Direct Testimony and Schedules
Leah N. Peterson

Before the Minnesota Public Utilities Commission

State of Minnesota

In the Matter of the Application of Minnesota Power
For Authority to Increase Rates for Electric Utility
Service in Minnesota

Docket No. E015/GR-21-335

Exhibit ________

RATE DESIGN

November 1, 2021

TABLE OF CONTENTS

Page

TABLE OF CONTENTS
(Continued)

Page

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Leah N. Peterson, and my business address is 30 West Superior Street, Duluth, Minnesota, 55802.

Q. By whom are you employed and in what position?

A. I am employed by ALLETE, Inc., doing business as Minnesota Power ("Minnesota Power" or the "Company"). I am the Supervisor – Customer Business Analytics.

Q. Please summarize your qualifications and experience.

A. I have a Master of Business Administration and Master of Arts in Business Management from the College of Saint Scholastica. I also have a Bachelor of Science degree with a double major in Business Administration and Management Information Systems from the University of Wisconsin-River Falls. I have been employed by Minnesota Power since 2008. My previous positions at Minnesota Power include Energy Pricing Analyst, Marketing Analyst, and Supervisor – Key Account Analysis. In 2019, I became Supervisor – Customer Business Analytics, and in 2020, my role was expanded to include rate design responsibilities.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support Minnesota Power's rate design for the 2022 test year and proposed rates. My testimony addresses the distribution of increased revenue requirements among the classes of service; the design of the Company's proposed rates for Minnesota Power's retail classes (Residential, General Service, Large Light and Power ("LL&P"), Large Power ("LP"), and Lighting); and billing comparisons reflecting present and proposed rates. I also summarize stakeholder engagement that the Company conducted related to rate design proposals.

Q. How is your testimony organized?

A. My testimony is organized into two sections. The first section focuses on the class cost of service and rate design process. The second section focuses on the Company's proposed rate design and retail rates.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am sponsoring the following schedules to my Direct Testimony:

- MP Exhibit ___ (Peterson), Direct Schedule 1 – Summary of Proposed Rate Increases by Rate Class; and
- MP Exhibit ___ (Peterson), Direct Schedule 2 – AMI Opt-Out.

II. CLASS COST OF SERVICE AND RATE DESIGN PROCESS

Q. What is the purpose of this section of your testimony?

A. In this section of my testimony, I describe the process the Company followed in utilizing the class cost-of-service study ("CCOSS"), revenue apportionment, and other considerations to develop its proposed rate design in this proceeding. CCOSS results are described in more detail in the testimony of the Company witnesses Stewart J. Shimmin and Amanda L. Turner.

A. <u>Data Linkage Between Class Cost of Service and Rate Design</u>

Q. How has Minnesota Power historically addressed and made improvements to its data linkage between the Company's sales forecast, revenue calculations, CCOSS, and rate design?

A. In the Company's 2009 Rate Case, the Minnesota Public Utilities Commission ("Commission") required the Company to continue working with the Minnesota Department of Commerce ("Department") to improve the electronic linkage between its CCOSS, forecasting processes, and revenue models.[1] Minnesota Power addressed this requirement in its 2016 rate case in Docket No. E015/GR-16-664 ("2016 Rate Case")

[1] *In the Matter of the Application of Minn. Power for Auth. to Increase Elec. Serv. Rates in Minn.,* Docket No. E015/GR-09-1151, FINDINGS OF FACT, CONCLUSION, AND ORDER at 45 (Nov. 2, 2010).

by describing the use of econometric modeling in its long-term Advance Forecast Report ("AFR") to inform the test year sales budget for the number of customers and billing units for total revenue classes (e.g., commercial, residential, etc.). The Company also discussed its process for determining the number of customers and billing units on particular rates within each revenue class, which ultimately results in the budgeted revenue by rate schedule.[2] The budgeted revenues by individual rate schedule are then totaled to provide revenue by rate class. Finally, the budget information is input into the CCOSS, and Minnesota Power goes through a rigorous verification process to ensure its test year budgeted sales revenues and CCOSS present rate revenues by rate class match. I discuss the electronic linkage improvements in additional detail below.

Q. Please describe the electronic linkage between CCOSS, forecasting process, and revenue models in this rate case.

A. Minnesota Power's test year projection for number of customers and billing units by revenue class (e.g., commercial, residential, etc.) are developed using two key sources: 1) the econometric forecasts from the 2021 AFR,[3] and 2) projections of individual usage by customer for large industrial and municipal customers. Volume 3, Direct Schedule E-2 includes Minnesota Power's frequency distribution that is then applied to the test year budget to determine the number of customers and billing units on particular rates within each revenue class, which, in turn, determines budget revenue by rate. The revenue by rate is then totaled to provide revenue by rate class. Direct Schedules E-1 and E-2 in Volume 3 (in particular, Direct Schedule E-2) demonstrate this process. Direct Schedule E-2 contains detailed inputs and overview pages outlining the steps in the process of converting the test year budget numbers into budgeted revenue by rate. The 2022 unadjusted budget is then input into the CCOSS. Minnesota Power conducts a rigorous verification process to ensure that the Direct Schedule E-1 and CCOSS present rate revenues by class match.

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[2] *In the Matter of the Application of Minn. Power for Auth. to Increase Elec. Serv. Rates in Minn.*, Docket No. E015/GR-16-664, DIRECT TESTIMONY OF MARCIA A. PODRATZ at 52-53 (Nov. 2, 2016).

[3] *In the Matter of Minn. Power's 2021 Annual Elec. Util. Forecast Report,* Docket No. E999/PR-21-11, MINN. POWER'S 2021 ANNUAL ELEC. UTIL. FORECAST REPORT (June 29, 2021).

Q. How does Minnesota Power integrate its sales forecast and revenue calculations with its financial schedules, rate design information, and CCOSS?

A. Volume 3, Direct Schedule E-1 and Volume 3, Direct Schedule E-2 are created using a single electronic spreadsheet file that includes numerous supporting pages containing detailed Company budget information, such as monthly billing units and rates for each rate class and individually budgeted customers. The electronic versions of both of these schedules contain multiple linked spreadsheet tabs with Excel formulas that perform the calculations, rather than having values such as present rate revenues entered from the Company budget.

Q. How were the CCOSS results and test year billing units utilized to develop proposed General Rates?

A. The results of the CCOSS are shown in Volume 3, Direct Schedule E-3. These revenue requirements and the associated customer class billing units from Volume 3, Direct Schedule E-1 were used to determine proposed unit costs for customer, energy, and demand components. Minnesota Power considered other factors — such as existing rate design, rate stability, and overall customer billing impacts — in determining the proposed rate changes.

B. <u>Class Cost of Service Study, Rate Design Process, and Class Revenue Requirements</u>

Q. Please briefly describe the CCOSS results.

A. Company witnesses Mr. Shimmin and Ms. Turner describe the Company's development of its fully allocated CCOSS and the results of that study. As summarized in Volume 3, Direct Schedule E-3, Part 1, the CCOSS results indicate an increase across customer classes that varies from 5.92 percent to 51.69 percent to collect the full cost of service. Table 1, below summarizes those results by customer class.

Table 1. Class Cost of Service Study Results to be at Cost

Rate Class	(%) Requested Revenue Change to be at Cost
Residential	51.69%
General Service	14.12%
Large Light & Power	18.00%
Large Power	5.92%
Lighting	13.66%
Total Retail	**17.58%**

Q. What is Minnesota Power's 2022 test year revenue deficiency for final General Rates?

A. Volume 3, Direct Schedule E-3 summarizes Minnesota Power's proposed General Rate revenue deficiency for the test year. The revenue deficiency is $108,314,136 MN Jurisdictional, indicating that a 17.58 percent overall rate increase for MN Jurisdictional customers is required.[4]

Q. Please briefly describe how the Company's proposed Dual Fuel changes were a factor in rate design for retail customer classes.

A. Dual Fuel is an interruptible discount rate designed primarily for electric heating, which requires a backup heating system and a separate meter that can be controlled by Minnesota Power. In exchange for a discounted rate, from standard Residential, customers agree to be interrupted, which typically occurs when demand on the electric system is high. Minnesota Power is recommending changes to the Dual Fuel rate and program design in response to customer feedback. As a result, the Dual Fuel program is of particular benefit to encourage beneficial electrification while managing usage during periods of high demand for electricity. Minnesota Power is responding by providing options to customers and by making the rates more competitive with other fuel sources. The Dual Fuel recommendation affected the overall proposed revenue

[4] A summary of allocation factors used across the Company for purposes of calculating the Minnesota Jurisdictional totals is provided in Volume 3, Direct Schedules B-16 to B-19 and C-13 to C-16.

apportionment for all other customer classes so there would be a tie to total revenue requirements. The Dual Fuel recommendation is described further in Section III.C below.

Q. Please explain Minnesota Power's overall approach to rate design in this proceeding.

A. Typically, Minnesota Power attempts to follow the CCOSS results to align rates with the CCOSS. However, as shown in Table 1 above, strict adherence to the CCOSS would require a 51.69 percent increase for the Residential customer class. An increase of this magnitude could have an adverse impact on the Residential customer class. With this in mind, the Company considered the magnitude of the overall MN Jurisdictional rate increase indicated by the CCOSS and determined that an equal percentage increase across all customer classes was a more reasonable proposal at this time. The total retail rate class percentage to be at cost was 17.58 percent. However, a decrease to Dual Fuel rates, which are determined outside the CCOSS, is necessary to increase competitiveness with alternative fuels. In addition, Minnesota Power also made an adjustment related to demand response that was necessary to account for recently approved and proposed changes to LP Demand Response ("DR"). Therefore, the Company is proposing an equal increase adjustment of 18.22 percent across all General Rates for sales by rate class.

Q. Are there any other factors that Minnesota Power considers during rate design?

A. Yes, there are several. Minnesota Power seeks to incentivize customers to utilize energy in a manner that supports State of Minnesota energy policy goals. This includes providing customers actionable energy price signals and allowing customers to make informed choices about their energy usage. Supporting flexible customer energy usage through price signals will allow the grid to accommodate the increasing amounts of variable renewable generation and the electrification of certain loads, both of which are necessary to advance Minnesota energy policy goals of energy conservation, carbon emissions reduction, environmental protection, renewable energy production, and the cost-effective alignment of generation and load. The Company is cognizant of State energy policy, and our proposed rate design considers each of these factors while striving to offer reasonable rates for each customer class. The Company also tries to provide competitive rates for large, high load factor, industrial customers that compete in challenging global markets and constitute a significant portion of both Minnesota Power's energy sales and the regional economy.[5] Company witness Jennifer J. Cady provides additional discussion on Minnesota's energy policy goals and how the Company is achieving them in her Direct Testimony.

Q. Does the Company have any other rate design proposals you wish to highlight?

A. Yes. Renewable generation now accounts for over 50 percent of Minnesota Power's portfolio. The Company's energy mix, as captured in the Company's *Energy**Forward*** strategy, has included idling several baseload-generating stations and serving customer requirements from a combination of Minnesota Power's remaining generating stations, increased renewable energy, and market purchases. Underpinning this transformation is an increasing reliance on the power delivery system for energy supply as baseload generating stations are retired or remissioned to serve as capacity or market dispatch units. Additionally, the increasing frequency of extreme weather events requires the grid to be increasingly resilient to continue reliable delivery of electricity. The Company believes DR programs are particularly complementary customer programs to more variable renewable generation resources. Therefore, there is a need for advancing DR programs to be able to interrupt customer load during times of limited generation availability.

[5] Minn. Stat. § 216B.1696, subd. 2(a) (2020); Minn. Stat. § 216C.05, subd. 2(4) (2020).

C. Customer Input

1. Customer Input on Dual Fuel Rate Design

Q. What did Minnesota Power do prior to preparing this rate case to gain a better understanding of Dual Fuel customer interests related to the program?

A. After the 2019 Polar Vortex when significant Dual Fuel interruptions occurred to support system reliability, Minnesota Power created a cross-functional team to focus on improving the experience for Dual Fuel customers. The Dual Fuel team collected several years of interruption data, reviewed customer service call volume during interruptions, and analyzed the number of customers going on and off the rate. Customer feedback was also gathered, including listening to customer calls from the Polar Vortex time period, social media posts and reactions from customers, letters to customers requesting input, and a review of Minnesota Power's Dual Fuel website from the customer perspective.

Minnesota Power sent a broad email to Residential Dual Fuel customers to gain additional customer perspective through an online survey and virtual focus groups. The survey and focus groups explored customer knowledge of the program, benefits and barriers, backup heating sources, and interest in a potential new rate option where customers could receive a larger discount in their rate compared to standard Dual Fuel, in exchange for having interruptions that are more frequent.

Q. What direct customer feedback did Minnesota Power receive from the Dual Fuel survey?

A. Customer feedback demonstrated that many customers were unaware of exactly how the current Dual Fuel program worked and the full obligations of program participants. Minnesota Power concluded that further educational campaigns are needed to increase customer awareness of the program beyond the materials provided when a customer registers for Dual Fuel service and information provided on Minnesota Power's website. In addition, speaking specifically to potential rate enhancements, there was interest in a potential discounted rate with more frequent interruptions with 25 percent of customers responding "yes" and 34 percent responding "maybe" in favor of a possible enhancement.

Q. How did Minnesota Power use Dual Fuel focus groups to gather feedback on rate design?

A. Minnesota Power conducted focus groups in June and July of 2021 to dig deeper into customer perspectives and to specifically gauge their reactions to current programs and potential enhancements to the program. During a virtual meeting, Minnesota Power presented participants with potential enhancements of the current Dual Fuel rate, which would include defined timeframes and gaps between interruptions. Some participants were in favor of having a larger discount in their rate, compared to standard Dual Fuel, with more frequent and extended interruptions. Other customers were more interested in the option of keeping the current Dual Fuel rate structure with more defined time periods for interruptions. Overall, customers felt empowered by the idea of choices within the Dual Fuel program and the option to pick the best type of rate for their household needs.

2. Customer Input on LL&P and LP Rate Design

Q. How did Minnesota Power work with LL&P customers prior to preparing this rate case to get a better understanding of LL&P customer interests related to rate design and competitiveness?

