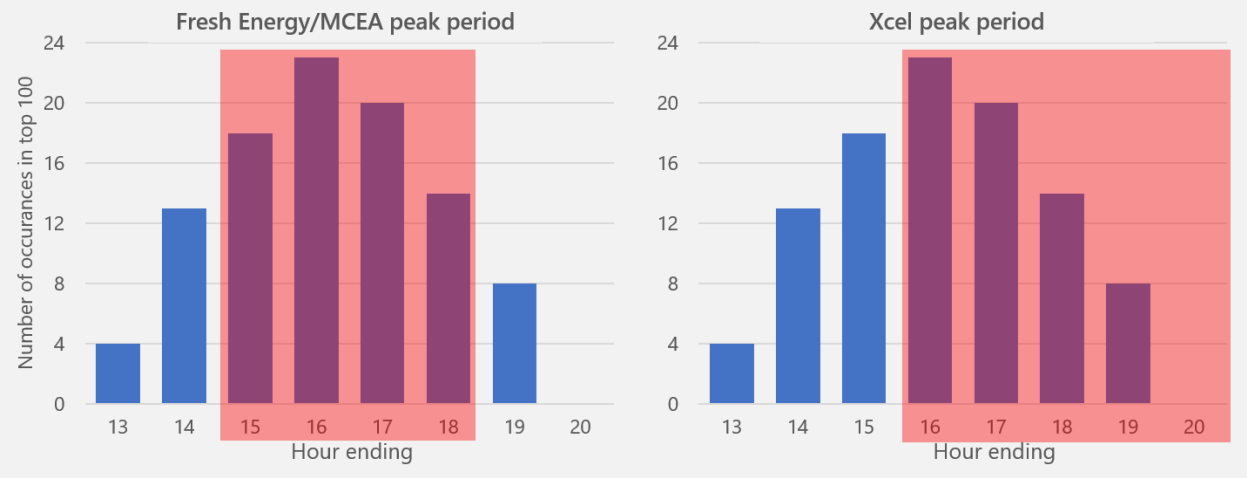
[8] Xcel Response to Fresh Energy & MCEA Information Request No. 1. Received November 16, 2017.

15	0.992	0.995	0.997	0.996	0.994	0.995
16	1.000	1.000	1.000	1.000	1.000	1.000
17	1.000	1.000	0.997	1.000	0.999	0.999
18	0.985	0.988	0.984	0.992	0.987	0.987
19	0.954	0.960	0.956	0.966	0.958	0.959
20	0.923	0.929	0.926	0.937	0.927	0.928
21	0.900	0.908	0.908	0.916	0.900	0.907
22	0.878	0.886	0.889	0.892	0.872	0.883
23	0.811	0.815	0.818	0.817	0.803	0.813
24	0.740	0.743	0.750	0.747	0.736	0.743

MISO system peak

While the peak period should be set with primarily Xcel's system peak in mind, the Commission should also consider the impact the peak period will have on Xcel's resource adequacy requirements. Xcel's MISO resource adequacy requirements are set according to Xcel's load at the time of *MISO's* system peak, not Xcel's peak. Figure 4 below shows the distribution of MISO's 100 highest-usage hours over the past four years. In three of the last five years, MISO's system peak has occurred between 3-4pm, which falls within both of our recommended peak periods. However, Xcel's peak period begins at 3pm, which incentivizes customers to shift load into the 2-3pm hour. In each year from 2014-2016, MISO's second highest usage hour occurred from 2-3pm, meaning it is entirely possible that MISO's system peak hour could fall between 2pm and 3pm in a future year. If Xcel's TOU program results in increased load from 2-3pm and MISO's system peaks during that period, Xcel's TOU pilot could paradoxically *increase* Xcel's resource adequacy requirements.

Figure 4: Distribution of MISO's top 100 hours from 2014-2017[9]



[9] MISO Market reports. "Historical Daily Forecast and Actual Load by Local Resource Zone." Link here.

Conclusion

In conclusion, the data are remarkably consistent: whether considering peak days, peak hours, or average summer days, and whether using forecasts or historical data, the four highest-usage hours on Xcel's system are 2-6pm. Xcel's proposed peak period is later in the day and longer than justified by the data. Furthermore, Xcel developed its peak period based on a forecast of net demand in 2024 (three years after the pilot ends), and, given the state of flux in the electricity sector, it is not reasonable to give such weight to so distant a forecast. Finally, as Xcel acknowledges, shortening the peak period makes it easier for customers to respond to TOU price signals, which will both increase the reduction in peak and enhance customer satisfaction.[10]

