Integrated Resource Plan

Prepared for
Heartland Energy
Integrated Resource Plan Cooperative
Small Customer Plan Cooperative

June 2024

Contents

Introduction

Heartland Consumers Power District (dba Heartland Energy) is a public corporation and political subdivision of the state of South Dakota. It was created in 1969 under the Consumers Power District Law. Heartland's purpose is to supply electric energy and encourage and extend its use both within and outside the state of South Dakota. Heartland is empowered by the Consumers Power District Law to finance, own and operate anywhere, singly or jointly, any electric light and power plants, lines or systems for the generation, transmission or transformation of electric power and energy. Heartland is also authorized to sell, transmit, and deliver electric power and energy at wholesale to distributors within and outside the boundaries of South Dakota.

Heartland is governed by an eleven-member board of directors. Directors are elected on a non-partisan basis in the general election for terms of six years, representing a designated subdivision within the district. Heartland's original nine subdivisions were established in 1969 and include virtually all rural areas of the 36 counties in eastern South Dakota. The cities of Groton, Madison, Volga, Arlington, Howard, Miller and Plankinton, South Dakota later elected to be annexed into the district. Two new subdivisions were created to accommodate the new territory.

Heartland has entered into power sales agreements to supply firm power and energy to nineteen municipal electric systems in South Dakota, six in Minnesota, three in Iowa, and one in Nebraska. Heartland has also contracted with the State of South Dakota to provide similar service to six state institutions including South Dakota State University, University of South Dakota, Northern State University, South Dakota State Training School, South Dakota Human Services Center and Mike Durfee State Prison. Heartland also serves a portion of the needs of North Iowa Municipal Electric Cooperative Association (NIMECA), based in Humboldt, Iowa through a contract sales arrangement.

The primary source of electric power and energy utilized by most Heartland customers is the hydropower generated at the six federal dams on the Missouri River. Western Area Power Administration (WAPA), an agency of the U.S. Department of Energy, markets this resource. In 1977, WAPA allocated its maximum availability of federal hydropower among its customers. The load growth of communities with WAPA resources after 1977 thereby produced a need for supplemental electric power and energy, now supplied by Heartland. Some of Heartland's customers do not have a hydropower allocation from WAPA.

New Ulm Public Utilities, a Heartland customer and member of the Heartland IRP Cooperative, has a power supply arrangement unique among other IRP Cooperative members. New Ulm's power supply includes a fixed federal hydropower allocation from WAPA, a fixed supply of power and energy from Heartland, and then relies on its own capacity resources and market energy purchases from the Mid-Continent Independent System Operator (MISO) to meet its load requirements.

The power and energy Heartland supplies to its customers is generated by a diverse mix of resources including coal-fired, fuel oil and wind generation. This resource mix includes an ownership entitlement, through membership in the Public Power Generation Agency (PPGA), in Whelan Energy Center Unit 2 (WEC2). PPGA is an interlocal agency established under Nebraska law. PPGA owns and operates WEC2, a 220MW coal-fired unit located near Hastings, Nebraska.

Other components of Heartland's resource mix include an exclusive purchased power agreement for the entire output of the 51 MW Wessington Springs Wind Energy Center (WSWEC), operated by Next Era Energy Resources and located near Wessington Springs, South Dakota. Heartland meets the rest of its power supply requirements through short-term market purchases and power supply contracts with area utilities in the MISO and Southwest Power Pool (SPP) regions.

Integrated Resource Plan Cooperative

Heartland and its customers, that were also WAPA customers, formed an Integrated Resource Plan (IRP) Cooperative in 1996 as permitted in paragraph (c), section 2 of 905.12 Submittal Procedures of Part 905 – Energy Planning and Management Program. Heartland, acting as an IRP Cooperative on behalf of its customers, submitted and updated an IRP as required by WAPA. The original IRP was approved, and each subsequent update has also been approved by WAPA.

Heartland submits this Cooperative Integrated Resource Plan on behalf of the customers listed below:

Heartland Customers in the Integrated Resource Plan Cooperative:

Madison, South Dakota
Volga, South Dakota
New Ulm Public Utilities Commission
Sioux Falls, South Dakota
Valentine, Nebraska

All customers included in the IRP Cooperative are municipal utilities. Please see Appendices A and B for detailed information on each Heartland customer included in the IRP Cooperative.

Small Customer Plan Cooperative

Heartland and its customers became aware of the Small Customer Plan (SCP) alternative established under WAPA's May 1, 2000 amendment to the IRP regulations. After review of previous purchases and sales data, Heartland identified several customers that qualified for eligibility in the SCP alternative. Heartland requested and received approval from WAPA to create a SCP Cooperative in July of 2007.

Although a formal 5-year IRP plan is not required for the SCP Cooperative, Heartland includes all customers in its resource planning process. Thus, the SCP Cooperative customers are included in this IRP and this plan will be referenced in annual SCP reports and updates.

Heartland Customers in the Small Customer Plan Cooperative:

Arlington, South Dakota
Bryant, South Dakota
Estelline, South Dakota
Hecla, South Dakota
McLaughlin, South Dakota
Parker, South Dakota
Tyndall, South Dakota
White, South Dakota
Tyler, Minnesota
Auburn, Iowa
Aurora, South Dakota
Colman, South Dakota
Groton, South Dakota
Howard, South Dakota
Miller, South Dakota
Plankinton, South Dakota
Wessington Springs, South Dakota
Langford, South Dakota
Akron, Iowa

All customers included in the SCP Cooperative are municipal utilities. Please see Appendices D and E for detailed information on each Heartland customer included in the SCP Cooperative.

Load Forecast

The first step in developing the resource plan is preparing a long-range demand and energy forecast. Heartland has developed and is constantly updating and refining multiple long-range forecasts for both resource planning and financial planning purposes. Heartland's load and resources are split amongst two Regional Transmission Organization's (RTOs): Mid-Continent Independent System Operator (MISO) and Southwest Power Pool (SPP). Due to this split, Heartland forecasts loads and plans resources separately for each RTO.

Heartland's load forecasts are based on an econometric model that considers multiple variables including weather data, market price data and population data, along with local and national economic indicators. Multiple iterations of regression analysis are completed for each forecast to determine what variables should be included to produce the most accurate and reasonable model. The results of the regression analysis and future variable projections were used to produce a net energy forecast for each year. Adjustments were made where necessary to account for project-based future new load increases (outside of historical growth projections).

Base case forecasts are weather normalized and based on a 50/50 weather model. In a 50/50 model, future weather is assumed to be at historical average levels based on degree day analysis. High and low load forecast cases are based on 90/10 weather models along with a range of values for future project-based load increases.