A. In the Company's 2019 Rate Case resolution,[6] the Commission required the Company to work with LL&P customers for input on rate design and competitiveness. As summarized in the Company's Compliance Report on Rate Design for LL&P

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[6] *In the Matter of the Emergency Petition of Minn. Power for Approval to Move Asset-Based Wholesale Sales Credits to the Fuel Adjustment Clause and Resolve Rate Case*, Docket No. E015/M-20-429, ORDER (June 30, 2020).

customers,[7] Minnesota Power developed an initial list of potential rate design offerings for LL&P customers and planned customer interactions to solicit feedback on potential rate design alternatives throughout the fall of 2020.

Customer engagement was completed through a variety of channels including individual customer discussions, a virtual meeting with interested customers, and a survey. To communicate the opportunities for customer engagement, the Company used letters sent by mail, individual customer outreach, and an automated call invitation in an attempt to reach as many LL&P customers as possible. At a meeting on November 11, 2020, Minnesota Power described current Company programs to LL&P customers and listened to feedback from participants to inform Minnesota Power's future rate design. The main topics of discussion were renewable energy, DR, Time-of-Use ("TOU") rates, and other rate options.

Q. What specific feedback did Minnesota Power receive from LL&P customers during the outreach efforts?

A. Just as the size and type of customers in this customer class varies, their feedback related to potential rate design alternatives varied. However, all customers indicated that safety, reliability, and low cost remain the most desired characteristics of electric service for them. Additionally, while some customers indicated interest in additional renewable energy offerings, other customers have no interest in additional renewable energy and have other energy priorities. Some customers voiced strong interest in DR and TOU options. Customers interested in DR and TOU indicated they are willing to modify their energy usage (to varying degrees) to lower their energy costs. Other areas of interest from the customers included energy conservation, more efficient equipment, electric rates that equitably represent cost of service, and incentives for electrification.

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[7] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Util. Serv. in Minn.*, Docket No. E015/GR-19-442, MINN. POWER'S LARGE LIGHT AND POWER RATE DESIGN COMPLIANCE REPORT (Dec. 22, 2020); *In the Matter of the Emergency Petition of Minn. Power for Approval to Move Asset-Based Wholesale Sales Credits to the Fuel Adjustment Clause and Resolve Rate Case*, Docket No. E015/M-20-429, MINN. POWER'S LARGE LIGHT AND POWER RATE DESIGN COMPLIANCE REPORT (Dec. 22, 2020).

Q. How did Minnesota Power work with LP customers prior to preparing this rate case to get a better understanding of LP customer interests related to rate design and competitiveness?

A. In the Company's 2019 Rate Case resolution, the Commission required the Company to work with LP customers for input on rate design and competitiveness. On October 28, 2020, Minnesota Power held a virtual group kick-off meeting with the Company's LP customers to review the compliance filing requirements and general process and timeline for customer engagement. At this initial customer engagement meeting, Minnesota Power shared information about its plans for the report scope, LP rate design goals, initiatives currently underway, potential modifications to existing tariffs and riders, and future opportunities. Minnesota Power proceeded to conduct feedback sessions with individual LP customers throughout November 2020. Minnesota Power summarized the feedback from those individual discussions and presented it to the LP customers in a virtual meeting on November 30, 2020.

Q. What action did the Commission take on Minnesota Power's LL&P and LP Rate Design Compliance Reports?

A. The Commission concurred with the parties that the Company's reports complied with the Commission's prior directive that required the Company to meet with its LP and LL&P customers to discuss rate design alternatives in anticipation of the Company's next general rate case filing. [8] The Commission accepted the compliance filing reports and stated it expects further development of rate design concepts in the Company's next general rate case proceeding — the appropriate forum for record development on such issues.

[8] *In the Matter of Minn. Power's Compliance Report on Rate Design for Large Light and Power Customers,* Docket No. E015/M-21-60, ORDER ACCEPTING REPORTS (May 27, 2021); *In the Matter of Minn. Power's Compliance Report on Rate Design for Large Light and Power Customers,* Docket No. E015/M-21-61, ORDER ACCEPTING REPORTS (May 27, 2021).

Q. Did Minnesota Power make any other commitments in the LL&P and LP rate design docket?

A. Yes. Minnesota Power committed to continue working with LL&P and LP customers, along with other stakeholders, to help ensure competitive rates as the Company complies with Minnesota policy objectives and Commission directives.[9] Minnesota Power also noted that some potential rate mitigation measures are appropriately determined as part of the rate case process, where they can be balanced with other factors and impacts on all customers and the Company holistically, while other rate mitigation measures can be implemented in miscellaneous filings. For example, the Commission recently approved several LP DR agreements providing benefits to LP customers willing to partially curtail operations in response to system needs.[10] Strong industrial customers benefit Minnesota Power's system, local municipalities, residential customers, spin-off commercial businesses, and the entire region. The Company stated that stakeholder comments provided in these dockets would be considered in both future product development and in the planning for the rate case, as appropriate for the specific opportunity.[11]

III. RATE DESIGN AND PROPOSED RATES

A. Minnesota Power Rate Design Overview

Q. Please summarize Minnesota Power's proposed rate increases by class.

A. MP Exhibit ___ (Peterson), Direct Schedule 1 sets forth the Company's proposed rate increase allocation to rate classes for interim and final rates. This information is summarized in Table 2 below.

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[9] *In the Matter of Minn. Power's Compliance Report on Rate Design for Large Light and Power Customers,* Docket No. E015/M-21-61, MINN. POWER'S REPLY COMMENTS at 2 (Feb. 26, 2021); *In the Matter of Minn. Power's Compliance Report on Rate Design for Large Light and Power Customers,* Docket No. E015/M-21-60, MINN. POWER'S REPLY COMMENTS at 2 (Feb. 26, 2021).

[10] *In the Matter of Minn. Power's Petition for Approval of Minn. Power Indus. Demand Response Product,* Docket No. E015/M-21-28, Petition for Approval of Minn. Power's Indus. Demand Response Product C Agreements (Jan. 4, 2021).

[11] *Id.* at 4.

Table 2. Proposed Rate Increase Allocation to Rate Classes

Rate Class	General Rate Class Cost-of-Service Study	Proposed Interim Rate Increase (2022)		Additional Proposed Final Rate Change (mid-2023)		TOTAL Proposed General Rate Increase
Residential	51.69%	14.23%	+	3.99%	=	18.22%
General Service	14.12%	14.23%	+	3.99%	=	18.22%
Large Light & Power	18.00%	14.23%	+	3.99%	=	18.22%
Large Power	5.92%	14.23%	+	3.99%	=	18.22%
Lighting	13.66%	14.23%	+	3.99%	=	18.22%

Q. Why are these rate increases just and reasonable?

A. There are several reasons. First, these rates more accurately reflect the costs of reliable and safe energy serving Minnesota Power's customers as the Company transitions its fleet to incorporate more renewable energy. Moreover, the Company has not had a complete rate case decision from the Commission since 2016, and many factors that contribute to this proposed increase have not been reflected in rates for several years. Minnesota Power currently offers one of the lowest residential electric rates in the State of Minnesota and is well below the national average. Despite the seemingly large increase for a single rate case, Minnesota Power's Residential overall customer bills remain well below the actual cost of providing service, comparable to Minnesota and national averages, and continue to offer affordable rates for low-income customers.

Q. Please provide more information about how Minnesota Power's rates for the residential and industrial classes have compared to those of other investor-owned utilities in Minnesota and the nation.

A. The data and figures used below were obtained from the Edison Electric Institute ("EEI") utility rates data source that used rates that were effective January 1, 2021. Figure 1 shows that Minnesota Power's average industrial rate for a high-load-factor customer, 50 MW with a 90 percent Load Factor, is in the top quadrant of the national range. Minnesota Power now has an industrial rate that is lower than Otter Tail Power, but remains higher than Xcel Energy. Minnesota Power rates did include the Energy-Intensive Trade-Exposed ("EITE") discount.

Figure 1. EEI Industrial Rates Comparison

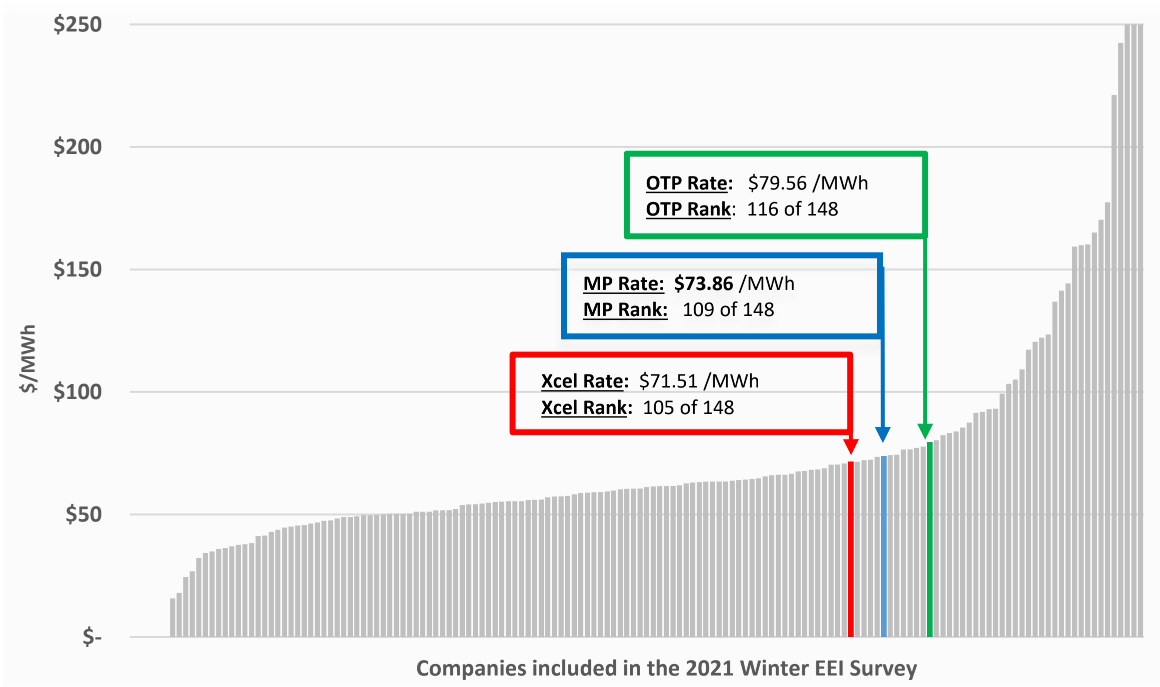
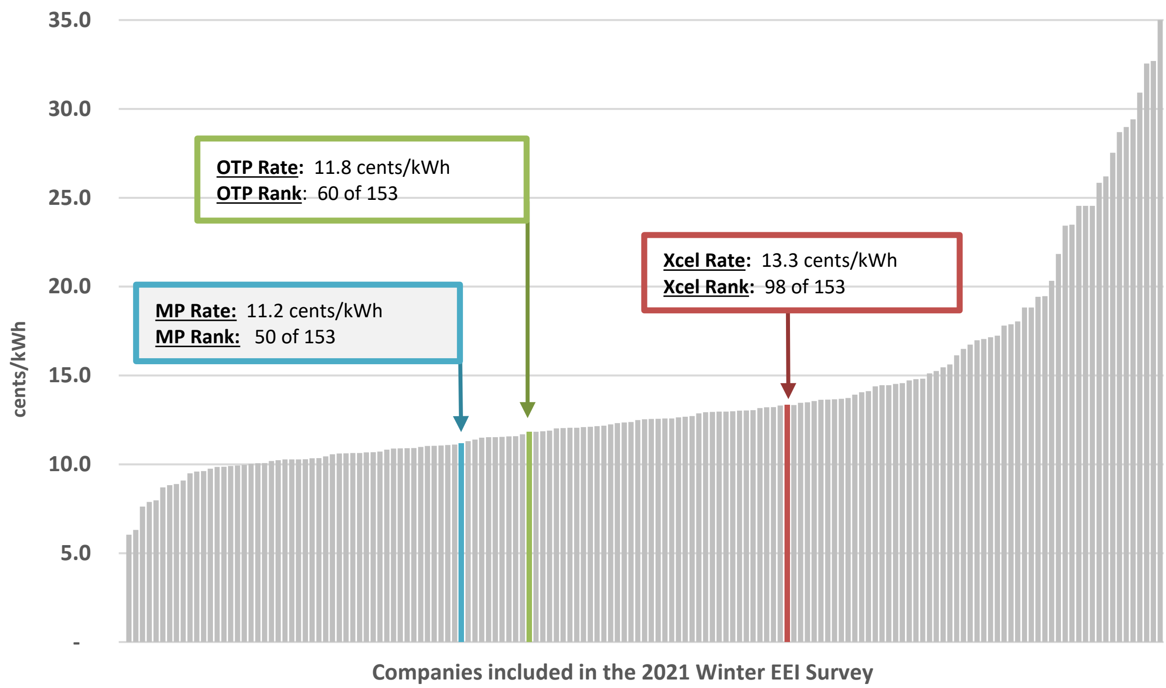


Figure 2 shows that a typical 750 kilowatt-hours ("kWh") Minnesota Power customer has an average Residential rate of 11.2¢ per kWh, which is much lower than Xcel Energy's average of 13.3¢ per kWh and lower than Otter Tail Power's average of 11.8¢ per kWh. Minnesota Power's Residential rate is the 50th lowest of 153 utilities per EEI utility rates data source. Minnesota Power's Inverted Block Rate ("IBR") structure, which was in place prior to the October 1, 2021 shift to a flat rate structure, was used in the EEI calculations included in the Residential Rate Comparison.

Figure 2. EEI Residential Rates Comparison



B. Residential

1. Existing Residential Rate Structure

Q. **How are Minnesota Power's existing Residential rates structured?**

A. On August 27, 2021, the Commission issued an order approving Minnesota Power's phased Residential rate design that includes two phases, which transition from an IBR structure to a flat rate.[12] On October 1, 2021, Minnesota Power transitioned Residential customers to Phase 1 of the approved flat rate. During Phase 1, customers meeting an average monthly usage eligibility threshold of 1,000 kWh or less, based on 12 months of historical energy usage, receive a discount to the energy rate. The discount applies to the customer's first 600 kWh of energy usage.

