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-19-442

Exhibit ________

CASE OVERVIEW

November 1, 2019

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I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Frank L. Frederickson 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"). My current position is Vice President – Customer Experience.

Q. Please summarize your qualifications and experience.

A. I have been with Minnesota Power for over eleven years and have experience in the electric industry that includes customer program development, delivery and operations, strategic accounts management, regional economic development, renewable power generation project development and construction management, power generation business management, general management of generation reliability and projects engineering, and marketing.

In my current position with Minnesota Power, I am responsible for several areas that were consolidated during our 2018 downsizing that now includes all customer accounts and relationships for Minnesota Power's residential, commercial, wholesale, and industrial customers. I lead a team that focuses on: strategic accounts management; customer business analytics; customer system transformation, conservation, and renewable program development and delivery; customer billing and cash collection; customer care and support center; and economic and regional development.

Prior to my current role, I held the position of Vice President – Minnesota Power Marketing. In that role, I was responsible for the relationships with our large industrial, commercial, and wholesale customers, delivery of our Conservation Improvement Programs ("CIP"), and regional economic development activities.

I previously held the position of general manager, Minnesota Power hydro and biomass renewable operations, and worked out of our generation operations office in Cohasset, Minnesota. In that role, I was responsible for the general management of our hydro and biomass operations, generation reliability, and projects engineering, and was tasked with leadership of Minnesota Power's evaluation team for the natural gas-fired capacity and unit-contingent energy request for proposal process.

Previous to this experience I managed the renewable business operation at Rapids Energy Center, developed and constructed wind generation facilities, and participated in overall planning activities for Minnesota Power's renewable energy expansion.

Before joining Minnesota Power, I was employed for seven years as a senior process development engineer for 3M Company, where I have been a named inventor on 16 granted US patents in various technologies. I graduated from the University of Minnesota with bachelor and master degrees in mechanical engineering. I am originally from International Falls, MN, and have been a lifelong Minnesota resident.

Q. What testimony do you provide in this proceeding?

A. I provide testimony on two separate topics in this proceeding, which are filed separately to facilitate review. In the present testimony, I provide an overview of the Company's case and its rate increase request in this proceeding (the "Case Overview Testimony"). Under separate cover, I discuss the economics surrounding Minnesota Power's Large Power ("LP") customer group from both industry and individual business perspectives, and the Company's forecasting process for LP customers (the "LP Testimony").

Q. What are the Company's overall requests in this proceeding?

A. Minnesota Power has projected an overall revenue requirement of $688.0 million (MN Jurisdictional) in the 2020 test year, and seeks a rate increase of $65.9 million (MN Jurisdictional) or 10.59 percent above present rate revenue of $622.1 million. These amounts are based on the Company's projected operations and maintenance ("O&M") expense and capital budgets for the 2020 test year, a rate of return on equity ("ROE") of 10.05 percent, and an overall rate of return of 7.4737 percent. Based on the Company's proposed rate design, Minnesota Power is requesting a 15 percent increase for residential customers, along with a proposal to move from an inclining block rate structure to a flat rate structure. Through this proposed structure, the average residential rate would remain below the state and national averages.

For interim rates, Minnesota Power is requesting a revenue increase of $47.9 million (MN Jurisdictional), or 7.70 percent above the Company's present rate revenue.

The support for these requests is set forth in my testimony, as well as by the other witnesses testifying on behalf of Minnesota Power, and this overall filing.

Q. Please summarize your Case Overview Testimony.

A. First, I provide an overview of ALLETE, Inc. and the Minnesota Power electric utility, specifically highlighting: (1) How Minnesota Power continues to be an industry leader in increasing renewable energy on its system, and has the highest percentage of renewable energy generation delivered to its customers within the State of Minnesota; and (2) Minnesota Power's high concentration of industrial customers and the risks associated with that load profile. I then discuss Minnesota Power's customers and current economic environment.

Second, I provide an overview of the specific requests in this filing, which are simplified as compared to Minnesota Power's last rate case filing in Docket No. E015/GR-16-664 ("2016 Rate Case"). This case focuses on revenue requirement and rate design updates that reflect the Company's capital investments, current and foreseeable load, and reduced energy sale margins due to the expiration of key contracts. I also explain, at a high level, how the Company has reduced and continues to contain costs, while explaining that continued employee reductions to offset inflating costs are neither possible nor sustainable, and would result in reduction of services, quality of service, or both. The Company is especially concerned given the rapidly-advancing energy policy environment that requires increased levels of stakeholder engagement and ongoing regulatory compliance obligations. Overall, I provide examples of the many things Minnesota Power has done to assume a lead role in the state in electric utility transformation and customer experience, and I provide an overview of why the rate increase requested in this proceeding is just and reasonable, as further supported by the broader filing.

Third, I explain, at a high level, that the Company is facing steady under recovery of revenue due to actual sales levels below the 2017 test year forecast and disallowed costs from the Company's last rate case, somewhat offset by significant fleet, workforce, and infrastructure changes made by Minnesota Power. I express our concerns that, despite a strong economy and the significant cost reductions Minnesota Power implemented after the last rate case, the Company will not have a reasonable opportunity to earn its authorized rate of return and has suffered a financial downgrade, for a variety of reasons discussed by Company witness Mr. Patrick L. Cutshall.

Fourth, I describe how Minnesota Power has, despite challenges, nonetheless made great strides to date in meeting and aligning with the Minnesota Public Utilities Commission's ("Commission") long-term policy goals. I first identify Minnesota Power's understanding of Commission and State policy around environmental protection, reliable and efficient electric service, reasonable and affordable rates, high quality customer service, and regional citizenship. I describe how Minnesota Power has achieved and exceeded these goals across the board. I then explain the importance of enabling Minnesota Power to recover its reasonable costs, in order to provide an attractive rate of return for investors, especially in light of Minnesota Power's need to effectively finance continued transformation to meet long-term policy goals of the Commission. Even in a robust economy with record low unemployment, full customer production and substantial internal cost reductions made by the Company, current rates and revenues are insufficient for Minnesota Power to attain its authorized rate of return going forward. We can no longer offset reduced sales while maintaining the Company's robust and high performing conservation programs and addressing industry and customer transformation.

Finally, I introduce the other Minnesota Power witnesses who will present testimony in this proceeding, and describe the subject matter of their Direct Testimony.

II. COMPANY OVERVIEW

A. ALLETE, Inc. and Minnesota Power

Q. Please describe ALLETE, Inc.

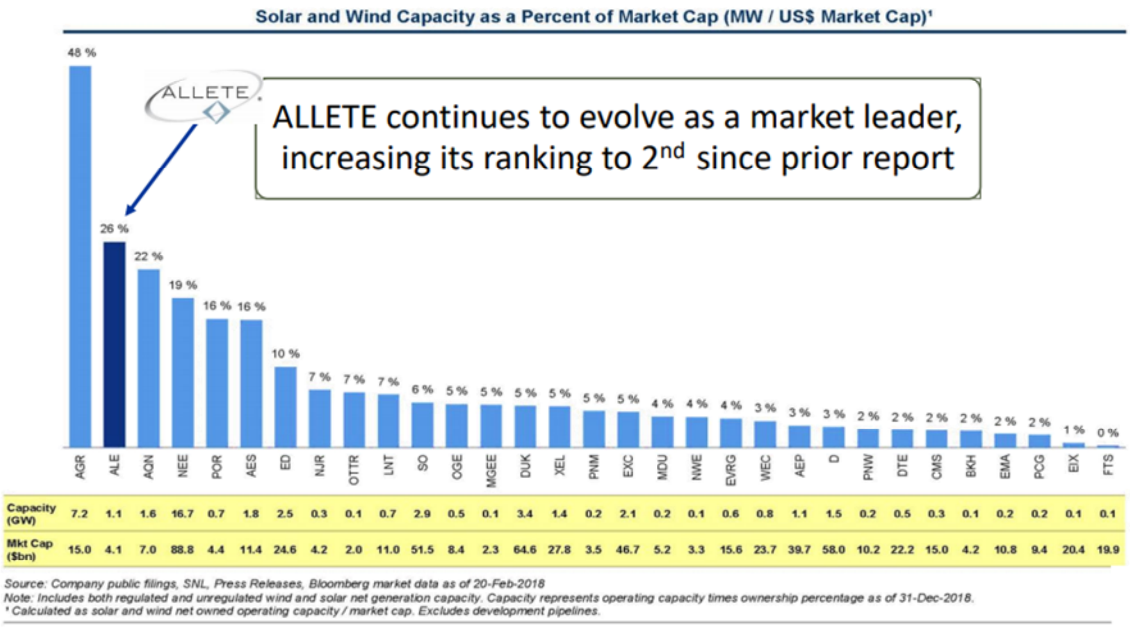
A. ALLETE, Inc. is a reliable provider of competitively-priced energy services in the upper Midwest. ALLETE is comprised primarily of regulated energy businesses with some additional non-utility, energy-focused businesses. Our regulated energy operations include our Minnesota Power public utility, which is comprised of approximately 72 percent of total consolidated ALLETE net income in 2018,[1] and is projected to be approximately 75 percent of budgeted total consolidated ALLETE net income in 2019. The Direct Testimony of Mr. Cutshall identifies ALLETE's other businesses and subsidiaries in more detail.

Q. What are ALLETE's key areas of focus?

A. As an energy-centric and values-based company, ALLETE has been focused on transforming the regional and national energy landscape towards increased levels of sustainability. ALLETE has transformed the energy landscape through an expansion of renewable energy generation that has gone further and faster than most of its peers. In fact, ALLETE has gained national recognition for being the second largest utility investor in renewable generation, relative to its size, as shown in Figure 1 below.

[1] To provide an apples-to-apples comparison to 2019, this percentage excludes the sale of ALLETE subsidiary U.S. Water and of an ALLETE Clean Energy wind energy facility in 2019.

Figure 1. Relative to its Size, ALLETE is the Second Largest Utility Investor in Renewables



ALLETE also leads through a values-based culture that encourages its employees to deliver the right results the right way. ALLETE employees and leadership embody its shared values of Safety, Integrity, Environmental Stewardship, Community Engagement, and Employee Growth while always maintaining its focus on customers. As one example of its values based leadership, ALLETE has been named a 2020 Women on Boards Winning "W" Company seven times over, for having at least 20 percent of corporate directors and 20 percent of corporate executive officers represented by women. ALLETE continues its focus on diversity, including gender diversity in leadership and currently has a 10-member board of directors with women and men equally represented. With the ALLETE board of directors' selection of Bethany Owen as ALLETE President, the Company has also entered a new era with its first female President in its 113-year history.

Q. Please describe the Minnesota Power public utility.

A. Minnesota Power is a public utility operating division of ALLETE. First incorporated in 1906, Minnesota Power serves electricity to more than 145,000 residential and commercial customers, 15 municipal systems, and some of the nation's largest industrial customers across a 26,000 square mile service area located in central and northern Minnesota, as summarized in Figure 2 below.

Figure 2. Minnesota Power Key Statistics

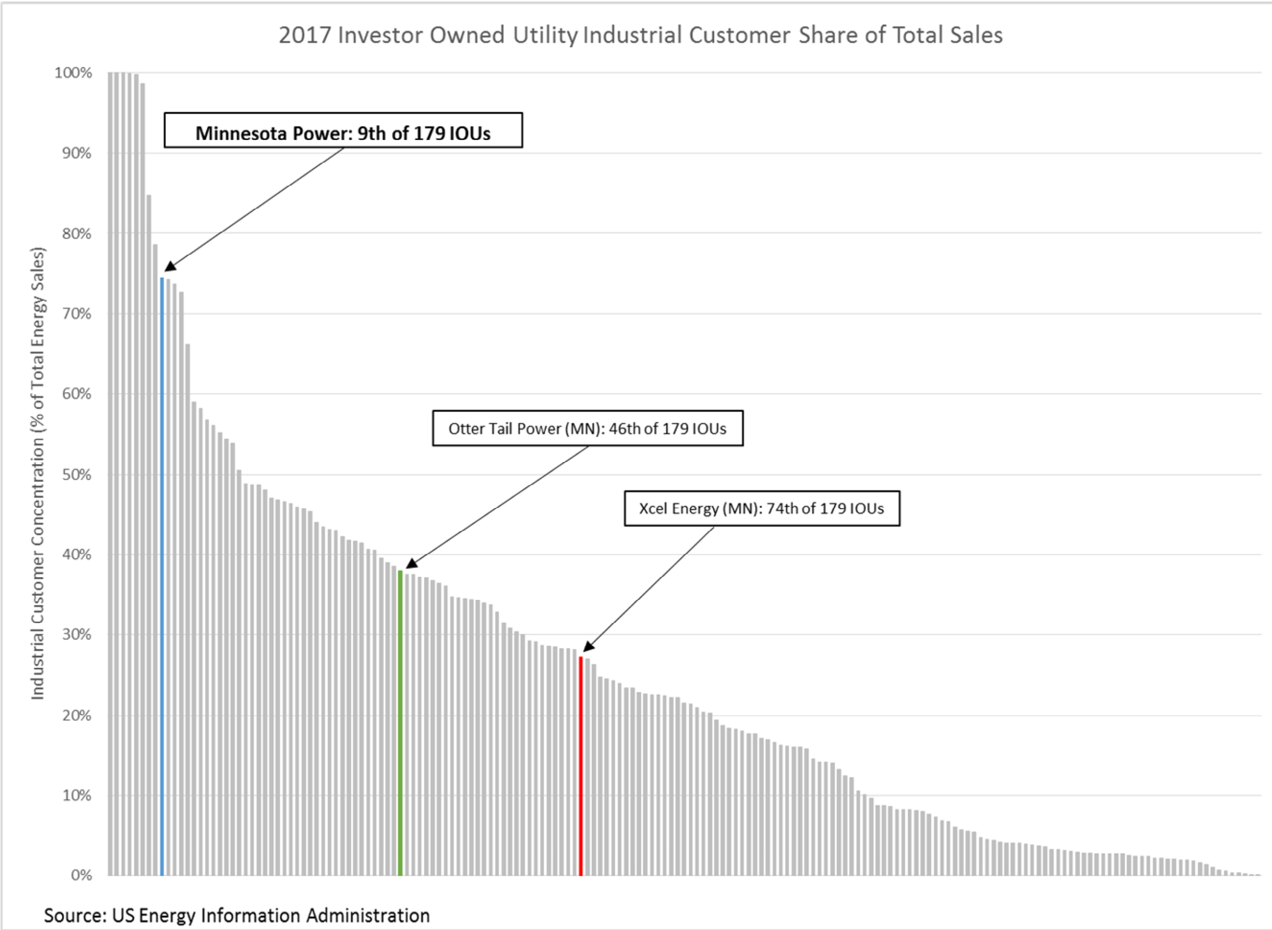
Duluth, MN	Headquarters
26,000	Square-miles
145,000	Customers
13%	Residential sales
74%	Industrial sales
15	Municipalities
Lowest in MN	Residential rates*
$1.1 million	Donated in 2018

*Source: Edison Electric Institute

Q. Please introduce Minnesota Power's customer mix.

A. Minnesota Power has one of the most unique load profiles in the region and country, with one of the highest industrial customer concentrations. According to the Energy Information Administration ("EIA"), Minnesota Power had the ninth highest industrial customer concentration out of 179 investor owned utilities, including related subsidiaries, with industrial customers currently representing approximately 74 percent of retail kWh energy sales. This industrial concentration is much different than other utilities in the state and most of the nation. Because of this difference, Minnesota Power has a higher economic efficiency of its system due to the high industrial load, but also an increased risk profile due to the variation in its revenues from changes in this industrial load. This is illustrated by Figure 3 below.

Figure 3.



Q. How does Minnesota Power serve its customers?

A. Minnesota Power currently utilizes a combination of wind, hydro, solar, coal, biomass, and small amounts of natural gas generation to serve its customers. In addition to significant coal retirements and the increased reliance on renewable resources discussed later in my testimony, the Nemadji Trail Energy Center ("NTEC"), which is scheduled to begin operation in 2025, will add renewable-enabling natural gas generation to Minnesota Power's system. Minnesota Power also maintains power purchase agreements ("PPAs") with Manitoba Hydro and NextEra Energy Resources, as well as power and sale agreements with neighboring utilities.

On the distribution and transmission front, Minnesota Power maintains nearly 9,000 miles of electric transmission[2] and distribution lines with over 150 FERC reportable substations. This total does not include mileage for the Great Northern Transmission Line which is scheduled to be in service mid-year 2020. Additionally, Minnesota Power has a stake in CapX transmission lines and reimburses CapX partner utilities for pro-rated maintenance performed on these lines. Recent and upcoming key investments include an upgrade of the Company's customer information systems ("CIS"), investment in a state-leading meter data management ("MDM") system, continued expansion of its state-leading position in advanced metering infrastructure ("AMI"), and transformational investments in substation and transmission infrastructure to maintain regional reliability while supporting the idling, remissioning, or retiring of nine out of eleven of the region's coal fired baseload generation facilities. Construction continues on the Great Northern Transmission Line ("GNTL"), a 500-kilovolt line from the Minnesota-Manitoba border to an electric substation near Grand Rapids, Minnesota, which is on track to be below budget for the scheduled in service date in 2020, facilitating the delivery of additional carbon free hydroelectric energy.

B. <u>Minnesota Power's Customers</u>

Q. Please provide additional information about Minnesota Power's customers.

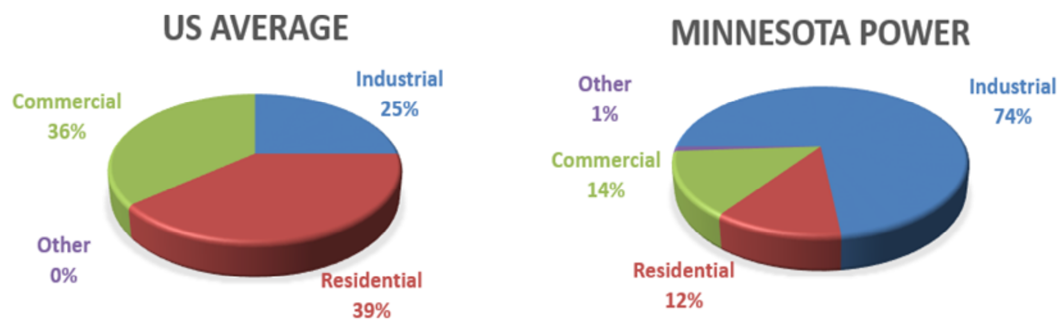
A. Minnesota Power serves approximately 122,500 residential, 22,800 commercial, and 400 industrial customers, with programs and services for each customer class.

Minnesota Power's system is, however, dominated by large industrial customers, with approximately 74 percent of retail kWh energy sales to this customer class in 2018, and only 12 percent and 14 percent of sales to residential and commercial customers,

[2] Minnesota Power and Superior Water Light & Power ("SWL&P") own an integrated transmission system comprised of approximately 2,000 miles of alternating-current transmission facilities. The integrated transmission system has been under the functional control of MISO since 2002 and service on this system is open access under the terms of the MISO Tariff. Additional information on the Company's transmission system and MISO Tariff is discussed in the Direct Testimony of Company witness Daniel W. Gunderson. In addition to the integrated alternating-current transmission system, Minnesota Power also owns and operates a 250 kV direct-current transmission line that connects the Company's Bison Wind Generating Facility in North Dakota to Minnesota Power's alternating-current transmission system in Minnesota. This line is in excess of 450 miles in length.

respectively. For comparison, the average utility in the United States has 25 percent of retail kWh energy sales to industrial customers and 39 percent and 36 percent of retail kWh energy sales to residential and commercial customers, respectively, as shown in Figure 4 below.

Figure 4. Minnesota Power's Customer Concentration is Unique

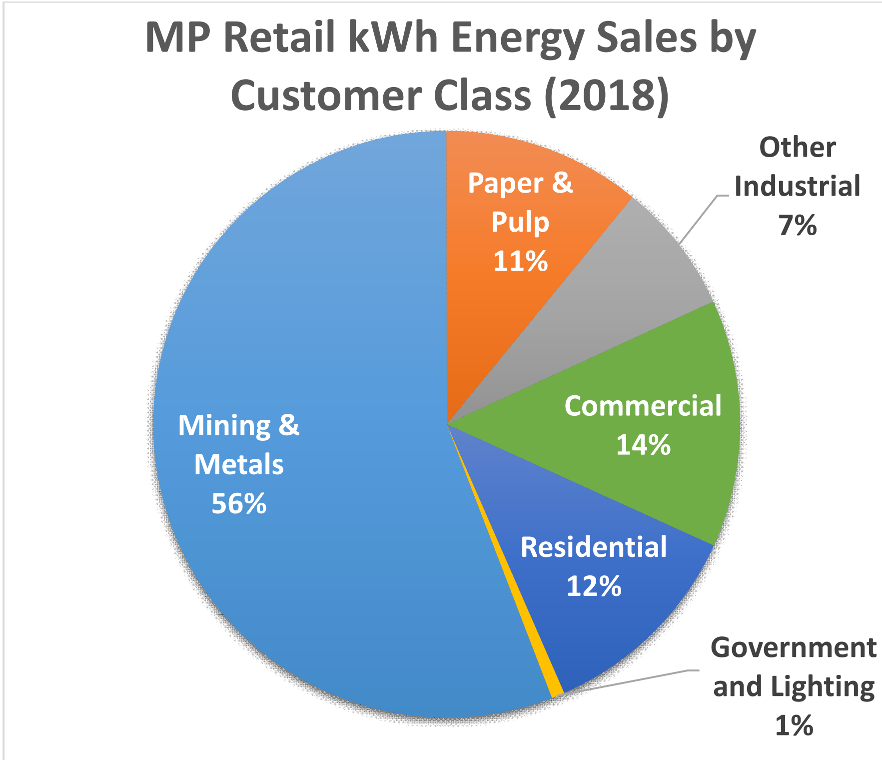


Source: MP retail energy sales (2018)

Q. What industries are represented by Minnesota Power's large industrial customers?

A. These customers primarily consist of taconite producers and graphic paper and pulp producers in northern Minnesota, as depicted in Figure 5 below. These industries, like Minnesota Power itself, are a significant component of the regional economy, as I discuss in more detail in my LP Testimony.

Figure 5.



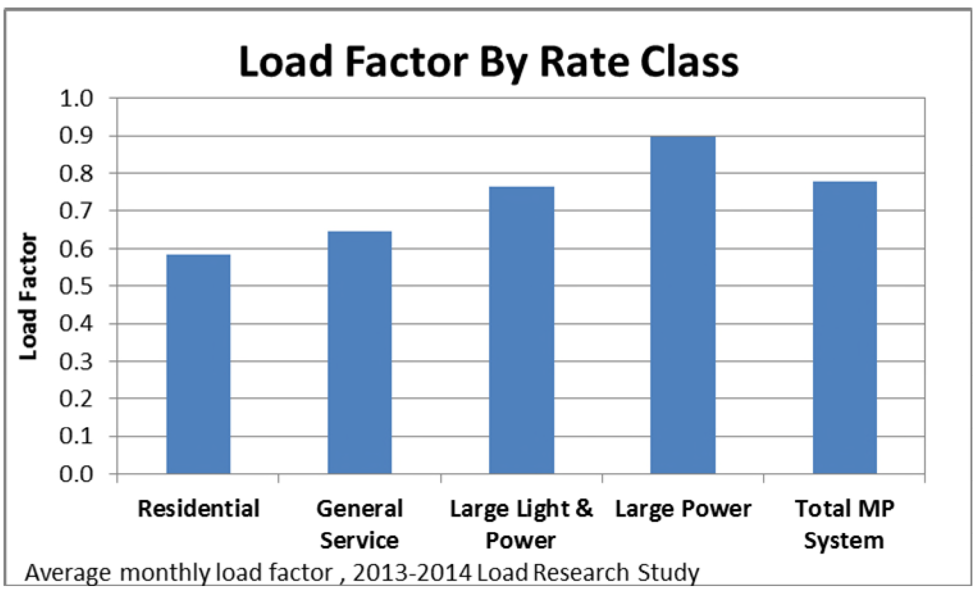
Q. Please describe how the operational characteristics of Minnesota Power's industrial customers impact their operations and Minnesota Power's.