Peak demand forecasts are developed from the econometric energy forecasts based on historical monthly and annual load factor data.

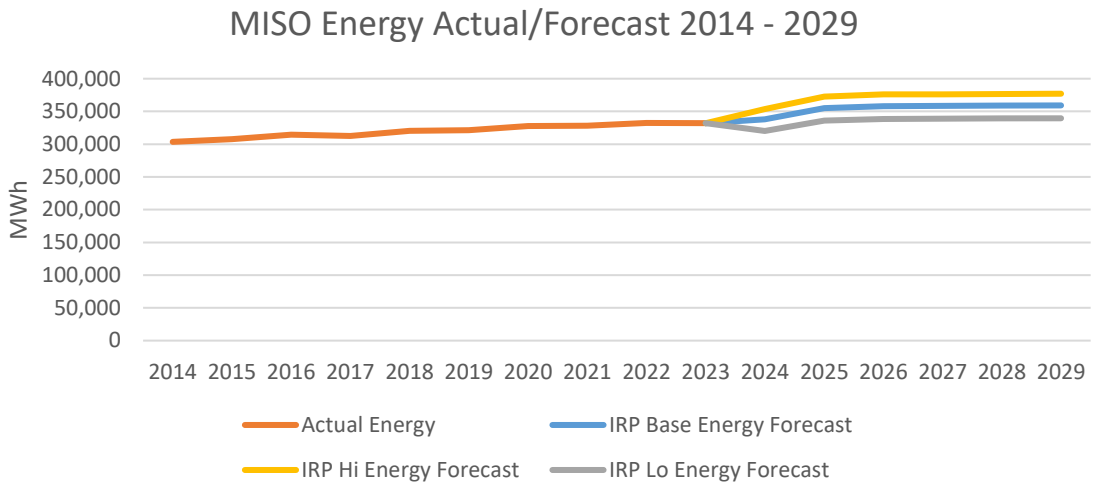


Figure 1: Heartland MISO Energy History and Forecast

Figure 1 is a plot of the historic energy usage of Heartland customers within the MISO RTO for the period of 2014 – 2023 along with a range of energy forecasts for 2024 – 2029. Heartland customer aggregate energy use in MISO is expected to increase from 337 GWH in 2024 to 359 GWH in 2029. Most of this increase is due to a large industrial project in one of our customer communities. Outside of this one project, long-term energy growth in Heartland's MISO communities has been relatively stable at approximately 1.1% annually.

When planning power supplies Heartland does consider a range of possible load forecasts, which are reflected in the high and low forecast cases shown in Figure 1. The high and low cases consider both more extreme weather conditions (90/10 forecast) along with varying levels of project-based load growth. Future resource needs are planned based on the base forecasts but do consider a range of load levels reflective of the trends in Figure 1.

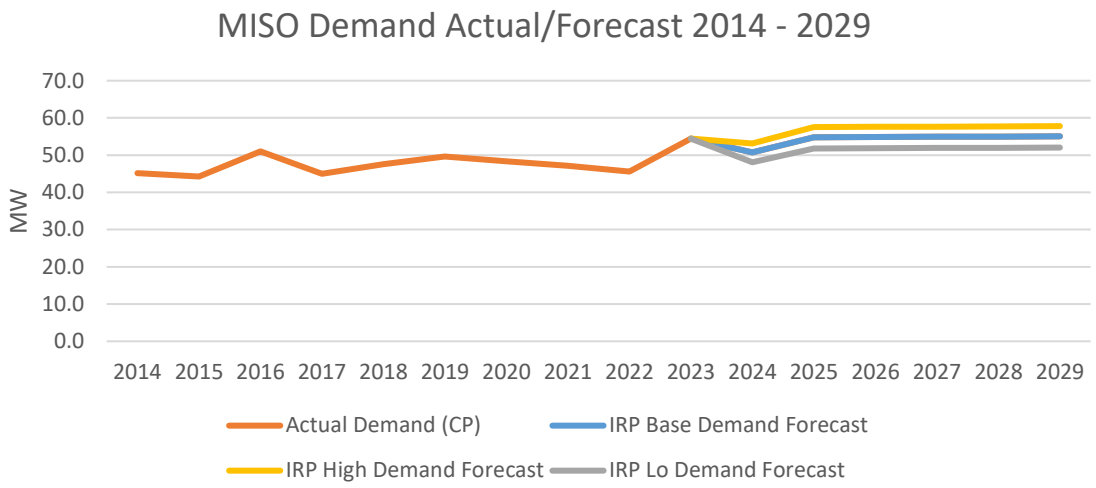


Figure 2: Heartland MISO Demand History and Forecast

Figure 2 is a plot of historic peak demand of Heartland customers within the MISO RTO for the period of 2014 - 2023 along with peak demand forecasts for 2024 – 2029. Heartland customer aggregate peak demand in MISO is expected to increase slightly from 50.7 MW in 2024 to 55.1 MW in 2029. This increase is in line with energy projections that show a relatively small amount of load growth during the IRP period outside of the large industrial project in 2024/25.

The base forecast results in a compound annual growth rate in the peak demand forecast of approximately 0.29 percent for Heartland customers throughout the IRP planning period of 2024 - 2029. When planning power supplies Heartland does consider a range of possible load forecasts, which are reflected in Figure 2. Future resource needs are planned based on the base forecast but do consider a range of load levels reflective of the trends in Figure 2.