[12] *In the Matter of the Petition for Approval of Minn. Power's Residential Rate Design,* Docket No. E015/M-12-233, ORDER APPROVING TRANSITION FROM INVERTED BLOCK RATE TO TIME-OF-DAY RATES (Aug. 27, 2021); *In the Matter of Minn. Power's Compliance Report for its Temp. Rider for Residential Time-of-Day Rate for Participants of the Smart Grid Advance Metering Infrastructure Pilot Project*, E015/M-20-850, ORDER APPROVING TRANSITION FROM INVERTED BLOCK RATE TO TIME-OF-DAY RATES (Aug. 27, 2021).

Q. **What changes will be made to the Residential rate structure in 2022?**

A. Phase 2 of the flat rate structure will begin October 1, 2022, which is one year after Phase 1 implementation. During Phase 2, customers that meet income and usage-based eligibility requirements will qualify to receive a discount. The requirements include an average monthly usage eligibility threshold of 1,000 kWh or less, based on 12 months of historical energy usage, along with qualifying as a low-income customer.

2. <u>Proposed Residential Rate Increase</u>

Q. What is the recommended rate increase for the Residential class?

A. As a matter of ratemaking policy, the Company determined that an increase adjustment of 51.69 percent, although justified on a cost basis according to the CCOSS, would not be reasonable, as it would appear excessive to Residential customers. Therefore, as described above, the Company instead proposes an increase of 18.22 percent for the Residential class for final rates. Stated another way, Minnesota Power is requesting an approximate 14.23 percent Residential rate increase during the interim period (expected to continue at least through the entire 2022 test year), and the final requested increase would result in an incremental 3.99 percent increase for Residential customers beginning with final rate implementation sometime in 2023.

Q. Are there any protections in place for low-income customers?

A. Yes. Usage-eligible low-income customers will continue to receive a discount from the proposed energy rate.

Q. What is the Company's proposed Energy Rate and discount for income and usage-based eligible customers in this proceeding?

A. The Company is proposing the discount for eligible customers to be 3.604¢ per kWh, which is a 35 percent discount from the proposed Energy Rate of 10.296¢ per kWh. The discount percent is calculated as a percent of the energy rate, which no longer includes fuel and purchased energy due to the removal from base rates effective January 1, 2020.

Q. Why is the proposed rate increase appropriate for the Residential class?

A. Historically, Minnesota Power's Residential customers have paid far less than the full cost of the generation, transmission, and distribution system facilities required to serve them, and the proposed rate adjustment is again substantially lower than the amount indicated in the CCOSS to recover costs. While rate increases are rarely welcomed by any class of customers, Minnesota Power believes the proposed increase here is reasonable based on the rising costs of providing reliable electric service with state leading renewable energy, more complex rate designs, advanced metering infrastructure, complex billing systems, and beneficial electrification — including the systems and technology needed to support policy objectives.

Q. Are there additional protections in place for Residential customers during the 2021 projected year and into 2022?

A. Yes. Company witness Ms. Cady discusses the various customer-protection measures the Company implemented as a result of the COVID-19 pandemic, including the suspension of disconnections and Residential late fees and collections from March 16, 2020 until August 2021.

Q. Does the waiver of disconnection fees have any particular bearing on this rate case?

A. Yes, to an extent. As part of the resolution of the Company's 2019 rate case filing in E015/GR-19-442 and E015/M-20-429, the Commission directed the Company to submit information on its process for collecting Residential late fees and the costs expended in these collection efforts. Due to the suspension of disconnections and waiver of Residential late fees as a result of the COVID-19 pandemic, the Company has only recently reinstated processes to charge Residential late fees (also referred to as late payment charges). As part of the Commission-approved transition plan that runs through April 30, 2022 in Docket No. E,G999/CI-20-375,[13] the Company continues to waive late payment charges for Residential customers who enter and keep payment

[13] *In the Matter of an Inquiry into Actions by Electric and Natural Gas Utilities in Light of the COVID-19 Pandemic Emergency,* Docket No. E,G999/CI-20-375 (May 26, 2021).

agreements. We have been providing quarterly reports on bad debt expense, the cost of our waiver of late payment charges, and the cost of reconnection fee waivers in our quarterly reports in Docket No. E,G999/M-20-427, with the most recent report filed October 28, 2021 for data through July 31, 2021.[14] As a result of the above-listed actions and the standardized processes used, the Company has not incurred any material costs of collecting Residential late payment fees since the Commission's Order was issued in our 2019 Rate Case proceeding.

In general, however, the Company follows Minnesota Rules 7820.5100 through 7820.5500 with respect to the application of late payment charges, as described in Section 45 of its Electric Service Regulations. Overall, late payment charges are waived for customers who qualify for assistance under the Low Income Home Energy Assistance Program ("LIHEAP"). For those customers who do incur late payment charges on bills, where payment is not received within 25 days from the current billing date (15 days past the current billing date plus a 10-day grace period), the Company undertakes primarily automated outreach through bill notices, including the monthly bill, and periodic interactive voice response calls at approximately 60 days past due and roughly 15 days thereafter. The Company also works with customers who contact the Company to resolve past-due balances.

3. <u>Residential Service Charge</u>

Q. **What is the purpose of the Residential Service Charge?**

A. Bringing energy to customers requires a network of meters, poles, transformers, substations, and more — forming the electric grid. The Service Charge helps recover some of the monthly fixed costs that are associated with providing service, such as metering, customer service, and billing. In other words, these costs are fixed, and the Residential Service Charge is intended to recover these fixed costs.

[14] *In the Matter of the Petition of the Minnesota Rate Regulated Electric and Gas Utilities for Authorization to Track Expenses Resulting From the Effects of COVID-19 and Record and Defer Such Expenses into a Regulatory Asset*, Docket No. E,G999/M-20-427.

Q. **Is Minnesota Power proposing any changes to the standard Residential Service Charge?**

A. Yes. Minnesota Power currently has the lowest residential fixed charge in Minnesota, and it has not increased in 12 years. The Company is requesting an increase to the monthly Service Charge for Residential customers, from $8.00 to $10.00 per month. The current Residential Service Charge of $8.00 has been in place since the effective date of final rates in Minnesota Power's 2008 rate case, October 30, 2009.[15] As illustrated in Table 3 below, the increase to $10.00 per month continues to remain a significantly lower monthly service charge than all neighboring distribution cooperatives.

Table 3. Cooperative Utility Monthly Service Charge Data

	2009 Monthly Service Charge	2016 Monthly Service Charge	2021 Monthly Service Charge
Minnesota Power	***$8.00***	***$8.00***	***$8.00***
Cooperative (headquarters and service center locations shown in parentheses)			
Cooperative Light & Power (Two Harbors)	$16.00	$27.00	$30.00
Crow Wing Power (Brainerd)	$12.00	$18.00	$24.00
East Central Energy (Braham)	$16.00	$28.75	$30.25
Itasca-Mantrap (Park Rapids)	$16.50	$33.00	$38.00
Lake Country Power (Grand Rapids, Virginia, and Kettle River)	$20.00	$42.00	$42.00
Mille Lacs Energy Cooperative (Aitkin)	$24.00	$25.00	$33.00
North Itasca Electric Cooperative (Bigfork)	$31.50	$43.00	$46.00

[15] *In the Matter of the Application of Minn. Power for Auth. to Increase Elec. Serv. Rates in Minn.,* Docket No. E015/GR-08-415, ORDER APPROVING INTERVENOR COMPENSATION (Oct. 30, 2009)..

This is also true when compared to most neighboring municipal electric providers, as shown in Table 4, some of which serve customers across the street from Minnesota Power customers. The proposed rate is also in alignment with approved customer charges for customers of the other investor-owned utilities in the state.

Table 4. Municipal Monthly Service Charge Data

Municipal Utilities	2021 Monthly Service Charge
Brainerd Public Utilities	$16.25
Hibbing Public Utilities	$11.96
Virginia Public Utilities	$12.00
Grand Rapids Public Utilities	$10.00 (city) $11.00 (rural)

Residential customers contribute more to distribution system costs than customer classes served at a higher voltage, as they utilize every component of the distribution system and draw heavily on Company resources due to the greater number of customers in this class. Thus, the Company's 2022 CCOSS indicates a Residential Service Charge of $27.50 per customer per month. The Company's proposed $10.00 per month Residential Service Charge does not come close to recovering Residential customer-related service connection costs, as indicated by the results of the CCOSS; however, it is a gradual increase directionally towards the basic cost of service connection.

Q. How does Minnesota Power's proposed Residential Service Charge of $10.00 per month compare to other investor-owned electric utilities in Minnesota?

A. It would be similar to Otter Tail Power's current monthly service current charge of $9.75 per month and below the proposed Residential Service Charge of $11.50 in Otter Tail's 2020 Rate Case.[16] It would be slightly higher than Xcel Energy's current Standard

[16] *In the Matter of the Application of Otter Tail Power Co. For Auth. to Increase Rates for Elec. Util. Serv. In Minn.,* Docket No. E017/GR-20-719, PRAZAK DIRECT at 16-17 (Nov. 2, 2020).

Customer Charge of $8.00 per month for overhead service and aligns with Xcel's $10.00 per month for underground service.

Q. How does Minnesota Power's proposed Residential Service Charge of $10.00 per month compare to neighboring electric utilities in northeastern Minnesota?

A. It is extremely low in comparison. Minnesota Power researched the monthly service charges of several distribution cooperatives and municipal utilities that provide electric service to customers adjacent to Minnesota Power's service territory. Minnesota Power considers these service charges to be a good proxy for the level of service charge Minnesota Power customers could reasonably afford because the customers/members of municipals and cooperatives live in the same region as Minnesota Power customers and are subject to similar economic conditions and financial challenges. In addition, the distribution cooperatives' and municipal utilities' service charges are essentially approved by their members through their member-elected Boards of Directors or citizens through elected or appointed municipal public utilities commissions. Monthly cooperative utility service charge information is summarized in Table 3.

Among these distribution cooperatives, the lowest current Residential Service Charge is $24.00 per month (Crow Wing Power), and the highest is $46.00 per month (North Itasca), with an average of $34.75 per month. Among these, Minnesota Power's proposed monthly service charge of $10.00 is less than one-third of the average charge and $14.00 lower than the lowest charge of the group of neighboring cooperative utilities.

Monthly municipal utility service charge information is summarized in Table 4. Among the four largest municipal utilities in the region, the lowest current Residential Service Charge is $10.00 per month for "city" customers (Grand Rapids), and the highest is $16.25 per month (Brainerd), with an overall average of $12.68 per month. Among these, Minnesota Power's proposed monthly Residential Service Charge of $10.00 is over 25 percent lower than the average level and equal to the lowest charge of the group of neighboring municipal utilities. In sum, Minnesota Power's proposed Residential Service Charge is very reasonable by many different measures.

4. Seasonal Residential Service Charge

Q. What changes are proposed for the Seasonal Residential Service Charge?

A. Minnesota Power proposes to increase the Service Charge rate for Seasonal Residential customers so these customers with additional dwellings will pay somewhat closer to the actual cost of providing service. The existing Seasonal Residential Service Charge is $10.00 per month. Minnesota Power proposes a Seasonal Residential Service Charge of $15.00 per month. A higher Service Charge for Seasonal Residential customers compared to standard Residential customers is an important component of an equitable rate design because Seasonal Residential customers utilize all of the same fixed components of the system. However, Seasonal Residential customers contribute less revenue from volumetric kWh sales due to their seasonal usage. This adjustment will support bringing the contribution from Seasonal Residential customers slightly closer to Minnesota Power's full cost of service for the Residential customer class.

Q. What changes are proposed for the Seasonal Residential Energy Charge?

A. Minnesota Power proposes to increase the Energy Charge for Seasonal Residential customers from 9.341¢ per kWh to 11.343¢ per kWh.

Q. What other changes are being proposed for the Seasonal Residential Service?

A. Minnesota Power proposes to update the definition language of a seasonal residence because the current verbiage causes confusion. The current language states, "Any additional residence shall be provided service at Residential – Seasonal rate," which was adopted with the implementation of the 2016 Rate Case. For example, a landlord with multiple services could have only one service at the standard Residential rate, and all remaining services would have to be at the Seasonal Residential rate. The proposed language, "A customer will be billed on the seasonal rate if the dwelling is typically occupied for 182 days or less each year," simplifies how to determine the difference of a seasonal and principal residence by adopting a variation of the Minnesota Department of Revenue's 183-Day Rule.[17] This simplification of determining a seasonal property as being occupied for 182 days or less will reduce implementation confusion and create better customer service by placing customers on the most appropriate rate.

5. Residential Electric Vehicle

Q. What change is the Company proposing to the Residential Electric Vehicle rates?

A. The Company is proposing to keep the Residential Electric Vehicle Service Charge at $4.25 per month to reflect that this is a second meter charge for Residential customers. In addition, the Company seeks to incentivize electric vehicle growth. Therefore, the Company seeks to keep this charge lower than the standard Residential service charge. To collect the remainder of the costs to serve Residential Electric Vehicle customers, the Company is proposing an increase in the energy rates of 13.128¢ per kWh for the on-peak Residential Electric Vehicle Energy charge and a 3.656¢ per kWh charge for the off-peak Residential Electric Vehicle Energy charge. The on-peak and off-peak energy rates were calculated to encourage customers to charge their vehicles during off-peak hours.

6. Advanced Metering Infrastructure ("AMI") Opt-Out Charge

Q. Is Minnesota Power proposing any other changes specific to Residential Service?

A. Yes. The Company proposes to implement an AMI Opt-Out Charge of $20.00 per month. This would be in addition to the monthly Residential Service Charge and Residential energy rate.