A. Minnesota Power's taconite and graphic paper and pulp customers use large quantities of energy, typically operate around the clock, and are subject to significant macro-economic industry changes over time. Not only are these industries subject to normal economic cycles of growth and recession, but they are also subject to the impacts of global trade, technology evolution, and evolving consumer preferences, which increases the risk profile of Minnesota Power compared to other electric utilities in the state and nation. I discuss these trends and additional impacts on our customers in greater detail in my LP Testimony.

Q. How does Minnesota Power's unique customer mix affect the overall efficiency and cost effectiveness of the Company's system?

A. Minnesota Power's customer mix impacts the Company in a variety of ways. The large concentration of industrial customers operate virtually 24 hours per day, 7 days per week, and 365 days per year. Large Power customers also take delivery of virtually all energy directly from the Company's high voltage transmission system. This industrial customer concentration results in Minnesota Power having one of the highest load factors among utilities in the nation. A high load factor, which measures the utilization or efficiency of the system, translates to a higher value for all customers as more of the system is used at higher levels every day. Minnesota Power's load factor by rate class is shown in Figure 6 below. Note the significantly higher load factor by the LP class compared to residential, general service, and municipal pumping classes, which increases the total load factor on Minnesota Power's system. The reality of the industrial customers' higher load factor allows Minnesota Power to spread its total fixed costs over a larger quantity of sales, benefiting all customers with lower average electric rates, independent of any type of specific class rate design. The Company's load factor by rate class is set forth in Figure 6, below.

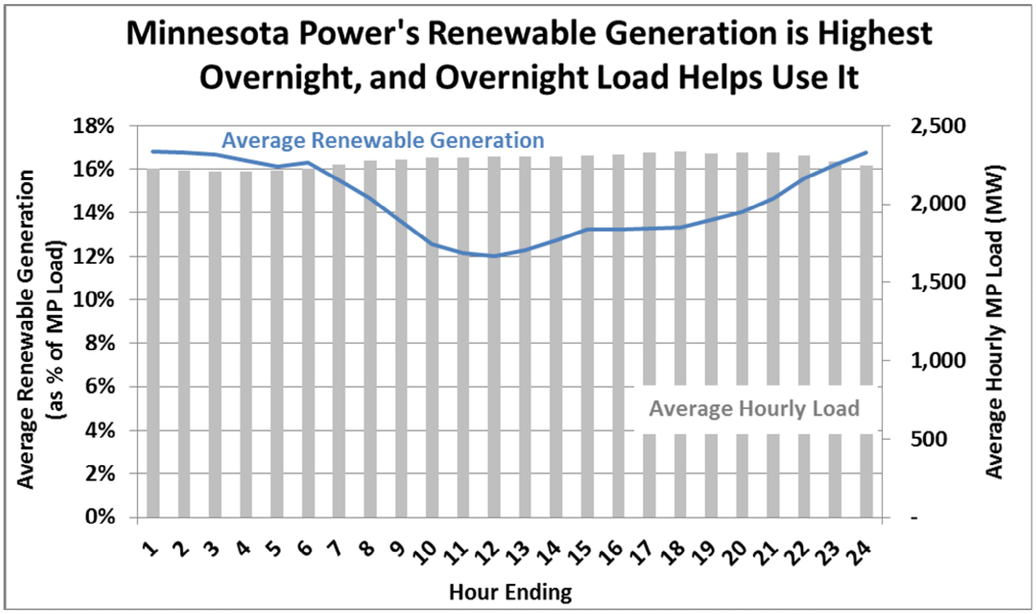
Figure 6.

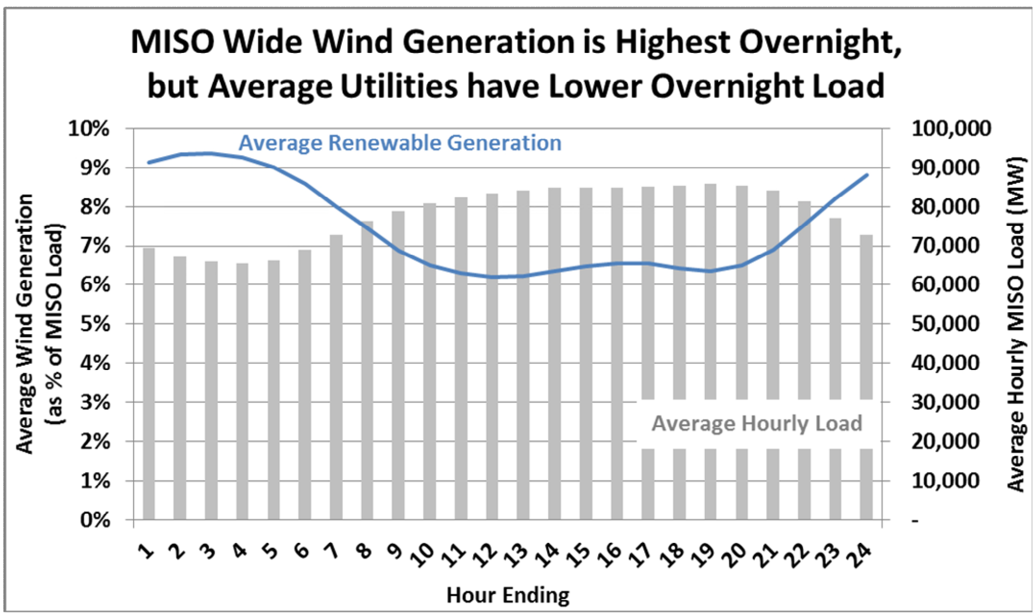


Q. Does Minnesota Power's unique customer mix and high load factor affect the Company's ability to utilize renewable generation?

A. Yes, in a positive way. Historically, the industry has thought of high load factors as solely driving the need for baseload power generation. That thinking has shifted somewhat as wind prices have declined and availability of wind energy has increased. For example, wind energy is typically produced at higher levels during the night, at times when energy consumption by residential and commercial customers is at its lowest levels. This inverse pattern of generation and consumption is a challenge for the average utility; however, the industrial concentration on Minnesota Power's system provides a unique ability to utilize increased quantities of this lower cost wind energy during the overnight and off-peak time periods, as shown in Figure 7 below. As a result, all customers benefit from this ability to consume lower cost energy in the off-peak hours.

Figure 7. Minnesota Power's High Load Factor Industrial Customer Concentration Utilizes Wind Energy Effectively





Q. How does Minnesota Power's unique customer mix affect the Company's ability to manage its capacity needs?

A. The Company must maintain a robust transmission network and increasing quantities of dispatchable resources and demand response to maintain grid reliability and economic energy supply for all its customers, particularly in times of high load and low renewable energy production. Minnesota Power's recent capital investments have been aimed at achieving these customer needs while also meeting or exceeding Minnesota renewable energy standards.

Q. Does the Company have other opportunities to work with industrial customers to manage energy and capacity needs?

A. Yes. The Company also maintains contractual relationships with its industrial customers to deliver some of the largest quantities of demand response for a utility of its size at approximately 260 MW, or approximately 15 percent of the peak load. This is the highest percentage of industrial demand response in the state.

Minnesota Power also has established dual fuel and controlled access programs with its residential and commercial customers to deliver demand response of approximately 30 MW, or approximately 2 percent of the peak load, primarily during winter heating months. This dual fuel system is not only an important contribution to the Company's demand response program, it is also an important platform for decarbonizing home and business heating, as this program favors the use of energy when variable energy prices are lowest, which not only correlates with lower system load but increasingly correlates with periods of high renewable generation.

C. <u>Minnesota Power's Economic Environment</u>

Q. How does Minnesota Power's unique customer mix affect the Company's revenue variability?

A. As a result of our uniquely high industrial customer concentration, economic downturns and industry related capacity closures can have a disproportionately large impact on Minnesota Power's sales and revenues compared to the average utility. And because of the Company's particular customer mix with residential and commercial customers representing such a small percentage of the Company's kWh sales, any change to the large industrial customer operations can have an immediate and significant impact to Minnesota Power and to the cost of electricity for residential and commercial customers on Minnesota Power's system. This was evidenced in the Company's 2016 Rate Case in which a single customer site, US Steel's Keewatin Taconite operation, restarted during the 2017 test year. This change in operation at this single customer site, which represents approximately 15 percent of the total taconite production capacity in Minnesota, resulted in a significant change in Minnesota Power's total rate request.

Q. Can you provide some examples of how economic downturns and industry changes have affected large industrial customers, and therefore the Company?

A. Yes. From an industrial perspective, the ongoing decline in the graphic paper industry, including the closure of Blandin's Paper Machine #5 at the end of 2017, has had a material impact on Minnesota Power's retail sales. In the steel industry, foreign steel dumping caused domestic steel prices to drop in 2015-16, which corresponded with the idling of domestic steelmaking production and reduced demand for Minnesota taconite, causing plant closures, layoffs, and even bankruptcies among our customers. Recently passed protective tariffs have reduced the amounts of foreign steel dumping in America and allowed several domestic steelmaking facilities to restart; however, general consumption of steel is again slowing to the point where US Steel has idled two blast furnaces in the Great Lakes region in 2019. Minnesota Power's taconite customers are operating today, but the balance of supply and demand is in a delicate position, and our taconite customers continually remind us of the importance of competitive large power rates in supporting their overall competitive position in their respective markets.

On a more macroeconomic scale, other historical downturns, like the 2009 recession, caused Minnesota Power's industrial customers to idle for a significant portion of the year, resulting in approximately a 30 percent loss of total retail kWh energy sales that year. I provide a more detailed LP customer overview in my LP Testimony.

Q. Does access to the wholesale power market substantially offset such downturns in Minnesota Power's retail sales?

A. No, not recently and not for the foreseeable future. The opportunity to mitigate the risk of loss of industrial customer load through wholesale market sales is nowhere near as meaningful as it was a decade ago. As described by the Direct Testimony of Company witness Ms. Julie I. Pierce, the current low cost wholesale market environment presents a significant financial risk to the Company as options for replacing retail customer capacity and energy sales revenue are limited. Minnesota Power has felt these impacts directly, and has also seen these impacts adversely impact investors' perceptions of the Company, as discussed by Company witness Mr. Cutshall.

Q. Please summarize Minnesota Power's efforts to manage revenue variability due to these changes in the economic environment.

A. Minnesota Power has done its best to weather these economic cycles through a combination of prudent business management, cost-cutting, off-system energy sales, and additional efforts to meet customer needs, but the Company also depends on customer, regulatory, and investor support – in part due to low wholesale power markets, resulting in a higher risk profile for the Company relative to utilities with larger residential and commercial customer concentrations. I describe the Company's current circumstances in the next section of my Direct Case Overview Testimony.

III. INTRODUCTION TO THIS RATE FILING

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

A. In this portion of my testimony I provide an overview of the Company's requests in this rate case.

A. Overview of Requests

Q. Please describe the Company's overall request for additional rate revenues.

A. Minnesota Power's requests recover of its overall 2020 test year revenue requirement of $688.0 million (MN Jurisdictional), which is an overall rate increase of $65.9 million (MN Jurisdictional), or 10.59 percent. These amounts are based on the Company's projected O&M expense and capital budgets for the 2020 test year, an ROE of 10.05 percent, and an overall rate of return of 7.4737 percent.

Q. What actions has Minnesota Power taken to support its cost recovery request?

A. Most importantly, Minnesota Power continues to utilize its resources prudently to provide its customers with reliable and efficient service at rates that are reasonable and affordable, as discussed in more detail in my testimony below and throughout our case. Notably, Minnesota Power's residential rates remain well below state and national averages. The Company has also maintained cost effective alignment of generation and load through extensive forecasting and resource planning before the Commission.

Additionally, Minnesota Power has made significant strides to improve and simplify rate case review and analysis, significantly reduce costs and streamline operations, and enhance stakeholder outreach and communication.

Q. Can you provide some examples of the rate case process improvement, cost reduction, and stakeholder outreach actions the Company took to support its cost recovery request?

A. Yes. The following are some of the specific steps taken by the Company:

- Updating budget, accounting, cost management, and tracking practices using FERC accounts in order to simplify the review of budgets versus actuals, as discussed in more detail in the Direct Testimony of Company witnesses Mr. Joshua G. Rostollan and Mr. Joshua J. Skelton;
- Utilizing zero based (or bottom-up) budgeting for capital and non-labor O&M to continually ensure only necessary expenses are included in the budget, as discussed in the Direct Testimony of Company witnesses Mr. Rostollan and Mr. Gunderson;
- UIPlanner regulatory software to replace the Excel-based Class Cost of Service Study ("CCOSS") model and other process improvements in order to refine and enhance CCOSS accuracy and transparency, as discussed in more detail in the Direct Testimony of Company witness Mr. Stewart J. Shimmin;
- Showing total dollar amounts in testimony at both total company and Minnesota jurisdictional levels, with consistent labeling, as well as allocation summaries discussed by Mr. Shimmin;

- Moving cost recovery from riders into base rates at the beginning of this rate case for completed capital projects consistent with Order Point 47 from the 2016 Rate Case Order, as discussed by Mr. Stewart Shimmin;
- Implementing cost containment and revenue management measures, including significant reductions in employees by over 100 positions since the 2017 test year and other O&M expenditures (approximately 19 percent from 2014 to 2019), as described in my testimony below and in more detail in the Direct Testimony of Company witnesses Mr. Rostollan, Ms. Laura E. Krollman, Mr. Joshua J. Skelton, Mr. Gunderson, and Ms. Pierce;
- Executing strategic workforce planning efforts to improve the accuracy of headcount budgeting, which resulted in the Company being just 0.23 percent below budgeted staffing levels for 2018;
- Improving customer service quality by adding payment options and enhancing digital platforms for customer interaction;
- Conducting significant stakeholder and public outreach regarding issues such as rate design, CCOSS, and the fuel clause, as well as other topics including energy conservation, beneficial electrification, electric vehicles, demand-side management, affordability programs, and sustainable building technologies, among others, and incorporating that feedback into our business strategy and rate request.

In sum, Minnesota Power's extensive efforts to improve its budgeting and forecasting process, reduce costs and streamline operations, and improve customer service through outreach and implementing enhanced services to meet customer needs all underscore that the Company's costs are at levels that are reasonable and necessary to support customers.

B. Revenue Requirement

Q. Please describe the Company's revenue deficiency for the 2020 test year.

A. Minnesota Power has a total projected revenue requirement for the 2020 test year of $688.0 million (MN Jurisdictional) and anticipates a revenue shortfall of $65.9 million (MN Jurisdictional).

Q. What are the primary drivers of the revenue deficiency?

A. The primary drivers of the revenue deficiency are a combination of declining sales coupled with cost inflation. Since the 2016 Rate Case, the Company has experienced significant lost sales to retail, wholesale, and bilateral sales counterparties as described later in this direct Case Overview testimony and further elaborated by Company witnesses Mr. Benjamin S. Levine and Ms. Pierce. Although the Company has made significant employee and cost reductions since the 2016 Rate Case, there has been inflation in employee and supplier costs resulting in an increased O&M as described by Company witnesses Mr. Rostollan and Ms. Krollman. The Direct Testimony of Company witness Ms. Marcia A. Podratz provides a detailed account of the Company's revenue deficiency.

Q. Could Minnesota Power offset its revenue deficiency through reductions to O&M expenditures or decreased capital investment?

A. No. The Company has already made significant cost reductions since the 2016 Rate Case, and it can no longer sustain the lower expense levels. This is particularly important as the Company positions to continue its efforts to meet state energy policy goals. The Company has also continued its prudent O&M and capital expenditures in its operations to improve reliability and customer experience as described later in this testimony and by Company witnesses Mr. Skelton and Mr. Gunderson.

Q. What rate of return is Minnesota Power seeking in this rate proceeding?

A. Minnesota Power seeks an overall rate of return of 7.4737 percent, reflecting a rate of return on equity of 10.05 percent. The Direct Testimony of Company witnesses Ms.

Ann E. Bulkley and Mr. Cutshall further describe the reasonableness of the rate of return requested in this proceeding relative to the Company's risk factors and performance.

Q. Why is this overall request reasonable?

A. Minnesota Power continues to deliver on state energy policy goals, leading the state in renewable energy supply; exceeding the state energy conservation goal every year since its inception in 2010; reducing carbon dioxide emissions by 30 percent from 2005 levels; and idling, retiring, or remissioning seven of its nine coal-fired generators. In addition, the Company has enhanced its low income programs, launched digital engagement tools such as MyAccount and the Minnesota Power App to enhance the customer experience. Minnesota Power also leads the State in AMI deployment to support future grid and customer enhancements and is in the process of installing a class leading MDM to support anticipated complex time of day rates. The Company has continually executed its major projects on or under budgetary estimates, including the Bison Wind Farms, Boswell 4 Emissions Control Project, and the upcoming completion of the GNTL which is under budget for its scheduled completion in 2020. On top of all of these performance attributes, Minnesota Power operates with a customer risk profile that is significantly above average with the 9th highest industrial customer concentration out of 179 investor owned utilities, and is by far the highest concentration of any investor owned utility in Minnesota. Finally, the Company is entering this proceeding with the lowest residential rate in the State. As a result of the Company's recent performance amongst all these metrics and its continued efforts to demonstrate its costs and performance, the request before the Commission is reasonable and prudent.

C. <u>Rate Design</u>

Q. Please describe Minnesota Power's approach to establishing a reasonable rate design?

A. Minnesota Power approaches rate design from an overall cost of service methodology, in which rates are designed so that individual classes of customers, such as residential, commercial, large light and power, and large power customers pay an appropriate and fair share of the costs associated with delivering safe and reliable electricity to their homes and businesses. This cost of service-based methodology is further influenced by other factors such as affordability, including competitiveness as compared to state and national benchmarks, and setting overall just and reasonable rates.

Q. Are there any other drivers of Minnesota Power's rate design?

A. Yes, there are several. Consistent with State energy policy goals, we seek to incentivize customers to utilize energy in a manner that supports state energy policy goals. This includes giving customers appropriate price signals about the cost of their energy to enable and empower them to make choices about their energy usage and supporting resources. Similarly, supporting flexibility of customer usage to align with generation and also promote electrification of certain loads that will further decarbonize society are important to advance state energy goals for decarbonization, environmental protection, and the cost-effective alignment of generation and load. We also must be cognizant of the state energy policy to provide competitive rates for large, high load factor, industrial customers that compete in challenging global markets and constitute a significant portion of Minnesota Power's energy sales.[3] Our rate design considers each of these factors.

Q. How does the Company propose to accomplish these goals?

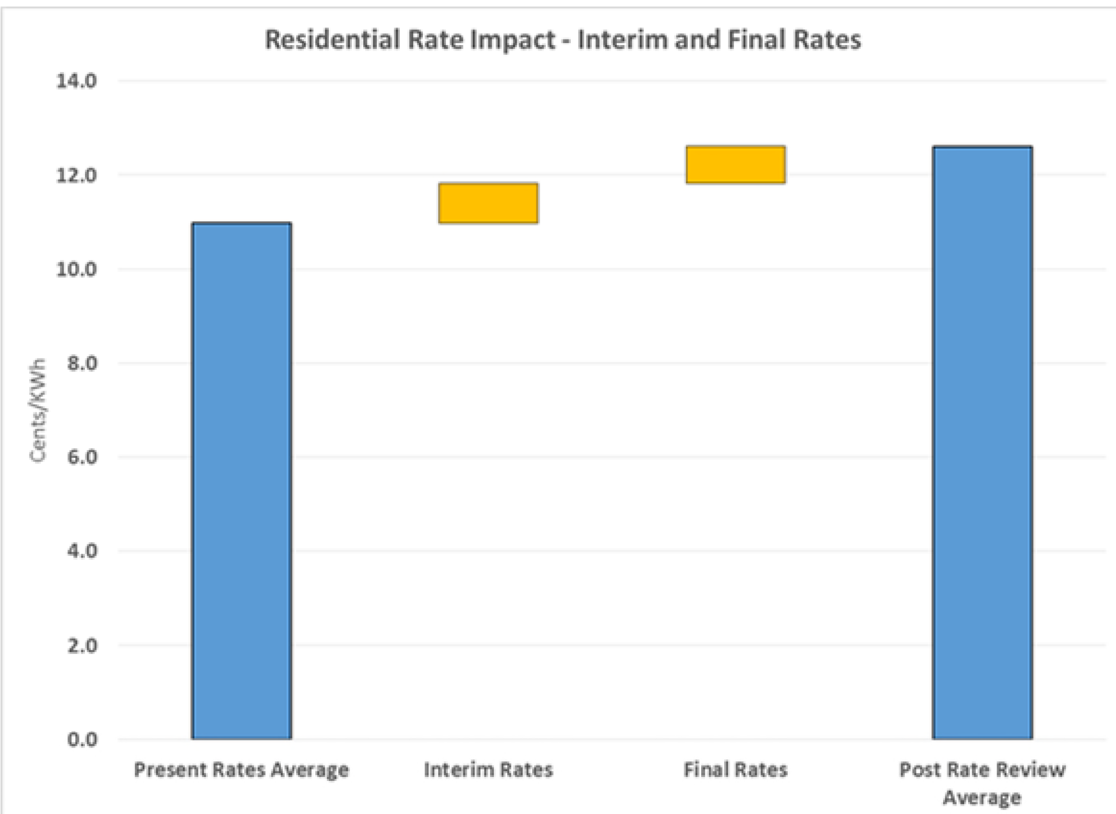
A. Minnesota Power is including several revenue apportionment and rate design features in this rate case to provide a reasonable rate design in alignment with cost of service methodology and state energy policy goals. Perhaps most importantly, our revenue apportionment and rate design take into account the CCOSS results discussed in the Direct Testimony of Mr. Shimmin. As described by Company witness Mr. Shimmin, the Company's CCOSS shows that most customer classes are paying near their fair share of expenses associated with energy delivery with the exception of the Company's residential customers. A significant rate increase of approximately 35 percent would be necessary to align these residential customers with their cost of service. However, the

[3] Minn. Stat. § 216B.1696, subd. 2(a).

Company recognizes the need for gradualism in rate changes and is proposing a 15 percent increase in this proceeding.

This request balances the need to move customer rates closer to their cost of service with overall affordability considerations. One additional consideration is that the Company is not requesting to move customers to their overall cost of service all at once. In addition to seeking a more moderated rate increase for residential customers, our Interim request is lower than our General Rate request and is based on the rate design approved in our last rate case. Assuming final rates in this proceeding are not placed into effect until sometime in 2021, rate increases for the residential class would be phased in as illustrated in Figure 8 below:

Figure 8. Proposed Interim and Final Rate Impacts to the Average Residential Customer



Q. What is the anticipated overall impact of this rate increase on residential customers?

A. Minnesota Power is requesting a 15 percent increase for residential customers, along with a proposal to move from an inclining block rate structure to a flat rate structure. This rate increase would also be phased in as highlighted in Figure 8 above with the implementation of interim rates in 2020 and final rates following the outcome of this proceeding, which is estimated to occur in 2021.