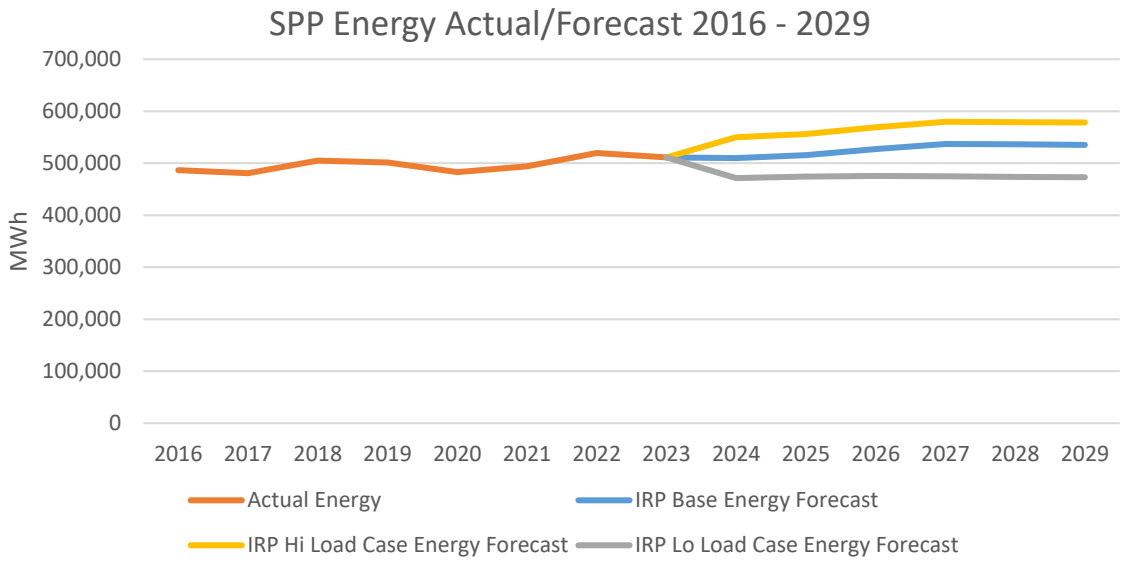


Figure 3: Heartland SPP Energy History and Forecast

Figure 3 is a plot of historic energy use for Heartland customers within the SPP for the period of 2016 – 2023 along with a range of energy forecasts for 2024 – 2029. In the base case, Heartland customer aggregate energy use in SPP is expected to increase from 510 GWH in 2024 to 536 GWH in 2029. This increase in energy usage over the planning period is representative of long-term load trends collectively in Heartland customer communities along with the addition of project-based load growth over the IRP period. The base forecast results in an energy use compound annual growth rate of approximately 0.9 percent for Heartland customers throughout the IRP planning period of 2024 - 2029.

When planning power supplies Heartland does consider a range of possible load forecasts, which are reflected in the high and low forecast cases shown in Figure 3. The high and low cases consider both more extreme weather conditions (90/10 forecast) along with varying levels of project-based load growth. Future resource needs are planned based on the base forecasts but do consider a range of load levels reflective of the trends in Figure 3.

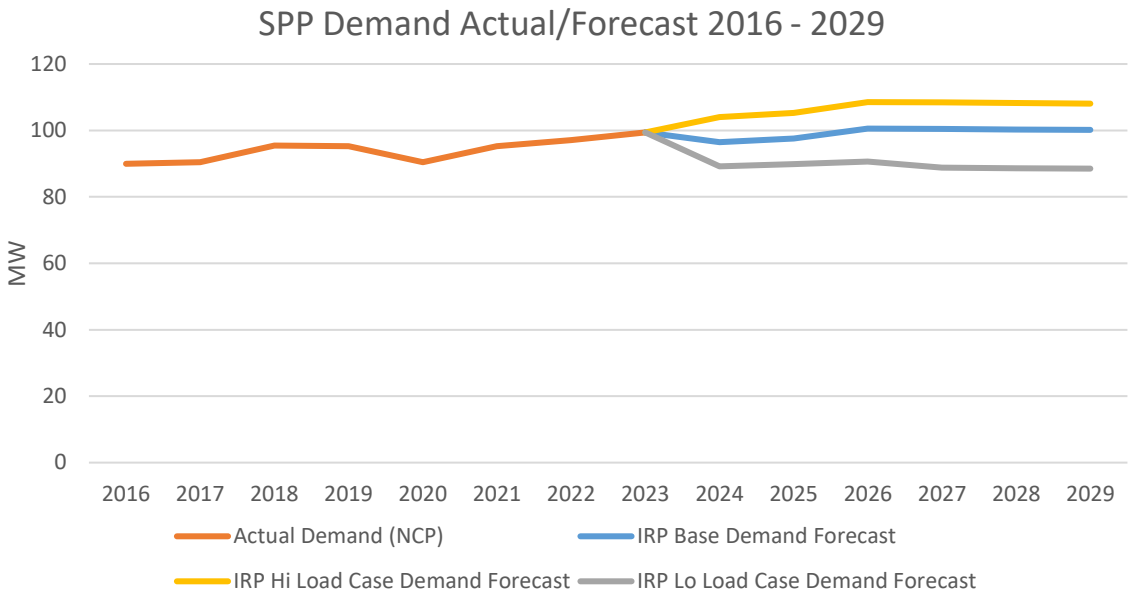


Figure 4: Heartland SPP Demand History and Forecast

Figure 4 is a plot of historic peak demand for Heartland customers within the SPP RTO for the period of 2016 – 2023 along with peak demand forecasts for 2024 – 2029. In the Base case forecast, Heartland customer aggregate peak demand in SPP is expected to increase from 96.5 MW in 2024 to 100.1 MW in 2029. As with the energy forecast, this moderate reduction is representative of long-term load trends collectively in Heartland customer communities along with some project-based load growth during the IRP period. The base forecast results in a compound annual growth rate in the peak demand forecast of approximately 0.8 percent for Heartland customers throughout the IRP planning period of 2024 - 2029.

As with the SPP energy forecasts, Heartland considered multiple load forecast cases that consider the possibility of additional industrial load in customer communities along with extreme weather scenarios. The demand forecast results of both high and low growth cases can also be seen in Figure 4. As with the energy forecasts, these growth cases show a range of possibilities in SPP customer demand over the IRP period.

In development of its load forecasts, Heartland created an econometric model that considered several possible variables including weather data, market price data, population data, and local economic indicators. Historical and forecast data

was gathered from various sources for all variables along with load history. Data was inspected and manipulated, if necessary, to remove any statistical outliers.

A regression analysis was then done to determine the overall accuracy of the model along with statistical significance of each variable. Multiple iterations of the regression analysis were completed for each forecast to determine what variables should be included to produce the most accurate model. The results of the regression analysis and future variable projections were used to produce a net energy forecast for each year. This annual net energy forecast was distributed into monthly values (where necessary) by using an average monthly distribution calculated from historical data.

To forecast a peak demand, an annual load factor (calculated from historical load data) was applied to the annual net energy forecast. A monthly peak demand was calculated by using an average monthly distribution calculated from historical data. Demand response, energy efficiency, and/or behind-the-meter (BTM) customer generation are not considered independent of the load forecast. All Heartland's base forecasts are weather normalized. Heartland's load forecasts have historically been quite accurate, usually within +/- 2%.

Supply Side Resource Summary

Heartland customers have a diverse mix of resources including hydro-electric generation served by Western Area Power Administration (WAPA). The WAPA power is provided through customer allocations of hydro-electric power supplied by the six federal dams of the Missouri River. Customer allocations from WAPA for 2024 equal approximately 64 MW and 344 GWH. In most cases, Heartland is responsible for supplying any power needed by these customers in excess of their allocation.