Q. Why is the Company proposing this charge?

A. As explained in more detail in the Direct Testimony of Company witness Daniel W. Gunderson, Minnesota Power is nearing the full deployment of AMI for its customers,

[17] The Minnesota Department of Revenue uses the 183-day rule for tax purposes to be considered a Minnesota resident; which sets forth that you must spend at least 183 days in Minnesota during the year (any part of the day counts as a full day) and you or your spouse rent, own, maintain or occupy a residence suitable for year-round use or equipped with its own cooking and bathing facilities (https://www.revenue.state.mn.us/183-day-rule).

with full conversion anticipated in 2023. This has effectively become the standard metering for Residential Service. This conversion to AMI began in 2010, largely driven by increased communications failures, unsupported technology, or limitations of the technology of the legacy Advanced Meter Reading ("AMR") system due to end of life and obsolescence of technology.

Based on industry intelligence from advanced metering deployment across the country and drawing from the Company's own AMI deployment, it is known and anticipated that some customers will want the option to "opt out" of AMI. Additionally, the Commission approved an AMI opt out charge for Dakota Electric Association.[18] The Company will accommodate an "opt out" request and manually read meters for these customers, as the communications infrastructure for AMR will no longer be supported. The costs for doing so are included in the AMI Opt-Out Charge and summarized in MP Exhibit ___ (Peterson), Direct Schedule 2.

Q. To which customers will the AMI Opt-Out Charge apply?

A. The AMI Opt-Out Charge will apply to residential customers who opt-out of having electric consumption metered through AMI and who provide reasonable access to their electric meter. More detailed provisions are provided in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. NEW-1, Rider for Advanced Metering Infrastructure (AMI) Opt-out.

Q. How many customers does the Company anticipate will opt out of AMI?

A. To date, fewer than 50 customers of the nearly 139,000 meters installed have requested that AMI be removed. In these cases, an AMR meter has been installed as an interim option and while AMR supplies and communications infrastructure still exist. With over 90 percent of the meters converted to AMI by the end of 2021, this represents a

[18] *See In the Matter of Dakota Elec. Assn's Petition for Approval of Serv. Features Related to Advanced Grid Infrastructure,* Docket No. E111/M-18-640, ORDER AMENDING SERV. FEATURES RELATED TO ADVANCED GRID INFRASTRUCTURE (July 11, 2019).

very small percentage of customers. AMI is essential for the implementation of Minnesota Power's phased residential rate design, which will ultimately include a default Time-of-Day rate.

C. <u>Dual Fuel and Controlled Access</u>

1. <u>Proposed Dual Fuel and Controlled Access Rate Structures</u>

Q. Is the Company proposing any changes to the structure for Residential and Commercial/Industrial Dual Fuel Interruptible Service and Controlled Access Service?

A. Yes. The Company proposes to modify the Residential and Commercial/Industrial Service Schedules for Dual Fuel and Controlled Access by separating service under each of the schedules into Small Service and Large Service. Dual Fuel is an interruptible electric service available to customers who have non-electric sources of energy available to satisfy energy requirements during periods of interruption. Controlled Access is a service for controlled energy storage or controlled loads, which are energized only for a specific daily period. The metering and load control technology for both services have changed since these rates were first developed. The meters originally required a separate hardware from the control hardware, which utilized an entirely different communication network and, thus, added costs. Today, this additional communication system, as well as the extra hardware, has become obsolete. Customers, depending on their load size, require different equipment. The technology for the control system for customers with small service no longer requires external equipment but is now an internal part of the meters.

Q. How will the Company split the customers between Small and Large Service?

A. Minnesota Power analyzed data from its Customer Information Systems for all current customers taking Dual Fuel and Controlled Access services. The data included the type of meter form,[19] the equipment — such as instrument transformers — and associated

[19] A meter form is the physical design and configuration of the meter. Each meter is matched to a service configuration such as 120/240 volt single phase, 120/208 three phase, etc.

customers' energy usage. The different types of meters and other installed equipment were used to distinguish between Small Service and Large Service customers. There is a clear dividing line between meter equipment installations, which were used to define the Small Service and Large Service. Dual Fuel Residential customers identified as Small Service were then combined to make the Small Service group, and those identified as Large Service were combined to make the Large Service group. The same process was then completed for Commercial and Industrial customers. Ratios were calculated from total customers in each group and applied to budgeted sales. The same process was followed to calculate the sales for Controlled Access customers.

Q. Please explain more about the proposed Small Service.

A. Small Service will be for customers who are served by a single-phase self-contained meter and with load that can be controlled remotely, through the current AMI network, by a service switch integrated into the meter. This service will be for customers with load rated at 75 kilowatt ("kW") or less and single-phase because of the amperage limitation of the meter's integrated disconnect switch.

Q. Please explain more about the proposed Large Service.

A. Large Service will be for customers with service who generally have connected load above 75 kW or take service at three-phase. The service will require a more complex meter, instrument transformers, and an additional load control module. Costs associated with these larger installations (see Volume 4, Workpaper RD-3 and Workpaper RD-4) are typically much higher for providing and metering the service. The one circumstance where a connected load at or below 75 kW would be considered Large Service is when the load is served at three-phase and also requires more equipment to serve. Thus, the justification for classifying these customers in the Large Service category is based on meter configuration required to provide this level of service.

Q. What is the advantage of the proposed restructuring of the Dual Fuel and Controlled Access Service Schedule?

A. Minnesota Power's proposed rates for Dual Fuel and Controlled Access services are based on customer service size and a consideration of the market competitiveness of the services. The advantage of the Small and Large customer segmentation is to bill customers with minimal equipment requirements at a lower monthly Service Charge that reflects the lower equipment cost. The proposed rates continue to reflect the partial cost of the required equipment while increasing the competitiveness and attractiveness of the Dual Fuel and Controlled Access services, which are important programs for encouraging flexible energy use that aligns with the increasing renewable energy on Minnesota Power's system.

Q. What additional changes are being proposed for Residential Controlled Access and Commercial/Industrial Controlled Access Services?

A. Minnesota Power proposes to modify the current off-peak energizing period by one hour on each end, from 11 p.m. to 7 a.m. Central Time currently, to 10 p.m. to 6 a.m. proposed. The Company reviewed historical Midcontinent Independent System Operator ("MISO") Day Ahead and Real Time Locational Marginal Price ("LMP") data going back to the beginning of 2010 to determine the eight hours of the day LMPs and cost to serve loads were at the lowest. Four different scenarios across the four different seasons were analyzed for each year. On an annualized basis, it was determined that the period 10 p.m. to 6 a.m. Central Time, which also corresponds with off-peak hours in the MISO energy market, saw the lowest Day Ahead and Real Time LMPs along with the lowest cost to serve loads. The Company proposes to change the energizing period accordingly. This change would normally require customer meters to be reprogrammed; however, the reprogramming will not be necessary because it will coincide with the deployment of new meters in the service territory.

Minnesota Power is also proposing a minor modification to update the name of the Residential and Commercial/Industrial Controlled Access Service in order to be more descriptive and consistent with the industry standard and nomenclature used by customers. The change is shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 7 (Residential) and Page No. 17 (Commercial/Industrial), Fixed Off-Peak Service.

2. Proposed Dual Fuel Rate Structure and Rates

Q. How does Minnesota Power currently utilize Dual Fuel interruptible periods to benefit the system?

A. Minnesota Power utilizes Dual Fuel curtailments to lower system demand and limit exposure to high market prices. This benefits all Minnesota Power customers by reducing overall procurement costs to serve load. Since these periods of high market prices typically correlate with high total system demand and low renewable energy production, Dual Fuel rates indirectly support the cost effective utilization of increased quantities of renewable energy on the system.

Q. How is the current Dual Fuel program structured for customer interruptions?

A. The current program requires customers to be prepared to supply their entire interruptible load with an alternative energy source for up to 30 percent of the customer's Dual Fuel requirements during any annual period.

Q. Is Minnesota Power proposing any additional changes to the rates for Residential and Commercial/Industrial Dual Fuel Interruptible Service?

A. Yes. The Company proposes to modify the Residential and Commercial/Industrial Service Schedules to offer two Dual Fuel rate options for customers to select either standard Dual Fuel or Dual Fuel Plus.

Q. Please explain more about the proposed standard Dual Fuel rate option.

A. The standard Dual Fuel rate option would limit the number of Dual Fuel hours to 300 hours per annual period, along with limiting physical interruptions to two times per day for up to four hours at a time. If needed, the customer would utilize an alternative energy source during periods of interruption; however, the Company would commit to at least two hours between interruptions to ensure customers with more limited backup systems can take comfort in knowing there will be sufficient heating to maintain their home or business safely. Overall, the standard Dual Fuel rates will remain similar to the current Dual Fuel program.

Q. Please explain more about the proposed Dual Fuel Plus rate option.

A. The Dual Fuel Plus rate option would allow up to 1,000 hours of Dual Fuel interruptions per annual period, with the potential for 20 hours of interruptions per calendar day. During interruptions, customers would utilize an alternative energy source. If Dual Fuel Plus has a 20-hour interruption period during one calendar day, the Company would commit to turning on the service for at least two hours between interruptions so customers can ensure that their systems are working properly. In addition, the rate would be lower, which would provide a reduced per kWh rate compared to Minnesota Power's current Dual Fuel program and the proposed standard Dual Fuel program due to the customer committing to more frequent and longer interruptions.

Q. What Dual Fuel rate option would be the default for current Dual Fuel customers?

A. The Company will transition existing Dual Fuel customers to the similar standard Dual Fuel service schedule. Minnesota Power will perform educational outreach, and it will be up to customers to convert to Dual Fuel Plus if they are interested.

Q. How would Minnesota Power perform outreach to educate customers about the Dual Fuel rate option choices?

A. Minnesota Power will use standard outreach channels — such as social media, company website, bill messaging, direct mail, or contact from a field representative — to inform and educate customers about the Dual Fuel rate options.

Q. What assumptions did the Company make for standard Dual Fuel and Dual Fuel Plus enrollments?

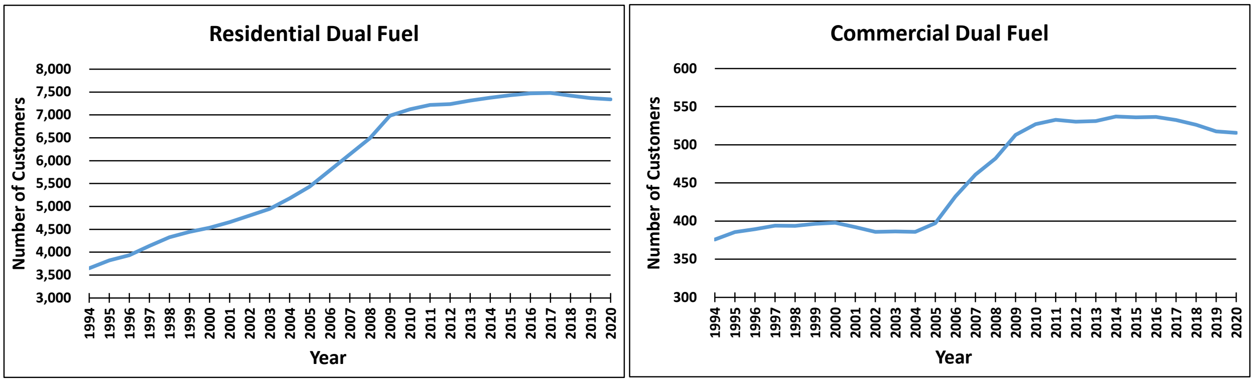
A. Through extensive research and outreach, Minnesota Power utilized customer feedback to determine potential levels of enrollment in the standard Dual Fuel and Dual Fuel Plus rate options. The Company made assumptions utilizing customer feedback to understand which program would apply to customer situations and interests. The Company established ratios with this research and applied those to the existing Dual Fuel customer segment.

Q. What is the advantage of the proposed standard Dual Fuel and Dual Fuel Plus rate options?

A. Minnesota Power sees advantages to providing customers the choice to participate in the demand response Dual Fuel program that aligns with their needs. By modernizing and offering demand response program options, Minnesota Power will retain customers in this program and provide system benefits for all customers. Participants in the Company's stakeholder outreach were overwhelmingly in favor of having options and more defined interruption periods. The proposed standard Dual Fuel rate will provide a similar rate to Minnesota Power's existing Dual Fuel program; however, it will have a more defined frequency and duration of interruptions. On the other hand, the Dual Fuel Plus rate will offer a lower rate compared to standard Dual Fuel rate due to the potential of more frequent and longer duration of interruptions.

Additionally, it is important to note that Minnesota Power experienced a steady growth in the number of Dual Fuel customers at the inception of Dual Fuel service for both Residential and Commercial/Industrial. However, as shown in Figure 3 below, growth stagnated in 2009 and started decreasing with the implementation of the Company's 2016 Rate Case final rates. Minnesota Power anticipates by giving customers Dual Fuel choices and modernizing the Dual Fuel program it can continue to provide value to the increasingly renewable energy system.