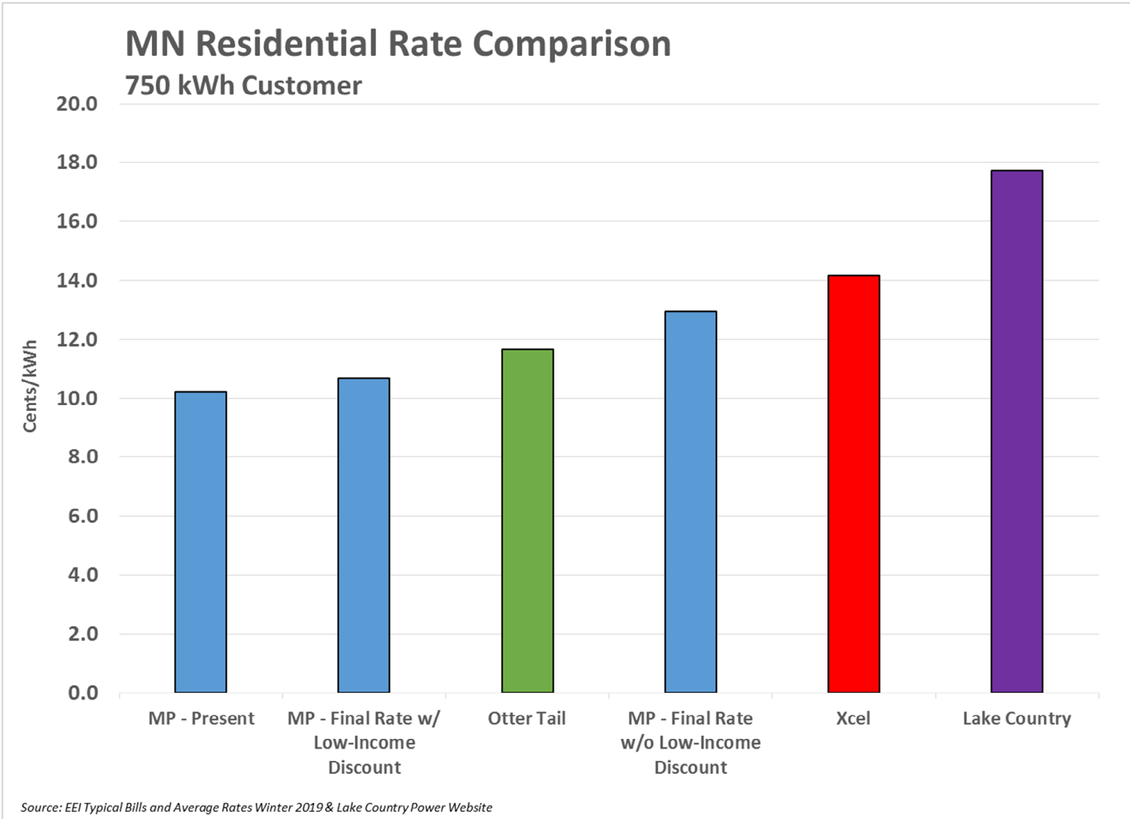
Q. Is the Company proposing any increase to fixed portions of its bill?

A. Yes. Minnesota Power currently has the lowest residential fixed charge in the State. At $8.00 per month, this fixed charge is significantly below the fixed cost of service for the average residential customer and has not increased since our 2008 rate case in Docket No. E015/GR-08-415. The Company is requesting to increase the fixed monthly charge modestly to $9.00 per month, which Company witness Ms. Podratz discusses is still well below the fixed monthly charge set by most energy companies in this state. This increase is included in the overall proposed 15 percent increase for residential customers described above.

Q. How does this proposal compare to the known residential rates of peer utilities?

A. Minnesota Power currently has the lowest residential rate amongst its peer utilities in the State and region, as shown in Figure 9 below. Even when including this rate request in the average residential rate, Minnesota Power will remain below many of its peer utilities, as also shown in Figure 9 below. Lastly, Minnesota Power residential rates will remain below the state average and below the national average rate for residential customers even when including this rate request. This data, along with the careful management of our costs on behalf of our customers, underscore the reasonableness of the Company's rate proposals.

Figure 9. Average Residential Rates for Area Utilities



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

A. Yes. As the Company continues its advancement of variable renewable generation from 30 percent to 50 percent renewable in 2021, there is a need for advancing variable and controllable load to match this increasingly variable renewable generation. Additionally, this increased renewable generation percentage contributes to significantly reduced carbon emissions from the Company's electric supply of approximately 50 percent by 2021, enabling opportunities for meeting State policy goals for carbon reduction through beneficial electrification. To support this accomplishment, Minnesota Power has several proposals in this rate case:

- First, the Company is proposing a phased transition of its residential rates away from an inclining block structure to a flat rate structure. This transition away from inclining block rates is a necessary first step for the Company to be able to consider future time of day rate designs. The transition away from inclining block rates is also necessary for supporting beneficial electrification.

Importantly, the Company has worked with a broad stakeholder group to inform this proposal, which includes protections for the transition from inclining block rates to flat, with particular emphasis on low income and usage qualified customers that receive a natural benefit from inclining block rates.

- Second, the Company proposes a repricing of its residential and commercial dual fuel and controlled access rates to be more competitive with other home and business heating options, maintaining customer participation in an important program that helps balance load with generation. Dual fuel and controlled access programs provide a gateway for future programs to further decarbonize home and business energy consumption as the electric grid continues its carbon reduction.
- Third, the Company seeks a reallocation of costs associated with the Industrial Demand Response ("DR") Product A[4], which is currently absorbed entirely by the Large Power class of customers even though the program benefits all customer classes. This DR program is important to maintaining reliability and cost effective balancing of generation and load, as evidenced by the recent Polar Vortex events in January, 2019.

I discuss the Company's rate design proposals further below.

Q. Why does the Company propose transitioning residential rates from an inclining block rate to a flat rate structure?

A. Inclining block rate structures inhibit key future energy policy initiatives for time of day rates and beneficial electrification. Minnesota Power has engaged key stakeholders and experts in this discussion and determined the most important first step is to transition from inclining block rates to a flat rate structure. Drawing from this stakeholder engagement, Minnesota Power has built its proposal in this rate case for a phased transition of its residential rates from its current inclining block rates (or "IBR") to a flat rate structure. The proposed phased transition initially maintains a discount intended to

[4] DR Product A, formerly referred to as Replacement Interruptible Service ("RIS"), was approved by the Commission on August 1, 2019, in Docket No. E015/M-18-735.

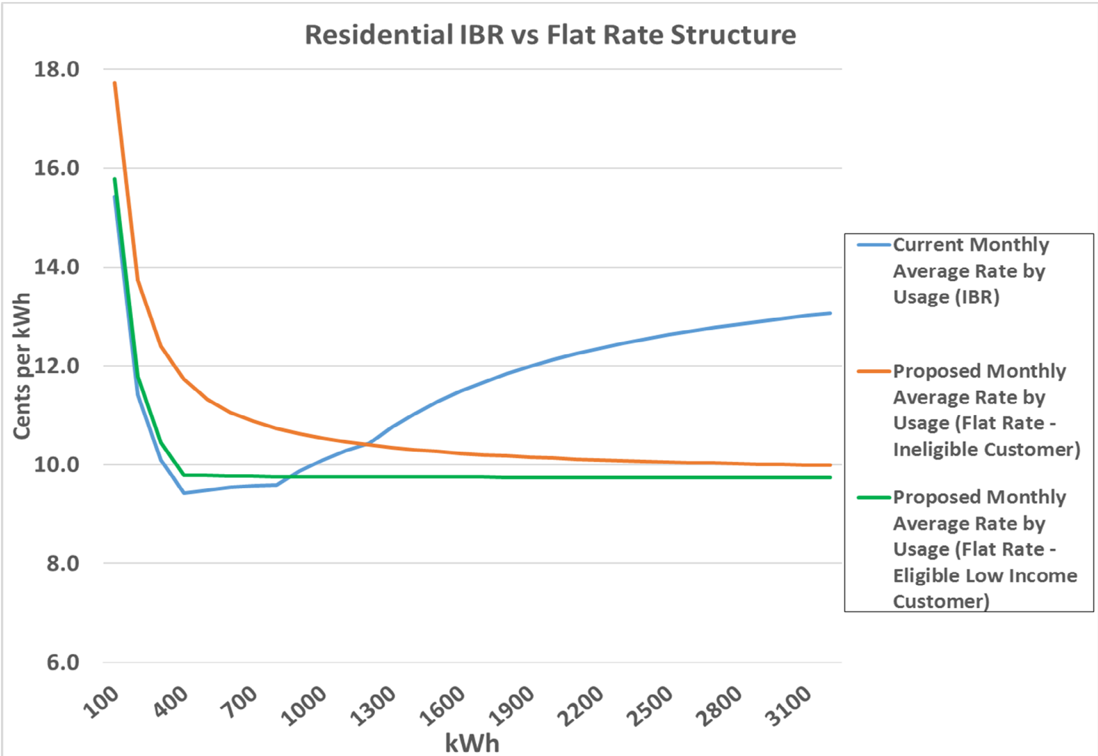
mute the impacts of the conversion to flat rates more broadly, and in the second phase proposes a more specific discount intended to ultimately protect low-income and usage qualified customers through a simple self-certification process. The entire phased process is expected to take up to two years following final approval of the Company's proposal.

Q. How does the Company propose transitioning residential rates from an inclining block rate to a flat rate structure?

A. Following Commission approval, the Company would implement its first phase of the rate transition in which all customers would have a flat rate; however, customers with a monthly annual average energy usage below 1,200 kWh per month would receive a discounted rate for the first 400 kWh of energy used per month. This is designed to limit the impacts of the transition from inclining block rates to flat rates overall.

During the first phase of this transition, the Company would communicate with customers and stakeholders to encourage low-income households to self-certify their low-income status with the Company in order to qualify for a continued discount on the first 400 kWh of energy usage per month during the second phase of the rate transition. In the second phase, this discount on the first 400 kWh of energy used per month would apply only to customers with average annual usage below 1,200 kWh per month that are Low Income Home Energy Assistance Program ("LIHEAP") eligible in Minnesota Power's billing system and/or low-income customers that self-certify for the discount. Specific details of this proposed residential rate structure and transition are described in more detail by Company witness Ms. Podratz. Figure 10 below also shows the final impact of moving from the current IBR to the proposed monthly flat rate for customers that are "eligible" for a discounted rate and customers that would be "ineligible" for the discounted rate.

Figure 10. Final Rate Transition from Current IBR to the Proposed Flat Rate Structure for "Eligible" LIHEAP and Low-Income Customers and "Ineligible" Customers



Q. To what extent has the Company specifically considered low income customers in its residential rate design transition?

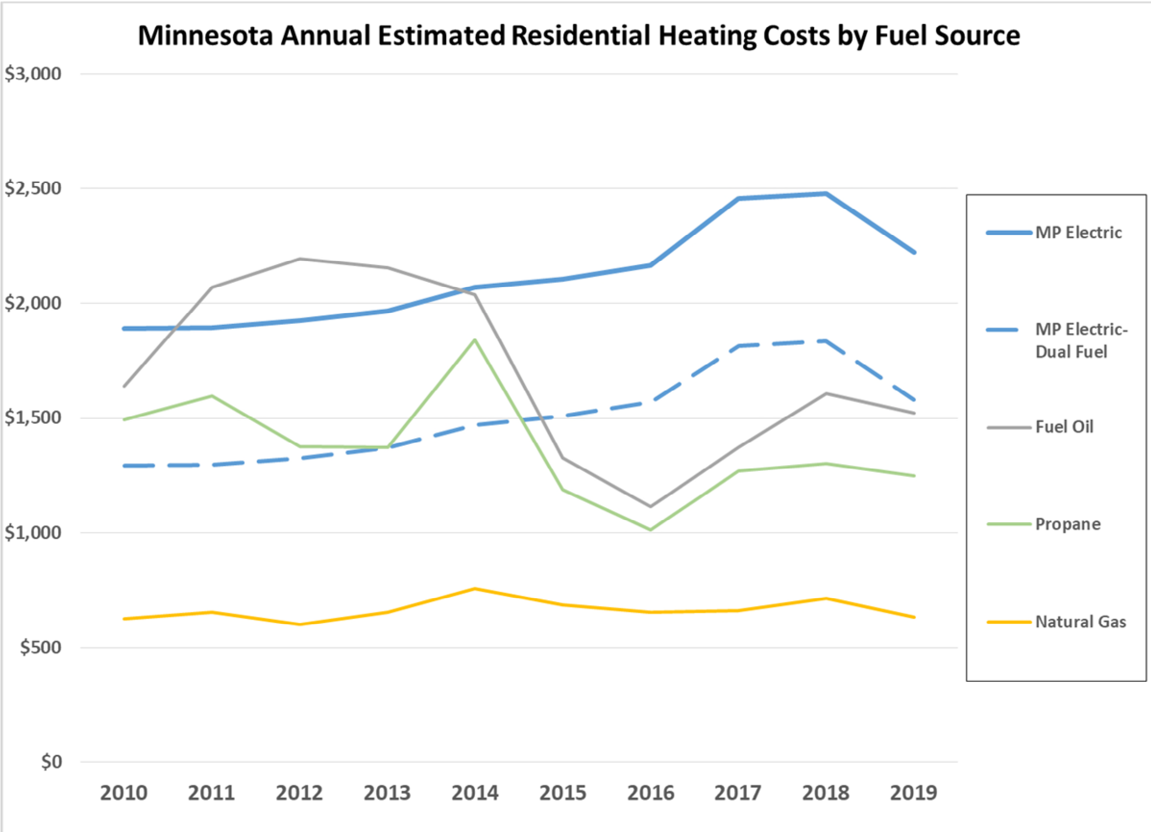
A. Minnesota Power has thoughtfully considered the impacts this transition could have upon its most economically vulnerable customers, and the proposed discount on the first 400 kWh of energy will directly support its low-income customers with usage too low to see natural benefits from shifting to a flat rate. Although the discount during the first phase will be applied to all customers with usage below 1,200 kWh, as determined by an annual average, the Company believes this is a best practice as it will allow time for adequate communication with potential low-income customers to self-certify with the Company for a continued discount on their first 400 kWh of energy usage during the second phase of the transition. In addition, the Company is aware that it has low-income customers in high-usage categories, and this transition from inclining block rates to a flat rate structure will naturally benefit these economically vulnerable customers through a reduction in the rate they pay for their higher energy usage.

Separate from the considerations for low-income customers included in this proposed rate transition, the Company offers additional programs focused on supporting low-income customers. Minnesota Power's Energy Partners program collaborates with local agencies to deliver in-home energy analysis and provide energy conservation solutions to income-eligible customers, helping these customers save energy and get the most for their energy dollar. Additionally, Minnesota Power has recently received approval for significant enhancements and to nearly double the amount of support offered through its Customer Affordability of Residential Electricity ("CARE") program, as described later in this filing.

Q. Please describe the Company's proposed repricing of dual fuel and controlled access programs?

A. Minnesota Power's dual fuel electric rate has historically been competitive with propane and fuel oil heating options. Over 8,000 residential and commercial customers participate in the programs, of which a high majority are dual fuel program participants. As shown in Figure 11 below, Minnesota Power's dual fuel electric rate has risen over the past decade, while costs of competitive heating fuel options of propane and fuel oil have declined. As a result of these changes in pricing and competitiveness of home and business heating options, Minnesota Power has lost customers from the dual fuel program and seen declining sales. The Company seeks to reverse this trend, because this type of interruptible electric service is critical to the future advancement of carbon free home and business heating through further integration of variable renewable energy supplies.

Figure 11. Competitiveness of Minnesota Power's Dual Fuel Electric Rate with Alternatives



Q. What are the specific changes to the residential and commercial dual fuel and controlled access rates?

A. Company witness Ms. Podratz describes Minnesota Power's request for an overall reduction in the residential and commercial dual fuel and controlled access rates to better align with the historical competitive position the rate previously held relative to fuel oil and propane heating sources.

Q. What are the proposed changes to cost allocation for Industrial DR Product A?

A. The credit industrial customers receive for providing DR Product A is currently recovered entirely within the Large Power class of customers. As observed during the recent Polar Vortex,[5] this product delivered approximately 200 MW of DR, or

[5] Docket No. E,G999/CI-19-160.

approximately 85 percent of the Company's total DR of 235 MW delivered during the event, and the benefit was realized by all firm energy customers of all classes. As a result, the Company is proposing to recover the costs of this credit across all customer classes as it would any other capacity resource. The details of the Company's proposal are described by Company witness Ms. Podratz.

Q. How does the Energy Intensive Trade Exposed ("EITE") statute and rider fit into the Company's overall rate design proposal?

A. As part of this rate case, the Company is requesting the Commission discontinue the separate EITE Rider concurrent with the implementation of final rates.[6] However, consistent with the statutory energy policy of the State of Minnesota, we ask that the Commission factor the overall intent of the EITE statute into its final decision on rate design, noting the importance of the industrial customers to the rates of other customers and the health of the regional economy. The Company also requests the Commission consider the relative positions of residential and industrial rates to state and national average rates for these customer classes as part of their final rate design decision.

Q. Why is the Company requesting that the EITE Rider expire concurrent with the implementation of final rates in this case?

A. The EITE Rider was approved by the Commission in an order dated December 21, 2016, with a four-year term. The EITE Rider was effective beginning February 1, 2017; however, Minnesota Power suspended the EITE Rider for three months from September 29, 2017, to January 1, 2018, as it awaited further clarification from the Commission regarding cost recovery of the EITE Rider. If the suspension time period is not included, the EITE Rider will expire on February 1, 2021, which may cause misalignment between the Commission's decisions on new final rates and what impact, if any, the expiration of the current EITE Rider means for all Minnesota Power customers. For this reason, the Company filed the October 7, 2019, letter in the EITE Rider Docket

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[6] The Company filed a letter in the EITE Rider Docket (Docket No. E015/M-16-564) dated October 7, 2019, requesting that the Commission grant a procedural extension to continue the EITE Rider until new final rates in the present rate case are effective.

respectfully requesting the Commission grant a procedural extension to continue the EITE Rider until new final rates are effective in this case.

Q. What impact has offering the EITE rate discount to eligible Large Power customers had on Minnesota Power's other customer classes?

A. As described more fully in the Direct Testimony of Ms. Podratz, Minnesota Power's other customers have not had to pay any surcharge associated with the EITE rate discount.

IV. CHANGES TO MINNESOTA POWER SINCE THE 2016 RATE CASE

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

A. In this section of my testimony, I discuss the changes since the 2016 Rate Case in the Company's renewable energy advancements, fleet and infrastructure, customer load, credit ratings, and financial position, as well as the actions the Company took in response to the outcome of the 2016 Rate Case.

Q. What significant changes have occurred at Minnesota Power since the 2016 Rate Case?

A. Although it has been only three years since its last rate case, Minnesota Power has undergone significant changes, including:

- Realizing continued advancements in renewable energy and transition of the Minnesota Power system through its Energy*Forward* initiative, by which 50 percent of the Company's energy supply will be renewable by 2021;
- Implementing generation fleet and infrastructure changes;
- Absorbing changes in customer load;
- Responding to challenges to the Company's financial position; and
- Completing significant reductions to O&M expenses and limitations on capital investments.

I discuss these changes in this section of my testimony, and then turn to Minnesota Power's successes in advancing the State of Minnesota's policy goals despite challenges.

Q. What changes to its generation fleet and infrastructure has Minnesota Power made in recent years?

A. Minnesota Power has idled, remissioned, phased-out, and retired 600 MW of coal fired generation on its system in the past decade, which is a very significant transformation for a utility with an approximate system peak of 1700 MW. The Company has also entered into contractual relationships with Silver Bay Power Company to enable its idling of an additional 130 MW of coal fired generation in the region in 2019. Just prior to the last rate case, the Company refueled the Laskin Energy Center to natural gas, ceased operations at Taconite Harbor Energy Center ("THEC") Unit 3 (75 MW capacity), and idled THEC Units 1 and 2 with all coal operation to be ceased by 2020 (150 MW of capacity). Minnesota Power also reduced its purchase of power from the Milton R. Young Unit 2 lignite coal plant from 227.5 MW to 100 MW as of 2014, with a complete phase out planned by 2026.

Q. How has Minnesota Power further advanced its mix of renewable generation resources since the 2016 Rate Case?

A. In 2017, Minnesota Power filed a petition for approval of its Energy*Forward* Resource Package – a synergistic combination of 250 MW of wind, 10 MW of solar, and approximately 250 MW of dispatchable natural gas capacity to replace capacity lost due to significant retirements of coal generation and to meet the future capacity and energy needs of customers. These projects are now underway in various stages of development and construction.

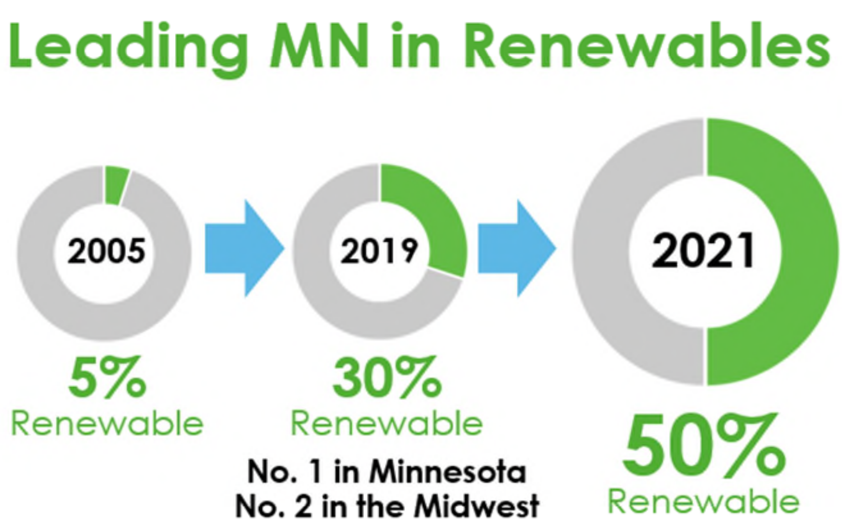
Meanwhile, in 2018, the Company ceased operations at Boswell Energy Center Units 1 and 2, eliminating approximately 135 MW of coal fired capacity from the system.

In 2020, the GNTL will be in service to deliver another 250 MW of carbon free hydroelectric renewable energy from Manitoba. The transformation of Minnesota Power's generation fleet continues to include more renewable resources, fewer coal resources, and adds an efficient, dispatchable natural gas resource to provide cost effective, lower carbon emission energy to balance customer needs at times of low renewable generation.

Q. How successful has Minnesota Power been in advancing renewable energy for the State of Minnesota?

A. Minnesota Power continues to lead in increasing renewable energy on its system with the highest percentage of renewable energy in the State. Beginning with only five percent renewable generation in 2005, the Company has consistently and successfully expanded renewable generation for its customers, and it expects 30 percent renewable power in 2019. By 2021, Minnesota Power will obtain 50 percent of its power from renewable resources as increased energy from Manitoba Hydro, and as the Energy*Forward* Resource Package wind and solar projects are added to the system. The past, current, and projected test year mix of the Company's renewable generation resources is presented in Figure 12 below.