Treatment of net-metered customers

In its filing, Xcel proposes to exclude "certain customers, even those present in the targeted pilot areas, due to the additional complexity of serving them in the treatment group."[11] Included in the group of "ineligible customers" are those customers that receive "net metering service" but do not participate in Xcel's Solar*Rewards programs.[12] Xcel submits that "the additional complexity" for including net-metered customers "is based on limitations to [Xcel's] current system capabilities as well as the incompatibility of existing rate designs with the TOU pilot structure."[13]

Fresh Energy and MCEA submit that Xcel has not sufficiently explained why including net-metered customers in the pilot would create any "additional complexity" that Xcel cannot resolve.[14] Notably, Xcel includes net-metered customers in the TOU pilot currently operating in Colorado.[15] Thus, Xcel already has experience regarding how to include net-metered customers in the pilot and has failed to provide any specific differences in Minnesota that would make the inclusion of net-metered customers impracticable.

In addition, Xcel will miss out on "valuable learnings" if it excludes net-metered customers from the pilot.[16] First, from a resource perspective, net-metered customers often provide energy to the grid during on-peak or mid-peak periods. Thus, the pilot foregoes assessing how compensation should work for net-metered customers depending on when the customer

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[10] Xcel initial filing, pages 21 and 22.
[11] *Id*. Page 18.
[12] *See id*.
[13] *Id*. Page 19.
[14] *See id*.
[15] *See* Non-Unanimous Comprehensive Settlement Agreement. Before the Public Utilities Commission of the State of Colorado. August 15, 2016. Page 26. "Customers who receive service under… (Net Metering), regardless of whether they are participating through Solar*Rewards, will have equivalent treatment to comparable Solar*Rewards customers regarding base rate design."
[16] Xcel initial filing, page 19.

provides energy to the grid. Furthermore, Xcel misses the important opportunity to collect data regarding how TOU rates impact the costs of energy for net-metered customers.

Second, including net-metered customers in the pilot achieves Xcel's stated goal of learning "about the effectiveness of price signals at encouraging customers to shift energy usage," understanding "how customers respond to information, tools, messages, and price signals," and considering a variety of "market segments" including "seniors, segments by household income, EV ownership, and the general population."[17] Net-metered customers are an important market segment, particularly considering that TOU rates could influence how projects are structured and compensated. Since net-metered customers do not have permanent contracts for their rate structures, the pilot presents an opportunity for Xcel to engage net-metered customers about TOU rates and how such rates may, or may not, affect the solar market.[18] Importantly, net-metered customers can always opt-out if they prefer to stay with their existing contracts.

Third, including net-metered customers as "eligible customers" in the pilot ensures Xcel is fully transparent about how TOU rates could change the incentive structure for onsite generation. One of Xcel's stated goals for the pilot is to facilitate "customer trust with both the new rates and the new meters."[19] With an opt-out system, Xcel would engage net-metered customers with several communications about TOU rates. Thus, even if net-metered customers opt-out, inclusion in the pilot means net-metered customers will be aware of TOU rates and, likely, how a TOU structure could affect their compensation.

For these reasons, Fresh Energy and MCEA recommend that net-metered customers be included as eligible customers in the pilot. If Xcel insists that net-metered customers be excluded from the pilot, we respectfully request that in reply comments Xcel provide a detailed explanation for why it is impracticable to include net-metered customers in this pilot while its current pilot in Colorado allows net-metered customers to participate.

Recommendations

Fresh Energy and MCEA recommend that the Commission approve Xcel Energy's Residential TOU Rate Design Pilot Program proposal with the following modifications:

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[17] *Id.* Pages 14-15.
[18] It is worth noting that it is not a foregone conclusion that TOU rates would benefit net-metered customers, as this question depends on numerous factors specific to a customer's installation. This underscores the value of using this pilot to learn how TOU rates would affect net-metered systems.
[19] Xcel initial filing, page 32.

- Change the on-peak period from 3-8pm to 2-6pm, with appropriate changes to the mid-peak periods and no changes to the off-peak period, and adjust rates accordingly to maintain the same ratio between on-peak, mid-peak, and off-peak periods.
- Allow net-metered customers to be eligible customers in the pilot.

Should the Commission choose to test two different peak periods in this pilot, Fresh Energy and MCEA would not oppose dividing the current treatment group into two groups to test Xcel's proposed on-peak period and Fresh Energy and MCEA's recommended on-peak period.

We appreciate the opportunity to file comments in this docket and reiterate our appreciation to Xcel Energy and other stakeholders that have convened and participated in this process. Please contact us with any questions at the information below.