Figure 3. Dual Fuel Customer Growth from 1994 to 2020



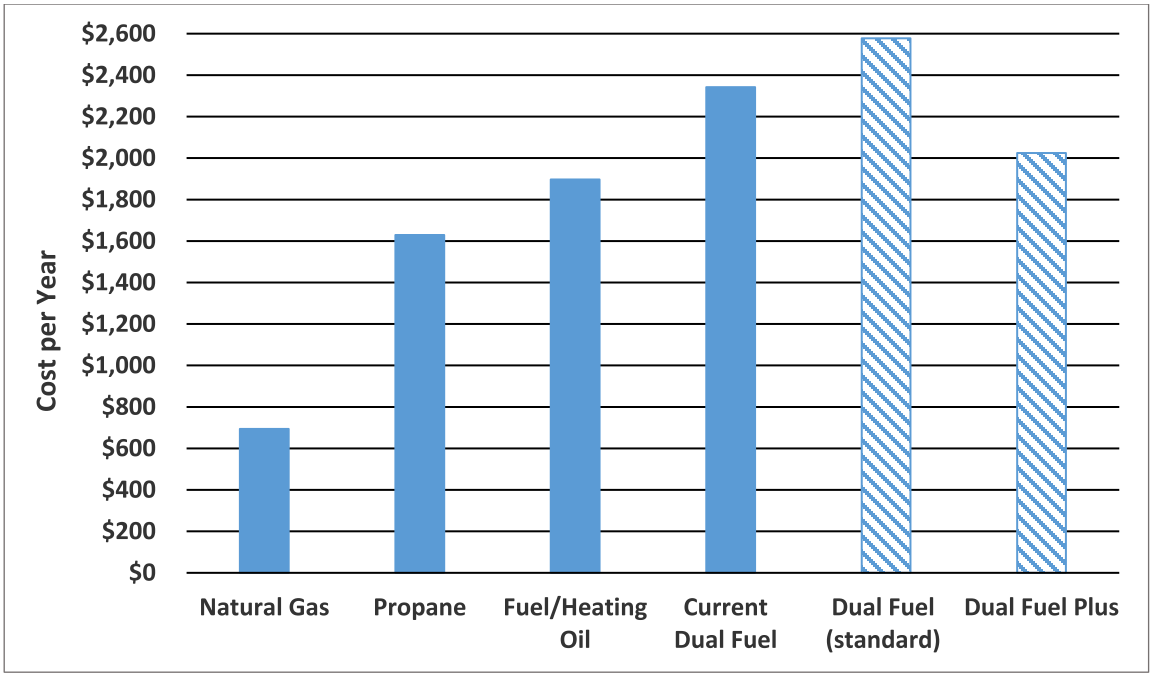
Q. How do Minnesota Power's Dual Fuel rates compare to other fuel alternatives?

A. Current Dual Fuel rates are not competitive compared to alternative fuel sources as shown in Figure 4:[20]

- Natural gas fixed charge of $8.63 per month, variable charge of $0.66 per therm[21] or about $694 per year;[22]
- Propane cost is $1.67 per gallon or approximately $1,629 per year;
- Fuel oil variable charge is $2.47 per gallon or about $1,897 per year;
- Dual Fuel current energy rate of 5.9¢ per kWh (not including riders/adjustments) or about $2,342 per year;[23]
- Dual Fuel (standard) proposed energy rate of 6.9¢ per kWh (not including riders/adjustments) or about $2,578 per year;[24] and
- The Company's proposed Dual Fuel Plus energy rate is 4.7¢ per kWh (not including riders/adjustments) or about $2,024 per year.

[20] Indep. Statistics & Analysis, *Petroleum & Other Liquids (series PET.W_EPLLPA_PRS_SMN_DPG.W) and Fuel oil (series PET.W_EPD2F_PRS_SMN_DPG.W)*, U.S. Energy Info. Admin., https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPLLPA_PRS_SMN_DPG&f=W (last visited Oct. 28, 2021).
[21] 1 therm = 100,000 British thermal units.
[22] Comfort Systems, *Rate Sheet*, THE CITY OF DULUTH MINN., https://comfortsystemsduluth.com/about-my-bill/rate-sheet/ (last visited Oct. 28, 2021).
[23] Per year cost based on traditional electric resistance heating.
[24] Fixed monthly charge is $2.00 cheaper than current rate.

Figure 4. Fuel Alternative Price Comparison



Q. What cost analysis did Minnesota Power perform for Dual Fuel rates?

A. Minnesota Power's cost analysis used to develop the proposed standard Dual Fuel and Dual Fuel Plus rates is provided in Volume 4, Workpaper RD-3. Page 1 of Workpaper RD-3 summarizes the analysis and shows the overall cost components that were included for energy, generation capacity, and transmission and distribution. These costs were considered, along with the desire to be more competitive with alternative fuel sources, as described above. The incremental cost analysis results for Dual Fuel show a total cost of 6.507¢ per kWh for Primary voltage service and 8.266¢ per kWh for Secondary voltage service. However, these costs include firm capacity, and Dual Fuel is an interruptible service. Therefore, it is appropriate to set the rates at a lower level that does not include the entire capacity cost.

Workpaper RD-3 shows the calculation of metering costs for Small and Large Dual Fuel customers and indicates that the monthly cost for Small Dual Fuel customers is approximately $27.93, while the monthly cost for Large Dual Fuel customers is roughly $243.79.

Q. Based on these analyses, what rates does the Company propose for Dual Fuel?

A. Based on these analyses, the Company proposes that the energy charge for the standard Residential and low voltage Commercial/Industrial Dual Fuel be set at 6.931¢ per kWh, and high voltage Commercial/Industrial Dual Fuel be set at 6.273¢ per kWh. For Dual Fuel Plus, the energy rate is proposed be set at 4.710¢ per kWh for Residential and low voltage Commercial/Industrial customers and 4.052¢ per kWh for high voltage Commercial/Industrial Dual Fuel customers. The Service Charge proposed for the standard Dual Fuel and Dual Fuel Plus is $6.00 for Small Service and $16.00 for Large Service.

Q. Is the Company proposing any other changes to the Residential Dual Fuel Interruptible Tariff?

A. Yes. The Company is proposing to add clarifying language for how the tariff applies to customers with a qualified Air Source Heat Pump. In particular, the proposed changes are more descriptive of what months these customers may choose to be exempt from Dual Fuel interruptions (June through September) and, during this time, would pay the standard Residential energy charge.

3. <u>Proposed Controlled Access Rates</u>

Q. What rates does the Company propose for Controlled Access?

A. Similar to Dual Fuel Plus, Minnesota Power proposes that the energy charge for Residential and low voltage Commercial/Industrial Controlled Access service be set at 4.710¢ per kWh. For high voltage Commercial/Industrial customers, the energy rate will be set at 4.052¢ per kWh. The Controlled Access monthly Service Charges are proposed to be $6.00 for Small Service and $16.00 for Large Service.

D. General Service

Q. What revisions does Minnesota Power propose for the General Service rate?

A. Minnesota Power proposes to make the following changes to the General Service rate levels: increase the monthly Service Charge from $12.00 to $15.00; change the Energy Charge from 8.639¢ per kWh to 10.677¢ per kWh for customers without demand meters and from 6.054¢ per kWh to 7.494¢ per kWh for customers with demand meters; and increase the Demand Charge from $6.50 to $8.00 per kW per month.

Q. What changes were made to the Determination of the Billing Demand for the General Service Schedule in the 2016 Rate Case?

A. In the Determination of the Billing Demand section of the General Service schedule, Minnesota Power received approval in the 2016 Rate Case to change the power factor adjustment threshold from 85 percent to 90 percent. This change went into effect on December 1, 2019. The delay was necessary to allow customers who previously did not maintain a 90 percent power factor the time to install the equipment necessary to correct their power factor and avoid additional charges. For final rates in this case, the service schedule language is therefore modified to reflect that the transition has been completed. The change is shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 10.2.

Q. What revisions does Minnesota Power propose for the Pilot for Commercial Electric Vehicle Charging Service?

A. Minnesota Power proposes to make the following changes to the Pilot for Commercial Electric Vehicle Charging Service rate levels: increase the monthly Service Charge from $12.00 to $15.00; change the Energy Charge from 6.054¢ per kWh to 7.647¢ per kWh; and increase the on-peak Demand Charge from $6.50 to $8.00 per kW per month. The proposed Commercial Electric Vehicle rates were developed to align with the recommendations for the General Service rate class.

Q. What compliance requirement was included in the Pilot for Commercial Electric Vehicle Charging Stations decision?

A. The Commission's December 12, 2019 Order Approving the Pilot for Commercial Electric Vehicle Charging Stations in Docket No. E015/M-19-337 required that in the Company's next general rate case, the Company shows the extent to which non-participants are subsidizing participants in the Commercial Electric Vehicle Pilot. As reported section D of the compliance, filing that was submitted on December 20, 2020 in Docket No. E015/M-19-337, the annualized subsidy is $14,589. Minnesota Power will be submitting another Commercial Electric Vehicle compliance filing in December 2021.

E. Municipal Pumping

Q. What revisions does Minnesota Power propose for the Municipal Pumping rate?

A. Minnesota Power proposes to eliminate the Municipal Pumping schedule from its rate book. The transition of all customers on this rate to the General Service rate schedule began with the implementation of the 2016 Rate Case final rates, and was completed in 2019.

F. Large Light and Power

1. Existing LL&P Rate Structure

Q. Please describe how the existing LL&P demand charge is currently structured?

A. The demand cost structure is composed of three constituents — generation, transmission, and distribution — intended from a rate design standpoint to recover the majority of fixed costs of assets in place to serve the customers. Minnesota Power currently recovers a portion of the fixed costs through the demand charge and a portion of fixed costs through the energy charge.

Q. Please explain the changes that were made to the Determination of the Billing Demand for the LL&P Service Schedule in the 2016 Rate Case.

A. In the Determination of the Billing Demand section of LL&P service schedule, Minnesota Power received approval in the 2016 Rate Case to change the power factor adjustment threshold from 85 percent to 90 percent. This change went into effect on December 1, 2019. The delay was necessary to allow customers who previously did not maintain a 90 percent power factor the time to install the equipment necessary to correct their power factor and avoid additional billing. For final rates in this case, the service schedule language is therefore modified to reflect that the transition has been completed. The change is shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 22.2.

2. Proposed LL&P Rate Structure

Q. What changes is the Company requesting regarding LL&P Demand Charges?

A. For rate schedule 75, the Company is proposing to separate out the current Demand Charges into two charges: 1) "Demand Charge" consisting of the generation and distribution components; and 2) "Transmission Demand Charge" consisting of the transmission components. This change will provide more rate transparency and increased visibility into the cost components.

Q. Why is Minnesota Power proposing this change?

A. The utility industry is changing. Separating the current demand charges into their constituent components, while not changing revenue requirements in this rate case, will give the customers more transparency regarding the drivers of system costs. This increased level of transparency will help connect customers more closely with the drivers to improve their own competitiveness. It will also provide an overall cost effective alignment of generation and load as the electric grid and power markets continue to evolve with increased quantities of renewable energy delivered across the region. For LL&P customers, the distribution component of the demand charge is comparatively small, but separating out transmission costs will serve to align the cost components better and help identify the trends for the various components.

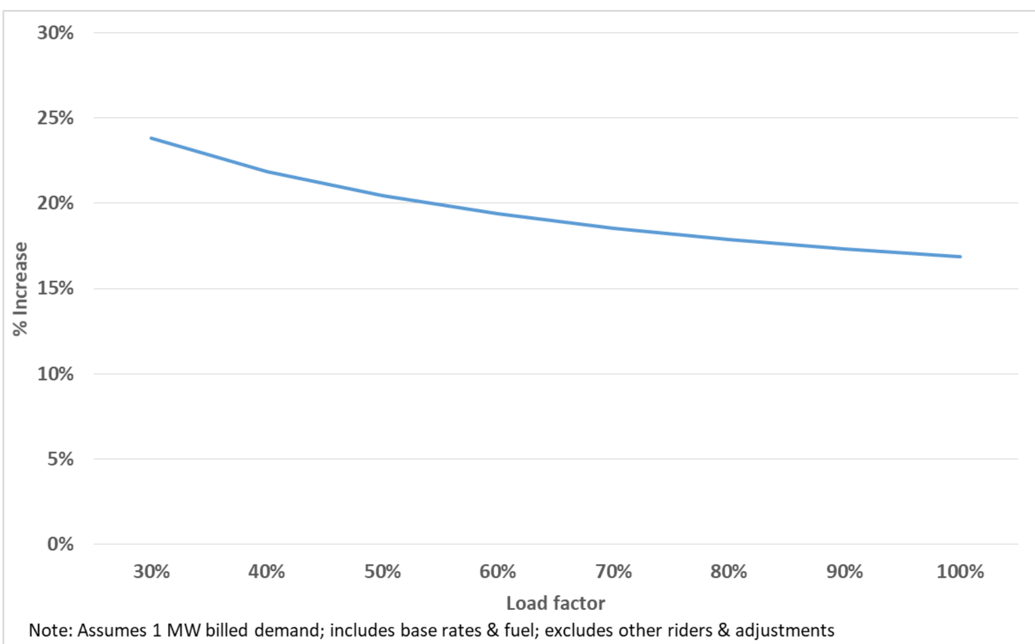
Q. How will the Transmission Demand Charge be implemented and calculated for LL&P customers?

A. This is accomplished by including a "Transmission Demand Charge" line item under the breakout of demand charges on LL&P customer bills. The Transmission Demand Charge will be calculated based on the customer's Billed Demand kW for the month.

Q. Does the overall LL&P billed demand amount change?

A. Yes. A portion of the existing demand costs that are currently recovered in the LL&P Energy Charge will be reassigned to Demand Charges. This will result in more demand costs being recovered through demand charges. Figure 5 below displays the base rate impact of the proposed demand charge change by customer load factor compared to current base rates.

Figure 5. Proposed LL&P Demand Charge Change Impact by Load Factor Compared to Current Rates



3. Proposed LL&P Rates

Q. What other revisions does Minnesota Power propose for LL&P Service?

A. Minnesota Power is proposing to change both the Demand Charge and Energy Charge for LL&P Service. The Demand Charge for the first 100 kW of billing demand is proposed to stay at $1,200 per month. The Demand Charge for all additional billing demand is proposed to decrease from $10.50 per kW-month to $10.00 per kW-month, with the addition of Transmission Demand of $4.69 per kW-month. The same Demand Charge changes are also incorporated in the LL&P Rider for Schools, which has a lower minimum billing demand. The Energy Charge is proposed to change from 4.148¢ per kWh to 4.945¢ per kWh.

4. Foundry, Forging and Melting Rider

Q. Does Minnesota Power propose any updates to the Foundry, Forging and Melting Rider?

A. Yes. Minnesota Power proposes to update the LL&P rider designed for foundry/forging/melting customers. The proposed updated tariff language is included in Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 89, Rider for Foundry, Forging and Melting Customers. The LL&P Rider for Foundry, Forging, and Melting offering was initially approved in Minnesota Power's 2009 rate case, and the Demand Charge Credit has not been changed since then — although the LL&P demand charges have increased. This rider provides another service option for foundry/forging/melting customers with low load factors that do not fit well with Minnesota Power's LL&P Schedule or any other existing rate. The Foundry Rider demand charge credit is proposed to be $3.00/kW-month (currently $2.50/kW-month), and the associated energy will continue to be subject to 200 hours per year of "price recall."