Figure 12.



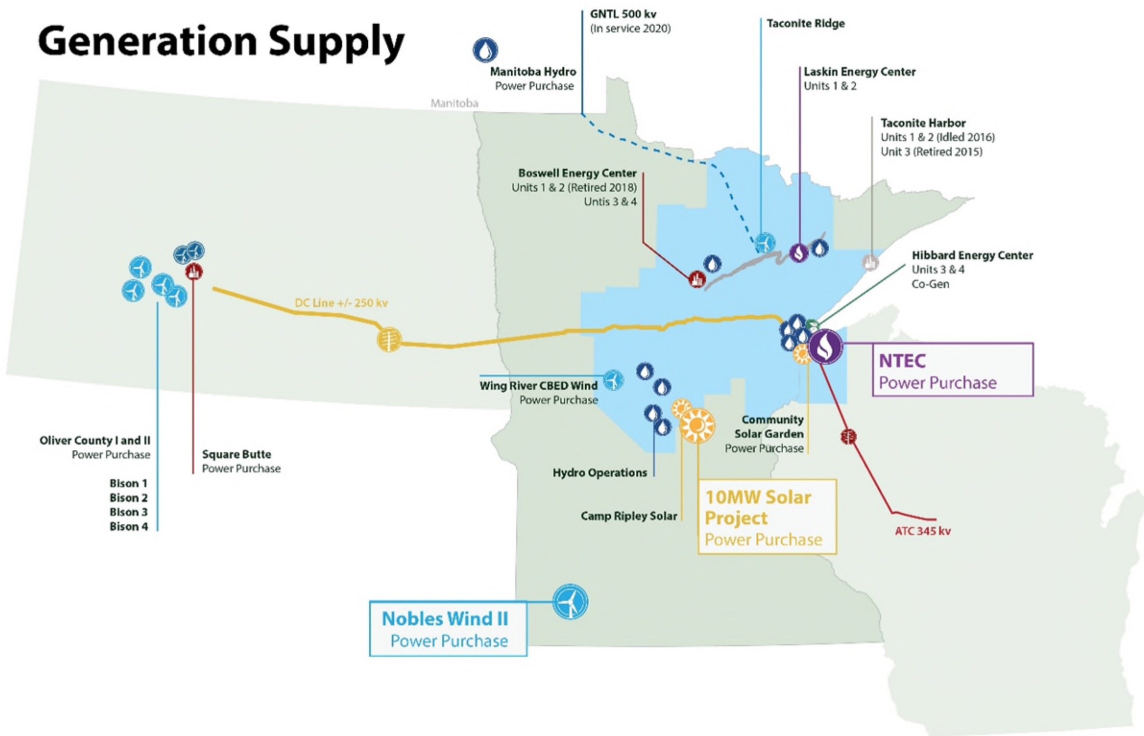
Q. Has Minnesota Power invested in other changes to its infrastructure to better serve customers?

A. Yes. In addition to Minnesota Power's generation fleet changes, the Company has also continued investing in its transmission infrastructure to maintain and improve grid reliability while decarbonizing the region's energy supply. As mentioned above, the GNTL is currently under construction and is scheduled to be completed on time in 2020 and under budget. As discussed in greater detail in Mr. Gunderson's Direct Testimony, Minnesota Power has also developed several transmission projects in the North Shore Loop and the Grand Rapids Area to ensure the continued reliability of the transmission system following the remissioning, refueling, idling, or retiring of nine of the region's eleven coal fired baseload generators that have contributed to reliable operations in those areas for decades.

Q. Can you identify the overall locations of Minnesota Power's current generation resources?

A. Yes. Figure 13 below identifies the Company's current and planned generation resources through 2025.

Figure 13.



Q. What is Minnesota Power's conservation record since its last rate case?

A. Minnesota Power and its customers have exceeded CIP goals every year since 2010, when the 1.5 percent energy-savings goal went into effect. The Company's success continued since the 2016 Rate Case, and Minnesota Power exceeded both the minimum and calculated savings goals for 2016, 2017, and 2018 by achieving approximately 2.1 percent, 2.6 percent, and 2.6 percent savings as a percentage of adjusted sales, respectively. In addition, the Company is on track to exceed its 2019 savings goal of 2.09 percent as of this filing. This is a success story for the Company, but this success affects retail sales levels each year.

Q. How did actual retail sales in the 2017 test year compare to the retail sales included in the 2016 Rate Case?

A. In the 2016 Rate Case, the Commission approved a 2017 test year retail sales forecast that was about 256,000 MWh (2.8 percent) higher than Minnesota Power's supplemental test year projections. Minnesota Power explained that this sales forecast was unrealistic, as it would establish industrial customers' utilization rates well above the more reasonable 90 percent level, a level more consistent with historic utilization levels. Ultimately, as Company witness Mr. Levine identifies in his Direct Testimony, 2017 actual retail energy sales were five percent lower than test year authorized levels due primarily to over-estimation of industrial sales in the approved test year.

Q. How has Minnesota Power's system electric load and off-system sales changed since the 2016 Rate Case?

A. As Company Witnesses Mr. Levine and Ms. Pierce describe, since the 2016 Rate Case, Minnesota Power has experienced significant lost sales to retail, wholesale, and bilateral sales counterparties.

On October 24, 2017, corporate parent UPM announced the permanent closure of Blandin Paper Company's Paper Machine #5. This closure was completed by the end of 2017.

Minnesota Power's resale full-requirements power supply contract with Brainerd Public Utilities expired in July 2019.

The temporary closure of the Husky refinery in Superior, Wisconsin, following the explosion at the facility on April 26, 2018, resulted in a reduction of resale sales through Minnesota Power's contract with Superior Water Light & Power that will continue into 2021. Regulatory approvals required to begin re-construction were received on September 30, 2019. Husky has stated the rebuild will take place over the next two years.

The cancellation of Xcel Energy's contract with Laurentian Energy Authority in July 2018, resulted in lost sales to Hibbing and Virginia Public Utilities as a result of their use of self-generation that was previously sold to Xcel Energy.

Finally, Minnesota Power's 10-year, 100 MW Large Market Contract will expire at the end of April 2020, reducing the asset-based wholesale sales and associated margins.

These significant reductions are slightly offset by gains in sales to Silver Bay Power Company, following the idling of their coal fired generation at Northshore Mining in September 2019, and the addition of a new wholesale power sale to Oconto Electric Cooperative. Overall, however, sales have remained relatively flat since 2017, such that our current rates do not reflect current conditions in our system. Company witnesses Mr. Levine and Ms. Pierce discuss the changes to retail and resale sales and off-system power sale contracts, respectively, in their Direct Testimony.

Q. Please explain why Minnesota Power is no longer able to sell power to Brainerd Public Utilities.

A. As Minnesota Power has successfully met State energy policy goals to expand renewable generation and decarbonize its energy supply, the Company's total cost of power supply has risen while wholesale power markets have decreased and remained low in recent years, as further described by Company witness Ms. Pierce. These wholesale power markets are driven by the marginal production cost of power from the regions' utilities, and utilities are either incentivized or mandated to sell marginal power supply into these markets to capture these marginal benefits for their retail customers. As an independent municipal electric utility, Brainerd Public Utilities is not required to purchase from Minnesota Power or align with the State of Minnesota's Renewable Energy Standard, and is also able to purchase its power supply at these marginal costs which have remained below the Company's total cost of power supply in recent years.

Q. Please provide an overview of the Company's financial position since its last rate case.

A. Following the Company's last rate case, the Company was faced with a difficult challenge to earn its authorized rate of return. As identified in more detail later in my testimony and in the testimony of Company witnesses Mr. Rostollan, Ms. Krollman, Mr. Skelton, and Mr. Gunderson, the Company cut costs materially and maintained its capital structure, while continuing to look for ways to better serve its customers.

Nonetheless, ALLETE was downgraded or put on negative outlook by credit ratings agencies Moody's Investor Service ("Moody's") and Standard & Poor's Corporation ("S&P"). As Company witness Mr. Cutshall explains, Moody's placed ALLETE on negative outlook in February 2018, and then subsequently downgraded ALLETE in March 2019 from A3 to Baa1. One of the primary reasons Moody's cited was the adverse general rate case outcome in Minnesota, including a low rate of return on equity relative to Minnesota Power's risk profile and lower revenues from disallowed expenses limiting the Company's cash flows. In addition, Moody's mentioned challenges for ALLETE due to the material exposure to commodity sensitive industrial customers, increased capital investments, and weakening debt coverage ratios. Moody's currently lists ALLETE as having a stable outlook, but notes that the Company could be downgraded if there is further decline in the credit supportiveness of the Minnesota regulatory framework and weakening financial ratios.

ALLETE maintained its BBB+ (outlook negative) rating with S&P after the last rate case, but has remained on negative outlook since February 2018.

Q. How has the credit rating downgrade affected the Company overall?

A. As described in more detail by Mr. Cutshall, in general, credit ratings affect a company's ability and cost to issue debt: the stronger a company's credit ratings, the greater the number of willing investors and the less fees and interest a company will need to pay in order to issue debt. A company's creditworthiness is also directly correlated to its cost of equity. Overall, ALLETE's credit ratings downgrade resulted in a higher cost of debt, decreased its attractiveness to investors, and increased its overall business risk. These downgrades add to the challenges the Company faces in today's efforts to continue its utility transformation.

Q. Can the Company do more to stabilize or encourage an upgrade to its credit positioning?

A. The Company continues to look for ways to improve efficiency, cut costs, manage revenue, and manage business risk through continued implementation of technology and work process improvements. The most impactful measures, however, have already been implemented in response to the outcome of the 2016 Rate Case and are reflected in the Company's ability to retain the current credit rating it has, although it is on a negative credit watch. It is unrealistic to assume the Company could further cut a significant amount of O&M costs in light of changes already made. Further, the Company is no longer able to offset substantial quantities of lost sales revenues in the Midcontinent Independent System Operator ("MISO") wholesale power market as it has in the past, due to significantly reduced wholesale power market prices, as Company witness Ms. Pierce explains.

It is noteworthy that Minnesota Power has experienced these challenges during a relatively strong economic period for our taconite customers and our region (even as the pulp and paper industries struggle). When future regional economic downturns inevitably occur, the Company will have less flexibility and ability to make additional significant, credit rating positive changes.

Q. Can you explain more about how the Company's O&M expenses have changed since the 2016 Rate Case?

A. Yes. Following the 2016 Rate Case, Minnesota Power dramatically and immediately reduced its O&M expenses through cost cuts, position eliminations through a combination of attrition and layoffs, and department consolidations to expand employee work scope and work load. The charts in Figure 14 and Figure 15 below show the recent downward trends in O&M expenses and employee headcount for the Company, resulting from our work to align our costs with the rates authorized by the Commission.

Figure 14. Minnesota Power Regulated O&M Expense from 2014 to 2019

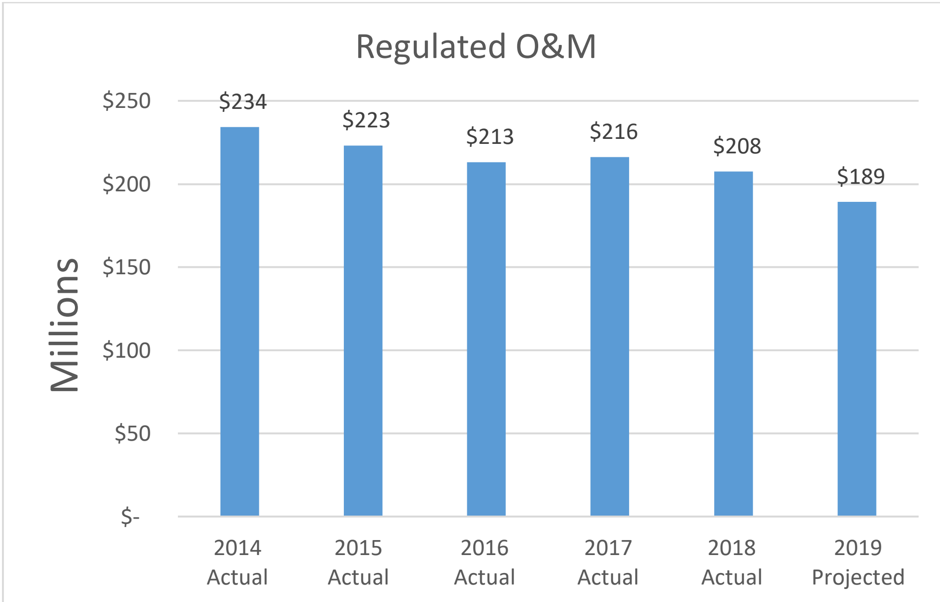
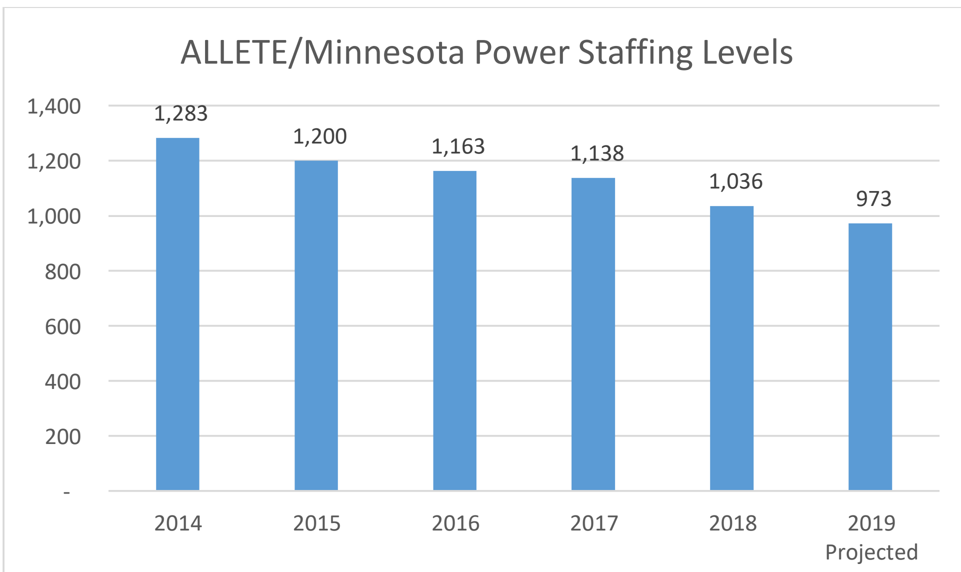


Figure 15. ALLETE / Minnesota Power Staffing Levels from 2014-2019



As a result, Minnesota Power is down over 100 employees since the 2017 test year of the last rate case. This employee reduction is due in some part to the generation fleet transition; however, reductions were also necessary to absorb inflationary costs such as health care, pension benefits, and property taxes. Whereas the consumer price index increased about 9 percent in the 2014-2019 timeframe, Minnesota Power reduced regulated O&M by about 19 percent. This shows how significant the Company's efforts to control costs were relative to the general pace of inflation. The Company's efforts to control costs and its employee reductions are described in further detail in the testimonies of Company witnesses Mr. Rostollan and Ms. Krollman.

Q. Can you provide an example of how these changes affect employees?

A. Yes. Fewer resources has required that the Company focus on necessities only, with more pressure on employees and fewer opportunities to make proactive investments. For example, my own Customer Experience department was impacted. In the beginning of 2018, there were 84 positions in three areas focusing on various (different) customer needs. As part of a strategic workforce planning initiative, a new, single department of 68 positions was launched in late 2018. While some efficiency gains through process improvement were made, employees have had to shoulder significant extra responsibilities, and less-essential activities have been temporarily or indefinitely delayed, which increases employee fatigue and overall business risk. As Company witness Ms. Krollman discusses in her testimony, we anticipate retaining employees could be increasingly difficult given the tight labor market and aging population.

Q. What capital investments has the Company made since the 2016 Rate Case?

A. Since the last rate case, Minnesota Power's major capital investments have been restrained. The Company has largely limited capital projects to work that had previously been approved or required by the Commission or that were necessary to maintain reliability and safety of Company facilities and transmission networks as regional coal fired facilities were idled, remissioned, or retired. For example, the Company's total capital expenditures on its generation fleet are significantly lower than in past years as described in the direct testimony of Company witness, Mr. Skelton. In addition, the Company's distribution and transmission capital expenditures largely focused on baseline reliability and age related asset management, with the exception of two strategic projects on the North Shore Loop and Grand Rapids Area that were necessary to facilitate transitions of regional coal fired facilities, as described in the direct testimony of Company witness, Mr. Gunderson.

We also have initiated two large projects that are necessary to support the Company's and the region's increasingly renewable resources – GNTL, and NTEC; however, the costs of those projects are not included in this rate request, due to their rider eligibility and power supply structure, respectively.

Q. How have the changes you described above affected Minnesota Power's ability to serve its customers?

A. Minnesota Power has maintained strong customer service to date. However, as we work to respond to customer needs through development of new programs and tools, we need to staff for increased levels of stakeholder engagement and increased compliance obligations. All this is challenging to do with reduced resources.

Although we have identified and streamlined many processes, we are also challenged to continue implementation of new programs for residential and commercial customers that require extensive stakeholder engagement and ongoing compliance with limited resources. It is also noteworthy that because of the needs of the residential and commercial customer classes, approximately 90 percent of my staff is dedicated to program development, delivery, service, billing, payment and support for these classes of customers, which represent only an approximate 30 percent of the Company's kWh sales. The difficult decisions to reduce staffing were necessary to maintain the overall financial health of the Company, but create ongoing challenges for delivering new and improved customer programs.

As a result, there is currently a need to bolster resources both to accomplish these growing obligations and to enable the Company to continue meeting the Commission and State policy goals and preferred outcomes. I discuss below how, despite challenges, Minnesota Power has made great strides in recent years in meeting and exceeding the policy goals and desired outcomes of the Commission and providing reliable, efficient, reasonably priced, and environmentally responsible service to our customers.

V. MINNESOTA POWER'S ALIGNMENT WITH STATE ENERGY POLICY

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

A. In this section of my testimony I discuss Minnesota Power's ongoing alignment with State policy and regulatory goals set forth by the Commission, and our success in meeting and exceeding these goals while keeping the customer front-of-mind. I then address Minnesota Power's perspective on how this alignment factors into this rate proceeding.

A. Stated Regulatory Goals

Q. What is Minnesota Power's understanding of the Commission's stated regulatory goals?

A. In the January 8, 2019 Order Establishing Performance-Incentive Mechanism Process in the proceeding titled *In the Matter of a Commission Investigation to Develop Performance Metrics, and Potentially, Incentives for Xcel Energy's Electric Utility Operations*, Docket No. E002/CI-17-401 (the "*Performance Metric Investigation*"), the Commission set forth the following regulatory goals:

1. Environmental protection;
2. Adequate, efficient, and reasonable service;
3. Reasonable rates; and
4. Opportunity for utilities to earn a reasonable return.[7]

Q. What is your understanding of the Commission's desired outcomes of its policy goals?

A. In the *Performance Metric Investigation*, the Commission described its desired outcomes of the policy goals as follows:

[7] *Performance Metric Investigation*, Docket No. E002/CI-17-401, Order Establishing Performance-Incentive Mechanism Process, at pp. 11-12 (January 8, 2019) and Order Establishing Performance Metrics, at pp. 1-2 (Sept. 18, 2019).

1. Environmental performance, including carbon reductions and beneficial electrification;
2. Reliability, including both customer and system-wide perspectives;
3. Affordability;
4. Customer service quality, including satisfaction, engagement, and empowerment; and
5. Cost effective alignment of generation and load, including demand response.[8]

Q. What is Minnesota Power's understanding of the Department of Commerce's position on State policy goals and preferred outcomes?

A. As the Department of Commerce ("Department") indicated in its June 4, 2019 Reply Comments in the *Performance Metric Investigation*, its policy objectives largely align with the goals and objectives set forth by the Commission in that docket.[9] Additionally, the Department has expressed interests in: decarbonization and beneficial electrification; rate stability; and responding to customer desires. Although not precisely the same, Minnesota Power understands these interests to be consistent with Commission goals: decarbonization and beneficial electrification align with environmental protection; rate stability aligns with affordability; and responsiveness to customers relates to customer service quality. I discuss each of these goals in turn, below.

B. <u>Minnesota Power Is Achieving or Exceeding State Policy Goals</u>

Q. To what extent has Minnesota Power aligned itself with these State policy goals?

A. Each of the goals outlined above are also Minnesota Power's goals, and Minnesota Power has already been pursuing and achieving them for many years. As previously noted, our Energy*Forward* initiative is focused on the environment, conservation, renewable growth, and decarbonization.

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[8] *Id*. at 12.
[9] *Id*., Department of Commerce Reply Comments, at pp. 1-3 (June 4, 2019).

We are constantly enhancing customer care and service reliability by expanding requested services such as demand response, working with stakeholders to regularly update and enhance our customer programs such as CARE and conservation program offerings, launching of a customer focused Renewable Choice program, engaging stakeholders for development of a Green Tariff program, launching MyAccount enhancements and improving customer accessibility through the Minnesota Power App, and delivering additional online tools for customers to self-service billing, payment, and service requests.

We are routinely monitoring our generation resources to ensure they are aligned with our load and provide reliable service, as addressed with the Commission in regular resource plan and resource approval filings. Finally, we are a recognized leader in the region and currently remain a desirable employer of choice in Northern Minnesota.

Q. How has Minnesota Power been able to continually pursue these goals while undergoing significant cost cutting?

A. Minnesota Power turned to our employees during these challenging times to determine what actions could be taken to streamline processes and prioritize the most important initiatives. Our major strategic workforce planning initiatives, which were implemented to identify efficiencies and reduce positions, also focused on reorganizing around and concentrating on the implementation of the highest utility priorities. This was a very difficult process and is not sustainable in the longer run, but over the last few years we have successfully focused on the most mission-critical activities.

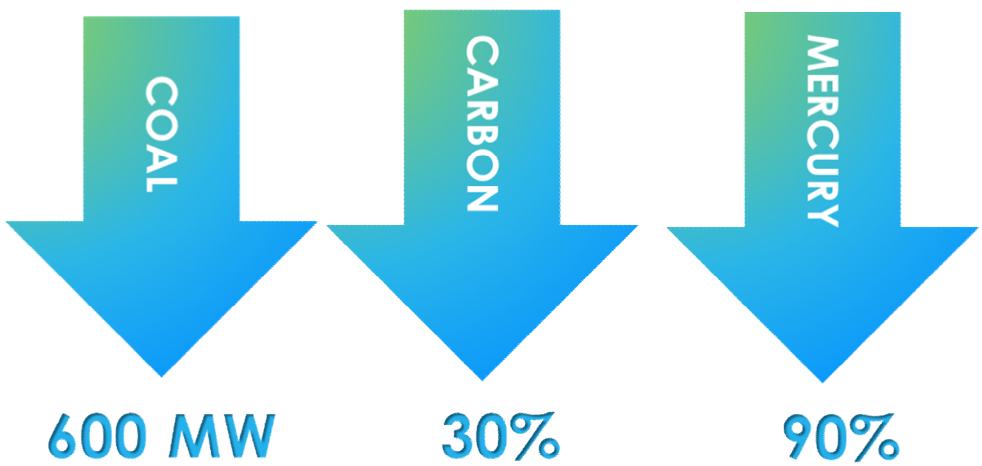
1. Environmental Protection, Decarbonization, and Beneficial Electrification.