The power and energy Heartland supplies to its customers is generated by a diverse mix of resources including coal-fired, fuel oil, and wind generation. This resource mix includes an ownership entitlement, through membership in the Public Power Generation Agency (PPGA), in Whelan Energy Center Unit 2 (WEC2). PPGA is an interlocal agency established under Nebraska law. PPGA owns and operates WEC2, a 220 MW coal-fired unit located near Hastings, Nebraska.

Heartland holds an entitlement share of 80 MW from WEC2 through its participation in PPGA. Heartland has sold 20 MW of capacity and energy from its 80 MW share to North Iowa Municipal Energy Cooperative Association (NIMECA) since WEC2's commercial operation date. The contract will continue through the entire life of WEC2.

Another component of Heartland's resource mix includes an exclusive purchase power agreement for the entire output of the 51 MW Wessington Springs Wind Energy Center (WSWEC), operated by NextEra Energy Resources and located near Wessington Springs, South Dakota. Heartland sells a 10 MW share of its entitlement of WSWEC, through 2039, to Municipal Energy Agency of Nebraska (MEAN).

Heartland also contracts with a portion of its customers for the output of local generation capacity. These generators currently consist of approximately 28 MW of fuel-oil fired reciprocating engine generators in four customer communities. Twenty-four MW of this capacity is part of the MISO RTO located in the communities of Madelia, Lake Crystal, and Truman, MN. An additional 3. 6 MW is part of the SPP RTO located in Wessington Springs, SD. These contracts have varying terms and lengths, and quantities do vary during the IRP planning period.

Heartland meets the rest of its power supply requirements through short-term market purchases and power supply contracts with area utilities in the MISO and SPP regions. The terms of these purchase and sales contracts vary and are

made to balance Heartland's resource portfolio with the goal of increasing resource diversity and mitigating financial risks.

In addition to its federal hydropower allocation and supply from Heartland, New Ulm Public Utilities Commission (New Ulm) relies on its own local capacity along with energy purchases from the MISO market to complete its power supply portfolio. New Ulm's owned capacity includes 51 MW of fuel oil fired combustion turbine generation and 21 MW of natural gas fired steam turbine generation.

Heartland currently serves customers in the MISO and SPP RTOs separately with different resources located in each respective RTO. Heartland customers in both MISO and SPP utilize their WAPA hydropower allocations to meet load requirements in their specific RTO. In addition, Heartland utilizes WEC2 and WSWEC, along with customer generation, to meet its needs in SPP. In MISO, Heartland utilizes customer generation, along with capacity and energy purchases to meet its needs.

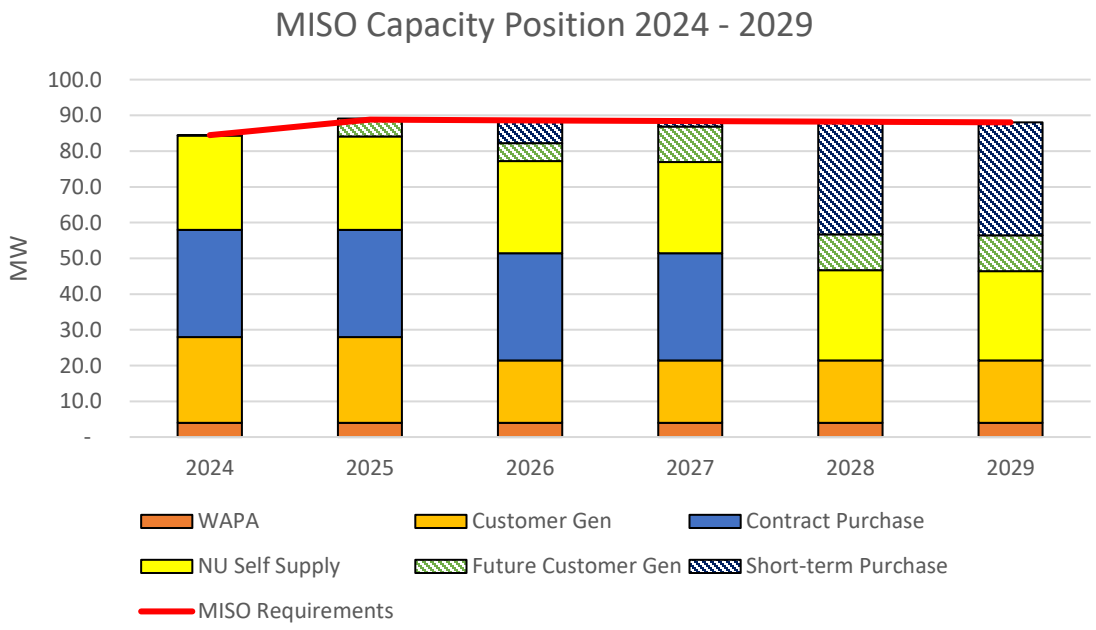


Figure 5: Heartland MISO Supply-Side Resources

Figure 5 is a plot of Heartland's MISO supply side capacity resource plan, overlaid with forecasted demand plus reserve requirements for the years 2024 – 2029. The plan plotted above is an annual snapshot of Heartland's requirements in MISO. The seasonal resource adequacy construct implemented by MISO has

impacted Heartland's resource planning process and is considered in the IRP plan. The annual values shown in Figure 5 represent the highest seasonal need in MISO for Heartland. In the MISO RTO, Heartland's highest seasonal requirements and resource need come in the summer season.

The solid bars in Figure 5 (WAPA, Customer Gen, Contract Purchase, and NU Self Supply) represent resources that are currently contracted and available for Heartland's use. The hatched bars in Figure 5 (Future Customer Gen and Short-term Purchase) are resource additions/contracts that are planned during the IRP period.

Outside of contracted resources, Heartland has an increasing need for MISO capacity starting in 2025 through the end of the planning period in 2029. This need increases from approximately 5 MW in 2025 to 40 MW in 2028 and 2029. Resource needs beyond the IRP planning period are less certain due to contractual uncertainties.

Due to these unknowns, Heartland will use multiple options to meet its future resource needs during the IRP planning period and beyond. To meet resource needs starting in 2025, Heartland plans to contract for additional BTM generation located within Heartland customer's service territories. This BTM generation is expected to provide an additional 5 MW of capacity in 2025 and 2026 and increase to 10 MW in 2027 and beyond.

Due to resource need uncertainties in 2030 and beyond, Heartland intends to utilize a short-term capacity purchase(s) to meet its remaining resource needs during the IRP planning period. This purchase would primarily meet the additional 30 MW resource need in 2028 and 2029.