Foundry price recall gives the customer the option to curtail their electric usage or pay a higher price based on Minnesota Power's incremental energy cost. The curtailment feature benefits Minnesota Power's system — and, in turn, all customers — by encouraging customers on this rider to reduce load at times of system peaks or high energy prices. On the other hand, the price recall feature allows the Company to directly charge these customers the high incremental cost during such times if they choose not to curtail their load, rather than spreading this increased cost to all other customers. In addition, Minnesota Power is proposing to limit the price recall hours to 6 a.m. to 10 p.m. Central Time, with the exception of time periods when MISO has declared an alert or MISO emergency for the Minnesota Power area, to provide the maximum benefit to the system during on-peak hours when the system peaks and higher market prices occur.

5. LL&P Time-Of-Use

Q. What is the voluntary TOU rate for LL&P customers?

A. The Commission's November 2, 2010, Order in Minnesota Power's 2009 Rate Case, Order Point 24, directed Minnesota Power to develop and propose a TOU tariff for the LL&P customer class.[25] This requirement arose from Enbridge Energy Limited Partnership's ("Enbridge"), February 17, 2010 public comments in the 2009 Rate Case, which requested that the Commission require Minnesota Power to offer a TOU rate for the LL&P rate class so that Enbridge can operate its pipelines in a more cost-effective manner. On April 5, 2011, Minnesota Power filed the Petition for Approval of a Pilot Rider for Large Light and Power Time-of-Use Service in Docket No. E015/M-11-311. The Commission approved the Pilot Rider for Large Light and Power Time-of-Use Service ("LL&P TOU Rider") in an Order dated August 8, 2011.

Q. How many customers are taking service under the LL&P TOU Rider?

A. Enbridge is the only customer currently taking service under the LL&P TOU Rider. It began taking service under the Rider on July 1, 2019. Service under the Rider is currently restricted to LL&P customers with total power requirements in excess of 10,000 kW, which limits the customers eligible for the current pilot.

[25] *In the Matter of the Application of Minn. Power for Auth. to Increase Elec. Serv. Rates in Minn.*, Docket No. E015/GR-09-1151, FINDING OF FACT, CONCLUSIONS, AND ORDER at 72 at Order Point 24 (Nov. 2, 2010).

Q. Were there any compliance requirements related to the LL&P TOU Rider?

A. Yes. On July 31, 2019, Minnesota Power filed a compliance filing, in Docket No. E015/M-11-311, notifying the Commission that the first customer, Enbridge, had started taking LL&P TOU Rider service. The Commission's August 8, 2011 Order in that docket also required Minnesota Power to submit a LL&P TOU rate pilot evaluation report within 60 days after the first customer taking service under the Rider completed one year of service on the Rider. This compliance report was submitted on September 11, 2020.

Q. What changes does Minnesota Power propose to the customer total power requirements within the LL&P TOU Rider?

A. To expand the number of customers who can participate in the pilot, Minnesota Power proposes lowering the customer's total power requirements from 10,000 kW to 3,000 kW for eligibility to take voluntary service under the LL&P TOU Rider. Currently, the text of the LL&P TOU Rider states the customer's power requirement is "in excess of 10,000 kW"; the Company would update this to "at least 3,000 kW."

Q. How many customers would be eligible for the LL&P TOU Rider?

A. At the 3,000 kW threshold, nine current customers would be eligible for the voluntary LL&P TOU rider. Based on customer input, Minnesota Power anticipates that three of the nine customers would likely participate.

Q. What changes does Minnesota Power propose for the LL&P TOU Rider rates?

A. Minnesota Power proposes to change the on-peak energy rate from 4.742¢ per kWh to 6.955¢ per kWh and the off-peak energy charge from 3.542¢ per kWh to 4.635¢ per kWh. This results in a ratio of the on-peak to off-peak rates of about 1.5:1, which is consistent with the resulting on-peak to off-peak energy ratio from the approved TOU rates in the Residential Rate Design docket.[26] Similar to standard LL&P service, the monthly demand charge for the first 100 kW or less in the LL&P TOU Rider would stay the same at $1,200 per month. Minnesota Power proposes to change the on-peak demand rate from $10.90 per kW to $10.60 per kW and the off-peak demand rate from $4.25 per KW to $5.00 per kW. The Company is also proposing to apply the Transmission Demand Charge to on-peak demand at a rate of $4.69 per kW.

Q. What revisions does Minnesota Power propose to make to the peak periods?

A. Minnesota Power proposes to add a super off-peak period with an energy rate of 3.475¢ per kWh and no corresponding demand charge. This will result in a ratio of the on-peak to super off-peak rates of about 2:1.

Q. What time periods does Minnesota Power propose for on-peak, off-peak and super off-peak LL&P TOU?

A. Minnesota Power proposes to have on-peak hours of 3 p.m. to 8 p.m. Central Time Monday through Friday, excluding holidays (currently 7 a.m. to 10 p.m.); super off-peak hours of 11 p.m. to 5 a.m. Central Time (current LL&P TOU Pilot does not have a super off-peak period); and off-peak hours of all other hours (current is also all other hours).

Q. How were the peak periods selected?

A. The cost to serve customer energy demands fluctuates by the hour or even the minute. Wholesale power costs in the MISO market increase or decrease based on MISO's available generation and any transmission constraints within the market. Further, some Minnesota Power generation, transmission, and distribution capacity exists only to maintain reliable service during a system peak event. This capacity is relatively expensive since it is only necessary for a few hours out of an entire year. TOU rate

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[26] *In the Matter of Minn. Power's Petition for Approval of a Temp. Rider for Residential Time-of-Day Rate for Participants of the Smart Grid Advanced Metering Infrastructure Pilot Project*, Docket No. E015/M-12-233, PETITION FOR APPROVAL (Mar. 20, 2021); *In the Matter of the Petition for Approval of Changes to Minn. Power's Residential Rate Design*, Docket No. E015/M-20-850, PETITION FOR APPROVAL (Dec. 1, 2020).

design requires allocation of an overall authorized revenue according to these fluctuating hourly costs and a grouping of these costs into specific periods of the day or week reflecting: high cost to serve periods ("on-peak"), slightly lower cost to serve ("off-peak"), and relatively inexpensive times to serve ("super off-peak").

Selecting TOU periods requires balancing a number of different goals, such as simplicity for customers (and the utility) and desired size of on-peak to super off-peak price ratios. A peak period narrowly targeted at highest cost hours that may vary by season (perhaps with two distinct peak periods in a day) will lead to sharper pricing ratios but may be more challenging for customers and the utility to manage. In contrast, a more broadly targeted peak period, such as one that applies for a larger number of hours year-round, will lead to more muted pricing differentials but may be more appealing to customers. For LL&P TOU, the Company adopted the peak periods to align with its recently approved Residential TOU Rate Design proposal.[27] The peak period schedule was determined by balancing simplicity for customers (and the utility) against the complex seasonal variation in energy market prices[28] and Minnesota Power's system costs to serve. The peak-period selection methodology is documented in the Company's Petition for Approval of Minnesota Power's Residential Rate Design.[29]

G. Lighting

Q. What changes does Minnesota Power propose for its Lighting rates?

A. Minnesota Power proposes changes intended to simplify the application of the Lighting tariffs, as shown in the redlined tariff pages for proposed General Rates in Volume 3.

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[27] *In the Matter of the Petition for Approval of Minn. Power's Residential Rate Design*, Docket No. E015/M-20-850, ORDER APPROVING TRANSITION FROM INVERTED BLOCK RATE TO TIME-OF-DAY RATES at 8 (Aug. 27, 2021).

[28] MISO, *Real-Time Displays*, https://www.misoenergy.org/markets-and-operations/real-time--market-data/real-time-displays/ (last visited Oct. 28, 2021).

[29] *In the Matter of the Petition for Approval of Changes to Minn. Power's Residential Rate Design*, Docket No. E015/M-20-850, PETITION FOR APPROVAL AT 43-47 (Dec. 1, 2020).

The Outdoor and Area Lighting Service (Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 37) and Street and Highway Lighting Service (Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 46) schedules currently include four Rate Options. Under Option 1, Minnesota Power owns, installs, and maintains all equipment necessary for providing lighting service. Under Option 4, the Customer owns, installs, and maintains all equipment and buys only the energy required to power the lights from Minnesota Power. Options 2 and 3 involve a combination of Company and Customer ownership and maintenance.

Q. What specific changes do you propose for Options 2 and 3, and why?

A. Options 2 and 3 have become difficult to administer because of the complexity of tracking equipment ownership and identifying who is responsible for maintaining various portions of the equipment. As approved in the 2009 Rate Case, Options 2 and 3 are currently closed to new installations.[30] Minnesota Power has been phasing customers off Option 2 to Option 1, and occasionally transitioning customers from Option 3 to Option 4, which the Company plans to complete by the end of 2022. With the completion of the phase-out of Options 2 and 3 at the end of 2022, the Company proposes the elimination of these two options from its Rate Book with final rates.

Q. How were the proposed changes to individual Lighting rates developed?

A. The Lighting rate changes were developed using a separate analysis that incorporates the cost of purchasing, installing, and maintaining equipment along with the cost of providing electricity. This analysis is included in Volume 4, Rate Design Workpaper RD-1. For the Lighting class, Minnesota Power proposes an overall revenue increase of 18.22 percent.

[30] *In the Matter of the Application of Minn. Power for Auth. to Increase Elec. Serv. Rates in Minn.*, Docket No. E015/GR-09-1151, FINDING OF FACT, CONCLUSIONS, AND ORDER (Nov. 2, 2010).

Q. What are the specific proposed changes for Outdoor and Area Lighting Service and Street and Highway Lighting Service?

A. Under both of these service schedules, the energy charge for Option 4, where the customer owns and maintains the equipment, is proposed to change from 5.990¢ per kWh to 7.191¢ per kWh. It is reasonable for this energy rate to be lower than the General Service class energy rate for customers without demand meters because outdoor lighting service is provided when it is dark outside, which is primarily during the lower-cost off-peak hours. In addition to the energy rate changes, Minnesota Power proposes to increase the fixed monthly Service Charge from $3.34 to $4.00 for Option 4. The monthly Service Charge covers the cost of the meter and customer service.

H. Large Power

1. Existing Rate Structure

Q. Please describe how the existing LP demand charge is structured.

A. The demand structure is composed of three constituents — generation, transmission, and distribution — intended from a rate design standpoint to recover the fixed costs of assets in place to serve the customers. Minnesota Power currently combines these components into a single demand charge for LP customers.

2. Proposed LP Rate Structure

Q. What changes are the Company requesting regarding the structure of LP Demand Charges?

A. The Company is requesting the addition of a line item labeled "Transmission Demand Charge" as a separate demand charge line item on the customer bills. Minnesota Power is requesting to split out the Transmission component within the current Demand Charge and list it as its own line item on the customer bill. As a result of the change to the Transmission component, the remaining Demand Charge will only contain charges for generation and distribution. This proposed change increases transparency regarding the existing Demand Charges and does not affect current Electric Service Agreements.

Q. Why is Minnesota Power proposing this change?

A. Minnesota Power is proposing the Transmission Demand Change for the same reasons mentioned in the LL&P section. Separating the current demand charges into their constituent components will create more transparency regarding the drivers of system costs and provide a cost-effective alignment with the evolving power markets.

Q. What comprises the Transmission Costs?

A. Minnesota Power's transmission costs are comprised of a rate of return on transmission rate base, depreciation expense (recovery of the asset cost over time), and the expenses associated with operating and maintaining the transmission system. The transmission expenses are partially offset by MISO transmission revenues. In addition to direct transmission costs, certain common or joint rate base costs, revenues, and expenses are allocated to the transmission function and included in overall transmission revenue requirements. Most LP customers are served at transmission voltage and are significant users of the transmission system.

Q. Does the overall LP billed demand amount change?

A. For LP customers, the combined Demand Charge and the Transmission Demand Charge billing amounts do not impact the total Demand Charges that will be reflected on the bill. It only changes where the transmission component of the Demand Charge is shown on the bill. Figure 6 displays the proposed change.

Figure 6. Proposed LP Total Demand Charge Example

Large Power Transmission Demand Charge - 50 MW Example				
	Proposed - Transmission Not Split Out		Proposed - Transmission Split Out	
	Rate	Billed	Rate	Billed
First 10,000 kW	$ 313,604	$ 313,604	$ 251,204	$ 251,204
Additional kW ($/kW)	$ 29.74	$ 1,189,600	$ 23.50	$ 940,000
Transmission Demand ($/kW)			$ 6.24	$ 312,000
Total Demand Charges		$ 1,503,204		$ 1,503,204

Q. How will the Transmission Charge billing amount be calculated each month for LP customers?

A. The Transmission Demand Charge will be calculated based on the customer's Billed Demand kW for the month by the Transmission Demand rate.

Q. What Large Power service schedules and riders does Minnesota Power propose to change in this rate case?

A. An updated Large Power Service Schedule with redlines detailing the proposed changes to the charges discussed in my testimony is provided in Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 24, Large Power Service. Minnesota Power also proposes cancellation of the LP Rider for EITE Customers ("EITE Rider") at the end of this rate case and corresponding changes to the Non-Contract LP Service. Minnesota Power is also proposing changes to the Rider for Large Power Incremental Production Service and for the Demand Response Product A. I discuss each of these in more detail below.

3. <u>Energy-Intensive Trade Exposed</u>

Q. What is the status of Minnesota Power's EITE Rider?

A. The EITE Rider was implemented on February 1, 2017, with an initial term of four years for the EITE Energy Charge Credit.[31] It was therefore scheduled to expire on February

[31] *In the Matter of a Petition to Ensure Competitive Electric Rates for Energy-Intensive Trade-Exposed Customers*, Docket No. E-015/M-16-564, RIDER FOR ENERGY-INTENSIVE TRADE-EXPOSED CUSTOMERS (Mar. 1, 2017).