Sincerely,

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APPENDIX[20]

Figure A-1: Xcel's forecast (net) peak days, 2017-2024

Hour Ending	7/26/2017	7/26/2018	7/25/2019	7/30/2020	7/29/2021	7/18/2022	6/8/2023	7/25/2024	Average
1	0.539	0.534	0.587	0.613	0.590	0.563	0.574	0.546	0.568
2	0.487	0.483	0.561	0.578	0.548	0.501	0.522	0.519	0.525
3	0.456	0.452	0.542	0.544	0.526	0.453	0.485	0.498	0.494
4	0.440	0.436	0.534	0.542	0.505	0.475	0.468	0.498	0.487
5	0.448	0.445	0.554	0.545	0.497	0.518	0.481	0.521	0.501
6	0.497	0.492	0.593	0.577	0.534	0.572	0.517	0.579	0.545
7	0.585	0.578	0.641	0.622	0.603	0.623	0.622	0.620	0.612
8	0.683	0.668	0.700	0.696	0.671	0.700	0.708	0.674	0.687
9	0.760	0.746	0.766	0.770	0.729	0.763	0.770	0.747	0.756
10	0.813	0.805	0.824	0.817	0.775	0.851	0.749	0.808	0.805
11	0.866	0.859	0.871	0.891	0.831	0.928	0.802	0.853	0.863
12	0.904	0.894	0.915	0.916	0.863	0.959	0.878	0.902	0.904
13	0.949	0.947	0.944	0.945	0.892	0.979	0.904	0.930	0.936
14	0.957	0.949	0.958	0.970	0.934	1.000	0.964	0.934	0.958
15	0.969	0.960	0.983	1.000	0.955	0.999	0.993	0.964	0.978
16	0.988	0.991	0.998	0.991	0.974	1.000	1.000	0.975	0.990
17	1.000	1.000	1.000	0.990	1.000	0.985	0.984	0.981	0.993
18	0.984	0.980	0.986	0.998	0.997	0.987	0.992	0.973	0.987
19	0.958	0.953	0.994	0.965	0.968	0.965	0.931	1.000	0.967
20	0.911	0.917	0.950	0.926	0.956	0.960	0.921	0.952	0.937
21	0.873	0.891	0.920	0.901	0.919	0.911	0.902	0.913	0.904
22	0.832	0.851	0.878	0.856	0.899	0.862	0.850	0.845	0.859
23	0.747	0.766	0.767	0.708	0.824	0.739	0.811	0.707	0.759
24	0.651	0.656	0.633	0.561	0.710	0.614	0.692	0.551	0.633

[20] Source for all charts in this Appendix is Xcel Response to Fresh Energy & MCEA Information Request No. 1. Received November 16, 2017.