Q. What recent efforts has Minnesota Power taken to protect the environment?

A. As previously discussed, Minnesota Power has expanded renewable energy supply to the highest percentage of any utility in Minnesota, achieving approximately 30 percent renewable energy delivered to customers in 2019. This State-leading position is a result of the addition of approximately 620 MW of wind and 10 MW of solar energy since

2005 on top of its existing 120 MW hydroelectric system and 50 MW of biomass capacity. These transitions have resulted in a reduction of carbon emissions by approximately 30 percent through 2019. Minnesota Power has also idled, remissioned, phased-out, or retired approximately 600 MW of coal fired facilities on its system and facilitated the idling of another 130 MW in the region through a contractual agreement with Silver Bay Power Company. In addition, the Company has invested prudently in emissions control technologies to dramatically reduce other pollutants from its remaining two coal fired power generators, reducing emissions of key criteria pollutants such as sulfur dioxide and particulate matter, and notably mercury emissions, by over 90 percent from 2005 levels in compliance with the Minnesota Mercury Reduction Rule. Figure 16 below highlights the magnitude of the Company's environmental progress since 2005.

Figure 16. Minnesota Power Emissions Reductions



Through Minnesota Power's Energy*Forward* initiative, the Company will replace more of the energy and capacity lost due to the reductions of a significant amount of coal fired generation with a combination of power generated by hydro, wind, solar, and natural gas. This, in addition to being a State leader in energy conservation, which I will discuss later in this testimony, and a commitment to a strong demand response portfolio that fits Minnesota Power's load profile and future needs, will allow the Company to significantly reduce greenhouse gas emissions by approximately 50 percent by 2021 and further increase renewable penetration to 50 percent by 2021.

Q. What else is the Company doing to promote environmental protection goals?

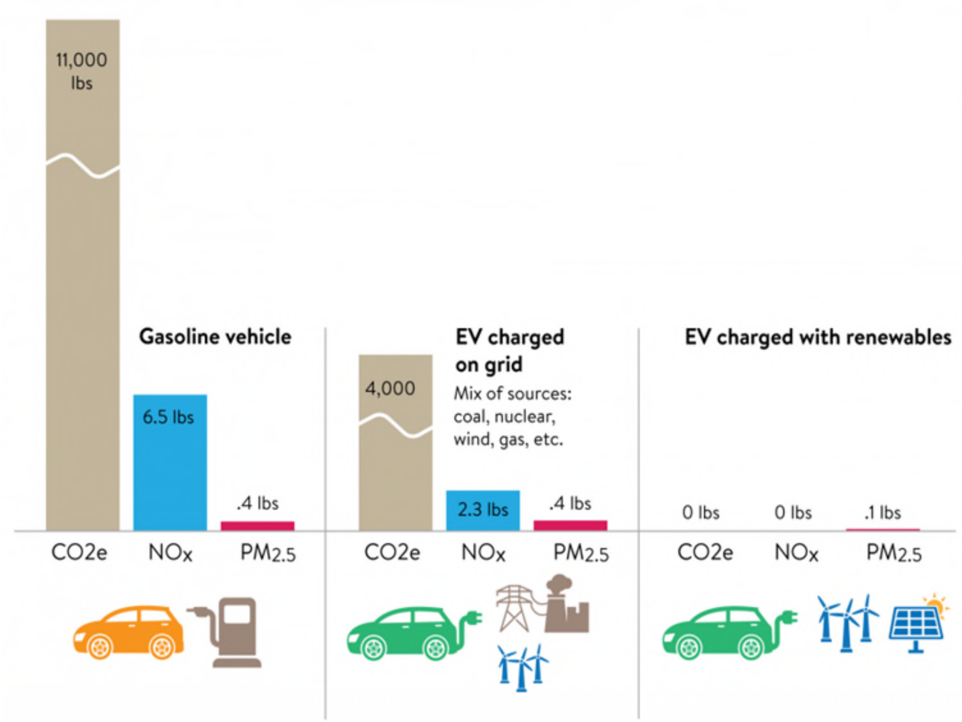
A. The Company has also invested its time and talent towards performing outreach to educate and encourage adoption of new, efficient, and sustainable building technologies. The Company hosts an annual energy design conference in February where approximately 500 building professionals and construction contractors convene to learn about the latest in energy-efficient building technologies, renewable energy, best practices, and responsible design. Minnesota Power also supports our customers' actions through rebates for utilizing advanced technologies through our Triple E new construction program, advanced heating and cooling technologies such as air or ground source heat pumps, and efficient lighting options.

Q. Is Minnesota Power also leading the way for other industries?

A Yes. In 2017, transportation became the leading sector for greenhouse gas emissions in the United States.[10] While technology and adoption is still in an early phase, Minnesota Power is preparing, incentivizing, and optimizing Electric Vehicles ("EVs") in line with the Minnesota emissions reductions goal. Shifting transportation from petroleum fuels to EVs is a significant opportunity for reducing not only greenhouse gas emissions, but also nitrogen oxides ("NO_x") and particulate matter. According to the Minnesota Pollution Control Agency, an EV charged from Minnesota's grid versus a gasoline vehicle already emits less overall carbon dioxide equivalent ("CO_2e"), NO_x, and $PM_{2.5}$, as shown in Figure 17 below.

[10] https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

Figure 17. Annual Estimated Emissions from Electric Vehicles and Gasoline Vehicles in Minnesota Traveling 12,000 Miles Per Year[11]



In the Company's Transportation Electrification Plan ("TEP")[12] filing, we identified the following as areas of immediate focus:

1. Commercial EV Rates (Public and Fleet)
2. Residential Second Service Solutions (for dedicated EV charging)
3. Commercial EV Charging Infrastructure Costs
4. Education and Outreach

Minnesota Power is actively working with the Duluth Transit Authority ("DTA") on their electric bus and showcases EVs to customers via its own Chevy Bolts. Both EV are shown in Figure 18 below. The DTA was the first transit authority in the State to deploy electric buses and Minnesota Power has been in collaboration with the DTA to learn and facilitate commercial fleet adoption. As a result of the Company's efforts, it

[11] https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.
[12] Docket No. E999/CI-17-879.

recently received Commission approval for a Commercial Electric Vehicle Rate Pilot to reduce economic barriers for commercial charging by incentivizing a shift in energy demand to off-peak hours and helping control customer demand costs[13].

Figure 18. DTA Electric Bus and Minnesota Power's Chevy Bolt

Q. Has the Company engaged in any other environmental stewardship efforts within its territory?

A. Yes. In addition to the efforts described above, in the past four years, Minnesota Power has planted over one million long-lived tree species on utility lands through its Rajala Woods initiative, promoting a more ecologically balanced and resilient forest. All of the white, red, and jack pine are actively managed to protect against deer browse and competing vegetation, resulting in good survival and growth rates. It is expected that the resulting improvements in forest resiliency and efforts to conserve large tracts of forested land will help better position the northern Minnesota landscape for future challenges, including climate change and fragmentation from development.

In addition, thousands of acres of Minnesota Power lands are open to public use and enjoyment. Minnesota Power has a robust recreation program centered around our hydropower reservoirs, which creates opportunities for the public to enjoy the natural environment. This includes miles of hiking and cross country ski trails, numerous picnic areas, boat launches, fishing docks, and campsites. Minnesota Power also provides significant financial support for the Boulder Lake Environmental Center in conjunction with the University of Minnesota and St. Louis County. At Boulder Lake

[13] Docket No. E015/M-19-337.

Environmental Center, the public can access Boulder Lake Reservoir and surrounding lands, and also have access to natural resource classes and workshops.

These are just a few examples of Minnesota Power's alignment in the areas of environmental protection, decarbonization, and beneficial electrification.

Q. Upon what metrics or data does Minnesota Power rely in assessing the achievement of its renewable and decarbonization goals?

A. The Department's *Performance Metric Investigation* Reply Comments identified the applicable long-term environmental policy goals that are set forth in Minnesota statutes. Specifically, the Department listed three energy policy goals that relate to total energy consumption or greenhouse gas emission reductions:

1. The CIP annual energy savings goal equal to at least 1.5 percent of annual energy sales of electricity and gas be achieved through cost effective energy efficiency, as set forth in Minn. Stat. § 216B.241, subd. 1(c);
2. 25 percent of the total energy used in the State must be derived from renewable energy resources by 2025, with Minnesota Power having interim goals of 17 percent by 2016 and 20 percent by 2020, pursuant to Minn. Stat. § 216B.1691, subd. 2(a);[14] and
3. The State goal to reduce statewide greenhouse gas emissions across all sectors to a level at least 15 percent below the 2005 levels by 2015, 30 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050.[15]

Q. How is Minnesota Power performing with respect to its CIP goals?

A. Minnesota Power has consistently met or exceeded its CIP goals, including in 2018. The Next Generation Energy Act of 2007 established a minimum annual energy

[14] Within this renewable energy obligation, Minnesota Power is required by Minn. Stat. §216B.1691, subd. 2(f) to have at least 1.5 percent of its total retail sales to electric customers in the State generated by solar energy.

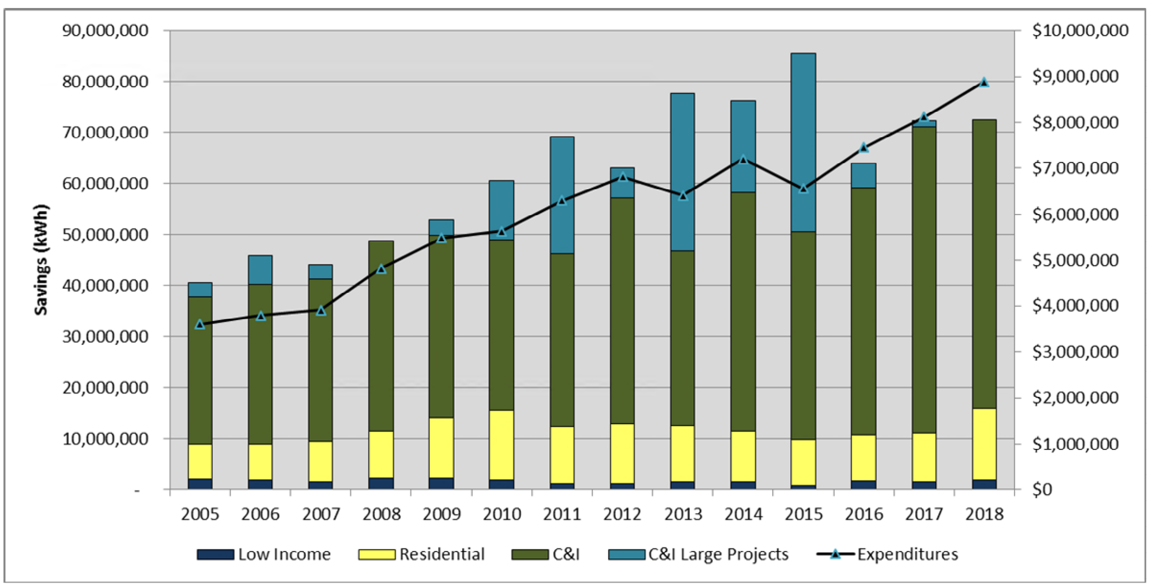
[15] *Performance Metric Investigation*, Docket No. E002/CI-17-401, DEPARTMENT OF COMMERCE REPLY COMMENTS at pp. 1-3 (June 4, 2019).

savings goal for utilities equal to 1.5 percent of (CIP eligible or non-CIP-exempt) gross annual retail sales. The approved energy savings goal is calculated based upon the most recent three-year weather normalized average, excluding sales to CIP-exempt customers. For Minnesota Power, the 2018 approved kWh savings goal equates to 2.09 percent of CIP eligible retail sales. Minnesota Power exceeded both the minimum and calculated savings goals for 2018 by achieving 2.64 percent savings as a percentage of adjusted sales, despite an environment with an increased baseline for efficiency.

This is an ongoing success story for Minnesota Power and our customers; we have exceeded our CIP goals every year since 2010, when the 1.5 percent energy-savings goal went into effect, and continued to expand energy savings as shown in Figure 19 below. This strong performance with energy conservation programs has helped keep customers' total bills lower in a rising rate environment.

That said, while Minnesota Power remains committed to providing sustainable energy-efficiency programs, cost-effective savings opportunities are diminishing due to market saturation and changing baselines, making it more challenging and costly to continue meeting and exceeding goals for the foreseeable future.

Figure 19. Minnesota Power CIP Energy Savings 2005-2018



Q. Did Minnesota Power meet its goal of utilizing 17 percent renewable energy by 2016 and is it on track to meet 20 percent renewable energy by 2020?

A. Yes. Minnesota Power has already exceeded the Renewable Energy Standard. In 2019, approximately 30 percent of the power supplied by Minnesota Power is coming from renewable sources, a leading figure in the State of Minnesota. Minnesota Power serves its customer needs with a diverse renewable portfolio made up of wind, hydro, solar and biomass. Today, the majority of renewable energy is generated from the ~500 MW Bison facility in North Dakota, which is delivered to customers using a high voltage direct current ("HVDC") line that brings the energy directly to Duluth.

Q. Is there more renewable energy to come?

A. Yes. Minnesota Power continues to grow its renewable portfolio with the addition of the 250 MW Nobles 2 wind PPA, approval to add an additional 10 MW of solar generation in 2020, and the start of the 250 MW Manitoba Hydro PPA. These PPAs don't start until the second half of 2020, but once these projects are fully realized in 2021, they will add significant amounts of carbon free energy to the power supply. In fact, including Nobles 2, Manitoba Hydro and the 10 MW solar project, Minnesota Power is projecting to be 50 percent renewable in 2021, which is nearly double the renewable percentage goal for 2025 of 25 percent.

Note that today the hydro generation associated with the 250 MW Manitoba Hydro PPA does not qualify for the Minnesota Renewable Energy Standard because the newly constructed hydroelectric facilities used to generate the electricity are larger than the current 100 MW statutory size limit. In addition, the renewable energy credits from the 10 MW solar project will be used to comply with the Solar Energy Standard ("SES"). However, these are still carbon free renewable resources that are helping Minnesota Power, in total, to become 50 percent renewable in 2021. Company witness Ms. Pierce describes Minnesota Power's energy supply transformation in more detail in her Direct Testimony.

Q. Is Minnesota Power on track to meet its goal of 1.5 percent of its total retail sales generated by solar energy by 2020?

A. Yes. Minnesota Power is on track to comply with the Solar Energy Standard in 2020. Minnesota Power's first utility scale solar project at Camp Ripley is fully operational and represents nearly one-third of the solar energy needed for it to meet its Solar Energy Standard requirements. In 2018, the Minnesota Public Utilities Commission approved a PPA for another 10 MW solar project in northern Minnesota scheduled to be online near the end of 2020. Additionally, the 1 MW solar array that makes up a significant portion of the Company's first Community Solar Garden Pilot Program was completed in December 2016. Finally, the Company continued its longstanding support of customer-sited and small scale solar systems with its SolarSense Customer Solar Program, which was significantly expanded in 2017 including an increase to the budget for customer-sited solar incentives, a pilot program with a first of its kind in Minnesota low income solar project development, and a solar research and development program. With thoughtful planning and proactive action in each pillar of the Company's solar strategy - Utility, Community, and Customer - Minnesota Power is well-positioned for compliance with its SES requirements in 2020.

Q. Looking forward, what else is Minnesota Power doing to help Minnesota achieve the statewide greenhouse gas emission reduction goals of 80 percent below 2005 levels by 2050?

A. In order to achieve the long-term goal of 80 percent reduction by 2050, Minnesota Power is actively working on multiple approaches to continue the expansion of renewable energy on its system and corresponding reduction of greenhouse gas emissions, while maintaining safe, reliable, and affordable service for its customers. These approaches include industrial DR, Incremental Production Service ("IPS"), dual fuel, controlled access, time of day rates, and energy storage technology exploration.

Q. Why will customer focused programs be important for enabling continued progress towards Minnesota's statewide greenhouse gas emission reduction goals?

A. The Company's existing, State-leading penetration of renewable energy has been accomplished largely through integration of variable renewable generation within the flexibility of the existing dispatchable resources on the system, which are mostly fossil fuel based, and the off peak energy utilization from the Company's high load factor industrial customers. Further expansion of renewable energy production will be more cost effective for customers if they are able to respond with changes in their energy demand in response to changes in energy production from variable renewable resources. Through the Company's close working relationships with its industrial customers, it has been able to design programs like industrial DR and IPS that economically leverage their ability to respond to certain economic and reliability requirements on the system to provide great benefit for all customers that is beyond the proportion of the system used by these customers.

Q. How much DR do industrial customers deliver to the system and how does this compare to their proportion of peak demand?

A. The Industrial Customers consume approximately 74 percent of the kWh energy sales on the system, but contribute a lesser percentage to the Company's coincident peak demand. Additionally, the approximately 260 MW of currently subscribed DR Product A is nearly 90 percent of the Company's entire demand response capability, considering the approximately 30 MW of residential and commercial dual fuel programs that are available mostly for winter peak demand reduction. However, the industrial DR program is entirely paid for by the industrial customer class, even though the demand response provides benefit for all customer classes. For this reason, the Company is seeking in this rate case the allocation of the industrial DR credit costs to all customers proportional to their demand allocation, similar to how other capacity resources are allocated. This is further described in the Direct Testimony of Company witness Ms. Podratz.

Q. What has the Company done to expand its industrial DR program?

The Company recently filed a petition to expand its industrial DR program[16] beyond the existing emergency only product to include an economic energy interruptible program as well. The Commission approved the updated version of the emergency only product, DR Product A, and a market based emergency Product C; however, the emergency plus economic energy interruptible Product B was not approved at this time. The Company believes energy interruptible products like Product B, whether in its current form or modified through additional stakeholder engagement, will be necessary in the future to shift energy consumption and enable further onboarding of renewable energy to meet the State's decarbonization goals.

Q. Is Minnesota Power taking any other steps to promote conservation, demand side management, and beneficial electrification?

A. Yes. The Company has undertaken a broad array of resource management efforts, conservation promotion programs, pricing tools, and education and outreach efforts consistent with the State's interest in environmental protection. For example, the Company is leading the State with deployment of AMI, advanced a time of day rate pilot, is investing in a CIS upgrade and MDM system to facilitate broader implementation of complex rate designs, is seeking re-pricing of the dual fuel rate to remain competitive with alternative fuel sources and to support beneficial electrification through interruptible service, and is committed to evolving demand response programs.

Q. Does the Company also use time of day rates to promote changes in customer energy consumption behavior?

A. Yes. Minnesota Power also has a time of day pilot program with its residential customers. The time of day rate encourages customers to use energy when prices are low, and curtail usage when prices are high. It also includes a critical peak pricing component, something unique to Minnesota Power and not offered elsewhere in Minnesota, that allows for a pricing event to be called during system emergencies or

[16] Docket No. E015/M-18-735.

when wholesale market prices are unusually high. The current program requires significant manual work on behalf of the Company to administer, and entry of new customers on the pilot is currently frozen. Once AMI and the MDM system are fully deployed and stabilized, the Company will be better positioned to expand utilization of price signals to customers in order to change energy usage behavior to better match renewable energy production and support decarbonization goals.

Q. How does this align with Commission policy goals?

A. The Commission often conveys policy objectives and effectuates those objectives through dockets and its decisions. This has certainly been the case as it relates to dynamic pricing. The Commission has made it clear that a broader rollout of time of day rates is expected in the near-term, once AMI and the MDM is in place and stabilized. This technology could serve as a pathway toward even more complex rates, including dynamic pricing. The Company will propose changes to the time of day rate offering in the Company's current time of day rate filing,[17] which is separate from this rate case proceeding. In the time of day rate filing, Minnesota Power has been ordered to continue the stakeholder process for time of day rate design considerations, including discussion of a proposal to phase in of time of day rates with potential roll-out options, in a filing in August 2020.

While tangible benefits of a broader time of day offering to Minnesota Power's system may be limited in the short term, the Company agrees that time-based rates can provide value in a future with more renewables and electrification. Both are important to decarbonization and both can be better managed through time based rates and dynamic pricing. Time of day rates can help ensure added load from electrification is efficient load and that negative impacts to the system (such as increased peak demand) are minimized. Additionally, as intermittent resources such as wind and solar continue to be added to the mix, increased demand-side flexibility will be a key part of maintaining reliability. Electrifying end-uses such as transportation, water heating, and space

[17] Docket No. E015/M-12-233.

heating has the added benefit of being flexible, controllable load. Time of day and dynamic pricing rates can play an important part in realizing these benefits through strategically designed price signals. As such, expectations regarding renewable production and future adoption of end-use technologies that align well with electrification and demand response will continue to be core considerations in the on-going stakeholder process and evaluation of expanded future time of day design.

While changes regarding the time of day rate itself are not included in this rate case, it is important to note the Company must first address its current inclining block rate structure before considering a broader transition to time of day rates. This finding was highlighted during the Company's stakeholder sessions for time of day rates and residential rate design conducted in advance of this rate case. To that end, and to ensure a coherent and successful time of day offering, the Company is proposing a transition from inclining block rates to flat rates. This proposal seeks to balance multiple policy objectives, including energy affordability, beneficial electrification, and the transition toward a potential future state that includes dynamic pricing. The proposal is discussed in detail by Company witness Ms. Podratz.

2. Reliable and Efficient Service

Q. To what extent is Minnesota Power meeting the policy goals of providing reliable and efficient service?

A. Minnesota Power recognizes the high value its customers place on safe, reliable, and affordable service and the Company strives to provide reliable and efficient service to all customers across a unique service territory in northeastern and central Minnesota. As described in the Company's most recent Safety, Reliability and Service Quality ("SRSQ") report,[18] Minnesota Power customers experience a high level of reliability with respect to their electric service. Specifically, in 2018, residential customers experienced average service reliability of 99.97500 percent; commercial customers experienced average service reliability of 99.99558 percent; and industrial customers

[18] Docket No. E015/M-19-254.

experienced average service reliability of 99.99992 percent. Minnesota Power has maintained this high level of reliability amongst significant change in the Company's regional baseload generation footprint and increases in extreme weather in recent years.

Q. How has extreme weather impacted overall reliability to customers?

A. Minnesota Power has seen a significant increase in outages due to both extreme weather and public damage (e.g. vehicle incidents and dig-ins) that have significantly impacted customer reliability in recent years. Total outage events resulting in trouble tickets averaged more than 20 percent above historic averages since the last rate case due to weather and human causes.

Q. How has the Company's generation transition impacted overall reliability for its customers?

A. Minnesota Power's retirement, remissioning, or idling of seven of its nine baseload generating resources have significantly changed the operational paradigm in the region, and the Company's strategy to maintain the availability of certain generating assets has been critical to maintaining the high level of reliability its customers expect during this significant transition. As described further by Company witness Mr. Skelton, Minnesota Power has remissioned Laskin Energy Center ("LEC") and Hibbard Renewable Energy Center ("HREC"), and idled Taconite Harbor Energy Center ("THEC"), to reliably support the decarbonization of the region. Mr. Skelton further describes how these assets have been critical to supporting reliability in the region as evidenced by the increased calls upon the Company's dispatchable generation resources by MISO in recent years to maintain reliability in the region.

Q. How has Minnesota Power continued to successfully provide reliable and efficient electric service as these changes have occurred?