Additional short-term purchases would also potentially be used to meet any additional needs during the planning period. These needs could be driven by additional load growth modeled in the forecast high load growth case or any unexpected changes in seasonal requirements. It is expected that any additional needs would be less than 5 MW in any year of the planning period.

Heartland has strategically chosen to utilize short-term bilateral arrangements to meet MISO resource needs. This decision is based on the extreme volatility seen in the MISO PRA auction clearing prices over the past 3 – 4 years, along with an expectation of high auction prices in the future due to a tightening capacity position within MISO overall.

Outside of the future contractual uncertainty mentioned previously, Heartland does expect a need for an additional 10 – 20 MW of long-term capacity in MISO beyond the current IRP planning period. Based on this need, Heartland will begin a long-term resource planning process in MISO to address this need. The availability and timing of these potential future resources could impact Heartland's need at the end of the IRP planning period.

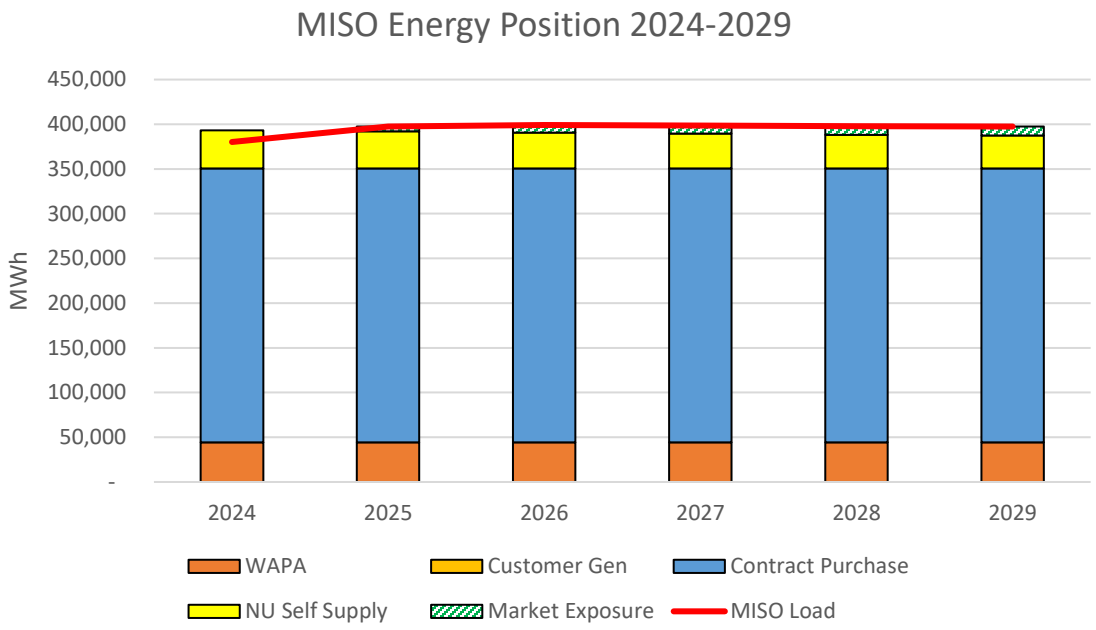


Figure 6: Heartland MISO Energy Resources

Figure 6 is a plot of Heartland's supply side energy resource plan in MISO, overlaid with forecasted energy usage, for the years 2024 – 2029. Unlike its capacity position during the planning period, Heartland's energy position is well hedged over the entirety of the period. In addition to customers' WAPA allocations and a portion of self-supply from New Ulm Public Utilities, Heartland has contracted with a third party for most of its energy needs with a firm contract through 2029.

Outside of these firm energy resources, Heartland's market exposure is expected to be less than 10 GWh in any year of the planning period. This exposure represents less than 2% of Heartland's total energy needs (around 400 GWh annually) through 2029.

As with Heartland's capacity needs, future energy needs beyond the IRP planning period are unknown due to contract uncertainties. Regardless of these uncertainties, Heartland will have a need for additional energy resources in 2030 and beyond. Based on this need, Heartland intends to address this need within the long-term resource planning process mentioned above.

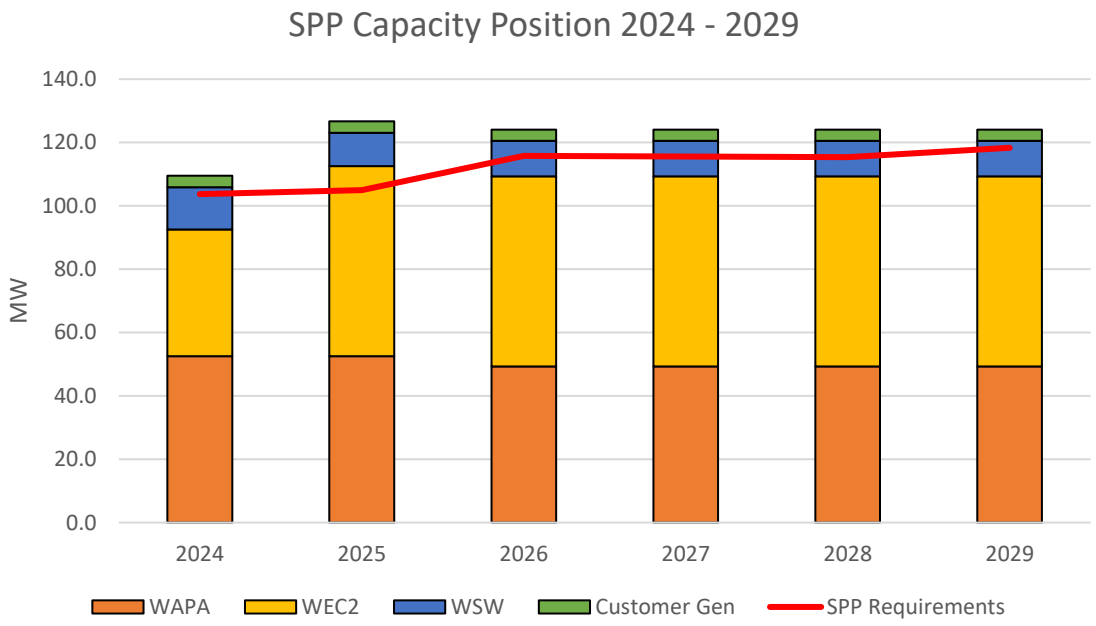


Figure 7: Heartland SPP Supply-Side Resources

Figure 7 is a plot of Heartland's SPP supply side capacity resource plan, overlaid with forecasted demand and reserve requirements for the years 2024 – 2029. Heartland anticipates having adequate resources to meet its SPP capacity requirements during the entire IRP planning period. Heartland relies on 3 primary resources to meet its needs in SPP. These include customers' WAPA hydropower allocations (52 MW), WEC2 (60 MW), and WSWEC (11 MW). In addition, Heartland also contracts for approximately 4 MW of BTM fuel-oil generation in SPP.