Figure A-2: Xcel's historical top 500 hours, 2012-2016

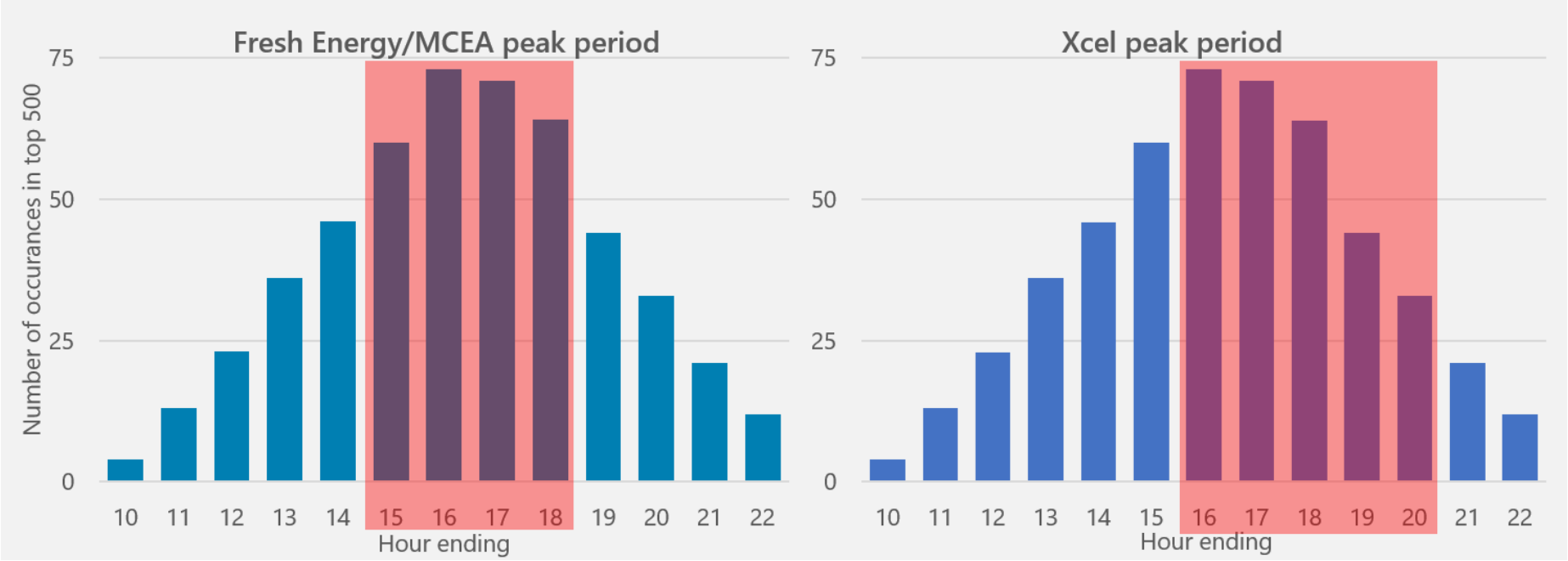

Figure A-3: Xcel's forecasted (net) top 100 hours, 2017-2024

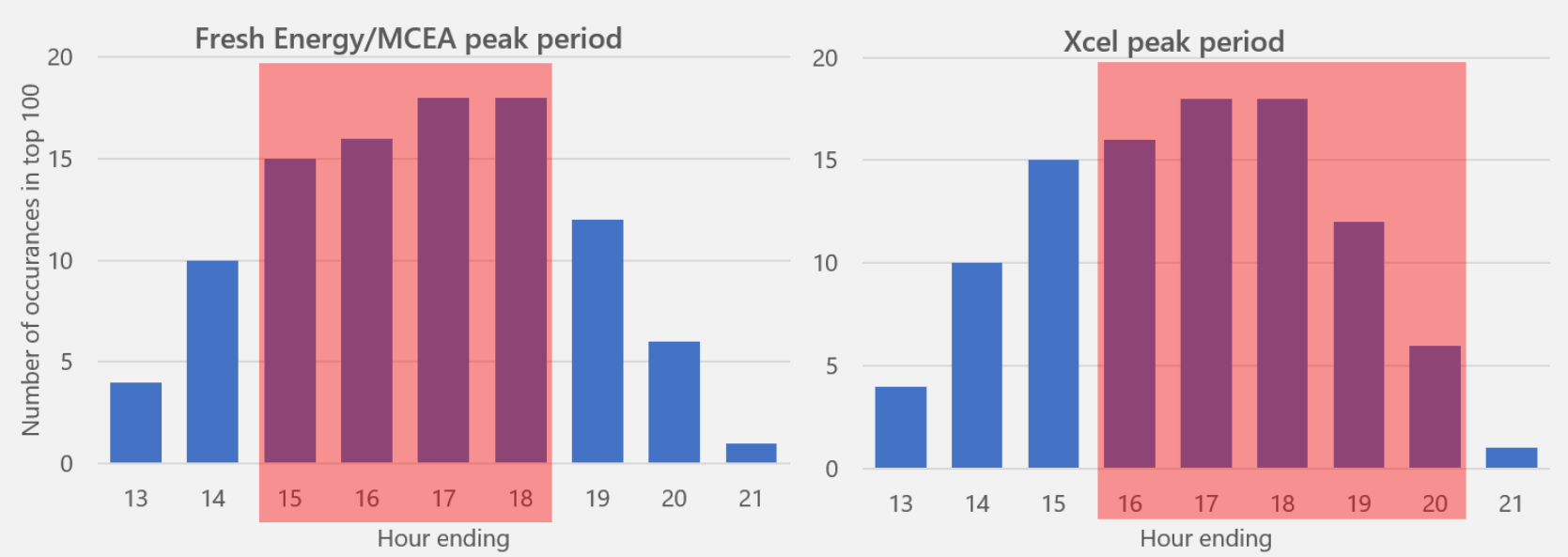

Figure A-4: Xcel's forecasted (net) top 500 hours, 2017-2024

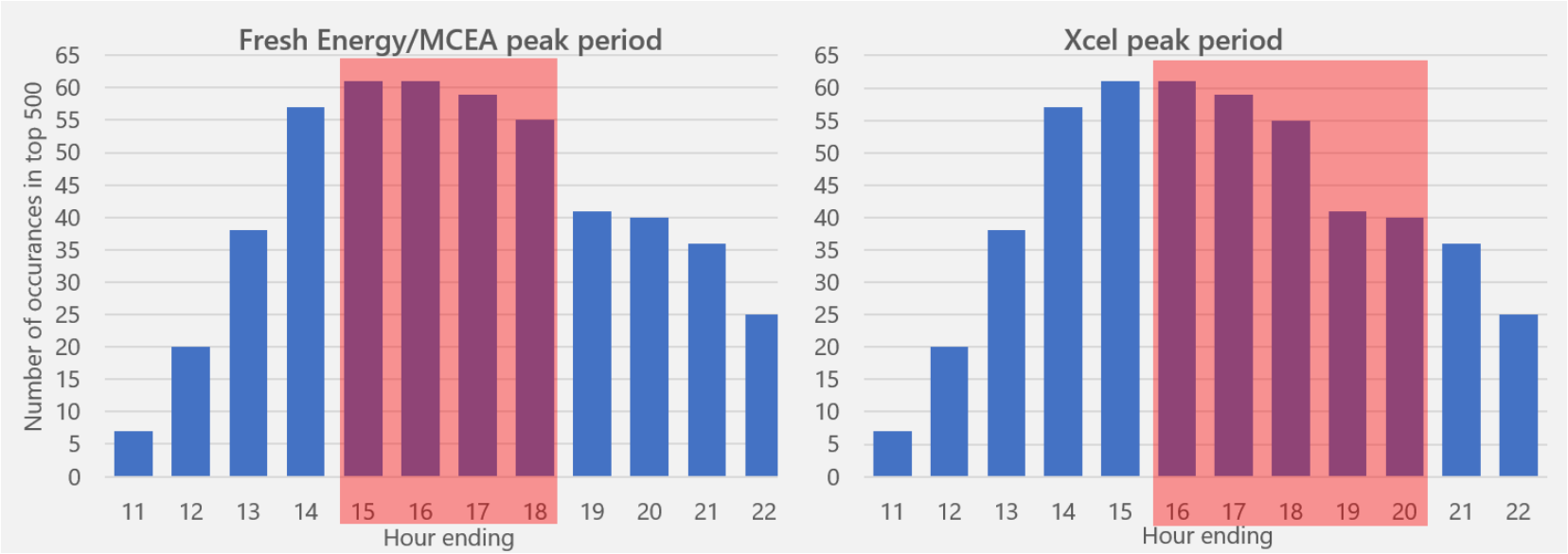

Figure A-5, Xcel's forecast (net) average weekday demand, July and August

Hour Ending	2017	2018	2019	2020	2021	2022	2023	2024	Average
1	0.640	0.670	0.670	0.635	0.623	0.596	0.601	0.617	0.631
2	0.604	0.636	0.637	0.594	0.586	0.560	0.563	0.585	0.596
3	0.583	0.615	0.620	0.582	0.571	0.547	0.547	0.571	0.579
4	0.574	0.606	0.612	0.575	0.563	0.545	0.541	0.568	0.573
5	0.586	0.616	0.621	0.583	0.575	0.558	0.559	0.580	0.585
6	0.637	0.663	0.667	0.640	0.631	0.619	0.619	0.636	0.639
7	0.716	0.733	0.733	0.720	0.719	0.707	0.708	0.707	0.718
8	0.787	0.793	0.786	0.788	0.799	0.773	0.769	0.762	0.782