A. Minnesota Power has invested prudently to improve the reliability of its key remaining baseload generating units, Boswell Energy Center Units 3 and 4 ("BEC3" and "BEC4"). BEC3 and BEC4 provide over half of our customer's energy supply needs and are the only remaining baseload generating units in northern Minnesota. As a result, their reliable and efficient operation have been critical to the regional energy grid and create significant customer value. The reliability of BEC3 and BEC4 have continued their positive trend of lower forced outage rates due to Minnesota Power's operation and maintenance strategy. Company witness Mr. Skelton further describes the operation and maintenance strategy for BEC3 and BEC4 and how it aligns with reliability to ensure the units serve our customers and maintain safety and environmental compliance.

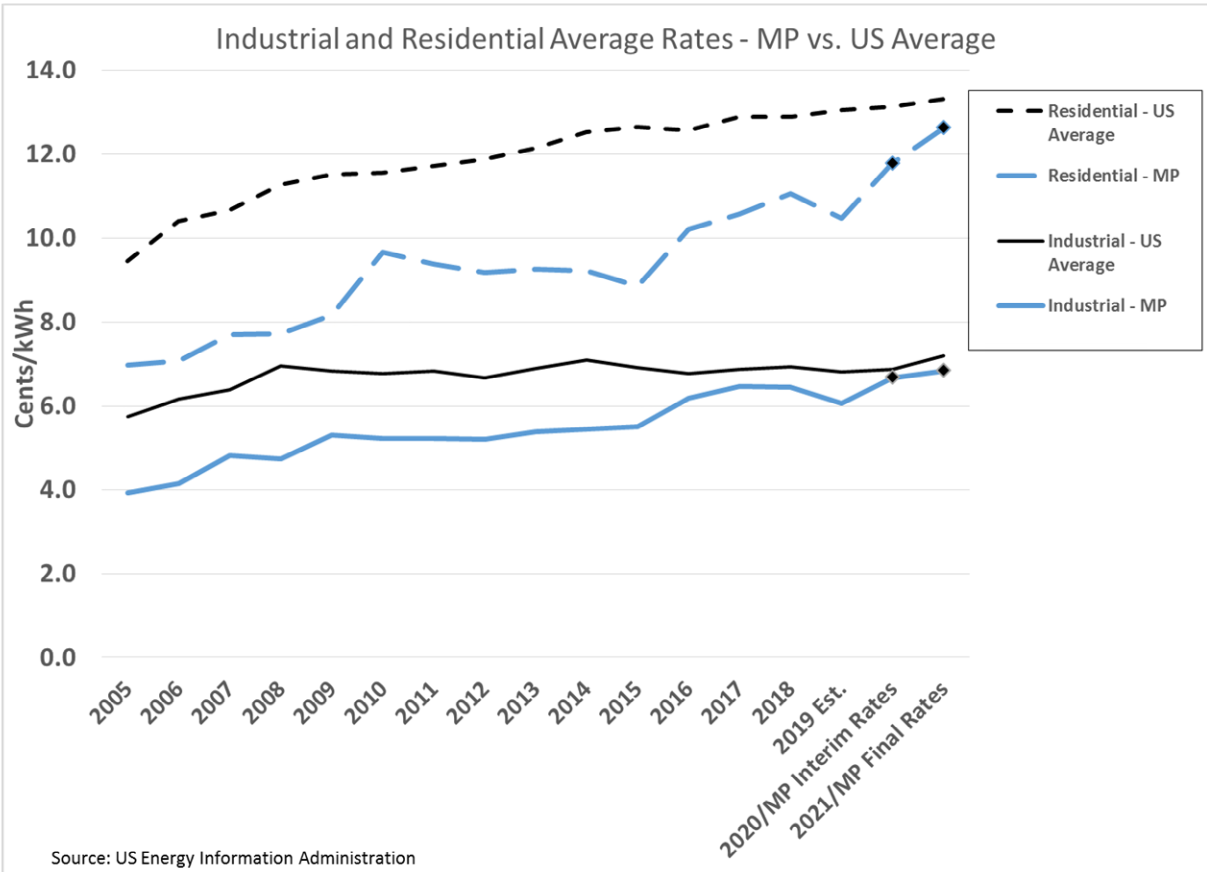
Minnesota Power has also invested prudently to improve the regional transmission and distribution systems to maintain reliable and efficient service amongst significant transformation. The Company's investments in the transmission system include significant projects on the North Shore Loop and in the Grand Rapids area to maintain reliability following the remissioning, idling, and retirement of baseload coal generation. The Company also has a Grid Modernization initiative that includes a number of technology initiatives focused on its distribution, metering, and customer billing systems to enhance customer services, customer data, reliability, and business efficiency. Specific initiatives include the expansion of its State-leading position with AMI, investment in a MDM system, deployment of its Mobile Workforce system, and improvements to its Outage Management System and Geographic Information Systems. Company witness Mr. Gunderson further describes the investments and progress the Company has made in these areas.

3. <u>Reasonable Rates that Are Affordable for Customers</u>

Q. Are Minnesota Power's rates consistent with the policy goal of providing reasonable and affordable rates?

A. Yes. Minnesota Power's rates are competitive among all utilities across the nation, and in the case of its residential customers, I would say they are extremely competitive. According to the EIA, Minnesota Power's residential customers paid approximately 15 percent less than the national average in 2018 and its industrial customers paid approximately 5 percent less than the national average. If the industrial customers were not receiving the EITE Rider discount, which amounts to approximately a three percent reduction in their rate, they would have been approximately two percent below the national average. The chart in Figure 20. below shows the historical and projected average rates for Residential and Industrial customers relative to national averages, per the EIA.

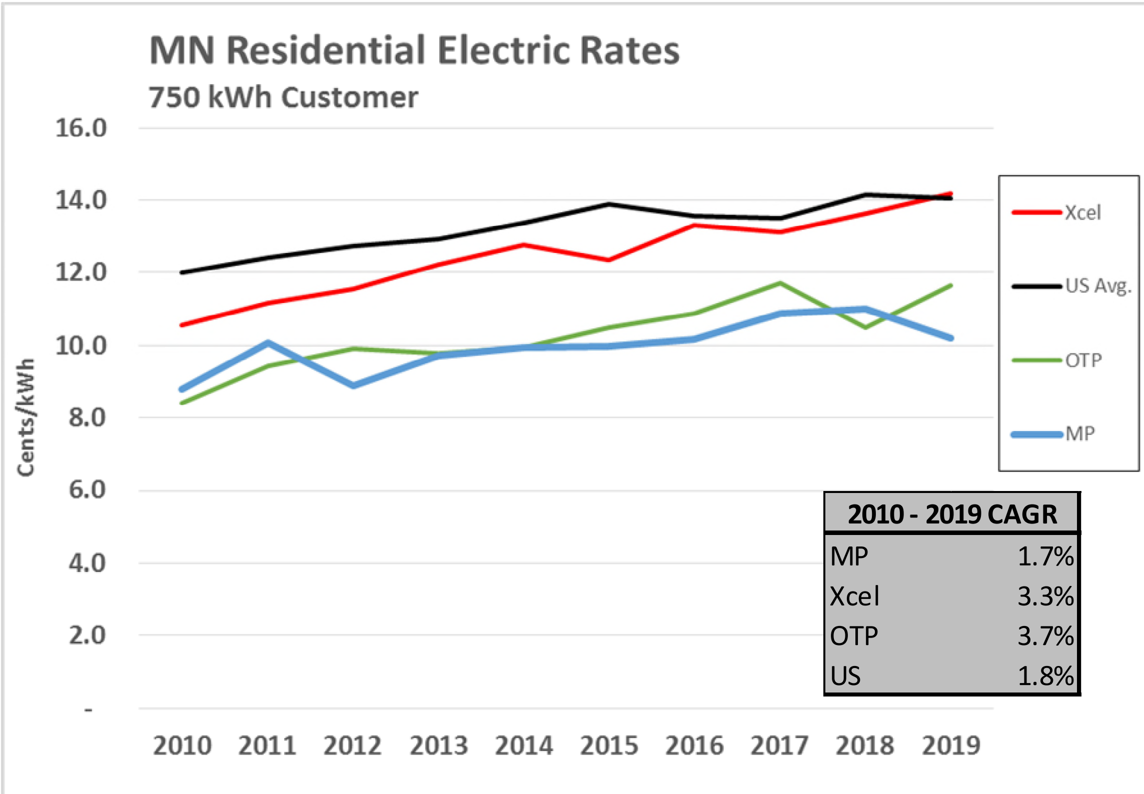
Figure 20.



Q. How have Minnesota Power's residential rates changed over the past decade relative to other investor owned utilities in the State and nation?

A. According to the Edison Electric Institute's ("EEI") typical bills and average rates report, the average rate for Minnesota Power's average residential customer that consumes approximately 750 kWh per month has grown at a slower pace compared with other utilities in the State and nation, as demonstrated in Figure 21. below.

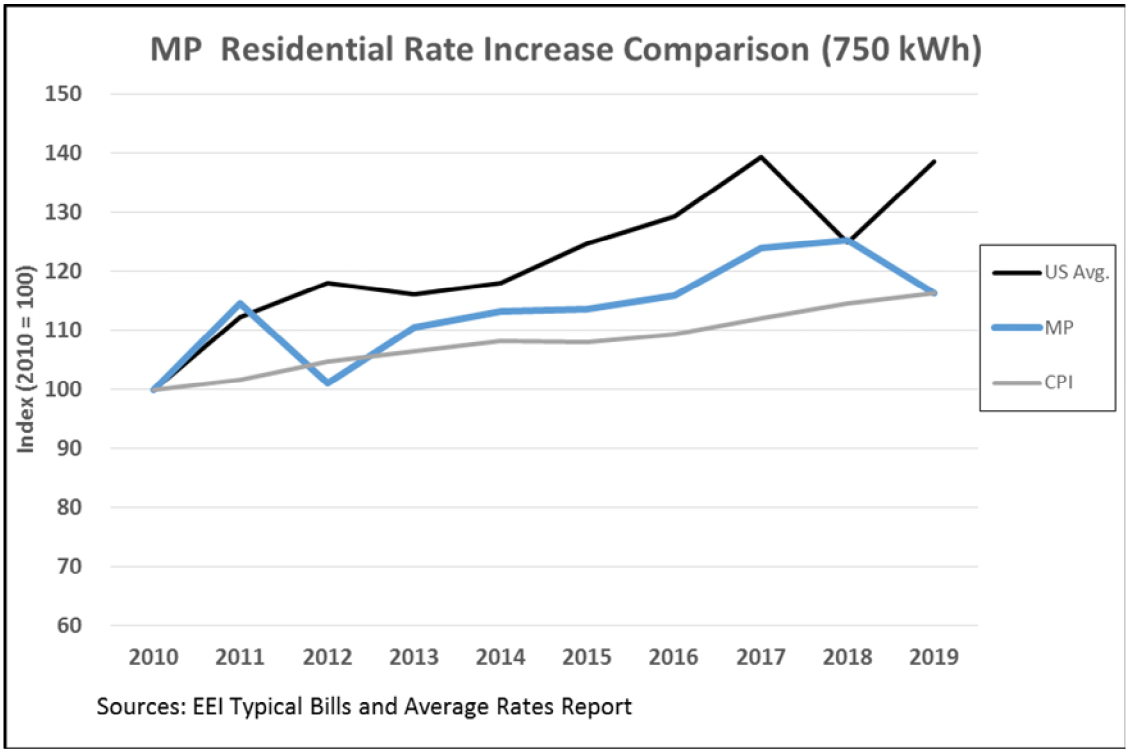
Figure 21.



Q. Should utility rate changes be at or under the Consumer Price Index ("CPI")?

A. No. While the CPI is an indicator of average price inflation for all products or groups of many products, it is not a great specific indicator of utility electric rates and should not govern the rate of change for a utility rate. For example, utility rates are modified most significantly at times when companies file rate cases. These rate cases typically occur every two to five years, depending upon a utility's change in sales, invested capital, and O&M costs. Due to the infrequency of a utility's rate cases, it should be reasonable for a utility rate to have an increase above the CPI as the CPI adjusts annually while the utility is adjusting its rate at a multi-year frequency. Another reason the utility rate should not be limited by a CPI index is due to the types of investments utilities make that may be policy driven more than economic driven, as would be the case of a non-regulated consumer product that is used for the bulk of the references in the CPI index. By way of example, the following chart in Figure 22. shows the relative change of Minnesota Power's residential rates as compared to the national average residential rates and CPI over the past decade.

Figure 22.



Q. What steps has Minnesota Power taken to keep rates reasonable and competitive?

A. Minnesota Power implemented cost containment measures for both O&M expenses and capital costs. Additionally, the Company employed revenue management strategies to maintain low rates.

Q. Please explain the cost containment measures utilized by Minnesota Power.

A. As discussed previously, after the 2016 Rate Case the Company implemented significant cuts to its O&M budget in order to contain costs, including significant position reductions through both attrition and layoffs. While Minnesota Power was able to successfully effectuate these cost cuts to support reasonable and competitive rates, the cuts are not sustainable over the long run if the Company is going to be able to achieve long term policy and operational goals. Company witnesses Mr. Rostollan, Ms. Krollman, Mr. Skelton, and Mr. Gunderson discuss these efforts in more detail.

In addition to reducing O&M costs, Minnesota Power has also focused on containing capital costs. Specifically, the Company was able to complete several major capital projects under budget throughout the past decade, including the Bison wind farms, the BEC4 retrofit, and the GNTL is trending on or below budget.

Q. Please describe the revenue management strategies employed by Minnesota Power.

A. As Company witness Ms. Pierce explains, Minnesota Power utilizes a power marketing strategy to optimize the revenue from its assets and maximize the value returned to its customers. This strategy has been successful for over a decade, in particular due to a successful 10-year Large Market Contract that alone has provided a majority of the margins returned to Minnesota Power customers. However, power markets continue to be at much lower rates than they were when Minnesota Power entered into the long-term agreement, and replacing this revenue is no longer possible. In addition to the ongoing trend of low market prices, Minnesota Power's remissioning, retirement, and idling of 600 MW of coal-fueled generating facilities in the past several years leaves fewer dispatchable assets to source long-term wholesale sales. As a result, reducing customer costs through marginal cost sales to the wholesale power market is simply no longer adequate to either replace lost customer revenue or generate significant benefit for the customers, and the Company is requesting a significantly lower off-system sale margin be reflected in the Company's revenue. Company witness Ms. Pierce discusses these strategies in her Direct Testimony.

Q. How is the Company keeping rates affordable for its residential customers?

A. Minnesota Power has the lowest residential rates among investor owned and cooperative utilities in Minnesota. The Company also has robust and effective programs for energy conservation that help keep the average total bill for a residential customer low, even as rates increase. The ability to spread utility costs over a customer base with sizeable industrial load has also significantly benefitted residential and small commercial customers. In addition, for several rate cases more costs have been allocated to the large industrial customers than various class cost of service analyses would indicate. Combined with our own prudent cost management, these factors have had a significant impact on our ability to keep residential bills low.

Q. How is the Company keeping rates affordable for its low income customers?

A. Although Minnesota Power has similar percentages of low-income residential customers to those seen by utilities nationally and regionally, the Company recognizes that broad offerings such as LIHEAP only reach roughly one-third of eligible households. As such, Minnesota Power has made it a priority to increase outreach efforts to expand the LIHEAP pool and bring these much-needed dollars to customers in its service territory. Further, the Company has worked collaboratively with low-income advocates to develop program modifications to its CARE program to ensure a leading class low-income affordability program, and is partnering to deliver a first-of-its kind in Minnesota Low-Income Solar Pilot Program. And importantly, Minnesota Power offers conservation program resources directly targeted to low-income customers to help decrease overall energy consumption and lower electric bills.

Q. How is the Company managing rates for its larger power customers?

A. Minnesota Power's strategic accounts management team works directly with our large power customers to optimize their operational energy usage within the confines of the Company's approved tariffs and the customers' approved Electric Service Agreements ("ESA").

Q. Can you say more about why this matters for other customers on the Minnesota Power system?

A. Yes. The large industrial customers are vitally important to the economy of our region, directly and inductively generating approximately 40 percent of the gross regional product and contributing significantly to the employment and tax base.

These large industrial customers support a broader network of spinoff industries in the region that also contribute significantly to the economy. As I discuss in more detail in my LP Testimony, a study conducted by the Duluth Port Authority indicates that the industrial sector of Duluth's economy generates three-times more local tax revenue per job and contributes over 45 percent of the State and local taxes collected in the region even though industry represents just 20 percent of the Duluth economy.

As a result, Minnesota Power's large industrial customers are extremely important to the economic health of our region. High load factor industrial customer operations use the system very efficiently to reduce the total average system cost for all customers; their overnight energy consumption helps consume lower cost off-peak energy that reduces the total average cost for all customers; and their operations provide the majority of the Company's demand response that benefits all customers. Without the high load factor industrial customers, Minnesota Power's system costs would be spread over fewer sales, resulting in higher residential rates. As such, managing these customers' rates effectively helps keeps rates low for all customers.

4. Customer Service Quality

Q. How does Minnesota Power determine how well it is providing high quality customer service?

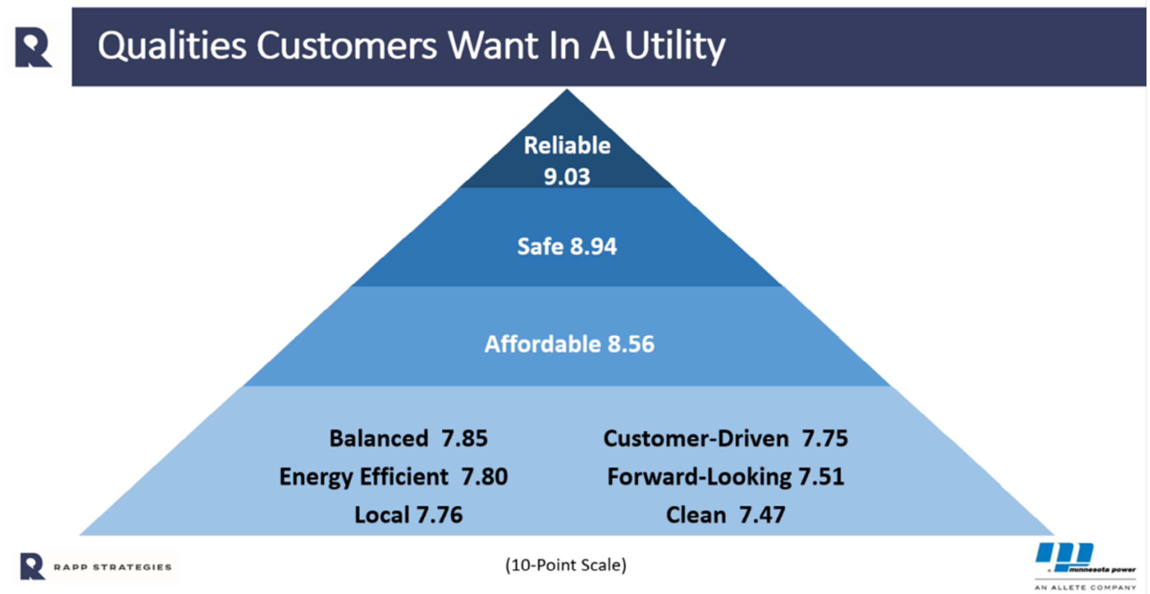
A. Minnesota Power engages with industry groups, such as EEI and the Association of Edison Illuminating Companies, to leverage industry best practices and deploy the practices that make the most sense for our customers. Minnesota Power also utilizes surveys of its customers. These surveys assess how well Minnesota Power is serving its customers under current circumstances and also help support which best practices from the Company's national engagement are most applicable to its customers.

Q. What does the Company's most recent data indicate about customers' key "wants" from their utility?

A. Rapp Strategies recently managed a customer survey project for Minnesota Power. They contracted with Morris Leatherman Company to survey 800 residential customers, a sample that accurately reflected the actual residential customer base in key demographic areas.

When asked about the importance of different words that could be used to describe their electric utility, residential customers ranked reliable and safe the highest, followed by affordable. Six other attributes were tested, each receiving measurably lower scores than the top three, including balanced, energy efficient, local, customer-driven, forward-looking and clean. Figure 23. below highlights the high level results from this survey.

Figure 23.[19]



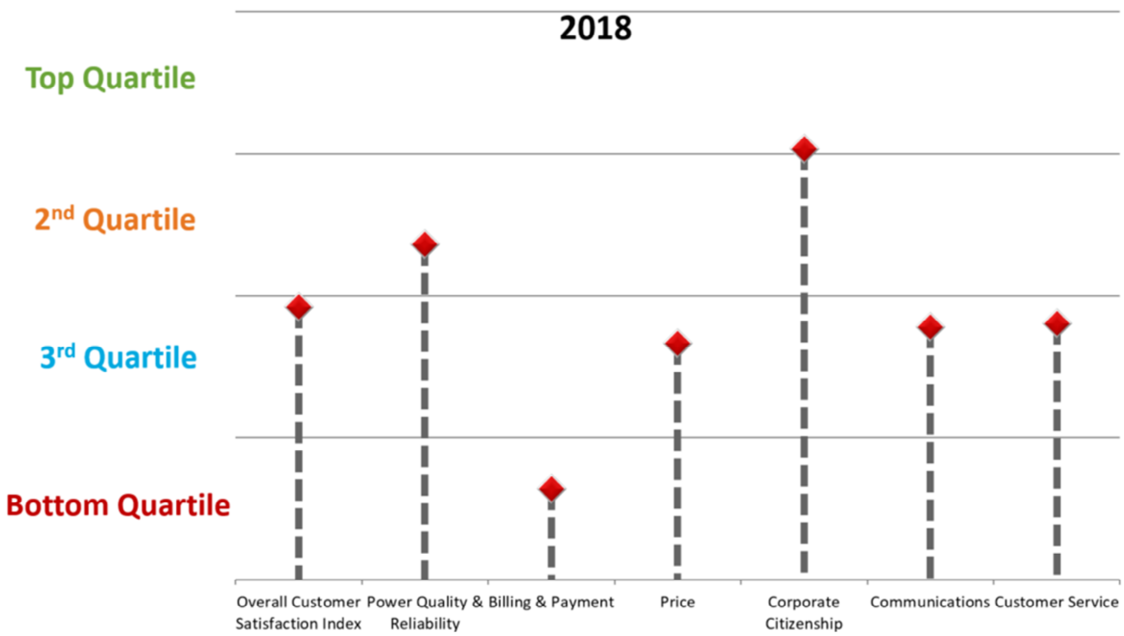
Q. Does Minnesota Power rely on any other survey data to determine focus areas for its programs and services?

A. Yes. Minnesota Power has procured survey information from J.D. Power to understand how it compared relative to other utilities across the United States on customer sentiment around several areas. This helps to inform both how we are doing, as well as areas of future focus and ways to improve customer satisfaction. The last published survey to which Minnesota Power subscribed, from 2018, as shown in Figure 24 below,

[19] *Minnesota Power Residential Customer Survey - Reputation*, RAPP STRATEGIES (2019).

indicated that Minnesota Power customer sentiment was high for the Company's corporate citizenship; above average for power quality and reliability, average for price, communications, and customer service; and lagging in billing and payment. We are above average overall with respect to customer satisfaction, despite billing and payment systems that needed attention.