In line with MISO, SPP is currently in the process of updating its Resource Adequacy process to implement both a performance-based accreditation (PBA) approach for resources and a seasonal resource adequacy construct. SPP's proposed construct will be a 2-season system focusing on the summer and winter seasons. The impacts of both the currently proposed PBA system and seasonal RA construct are included in Heartland's IRP plan.

As with MISO, the annual values shown in Figure 7 reflect the highest seasonal need in SPP for Heartland. In the SPP RTO, Heartland's highest seasonal requirements and resource need will shift from the summer season in 2024 – 2025, to the winter season in 2026 - beyond. This is primarily due to the impact of higher winter planning reserve margins expected in SPP upon implementation of a winter season PRM requirement in 2026. Heartland expects to have 5 – 10 MW of surplus resource in SPP in all years of the planning period. Heartland will market any additional capacity resource on a short-term basis in SPP to the financial benefit of its customers.

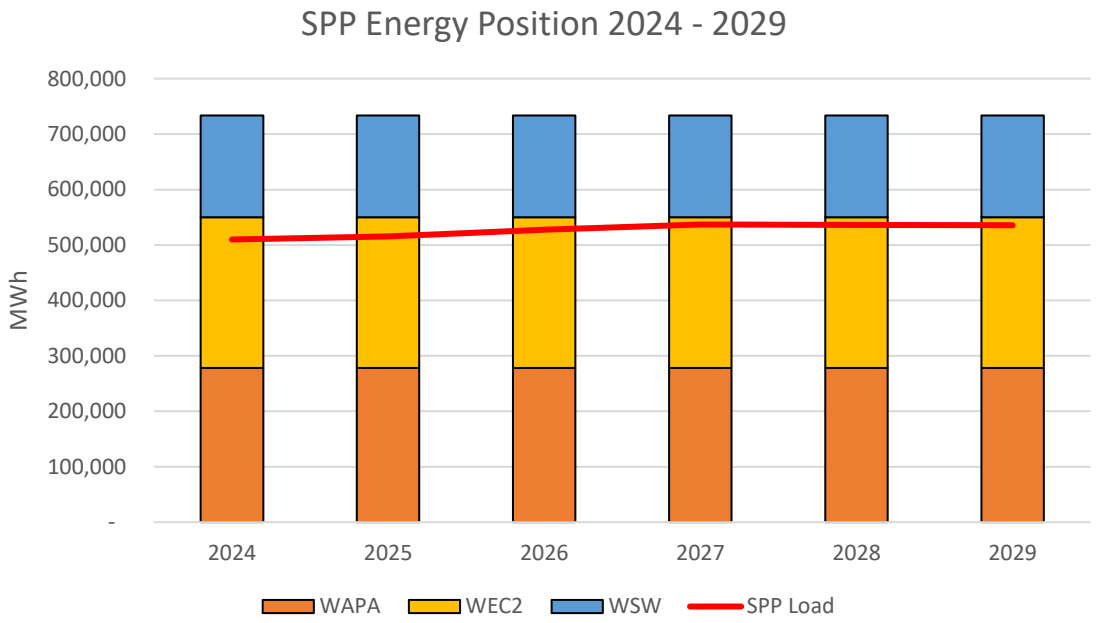


Figure 8: Heartland SPP Energy Resources

Figure 8 is a plot of Heartland's supply side energy resource plan in SPP, overlaid with forecasted energy usage, for the years 2024 – 2029. Energy available from resources can change annually due to market dispatch of resources, scheduled maintenance outages, and contract sales already in place. As can be seen in the plot, Heartland has adequate energy resources to meet customers' needs for all years in the planning period. In times when excess energy is available, it is marketed and sold in regional energy markets or through short-term bilateral contracts.

Heartland continues to consider all adverse environmental effects of the process of generating and delivering energy to end-use customers. As part of this commitment to the environment, Heartland and its customers purchase the entire output of the WSWEC. This project contributes approximately 185 GWH of clean and renewable energy to Heartland's resource mix.

In addition, Heartland has a net-metering program in place for retail level customer generation systems in line with state and federal requirements. The current level of energy supplied by these resources on Heartland's system is quite small (100 MWh in 2023). However, these installations have been increasing every year on Heartland customer systems. Currently, although

growing, we do not expect retail level systems (primarily solar) to make up a significant part of Heartland's resource plan during the IRP planning period.

Figures 9 and 10 detail fuel sources as they contribute to Heartland's capacity and energy resource mix.

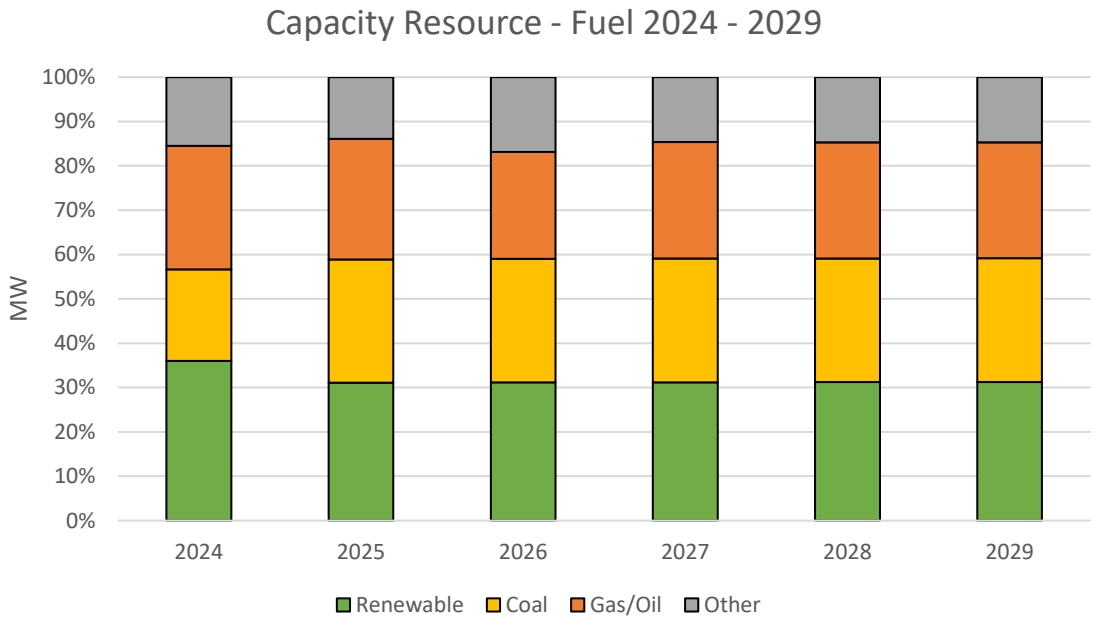


Figure 9: Heartland Capacity Resource Mix – Fuel Type (%)