1, 2021. However, the Commission granted Minnesota Power's August 31, 2020 petition to extend the EITE rider until final rates are implemented in this rate case.[32]

Q. Is the EITE rate discount included in present rate revenues in this rate case?

A. Yes, the EITE rate discount currently in effect is included in present rate revenues for the LP class, as shown on Volume 3, Direct Schedule E-2, pages 49 through 51 of 79.

Q. What impact has offering the EITE rate discount had on rates for other Minnesota Power customer classes?

A. Minnesota Power's other customers have not had to pay any surcharge associated with the EITE rate discount. Subsequent to Minnesota Power's offering of the EITE Rider, LP customer U.S. Steel restarted its Keetac facility, which increased Minnesota Power's sales and revenues above the baseline before offering the EITE Rider. These increased revenues made it unnecessary to collect additional revenue to offset the EITE rate discount from other customer classes. In addition, per the extension of EITE based on the Commission's approval of Minnesota Power's August 31, 2020 petition, Minnesota Power agreed not to recover any EITE-related costs from non-EITE customers.

Q. Does Minnesota Power include the EITE rate discount in its proposed final rates?

A. No, subject to Commission approval, Minnesota Power proposes to cancel the EITE Rider and rate discount effective with final rates. Consistent with the Commission's order on January 19, 2021,[33] a redlined version of the tariff sheet showing the cancellation is included in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 98, Rider for Energy-Intensive Trade-Exposed (EITE) Customers.

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[32] *In the Matter of a Petition to Ensure Competitive Electric Rates for Energy-Intensive Trade-Exposed Customers*, Docket No. E-015/M-16-564, ORDER APPROVING RIDER EXTENSION WITH CONDITIONS (Jan. 19, 2021).
[33] *Id.*

4. Proposed LP Rates

Q. What changes does Minnesota Power propose for the standard LP Service Schedule Demand Charge and Energy Charge?

A. Minnesota Power proposes to increase the Demand Charge for the first 10,000 kW or less of Billing Demand from $250,087 to $251,204, decrease the Demand Charge for all additional Firm Demand from $24.96 to $23.50 per kW-month, and add the Transmission Demand Charge of $6.24 per kW-month. The LP Firm Energy rate is proposed to increase from 1.041¢ per kWh to 1.364¢ per kWh.

5. Non-Contract Large Power Service

Q. What revisions does Minnesota Power propose for Non-Contract LP Service?

A. The Non-Contract LP demand charges have historically been set 20 percent higher than standard LP demand charges as a strong incentive for these large customers to continue making long-term contractual commitments under the standard LP Service Schedule. Minnesota Power proposes to continue this precedent and again set the Non-Contract LP demand and Transmission Demand charges 20 percent higher than the standard demand charges, which is $301,445 for the first 10,000 kW, $28.20 per kW for all additional Billing Demand, and $7.49 per kW for Transmission Demand.

6. Incremental Production Service Rider

Q. Does Minnesota Power propose any changes to the Rider for LP Incremental Product Service?

A. Yes, Minnesota Power is proposing changes to the Rider for LP Incremental Product Service ("IPS"). The Commission approved the Rider for LP IPS initially in 1995.[34] The initial purpose of the Rider was to allow LP customers to increase production above historical levels without being subject to additional contractual demand commitments. The product also offered the utility a curtailable product in times of high system loads or during concerns of system volatility. The proposed changes to the Rider involve:

[34] The Rider for Large Power Incremental Production Service was approved by Commission Order dated July 24, 1995 in Docket No. E015/M-95-596.

I. Changing the base price structure from an incremental cost-based price to the greater of the MISO Day Ahead LMP or the current year average LP forecasted fuel & purchased energy rate;

II. Expanding the definitions to allow Minnesota Power to have the ability to curtail IPS usage to allow curtailments in times of low renewable energy conditions or high LMP pricing conditions; and

III. Allowing LP customers to exceed the current 110 percent threshold on IPS usage during times of high renewable energy availability, low system loads, or low LMP pricing conditions.

The proposed updated tariff language reflecting these changes is included in Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 69, Rider for Large Power Incremental Production Service.

Q. Why does Minnesota Power want to change the base pricing structure for IPS?

A. Minnesota Power intends to modernize the current hourly incremental pricing structure so that LP customers pricing aligns with market pricing trends and renewable generation levels. The proposed changes to the pricing structure will be based on a MISO Day-ahead LMP, with a pricing floor in place. Protection against pricing volatility for customers and for the Company will be provided through enhancements of curtailment conditions and repricing options, as described below.

Q. Why does Minnesota Power want to expand the conditions under which it can curtail IPS?

A. The Rider allows Minnesota Power sole discretion on curtailing for testing, avoiding a system peak, or to support grid reliability. The proposed changes to the Rider will not impede the Company's ability to curtail IPS in response to MISO events, which is the most common reason for current curtailments. Instead, the proposed changes will provide further definition of the Company's ability to curtail by defining the number of annual hours in which customers must curtail IPS to avoid a system peak or when needed for reliability purposes. Moreover, the changes include a pricing-related enhancement, through definition of the number of annual hours in which customers may buy-through on a curtailment, allowing Minnesota Power to curtail IPS usage in times of low renewables or high LMP pricing conditions. The enhanced definitions of curtailability conditions provide detail and clarity to both the utility and to customers and will result in customers receiving pricing signals to allow them to avoid high pricing by making production decisions accordingly.

Q. Why does Minnesota Power want to allow the customers to exceed the current 110 percent threshold on IPS usage?

A. The Rider currently allows Minnesota Power to grant a variance to the 110 percent threshold upon customer request. The Rider also provides that such a request shall not be unreasonably denied. In the Company's 2016 Rate Case filing, the Company had requested an increase in the threshold from 110 percent to 120 percent, and this request was not approved by the Commission.[35] The Company has recognized that there are times in which the combination of renewable energy supply, timing, and load levels could create a condition in which a more conditional variance of the 110 percent threshold could enable Large Power customers to take advantage of these conditions.

The proposed changes to the Rider also better define the pricing and market conditions under which the additional operating levels will benefit the LP customers, the Company, and other customers. Taking advantage of trends in which the winds blow harder overnight, when coupled with better pricing signals, will allow LP customers to use renewables in off-peak hours at pricing levels that will be attractive to them and that could reduce usage of other generating sources during peak hours. Pricing is expected to be favorable if the variance to the threshold is allowed during low system loads or low LMP pricing conditions. Furthermore, establishing a program for allowing regular exceedance of the 110 percent threshold during periods of low LMP pricing that typically correlates with high renewable production will support greater utilization of

[35] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E-015/GR-16-664, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 89-90 (Mar. 12, 2018).

renewable energy in alignment with state policy goals to continue increasing sustainability of the energy supply.

Q. Is Minnesota Power expecting additional usage of IPS?

A. Additional energy usage is not expected with current customer processes, although it may be possible should customers modify their processes to take advantage of the variance feature in the future. The Company expects that the establishment of better pricing signals with this product, combined with more granular definitions of curtailment conditions, will result in customers shifting production from high priced market times, to times of lower pricing and higher renewable generation availability creating system efficiencies that benefit all customers.

7. Large Power Demand Response

Q. Does Minnesota propose any changes to the LP DR programs?

A. Yes, the Company proposes an allocation, demand credit discount change, and quantity update related to the LP DR "Product A," and the "Curtailable product." The Commission approved Product A in Docket E015/M-18-735 and the Curtailable product in Docket E015/M-16-534. LP DR Product A and the curtailable product are emergency curtailment only, Load Modifying Resource – Demand Resource that Minnesota Power accredits with MISO under the requirements of MISO's Resource Adequacy. LP DR is available for a limited number of hours each year. LP DR products are similar to a capacity purchase that MP utilizes to satisfy MISO capacity requirements for its system. Therefore, the Company requests that, effective with final rates and for future rate proceedings, the credits paid to participating LP customers be treated like purchased power demand and allocated accordingly.

In addition, Minnesota Power proposes to increase the Product A demand credit discount to $1.20 per kW (versus the existing $0.60 per kW) to align with evolving MISO requirements to accredit demand response capacity within the MISO system, requiring customers to accept double the interruptions per year. MISO has also stated that due to the increased amount of extreme weather events and additional renewable generation, the more frequent utilization of demand response resources is going to become the new normal.[36] These interruptions come at a risk and a cost to customer operations; thus, customer decisions around DR participation are influenced by weighing these risks along with program's credit discount.

Minnesota Power is proposing these changes as a part of the rate case as the $0.60 per kW credit is built into current rates and, therefore, a change to that credit and its allocation is best done in a rate case.

Q. What adjustments to test year revenues would be required to effectuate this change?

A. To accomplish this, LP DR included in the LP rate class was removed from LP revenues and then allocated to all customers. Next, LP DR cost was removed for an adjustment to reflect the full year of lower LP DR due to the implementation of Product C[37] and the impact of increasing the Product A demand discount to $1.20 per kW. These adjustments are discussed in the Direct Testimony of Company witness Ms. Turner.

Q. Why is this proposed change in ratemaking treatment reasonable?

A. This change would make Minnesota Power's ratemaking treatment for LP DR consistent with Xcel Energy's longstanding methodology for interruptible discounts in rate cases. Minnesota Power agrees with the description included in Xcel's 2015 electric rate case, in which their cost-of-service witness stated:

> The Company's CCOSS process treats interruptible discounts as a cost of peaking capacity and allocates that cost to classes based on firm loads. As explained in previous cases, the Company views interruptible service as firm service with an attached, after-the-fact, purchased-power contract provision. Through this provision, the Company has the option to buy back all or part of a customer's

[36] Amanda Durish Cook, *MISO Stresses DR Capacity as Emergencies Accumulate*, RTO INSIDER LLC, https://www.rtoinsider.com/articles/28299-miso-stresses-dr-capacity-as-emergencies-accumulate (Aug. 1, 2021).
[37] *In the Matter of the Petition for Approval of Minn. Power's Indus. Demand Response Product C Agreements*, Docket No. E015/M-21-28, PETITION FOR APPROVAL (Jan. 6, 2021).

> regulatory entitlement to firm service. The resulting capacity purchase transactions occur when, and if, doing so is a cost-effective source of peaking capacity; this helps the Company obtain a reliable power supply portfolio at the lowest cost. This means interruptible rate discounts are really power supply costs and they need to be recognized as such in the CCOSS.[38]

I. <u>Service Voltage Adjustment</u>

Q. What revisions does Minnesota Power propose for the service voltage adjustments for General Service and LL&P rates?

A. Minnesota Power proposes to increase the primary voltage discount to $2.25 per kW (currently $2.00 per kW), plus an additional discount to the Energy Rate of 0.600¢ per kWh (versus the existing 0.350¢ per kWh), for customers taking service at transmission voltage. Calculations supporting these proposed changes are included in Volume 4, Rate Design Workpaper RD-2.

J. <u>Fuel and Purchased Energy Rider</u>

Q. What changes have been approved regarding Minnesota Power's Fuel and Purchased Energy ("FPE") Rider since the Company's 2016 Rate Case?

A. In its November 5, 2019 Order Approving Compliance Filings in the 2003 Fuel Clause Investigation Docket[39] ("Fuel Clause Docket Order"), the Commission approved the following changes related to the base cost of energy proposed by Minnesota Power:[40]

1. Zero out the fuel and purchased energy costs included in the base cost of energy in the Company's 2019 general rate case and include all such energy costs in a new FPE Charge starting with interim rates effective January 1, 2020;
2. Continue to include the FPE Charge under the Resource Adjustment line on customer bills until final rates are implemented;

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[38] *In the Matter of the Application of N. States Power Co. for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E002/GR-15-826, DIRECT TESTIMONY OF MICHAEL A. PEPPIN at 8-9 (Nov. 2, 2015).

[39] *In the Matter of an Investigation into the Appropriateness of Continuing to Permit Elec. Energy Cost Adjustments*, Docket No. E-999/CI-03-802, ORDER APPROVING COMPLIANCE FILINGS (Nov. 5, 2019).

[40] *Id.* at 4.

3. Show the FPE Charge as a separate line on customer bills effective with final rates;
4. Forego filing a separate Base Cost of Energy filing in future general rate cases; and
5. Require Minnesota Power to demonstrate in its upcoming initial rate case filing that its proposed base rates do not include any amount of Fuel Adjustment Clause[41] costs.

Q. What is the status of these changes that were approved by the Commission?

A. Minnesota Power removed (or "zeroed out") the entire amount of FPE cost included in base energy rates, effective January 1, 2020 with interim rates in the 2019 Rate Case on. Thus, the entire FPE cost is currently included in the FPE Charge.

The FPE Charge continues to be combined with the Conservation Program Adjustment ("CPA") in the Resource Adjustment line item on customer bills. Although the Fuel Clause Docket Order allowed Minnesota Power to show the FPE Charge as a separate line on customer bills effective with final rates in the 2019 Rate Case, that rate case was resolved and withdrawn by the Company, and not all issues raised in the initial rate case filing were addressed in the resolution. Furthermore, the Fuel Clause Docket Order did not specifically authorize Minnesota Power to combine its CPA and other cost recovery rider line items in the Resource Adjustment or new Minnesota Policy Adjustment line item. Therefore, at this time, Minnesota Power has not yet separated the FPE Charge from the Resource Adjustment line.

Q. What specific change does Minnesota Power now propose regarding the FPE Charge and other line items on customer bills?

A. Effective with final rates, Minnesota Power proposes to show the FPE Charge as a separate line item on customer bills, as allowed by the Commission in the Fuel Clause Docket Order. Because the Department of Commerce was previously concerned about having the CPA as a stand-alone line item on customer bills, Minnesota Power also

[41] The terms Fuel Clause Adjustment ("FCA") and Fuel Adjustment Clause ("FAC") are used interchangeably for Minnesota Power's FPE Rider.

proposes to combine its other existing state energy policy-related cost recovery rider line items with the CPA effective with final rates. The other currently applicable cost recovery riders include the Rider for Transmission Cost Recovery, Rider for Renewable Resources, and Rider for Solar Energy Adjustment, which would be combined with the CPA and shown on customer bills as the Minnesota Policy Adjustment. These rider adjustment line items recover a portion of the total costs for their respective categories, similar to the CPA, making it logical to combine them rather than continuing to show them separately. Conversely, part of the purpose of the fuel clause forecast and projected FPE costs is to allow for more customer transparency for these costs. This increased visibility is promoted by showing the FPE Charge as a separate line item rather than combining it in the Resource Adjustment.