Figure 24. 2018 Industry Quartile Chart – Minnesota Power



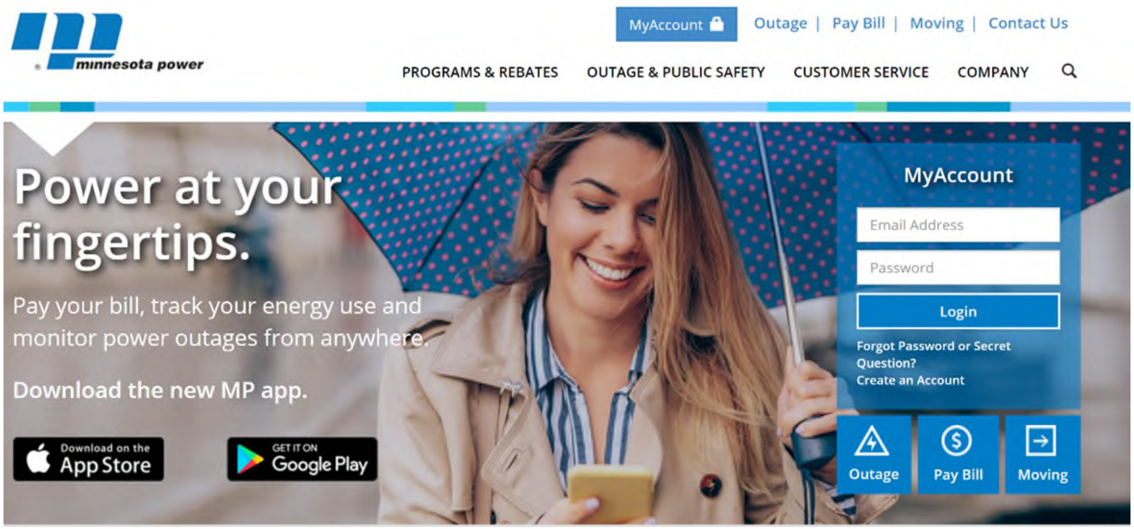
Q. Were these results a surprise to Minnesota Power?

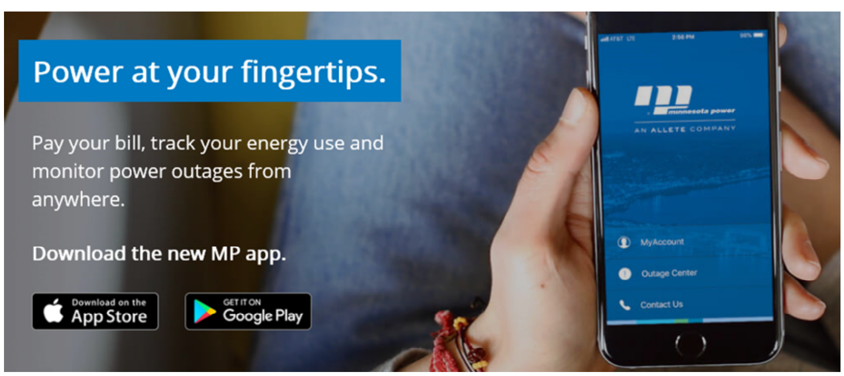
A. No. As a result of the Company's engagement in other industry forums, Minnesota Power was aware that it is above average with respect to overall customer satisfaction, but that there was a need to modernize payment platforms. We have therefore already taken steps, which were not yet reflected in these 2018 survey results, to improve payment options and enhance digital platforms for customer interaction. Minnesota Power has made significant progress in digital platforms that meet customers where they want to be met today, whether through our MyAccount portal, mobile app, or launching of our no-fee credit or debit card bill pay option, as approved in our 2016 Rate Case.

Q. Can you provide more detail regarding the efforts Minnesota Power has undertaken to improve customer service since the 2016 Rate Case?

A. Yes. The Company has added several programs responsive to what customers want in addition to reliable and reasonably priced service. Specifically, Minnesota Power has upgraded its mobile app to include both outage notification and reporting in addition to MyAccount billing and usage monitoring. The Company also launched a start, stop, transfer feature to allow new and existing customers to handle service requests, transfers, and voluntary disconnections from the convenience of our website and mobile app.

Figure 25. Customer-Facing Information About New Functionality and Optionality





Thanks to the Commission's approval of the Company's request for no-fee credit/debit card payments in the 2016 Rate Case, Minnesota Power was able to eliminate the customer charge for paying bills by credit/debit card. This change was implemented following the final rate order and customers have increased adoption of this feature to similar levels that were requested on an annualized basis.

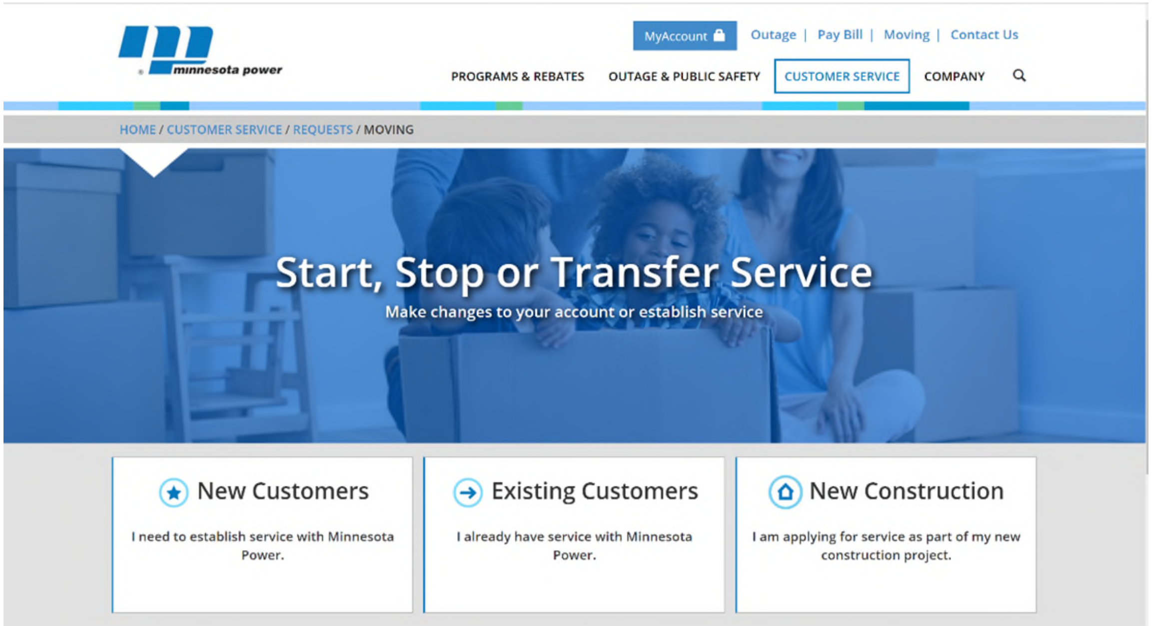
The Company also launched Renewable Source following the 2016 Rate Case, which allows customers to select the amount of renewable energy they want to meet their individual needs, beyond Minnesota Power's State-leading renewable percentage of over 30 percent in their base energy supply.

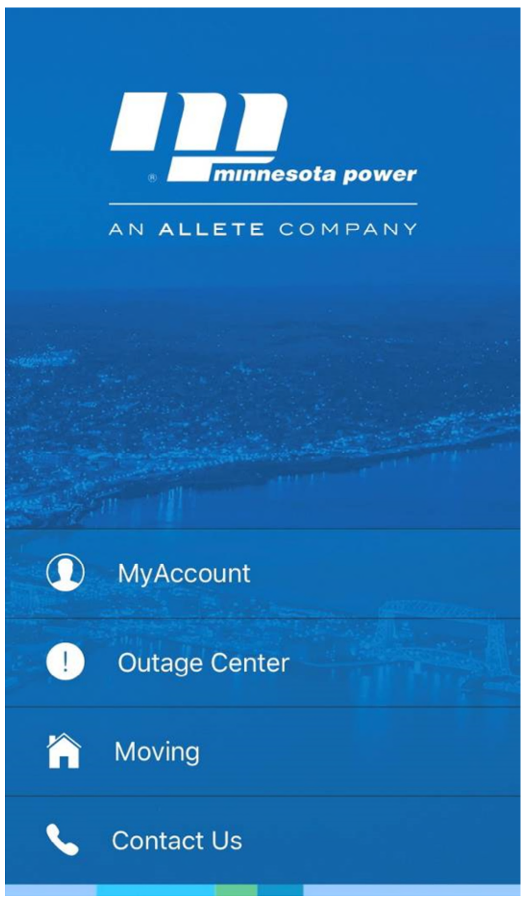
All of these features were developed, launched, and enhanced, in addition to Minnesota Power's continued leadership in delivery of State-leading conservation programs and renewable energy offerings.

Q. Please explain the start/stop/transfer functionality added to the Company's online portal.

A. Prior to mid-2019, customers would request a stop, start, or transfer service by calling Minnesota Power during business hours, or by completing an online form. Both methods required manual entry of the request into our CIS by a Minnesota Power representative and made up the second highest reason for customers contacting Minnesota Power. In June of 2019, Minnesota Power introduced a fully integrated process for new customers to apply for service, as well as for existing customers to request changes to service such as a stop service or a transfer to a new service location within our service territory. The new process allows customers to request these types of changes at any time and updates their account real time, expanding the ability for customers to manage their utility services using a variety of communication channels. The web and mobile interface for our new start, stop or transfer service is displayed in Figure 26 below.

Figure 26. Web and Mobile Interfaces for Start/Stop/Transfer Service

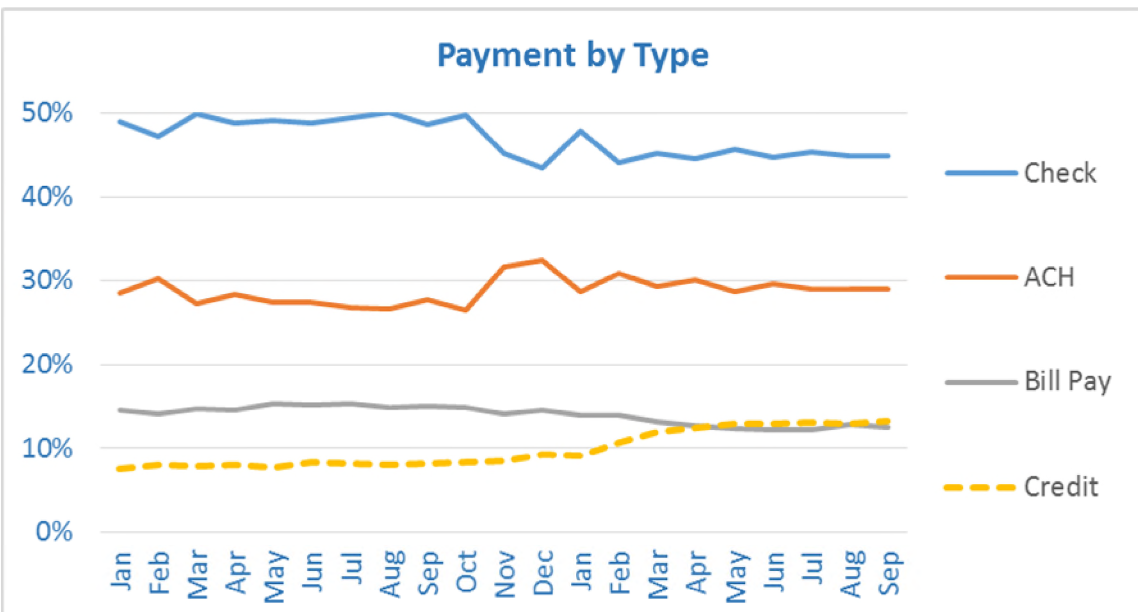




Q. Please provide more information about customer adoption of Minnesota Power's new credit card payment program.

A. Through September 2018, payments made via credit/debit card were assessed a $2.75 fee per transaction, which was paid directly to the payment vendor by the customer. This was a source of frustration for customers, as indicated in part by the J.D. Power survey results noted above. In response to customer feedback, and once the Company had a final order with Commission approval in the Company's 2016 Rate Case, Minnesota Power eliminated the fee for credit/debit card transactions, and now accepts payments from checking or savings accounts, or credit, debit, or ATM cards with no directly-assessed convenience fee. Figure 27 below shows the increased adoption of the credit/debit card payment option after Minnesota Power was able to launch the no fee credit/debit card payment option.

Figure 27. January 2018 through September 2019 Payment Trends by Type



Company witness Ms. Podratz describes the program and associated rate case impacts in more detail in her Direct Testimony.

Q. Is Minnesota Power offering other programs to enhance the customer experience going forward?

A. Yes. We are offering updates to our CARE program where we will increase customer support and optionality, as well as continuing to advance demand response options for our customers. I will introduce each of these in turn.

Q. Please discuss recent changes to the CARE program and any proposals in this case related to energy affordability.

A. Minnesota Power has offered its CARE Program to its residential customers since November 1, 2011. This was the outcome of a 2010 Order in Minnesota Power's general rate case under Docket No. E015/GR-09-1151. Annual reporting and any program modifications related to CARE have since been handled through a separately assigned CARE docket.[20] Under CARE, those who qualify under the federally-funded LIHEAP, as determined by application through Energy Assistance Program Service Providers, are eligible. Minnesota Power recently received approval of its proposed program modifications in the CARE docket, including a nearly doubling of the CARE budget from $1M to $1.75M. These consensus-driven program modifications were developed collaboratively through a robust stakeholder engagement process and are intended to provide additional relief to low income customers in northern Minnesota. The modifications use a combination of a low barrier, automated discount through the flat discount component, as well as a targeted energy burden discount that would be more meaningful for higher usage low income customers. This targeted discount would be on a first-come, first-served basis. Program changes will go into effect January 1, 2020.

As energy affordability is a shared priority between the Company, its customers, and other stakeholders, Minnesota Power is proposing in this rate case a phased approach for a conversion from inclining block rates to flat rates for its residential customers. This approach seeks to effectuate the transition while ultimately minimizing the impacts

[20] Docket No. E015/M-11-409.

specific to lower usage, low income customers. Higher usage customers will see a beneficial impact from the transition to flat rates. Company witness Ms. Podratz discusses this phased approach proposal for the transition to flat rate design for residential customers.

Q. Can you discuss the demand response products for large industrial customers in more detail?

A. Yes. As previously noted, Minnesota Power currently has several demand response features with its large industrial customers through IPS and DR Product A, and has worked closely with its largest industrial customers and other stakeholders over the past several years to develop additional demand response products that make sense for all of its customers. Several proposals were filed in Docket No. E015/M-18-735. The Commission ultimately approved Products A and C, and denied without prejudice Product B. Each of these proposals, however, was an example of collaboration and years of work with interested customers. The Company intends to continue working with its industrial customers and other stakeholders on expanding demand response in the future to include energy interruption in addition to emergency interruption, in order to continue cost effective expansion of variable renewable energy on our system.

Q. Does the Company offer other forms of demand response?

A. Yes. Minnesota Power also has approximately 30 MW of demand response through its residential and commercial dual fuel programs. The dual fuel programs have been successful for decades at delivering interruptible energy to customers in exchange for a discount off the firm rate, and are essential programs to continue expanding in support of future renewable energy integration and economic electrification. To maintain current customer participation and support expanded utilization of interruptible energy through this valuable program, which will also help expand variable renewable energy production on Minnesota Power’s system, the Company is requesting a repricing of the dual fuel and controlled access rates to better align with competitive home heating fuels. This is discussed in more detail by Company witness Ms. Podratz.

Q. How are these demand response products beneficial to Minnesota Power's customers?

A. Industrial demand response products benefit all of Minnesota Power's customers since they are capable of being registered with MISO and reducing the Company's need to procure additional capacity for all of its customers. The current methodology allocates these costs only within the large power rate class, which does not correlate with the benefits provided, since it is a true reduction in cost for all customers. For example, the industrial customers cause only 60 percent of the Company's coincident peak load; however, they deliver over 90 percent of the Company's demand response to reduce the total peak load in MISO emergency events. Furthermore, if the industrial customers do not sign up for the one-year Product A, the Company would have to procure capacity from other counter-parties and this cost would be allocated across all rate classes. As a result, the cost of this program should be allocated to all customers in a similar methodology with how the Company allocates capacity purchases or assets to all customers. The Company is requesting that this change occur in this rate case, which is discussed further by Company witness Ms. Podratz.

Q. What other steps has Minnesota Power taken to improve industrial customer service quality?

A. As I discuss further in my LP Testimony, we also have been working diligently with our large power customers to support their needs as their markets change. For example, Minnesota Power partnered with Verso on a renegotiation of the Electric Service Agreement (Docket No. E015/M-18-603) to better fit its operation, increase corporate security, and increase the length of the contract to support both Verso's operation and the rest of the Company's customers through their longer term commitment to purchase power and support costs of the system.

Similarly, after Blandin Paper Company announced the permanent closure of Paper Machine No. 5 and experienced reduced load, Minnesota Power partnered with Blandin on a renegotiation of the Electric Service Agreement (Docket No. E015/M-19-37) to better tailor operations and costs associated with the challenges of operating a single paper machine competitively. This also resulted in increased contract length to support both Blandin's operation and the rest of the Company's customers through their longer term commitment to purchase power and support costs of the system.

Additionally, the work we conducted with Silver Bay Power Company and Northshore Mining allowed them to focus more on their core processes of making specialized iron pellets for their customers while simultaneously giving Minnesota Power the opportunity for marginally increased electric sales, supporting costs of the total system and reducing the need to increase revenues from other customers. The Company's non-firm retail energy supply agreement with Silver Bay Power Company also facilitated the idling of an additional 130 MW of coal-fired generation capacity in the region, further advancing the energy policy goals of the State.

Q. How do these considerations factor into an assessment of the Company's overall service quality?

A. At the same time it is offering customers electric service rates that are below national averages, the Company is also constantly attending to customer service quality. While focusing on safe, reliable, and cost-effective electric service that is the core of customer satisfaction and for which we receive high marks, we also work closely with customer advocates to ensure our services meet our customers' needs – whether they are an individual resident, a small business, or a large taconite plant. We have paid close attention to areas where our customers seek more options and autonomy, as through improvements to our billing and payment systems and customer interfaces that are not yet reflected in our customer satisfaction analyses.

5. <u>Cost Effective Alignment of Generation and Load</u>

Q. How is the Company ensuring a cost effective alignment of its generation resources and its customer load?

A. In addition to providing annual forecast data to the Commission, Minnesota Power participates in regular, robust resource planning processes that involve significant stakeholder input and detailed analyses of the Company's generation options and selections. Likewise, Minnesota Power conducts detailed analyses of any perceived need for new generation, and brings any appropriate applications for approval to the Commission. The utility must also subsequently establish prudent implementation in cost recovery proceedings. As such, the Commission can be assured that Minnesota Power is meeting the needs of its customers in a cost-effective, environmentally-responsible, and reliable manner.

Q. Can you give some examples of cost-effective alignment of load and resources?

A. Yes. Minnesota Power's recent capital investments, such as AMI implementation, robust transmission facilities, substation improvements, and distributed generation, have been targeted to meet the Company's unique customer load and its need for dispatchable resources. At the same time, Minnesota Power has maintained grid reliability and an economic energy supply while also meeting and exceeding Minnesota's conservation standards and renewable energy standards.

Additionally, due to its unique large industrial customer segment, Minnesota Power delivers some of the largest quantities of demand response for a utility of its size at approximately 260 MW (15 percent of peak load). Minnesota Power's established dual fuel and controlled access programs with its residential and commercial customers also deliver demand response of approximately 30 MW (approximately two percent of peak load), primarily during winter heating months. Combined with our broader efforts to reduce coal fired generation while still providing dispatchable resources for our 24/7 customers, Minnesota Power has implemented significant, responsive resource options for its customers.

Q. How does Minnesota Power's access to the wholesale markets affect its alignment of generation and load?

A. As Company witness Ms. Pierce explains in detail, the Company's wholesale contracts have long provided revenue sources that benefit customers. While those markets continue to exist and provide greater assurance of reliability through short term purchases and sales when Minnesota Power is short or long on energy, as well as some sales to offset lost retail revenues when retail customer sales decline, the prices Minnesota Power can obtain on the wholesale market are unfortunately not as robust as they once were. It is always a balance to ensure adequate system resources to serve customers without over-dependence on the resale market and MISO, while also utilizing those resources efficiently. As Ms. Pierce explains, Minnesota Power is intentional and strategic in these areas, and maximizes returns for customers to the greatest extent possible while protecting service reliability.

Q. To what extent is the cost-effective alignment of generation and resources affecting this rate proceeding?

A. This case is not driven by significant large capital projects, but the Company's current sales and wholesale contract changes are significant contributors to Minnesota Power's need for a rate increase.

6. <u>Minnesota Power's Regional and Service Territory Citizenship</u>

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

A. Although not identified as one of the Commission's five core regulatory goals, Minnesota Power also contributes to the overall health of its region by providing reliable power at reasonable rates to other large and small regional employers. Because the Company considers these to be important and valuable contributions to northern and central Minnesota, I highlight these customer and regional benefits to the State of Minnesota in this section of my testimony.

Q. What role does the Company play in the health of the regional economy?

A. Minnesota Power currently employs approximately 970 people on a full-time equivalent basis and provides an annual payroll of approximately $56 million (Total Company). The Company is one of northeastern Minnesota's only publicly-traded corporations with a local headquarters. The Company therefore contributes to the regional economy as a large employer and solid financial contributor, as well as by maintaining a strong philanthropic presence.

Underscoring these facts, the Duluth Port Authority recently performed an economic analysis of the Duluth economy that identified the importance of the industrial sector to Duluth's economy.[21] As mentioned in the Duluth Port Authority Study, Minnesota Power is one of the more significant employers in the Duluth economy which contributes above its weighting in terms of quality jobs and wages, as noted in the Local Utilities listing in Figure 28 below.

Figure 28.

DULUTH'S COMPETITIVE INDUSTRIAL CLUSTERS

STRONG INDUSTRIAL CLUSTERS	EMPLOYEES IN DULUTH 2015	EMPLOYMENT GROWTH 2011-15
Local Utilities	839	+1%
Aviation	400-1,400*	+10%
Paper & Packaging	387	-5%
Water Transportation	382	-24%
Printing Services	162	<1%
Downstream Chemical Products	89	-5%
Leather & Related Products	38	+181%

The study demonstrated that industrial jobs, which include those at Minnesota Power and its heavy commercial and industrial customers, provide sustainable income levels and are accessible to people with a broad range of educational backgrounds, with over 60 percent of industrial jobs requiring less than a four-year college degree. As a result, the overall economic health of the region is highly dependent upon the economic health of Minnesota Power and its heavy commercial and industrial customers.

[21] Full Study Location: http://www.duluthport.com/port-stats-economic.php.