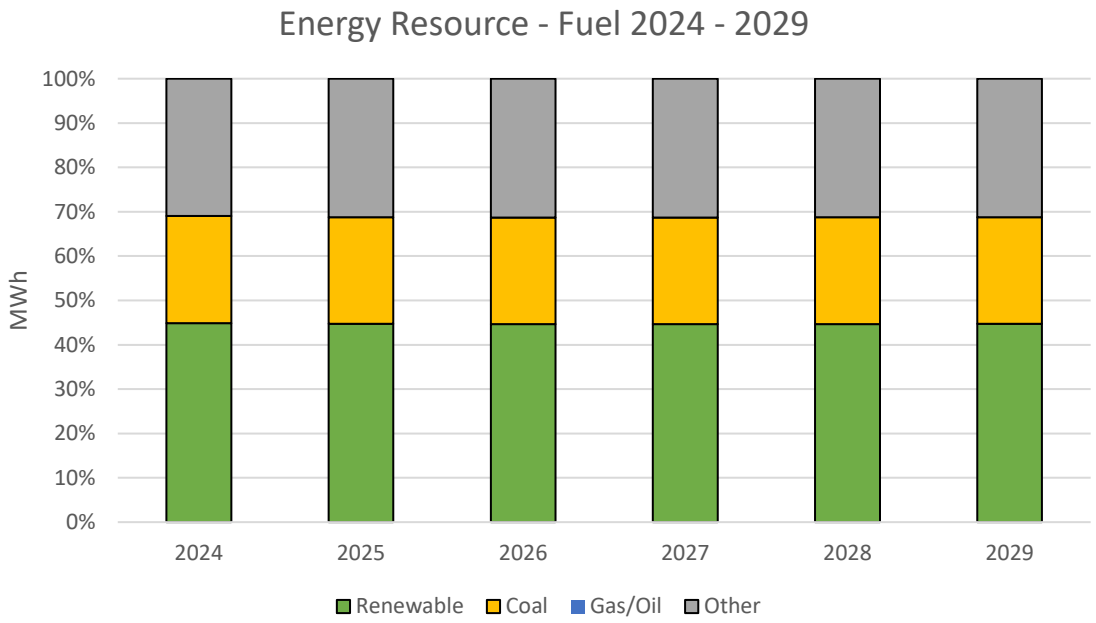


Figure 10: Heartland Energy Resource Mix – Fuel Type (%)

The plots in Figures 9 and 10 show that as a group, Heartland customers' total renewable resources (including WAPA hydropower and wind) make up approximately 33% of its capacity resources and 45% of its energy resources during the planning period. This renewable aspect of Heartland's resource mix continues to make it one of the most environmentally friendly utilities in the region.

When additional resource needs are identified and options evaluated, consideration is made to use renewable resources and demand management programs whenever possible. The positive attributes of renewables and DSM are evaluated alongside other factors including cost, future regulatory and market risks, resource diversity, resource adequacy needs, etc.

As mentioned previously, Heartland has begun to evaluate options for long-term resource needs in MISO. Renewable projects, specifically solar and/or battery storage, will be considered as strongly viable options for this need. At this time, the short-term resource needs identified in the IRP did not present a viable opportunity for additional renewable resources. This was due to future uncertainty in the capacity accreditation of renewable resources and the lack of need for additional energy and/or renewable attributes during the planning period.

Demand Side Resource Summary

Heartland and its customers have been and continue to be supporters and users of various types of demand side programs to promote efficient energy usage, reduce peak demand, and increase load factors. Heartland and its customers support and implement various programs including direct load management, energy efficient appliance and lighting rebates, energy efficiency grant opportunities, EV programs, and others.

Heartland has continued with its Power Forward program to facilitate a cooperative, coordinated DSM program for all of Heartland's customers. Along with cooperative planning and administration of DSM programs, Power Forward facilitates the measurement and verification of DSM programs, both cooperative and individual customer programs.

The Power Forward program is funded collectively through Heartland's rate base and thus equally funded by all customers on a pro-rata basis. Participation in individual Power Forward programs is voluntary for all customers but based on the funding structure all customers participate monetarily. Most Heartland customers participate in some or all of the Power Forward programs.

In addition to the IRP and SCP Cooperative members' participation in Heartland's Power Forward programs, New Ulm offers a comprehensive slate of energy efficiency and education programs to its customers. Details on New Ulm's programs are included in the Action Plan.