9	0.845	0.843	0.831	0.839	0.851	0.819	0.814	0.807	0.831
10	0.883	0.882	0.867	0.876	0.884	0.855	0.847	0.834	0.866
11	0.929	0.926	0.911	0.921	0.926	0.905	0.897	0.884	0.912
12	0.953	0.951	0.938	0.949	0.948	0.931	0.924	0.912	0.938
13	0.970	0.972	0.962	0.971	0.970	0.957	0.946	0.942	0.961
14	0.985	0.987	0.982	0.992	0.992	0.980	0.964	0.966	0.981
15	0.993	0.996	0.994	0.996	0.995	0.985	0.975	0.983	0.990
16	0.998	0.998	0.997	0.998	0.998	0.989	0.981	0.984	0.993
17	1.000	1.000	1.000	0.999	0.999	0.993	0.986	0.990	0.996
18	0.996	1.000	0.999	1.000	1.000	1.000	1.000	1.000	0.999
19	0.978	0.986	0.981	0.987	0.998	0.996	0.993	0.988	0.988
20	0.947	0.962	0.962	0.964	0.978	0.983	0.979	0.972	0.968
21	0.921	0.944	0.947	0.942	0.954	0.966	0.963	0.954	0.949
22	0.883	0.899	0.907	0.890	0.909	0.918	0.907	0.897	0.901
23	0.790	0.797	0.809	0.777	0.801	0.808	0.784	0.776	0.793
24	0.704	0.706	0.718	0.685	0.707	0.711	0.685	0.671	0.698