Q. Does Minnesota Power's electric service provide other economic support to the region?

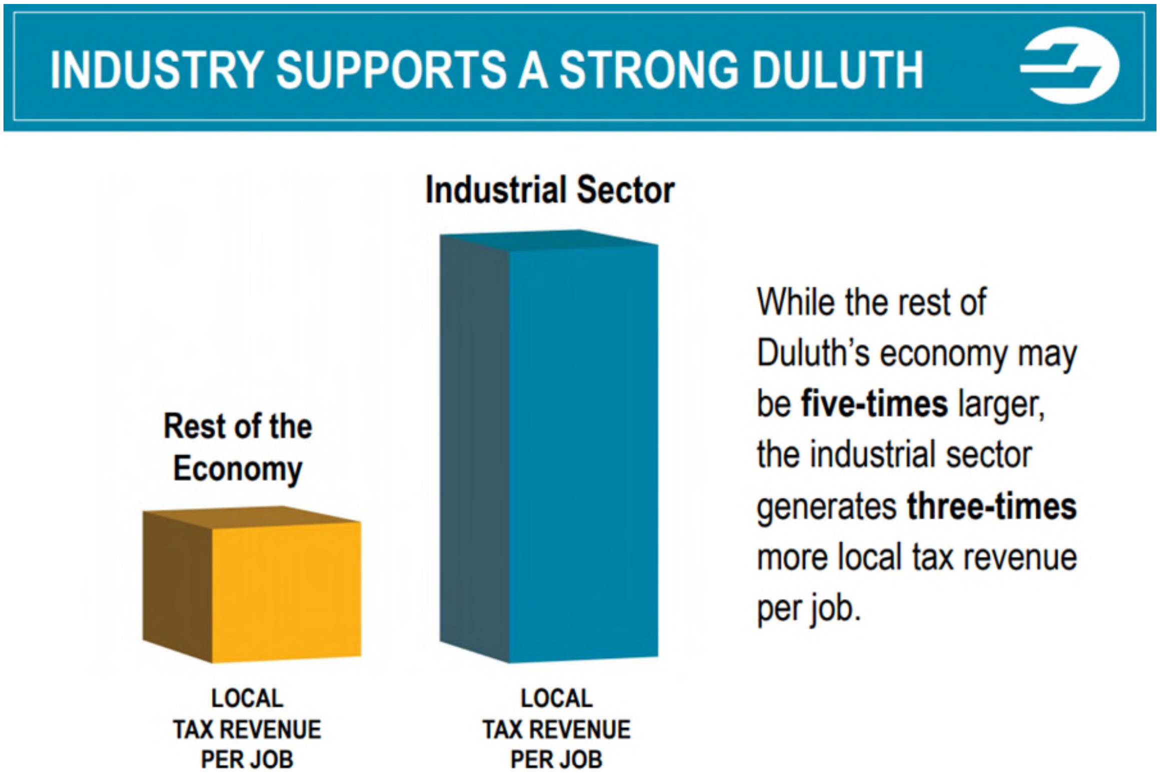
A. Yes. The economic rates, reliability, and environmental stewardship of Minnesota Power that I discussed above all contribute to the health of northern and central Minnesota. Minnesota Power's electric service and quick response to our customers' needs have proven invaluable to the region we serve. Minnesota Power's basic and most critical function is providing safe, reliable, economic, and environmentally-responsible energy to customers. In doing so, we improve the safety, security, and quality of life for the region.

Additionally, Minnesota Power's electric service supports a variety of companies and industries that are essential to the economic health of the region.

Q. Do industrial businesses, including Minnesota Power, also support the local tax base for the region?

A. Yes. As illustrated in Figure 29 below from the Duluth Port Authority study, the industrial sector (which includes Minnesota Power and its industrial customers) generates three-times more local tax revenue per job than non-industrial jobs and contributes approximately 40 percent of the state and local taxes collected.

Figure 29.



Q. How else does the Company support the economy in the region?

A. The Company actively supports economic development in the region through partnerships with public and private sector entities to champion technological/research and development advances that one day may help transform the resource-based industries and, in doing so, enables them to expand their markets beyond the paper and integrated steel industries into which they now sell almost all of their products. Membership in organizations like the Itasca Economic Development Corporation and Area Partnership for Economic Expansion are more traditional examples of regional development priorities for the Company.

Q. Can you describe Minnesota Power's economic development efforts in particular?

A. Yes. Minnesota Power has provided economic development support to its communities for nearly three decades and is a respected leader in advancing economic growth in the region. Minnesota Power's economic development focuses on cost-effectively investing in local and regional economic partnerships and initiatives that offer primary services in support of business startups, expansions and locations, and workforce attraction, leveraging substantial dollars from other public and private sector partners.

The Company's professional staff actively engages with its community partners in business expansion projects with several businesses currently evaluating the use of the Business Development Incentive Rider approved in 2018 by the Commission. Initial estimates indicate these expansions will result in over 5 MW of new load. In partnership with the State of Minnesota, staff is supporting Shovel Ready Site Certification applications to encourage rural communities to have sites prepared for new development. Additionally, by collaborating with economic development partners and funding critical research, the region is implementing mass timber producer and talent recruitment initiatives.

Staff also prepares responses to requests for information ("RFIs") from prospective companies, site selection consultants, and the State of Minnesota. The nature of these RFIs requires substantial staff time and resources to respond to electric service information, site information, and infrastructure maps. In addition, through investments in and engaged leadership positions on local economic development authorities and boards, Minnesota Power's professional staff offers extensive knowledge and experience to advance projects to enrich the communities we serve. It is an essential function of the electric utility to support these requests.

Q. Has Minnesota Power's economic development targeted specific areas of investment?

A. Yes. Our economic development efforts seek to diversify the regional economy to buffer economic downturns in any one sector. Minnesota Power focuses its efforts supporting growth in manufacturing, value added minerals, nonferrous minerals, biofuel and biochemical production, technology services, and building products. Current projects include a range of industry types, including aviation maintenance and manufacturing, pet food production, metal fabrication, and biochemical production utilizing waste wood.

Q. Can you offer examples of economic development successes that benefit Minnesota Power customers and the region?

A. Yes. The most recent success is the attraction of a 160,000 square foot pet food production facility in Little Falls, Minnesota that will create 60 jobs with plans to grow up to 200 positions. This success will help the community balance the loss of a corn to fuel plant and Minnesota Power replace the lost electric load. Past successes continue to reap benefits to the region. Minnesota Power has successfully attracted a 1,000+ employee aviation manufacturing company, a $20 million co-location data center, a rotomold plastics facility, and a biotechnology firm. These examples illustrate the proven benefits of Minnesota Power's economic development efforts and investments.

Q. What is the Company's proposal for recovery of economic development expense?

A. Minnesota Power is seeking 50 percent recovery of its economic development expenses in the 2020 test year. This is consistent with the Commission's decision in our past rate case, and with other cases in which Minnesota utilities have sought recovery of economic development costs.[22] Ms. Podratz identifies and describes the 2020 test year adjustment for economic development expense in her Direct Testimony.

Q. Why does the Company believe that the Commission should support recovery of these expenses?

A. Consistent with the Commission's determination in our last rate case, there are a number of customer benefits resulting from the Company's economic development investments. The purpose of Minnesota Power's economic development efforts is to work with key external partners to promote regional economic vitality and diversification through the

[22] *In the Matter of the Application of Minn. Power for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E015/GR-09-1151, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 36 (Nov. 2, 2010) ("The Commission has often granted partial recovery of economic development costs, recognizing that these costs generally benefit shareholders as much as ratepayers. The Commission finds that here, too, a 50/50 sharing represents the most equitable distribution of these costs, since both Company and ratepayers benefit from them.").

attraction of new customers, as well as the expansion, and retention of existing customers. When businesses are retained, expanded, or attracted to the service area, the economic activity benefits all customers through the creation of jobs, tax base, and spin-off benefits. Further, economic development contributes to creating a broader base of customers over which to spread fixed costs, which helps keep rates from rising higher than they otherwise might. This function is particularly important when a community has lost a major employer, including impacts from Minnesota Power's idling, remissioning, or retiring of seven of its nine coal-fired generators, and is faced with the negative economic impacts resulting from loss of wages, local purchases, and tax revenue.

Q. What do you conclude with respect to Minnesota Power's economic development efforts?

A. We believe Minnesota Power's economic development investments have been valuable to our region, and are appropriate for cost recovery in this proceeding. Consequently, Minnesota Power requests recovery of 50 percent of the Company's economic development costs through rates.

Q. What other efforts has Minnesota Power taken to support the communities it serves?

A. Community engagement is one of ALLETE's core values and it underscores Minnesota Power's commitment to help the businesses and people of the region we serve prosper. Civic and community engagement by employees takes many forms, including contributions of time and talent to regional organizations like the United Way, direct financial contributions to community organizations and for scholarships, and sharing our expertise with students and community groups. In addition, this engagement comes through employees serving on governing boards of not-for-profit entities and government appointments to public and quasi-public entities to support regional services, infrastructure, and economic development/business growth entities. By way of example, the Company witnesses in this proceeding serve on boards or in appointed/elected positions for multiple organizations such as a health care nonprofit, local school board, regional wastewater and solid waste management district, hospital board, a youth services foundation, university advisory board, community arts nonprofit, economic development agencies, lake association, workforce development board, faith based organizations, and many others.

Q. How else does the Company support the region?

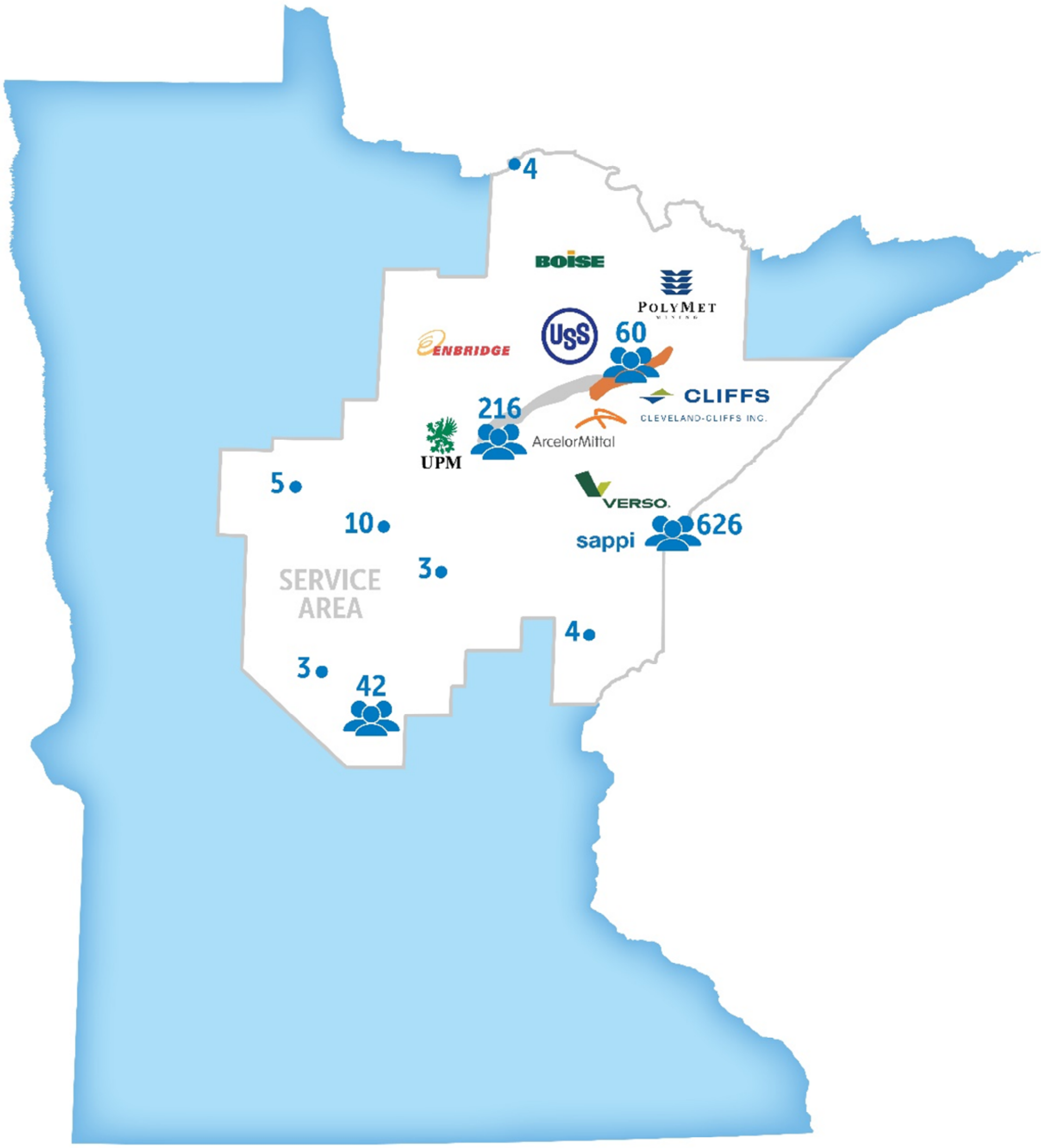
A. A copy of the Company's 2018 Community Investment Report is available online at http://www.positivelypowerful.org/Foundation.

This report highlights the wide array of volunteerism, philanthropy, and leadership we provide to communities across our service area. For example, as previously noted, in 2018 we continued our efforts to encourage sustainable forest management by planting native, long-lived pine trees on Company property. Minnesota Power and its employees also honored and served our veterans and military families through events and fundraising. The Company further recognized that our community expands far beyond northern Minnesota, sending line crews and support personnel to help restore power in Puerto Rico after hurricane Maria, and working with northern California utilities to inspect and clear burned and dangerous trees affected by the Camp Fire.

Further, in 2018, employees and the Minnesota Power Foundation combined to pledge more than $530,000 for 15 United Way locations. Minnesota Power Foundation grants exceeded $709,000 in 2018. These investments of over $1 million, not including in-kind gifts and time, supported local arts and culture, community enrichment, education, and health and human services. Company witness Ms. Podratz further elaborates on the Company’s charitable donations as it pertains to this specific rate request, including the Company’s request to recover 50 percent of qualifying expenses as in past proceedings.

In summary, Minnesota Power employees are located throughout our service territory in Northeastern Minnesota, serving numerous roles that are integral to the communities where our employees live and work. The regional distribution of Minnesota Power employees is shown on the service territory and large customer map in Figure 30 below.

Figure 30. Regional Distribution of Minnesota Power Employees



C. Relevance of Commission Policy to Rate Case

Q. How does the prior discussion factor into the Company's request for cost recovery and a reasonable rate of return in this proceeding?

A. The fundamental purpose of a rate case is to establish rates that are just and reasonable, based in large part on a review of the prudence of Company expenditures. Minnesota Power respectfully submits that when, as here, the utility has made significant investments to meet and exceed State policy goals; has undertaken substantial cost cutting to ensure that its business is managed efficiently; is working to enhance customer service quality and reliability; is a responsible and supportive regional citizen and employer; and is proposing rates that are affordable – especially relative to comparable utilities – then the expenditures to achieve those results should be considered reasonable and prudent investments.

While Minnesota Power has made incredible strides in transforming its energy system to be on track to be 50 percent renewable in 2021, from being only 5 percent renewable and 95 percent coal in 2005, there is still more to do to transition to a cleaner energy future. A financially healthy utility is a critical component of the regulatory compact, and a fair outcome in this rate case will ensure Minnesota Power has the sound financial foundation from which continued energy system transformation can occur. This requires both a reasonable authorized rate of return, and the recovery of reasonable costs in order to have the opportunity to earn that rate of return.

Q. How should this discussion factor into determination of the Company's authorized rate of return?

A. Minnesota Power requests that the Commission examine Minnesota Power's alignment with State policy goals and progress on virtually all fronts, the effects that the last rate case outcome had on the Company and its employees, the significant efforts of Minnesota Power to support recovery of prudent costs that are necessary for provision of utility service, and the Company's need to maintain its current credit rating. The Commission has recently considered similar factors in several cases establishing the authorized rate of return available to Minnesota utilities. In conjunction with the thorough cost of equity modeling submitted by Company witness Ms. Bulkley and the capital structure analysis provided by Company witness Mr. Cutshall, these factors further support the Company's requested overall rate of return of 7.4737 percent.

Q. What are the risks Minnesota Power faces that have additional bearing on this proceeding?

A. The Company has already faced challenges in a strong economy with robust retail sales, especially from large industrial customers, favorable off-system power sales contracts, and extensive cost-cutting measures described earlier in my testimony and the testimony of Mr. Rostollan, Mr. Levine, Ms. Pierce, and Ms. Krollman. Additionally, in 2018, the Company was unable to earn its authorized 9.25 percent ROE due in part to lower actual retail sales and more unavoidable expenses than were assumed in the 2017 test year. The Company also could not avoid a downgrade of its credit rating or a negative outlook despite all possible efforts to do so. In order to be able to continue attracting lenders and borrowing at a commercially viable rate, the Company cannot risk being further downgraded by the credit rating agencies. Increased borrowing rates make it more difficult for Minnesota Power to conduct business and raise capital to support needed utility projects. Customer energy costs are also affected by the increased cost of debt.

Q. What does this mean for the Company going forward?

A. There is much less room to maneuver going forward, especially in a less robust economy with less opportunity to offset retail sales losses through MISO or off-system power sales contracts. In periods when the taconite customers slow or shut down, as happened in 2008-2009 and again in 2015-2016, the Company's opportunity to earn its authorized return is even lower. Additionally, the Company will not have the same ability to accelerate O&M cuts again. Minnesota Power cannot afford to reduce employees further, and does not believe that current levels are sustainable, nor that current levels – let alone further reductions – are in the best interest of its workforce, the regional economy, or its customers. Minnesota Power asks the Commission to factor all of these considerations into its deliberations, and in particular into its review of cost recovery and rate of return in this proceeding.

Q. Please summarize the Company's case for reasonable cost recovery.

A. Minnesota Power continues to lead in delivering results aligned with the state's policy goals, while also dedicating the resources needed to meeting increased level of stakeholder engagement and ongoing regulatory compliance obligations. In sum, Minnesota Power has:

- Met or, in most cases, exceeded goals for environmental protection, decarbonization, and beneficial electrification through –
  - Meeting or exceeding CIP energy saving goals,
  - Exceeding the statutory Renewable Energy Standard by achieving approximately 30 percent renewable energy in 2019, the highest in Minnesota,
  - Removing approximately 600 MW of coal-fired generation from its system and facilitating the idling of another 130 MW of coal-fired generation in the region through its agreement with Silver Bay Power Company,
  - Investing in emission control technologies for the remaining coal-fired power stations,
  - Reducing carbon emissions by approximately 30 percent and mercury emissions by over 90 percent,
  - Contracting to add significant amounts of additional wind, solar, and hydro resources, resulting in 50 percent of the Company's power coming from carbon free renewable resources by 2021,
  - Promoting energy efficient and sustainable building technologies through conferences and rebates,
  - Developing the TEP and a commercial charging rate pilot to encourage EV adoption in the transportation sector,
  - Promoting and participating in reforestation and environmental citizenship efforts in the region,

- Expanding industrial DR, IPS, dual fuel, controlled access, time of day rates, and energy storage programs in order to continue expansion of renewable energy on the system;

- Provided reliable and efficient service by –
    - Achieving average service reliability of 99.97500 percent residential, 99.99558 percent commercial, and 99.99992 percent industrial despite significant change in regional baseload generation and increased extreme weather,
    - Investing prudently to improve the reliability of remaining baseload generation units and regional transmission and distribution systems,
    - Implementing a grid modernization initiative focused on distribution, metering, and customer billing systems to enhance customer service, customer data, reliability, and business efficiency;
- Provided reasonable, affordable rates through –
    - Residential rates that are approximately 15 percent below national average in 2018,
    - Industrial rates that are approximately 5 percent below national average in 2018,
    - Rate growth below the local and national averages,
    - Implementation of significant O&M and capital cost containment measures,
    - Utilization of high-load industrial customers to optimize system costs,
    - Promotion and community education of low-income residential customer affordability, renewable, and conservation programs;
- Provided high quality customer service, as evidenced by –
    - J.D. Power customer survey indicating that sentiment was high for corporate citizenship, above average for power quality and reliability, average for price, communications and customers service, and lagging in billing and payment,
    - Minnesota Power's response to its low customer service rankings in billing in payment through investment in improving online and mobile

payment, billing, and outage notification resources for customers and implementation of a no-fee credit/debit card payment system and streamlined start, stop, transfer service system,
    - Updates to the CARE (affordability) and demand response programs;
- Cost-effectively aligned generation and load by –
    - Engaging in robust forecasting and resource planning processes that involve stakeholder input and detailed analyses of generation options,
    - Establishing prudent implementation through resource planning, cost recovery, and rate case proceedings;
- Engaged in regional and service territory citizenship through –
    - Employing approximately 970 employees and providing an annual payroll of approximately $56 million (Total Company),
    - Supporting local industrial and commercial employers and taxpayers, and
    - Contributing significant amounts of time and money to regional organizations.

Minnesota Power desires to continue doing the right things to advance State goals and provide high quality, affordable service to our customers. We respectfully request the Commission to allow Minnesota Power cost recovery support in order to keep doing these activities and further advance them, as well as to maintain an attractive rate of return for investors to keep our company strong and healthy to cost effectively finance further transformation.

VI. MINNESOTA POWER WITNESSES

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

A. In this section of my testimony I identify and introduce the other witnesses presenting testimony on behalf of Minnesota Power in this proceeding.

Q. Please introduce Minnesota Power's other witnesses.

A. In addition to my Case Overview Direct Testimony, the following individuals are providing testimony on behalf of Minnesota Power:

- In my Large Power Customer Outlook testimony, I will discuss Minnesota Power's large power customers, industry trends affecting our large power customers in the mining and pulp and paper segments, and the Company's forecasting process for large power customers.
- Patrick L. Cutshall, the Vice President and Treasurer of ALLETE, will discuss Minnesota Power's recommended capital structure and overall rate of return. Mr. Cutshall also discusses the Company's proposals for recovery of test year pension and other post-employment benefit costs, and provides information regarding tax items.
- Ann E. Bulkley, Senior Vice President at Concentric Energy Advisors, Inc., will provide expert testimony on the Company's required return on equity and an assessment of the Company's proposed capital structure.
- Julie I. Pierce, Vice President of Strategy and Planning, will provide information on Minnesota Power's current power supply strategy and discuss the impact that this strategy has on the Company's test year asset-based wholesale sales.
- Benjamin S. Levine, Utility Load Forecaster Senior, will provide details on the Company's test year sales forecast.
- Joshua G. Rostollan, Supervisor of Accounting, Financial Reporting, and Budgeting, provides an overview of the Company's budgeting process, including the reasonableness and reliability of the budgets. Mr. Rostollan further discusses Minnesota Power's cost allocation processes and employee expense review.
- Joshua J. Skelton, Vice President of Generation Operations, discusses the transformation of Minnesota Power's generation fleet to include more renewable resources, as well as the Generation investments and O&M expenses affecting the 2020 test year.

- Daniel W. Gunderson, Vice President of Transmission and Distribution, will discuss the Company's power delivery and customer-facing systems, including related capital investments and O&M expenses affecting the 2020 test year.
- Laura E. Krollman, Manager of Compensation, Benefits, and Talent Acquisition, discusses the compensation and benefits provided to the employees of Minnesota Power, as well as the workforce reductions and compensation cost savings implemented by the Company since the last rate case.
- Stewart J. Shimmin, Supervisor of Revenue Requirements, presents Minnesota Power's 2020 CCOSS, including the implementation of UIPlanner regulatory software to replace the Excel-based CCOSS model. Mr. Shimmin also discusses the process of jurisdictional separation of costs, the functional assignment and classification of costs, the allocation of costs to customer classes, CCOSS compliance matters, and Minnesota Power's proposed treatment of current cost recovery riders in this case.
- Marcia A. Podratz, Director of Rates, discusses Minnesota Power's revenue requirements analysis, revenue allocation, and rate design. Ms. Podratz also addresses adjustments made in the Company's general rate and interim rate costs of service; how the Company's riders and trackers bear on the 2020 test year cost of service; the distribution of increased revenue requirements among the classes of service, and the Company's present and proposed rates.

VII. CONCLUSION

Q. Does this complete your testimony?

A. Yes.