Q. Has Minnesota Power zeroed out the base cost of fuel and purchased energy for the 2022 test year as directed in the Fuel Clause Docket Order?

A. Yes.

Q. What compliance requirement was included in the Fuel Clause Docket decision related to FPE costs?

A. The Commission's November 5, 2019 Order Approving Compliance Filings in Docket No. E999/CI-03-802 required that in the initial filings for their next rate cases, each utility shall demonstrate that its proposed base rates exclude FCA related costs. Minnesota Power addressed this compliance requirement in its initial filing in Docket No. E015/GR-19-442. However, that case was ultimately withdrawn.

Q. How has Minnesota Power met this requirement in this rate case?

A. Since the Company needs to consider fuel costs as part of customer bill impacts, Minnesota Power met this requirement by including all fuel clause revenues, as well as fuel and purchased energy costs, in the calculation of the revenue deficiency. Volume 3, Direct Schedule E-2, page 77 shows the monthly fuel clause factor by customer class for both present rates and general rates. Since the fuel clause factors for present rates

— in which there was zero cost of fuel in base rates — and general rates are identical, it shows that there were no changes to the FAC that impacted the revenue deficiency calculation and the Company's zero base cost of fuel is unchanged.

K. <u>General Service and Large Light and Power Interruptible Service</u>

Q. Does Minnesota Power propose any updates to the Rider for General Service/ LL&P Interruptible Service?

A. Yes. The Company proposes to update the rider language to reflect current market parameters for interruptible service. The proposed updated tariff language is included in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 68, Rider for General Service/Large Light and Power Interruptible Service. Physical load interruptions will be required during MISO events. The interruptible modifications to the program offering are intended to better define the General Service and LL&P interruptible parameters. In addition, energy pricing would be subject to 100 hours per year of "price recall," where the customer could choose to curtail electric usage or pay a higher price based on Minnesota Power's incremental energy cost. Price recall hours would be limited to 6 a.m. to 10 p.m. Central Time with the exception of time periods when MISO has declared an alert or MISO emergency for the Minnesota Power area in order to provide the maximum benefit to the system. The price recall or curtailment feature benefits Minnesota Power's system by encouraging customers on this rider to reduce load at times of system peaks or high-energy prices or by allowing the Company to charge them (rather than all other customers) the incremental cost during such times.

L. <u>Non-Metered Service</u>

Q. Is Minnesota Power proposing any changes to its Rider for Non-Metered Service?

A. Yes. Minnesota Power proposes to split the Holiday Lighting component of the Rider for Non-Metered Service into two separate types: LED and incandescent components. The purpose of this is to provide more accurate billing and clarify the language under the "Discussion" section in the tariff to simplify the billing calculation. Minnesota

Power proposes to change the description (Holiday Lighting), units (Est. connected load in (kW), and 422 kW (estimated monthly energy/unit) for Holiday Lighting to, respectively, Holiday Lighting – LED, kWh, 270 kWh for LED, and to Holiday Lighting – Incandescent, kWh, 3,780 kWh for Incandescent. The changes are shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 67, Rider for Non-Metered Service.

Q. Why are these changes warranted?

A. Minnesota Power noticed through its annual communication with customers that roughly 75 percent of customers are using LED holiday lights and believes this modification will be an incentive for the remaining 25 percent of customers on this rate schedule to switch to LED. Furthermore, the Estimated Monthly Energy Usage/Unit shown at 422 kW was inaccurately stated on the tariff sheet and required manual intervention in the Company's billing system.

M. Extension Rules

Q. Is Minnesota Power proposing any changes to the Extension Rules?

A. Yes. Minnesota Power is proposing some clarifications in the following sections: General, Contributions, Basis for Making Extensions for Permanent Service Where Extension Costs are $30,000 or less, and Reapportionment and Refunds. These sections of the tariff have not been modified since the Company's Extension Rules were revamped in Docket No. E015/M-12-1359. The revised language is shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section VI, Page No. 4, Extension Rules.

Q. Why is the Company proposing changes to these sections of the Extension Rules?

A. The Extension Rules current language is complicated and has led customers and the Company's employees to interpret its intent inconsistently at times. The purpose of the changes in the language is to clarify the intent for all. It does not modify an existing rate. The Company believes clarifications of the language would result in more consistent and straightforward interpretation.

Q. What change do you propose for the General section of the Extension Rules?

A. This section is clarified to reflect a change in the name of the Company's reference manual, from the Company's Engineering Standards to the Company's Distribution Construction Standards. This section also clarifies that if a customer requests a second feed for a second service point, the second feed is the customer's responsibility.

Q. What change do you propose for the Contributions section?

A. The Company proposes adding language describing the cost associated with a customer requesting a second extension or an alternate source feed for reliability. Currently, there is no language in this section governing the provision of a second service point. The new proposed language lists the type of additional facilities the customer is authorized to add, such as transformers, cable, switches, and any associated equipment. When additional capacity is needed, the Company will add the facility at its expense; otherwise, a contribution will be required from the customer.

Q. What change do you propose for the Basis for Making Extensions for Permanent Service Where Extension Costs are $30,000 or Less section?

A. In this section, under the paragraph for Developers of Residential Housing Sites, the Company requests to delete the allowance dollar amount given to a Residential customer for single-phase and replace the dollar amount, in that section only, with a more general term. The Company requests to delete $668 and replace it with "the current residential allowance amount" determined by the Service Extension Rules annual filing. By making this change, Minnesota Power would avoid the risk of inadvertently not using the correct amount each time the allowance changes[42] as well as avoid confusion with changes in overlapping dockets related to extension costs.

Q. What change do you propose for the Reapportionment and Refunds section?

A. In this section, the Company proposes to modify the language to clarify that the Guaranteed Annual Revenues ("GAR") is not revisited after it is finalized with the customer. The current language states that: the current Electric Service Agreement ("ESA") for a customer with a service extension is revisited at the end of the first two years, and if it differs from the minimum annual revenue the Customer has elected to guarantee, the Company will, at the election of the Customer, either refund to the Customer the GAR or collect an additional contribution from the Customer. This language implies that Minnesota Power revisits the ESA and the GAR at the end of the first two years and adjusts the amount before either refunding or collecting money from the customer. This has been very difficult for the Company to implement successfully.

The proposed language does not change any existing rate, but clarifies that the ESA and GAR are not revisited after they have initially been finalized with the customer. Rather, each year the Company will compare the extension cost GAR to the minimum revenue and either pay the difference to the customer or collect the difference from the customer.

N. <u>Business Development Incentive</u>

Q. Is Minnesota Power proposing any modifications to the Rider for Business Development Incentive?

A. Minnesota Power is proposing a minor modification to change the name of the Rider for Business Development Incentive to the Rider for Business Expansion Incentive, in

[42] *In the Matter of a Request By Minn. Power for a Modification to its Serv. Extension Tariff,* Docket No. E015-M-12-1359, COMPLIANCE FILING (Dec. 26, 2012) (the Company is required to file on June 1 of every year a report when its average embedded service-extension cost for any customer class change by five percent and if the costs have not changed over the course of the year, submit a letter-filing stating that they have not changed. With this modification, the Company will update the new residential allowance only at the beginning of the section rather than have the allowance repeated at multiple places throughout the tariff sheet.).

order to be consistent with marketing materials. The change is shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 100, Rider for Business Expansion Incentive.

O. <u>Released Energy and Voluntary Energy Buyback</u>

Q. What changes does the Company propose for the Rider for Released Energy?

A. Minnesota Power proposes to update the rider language related to the energy credit for avoided energy purchases to align with MISO requirements for balancing load. In addition, the Company is proposing several minor changes related to the process and method of communication. The changes are shown in redlined and clean format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 70, Rider for Released Energy.

Q. What changes does the Company propose for the Rider for Voluntary Energy Buyback?

A. In the Voluntary Energy Buyback tariff, the Company is requesting changes related to the Buyback Energy Credit and minor changes related to the process and method of commination. The changes are shown in redlined and clean format in Volume 3, Tariff Pages for Changes in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 72, Rider for Voluntary Energy Buyback.

P. <u>Other Rider Proposals</u>

Q. Is Minnesota Power proposing to cancel any additional riders from the rate book?

A. Yes. Minnesota Power is proposing to delete the following riders from the rate book:

- Rider for Large Power Interruptible Service due to the Company not being able to administer this outdated demand response rider, along with the customer program being replaced by the Rider for Large Power Demand Response Service. The change is shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 65.3, Rider for Large Power Interruptible Service;

- General Service/Large Light and Power Area Development Rider due to no customer utilization of the rider and the addition of the Rider for Business Development/Expansion Incentive. The change is shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 75;
- Large Power Area Development Rider due to no customer utilization of the rider and the addition of the Rider for Business Development/Expansion Incentive. The change is shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 76.1; and
- Miscellaneous Electric Revenue Charges Transformer Rentals due to the Company no longer having transformer rentals. The change is shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section IX, Page No. 3.

Q. Is Minnesota Power proposing any minor wording modifications within the rate book?

A. Yes. Minnesota Power is proposing several minor wording modifications:

- Pilot Rider for Residential Time-Of-Day Service. The changes are shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. 91, Pilot Rider for Residential Time-Of-Day Service; and
- In the Community-Based Energy Development ("C-BED") tariff, the Company is requesting to have service closed to new customers because Minn. Stat. § 216B.1612 was repealed. The change is shown in redlined format in Volume 3, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section IX, Page No. 1, Community-Based Energy Development (C-BED).

Q. Is the Company proposing to add any additional tariffs within the rate case?

A. Yes. As discussed in more detail in the Direct Testimony of Company witness Frank L. Frederickson, the Company is proposing to implement a new Sales True-up Mechanism. The Company is therefore proposing to add a new tariff to the rate book for the proposed Sales True-up Mechanism. The changes are shown in redlined and clean format in Volume 5, Tariff Pages for Change in Rates, Minnesota Power Electric Rate Book, Section V, Page No. NEW-2, Rider for Large Power Sales True-up Adjustment.

Q. <u>Summary of Present and Proposed General Rates</u>

Q. Please provide a summary of Minnesota Power's present rates and proposed general rates by rate class.

A. A summary of proposed rate revisions for all classes, except LL&P, is provided in Volume 3, Direct Schedule E-2, pages 60 and 61. The details of the proposed Lighting rate revisions are provided in Volume 3, Direct Schedule E-2, page 45, and the proposed Large Power rate revisions are provided in Volume 3, Direct Schedule E-2, pages 75 and 76.

IV. CONCLUSION

Q. Does this complete your testimony?

A. Yes.

Minnesota Power - 2022 Test Year General Rates
Proposed Class Revenue Apportionment and Percent Increase

Line	Customer Class [A]	Present Rate Revenue [B]	Proposed Percent Increase [C]	Proposed Dollar Increase [D]	Proposed Final Rate Revenue [E]	Final Rate Revenue (E-Schedule) [F]	Final E-Schedule Increase [G]
1	Residential	$111,948,172	18.22%	$20,398,194	$132,346,366	$132,346,346	18.22%
2	General Service	$76,999,163	18.22%	$14,030,099	$91,029,262	$91,029,211	18.22%
3	Large Light & Power	$107,584,315	18.22%	$19,603,051	$127,187,367	$127,187,393	18.22%
4	Large Power	$305,365,018	18.22%	$55,640,882	$361,005,899	$361,005,847	18.22%
5	Lighting	$3,807,678	18.22%	$693,801	$4,501,479	$4,501,482	18.22%
6	Subtotal by Rate Class	$605,704,346		$110,366,027	$716,070,373	$716,070,279	18.22%
7	Dual Fuel -- Residential	$8,260,534	-0.45%	-$37,270	$8,223,264	$8,223,264	-0.45%
8	Dual Fuel -- Comm/Ind	$1,984,546	0.57%	$11,329	$1,995,874	$1,995,874	0.57%
9	Subtotal Dual Fuel	$10,245,079	-0.25%	-$25,941	$10,219,138	$10,219,138	-0.25%
10	TOTAL (Sales of Electricity including Dual Fuel)	$615,949,426	17.91%	$110,340,086	$726,289,512	$726,289,417	17.91%
11	Large Power - Other Energy	$32,426,221		-$2,025,950	$30,400,271	$30,400,271	
12	TOTAL (Sales of Electricity including LP - Other Energy)	**$648,375,646**	**16.71%**	**$108,314,136**	**$756,689,782**	**$756,689,687**	**16.71%**

Sources/Notes:
[B] Direct Schedule E-1, page 2. Excludes ongoing rider adjustments.
[C] The dual fuel rates were modified and held relatively constant in order to compete with alternative energy sources. Then, proposed changes to LP demand response products in the Large Power - Other Energy were accounted for. Then in order to avoid rate shock with a large overall increase, the remaining rate classes were given an equal percent increase.
[D] Column [B] multiplied by column [C].
[E] Column [B] plus column [D].
[F] Direct Schedule E-1, page 2.
[G] Final proposed increase built into Direct Schedule E-1.

Average travel time to meter related orders (minutes)	14.7	
Average time to complete Meter Read in (minutes)	3.9	
Average time to travel to and complete a meter read (minutes)	18.6	
Labor Rate for Meter Reader Collectors per hour	$35.07	
Labor Overhead %	48.83%	
Overheaded labor for Meter Reader Collector per hour	$52.19	
Average Labor cost for a meter read		$16.18
Fleet rate by hour for Class 1-4 Vehicles per hour	$10.00	
Average Fleet cost for a meter read		$3.10
VxField Support Costs for all ALLETE	$40,995.14	
Number of orders completed through vxField in 2020	62,803	
System (vxField) cost per order		$0.65
Total cost of an average meter read		**$19.93**
Proposed Fee		**$20.00**