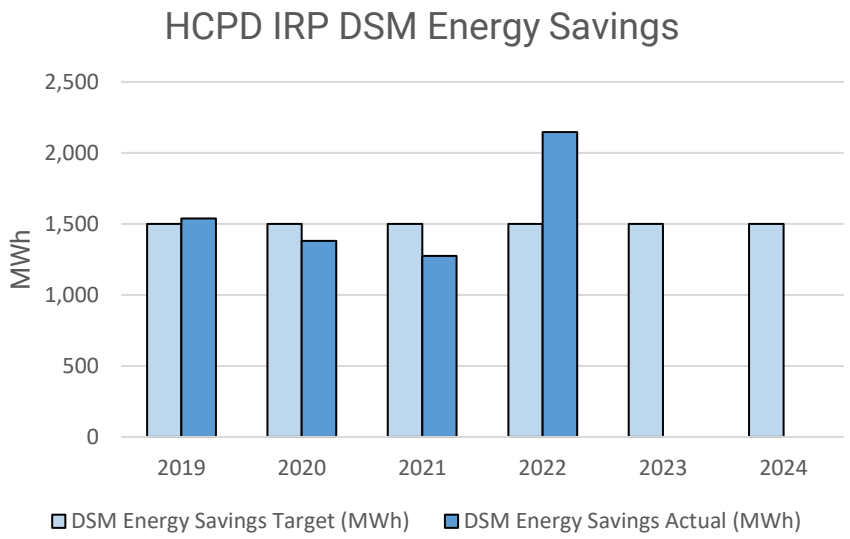


Figure 11: DSM Energy Savings Targets vs. Actual

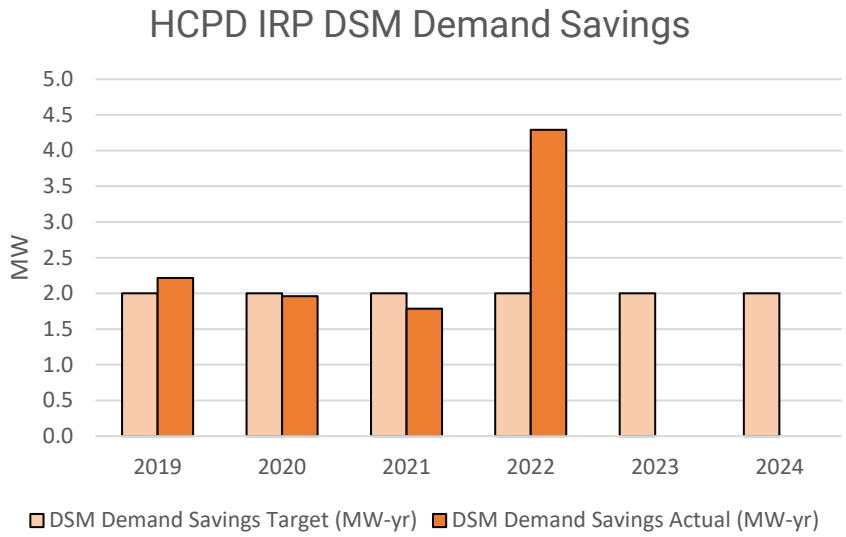


Figure 12: DSM Demand Savings Targets vs. Actual

Figures 11 and 12 compare the energy and demand savings targets set forth by the IRP cooperative in its last IRP to the actual savings achieved by the collective programs. Figures 11 and 12 show a substantial increase in both demand and energy savings in 2022. These increases are reflective of both increased DSM program funding along with a refinement in the measurement and verification program used by Heartland to assess programs more accurately.

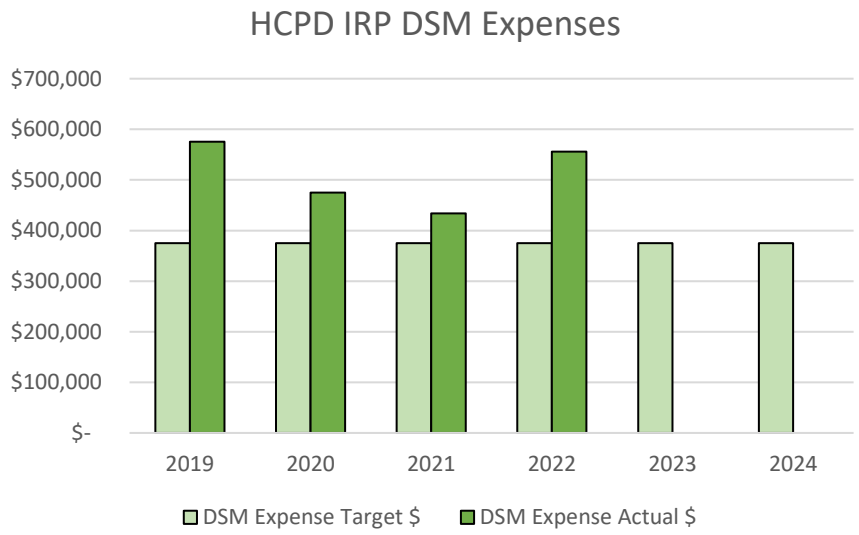


Figure 13: DSM Expense Targets vs. Actual

Figure 13 details the DSM expense targets set forth by the IRP cooperative in its last IRP submittal to the actual expenditures during that period. Like the demand and energy savings, DSM expenses saw a substantial increase in 2022. This increase is due to both increased investments among customers and changes in program measurements.

The historical performance of Heartland and customer programs, including Power Forward and planning for future programs that focus on Beneficial Electrification were considered when setting our future targets and goals. Figure 14 details DSM/EE program spending and savings targets for the IRP planning period. These targets are specific only to those customers included in the IRP and SCP cooperatives, respectively.

IRP Cooperative Targets	2024	2025	2026	2027	2028	2029
DSM Expense Target $	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000
DSM Demand Savings Target (MW-yr)	3.0	3.0	3.0	3.0	3.0	3.0
DSM Energy Savings Target (MWh)	2,000	2,000	2,000	2,000	2,000	2,000

SCP Cooperative Targets	2024	2025	2026	2027	2028	2029
DSM Expense Target $	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000
DSM Demand Savings Target (MW-yr)	2.0	2.0	2.0	2.0	2.0	2.0
DSM Energy Savings Target (MWh)	100	100	100	100	100	100

Figure 14: DSM Program Spending and Savings Targets

All DSM programs administered through the Power Forward program are individually evaluated annually to determine program demand and energy savings as accurately as possible. For programs that can be directly audited, such as lighting retrofits or energy audits, program savings will be determined by a review and/or audit performed by a professional engineer, certified energy manager, or other qualified individual either on Heartland staff or independently.

For DSM programs that cannot be directly audited, such as direct load management (LM), Heartland will assist its customers in estimation and verification of energy and demand savings through other methods. These methods will include using real-time monitoring (where available) to determine the real-time effect of LM and similar systems. This data will be verified and supplemented by utilizing the Minnesota Deemed Savings Database for estimation of the effects of DSM programs, including LM systems. Heartland will work with its customers to assist in reviewing their DSM programs independent of Power Forward to determine demand and energy savings through similar methods as described above.

Each customer will be responsible for reporting their total annual DSM spending along with demand and energy savings each year. Heartland will assist customers in calculating these values as needed. Heartland will then collectivize these reported values for use in annual IRP/SCP reports that Heartland is responsible for submitting to WAPA. Heartland will also use these values to evaluate Power Forward programs annually to assess the effectiveness of

individual programs and provide information to use in the enhancement and creation of programs in the future.

Environmental Effects

Heartland and its customers have been and will continue to be active stewards of the environment. Through the operation of its generation resources and existing programs promoting energy efficiency and conservation, Heartland and its customers have demonstrated this commitment.

Whelan Energy Center Unit 2 (WEC2) was designed and is being operated using Best Available Control Technologies (BACT) to regulate emissions to meet all state and federal emissions requirements. WEC2's air quality control system includes an electrostatic precipitator to remove fly ash, a scrubber to remove sulfur dioxide, selective catalytic reduction (SCR) to reduce NO_2, and a baghouse for additional particulate removal, as well as mercury removal controls.

In 2023, significant upgrades were made at WEC2 to meet updated Coal Combustion Residuals (CCR) requirements set by the Environmental Protection Agency (EPA). These updates included removing all wet-sluicing systems from the site and lining all on-site ash storage facilities. In addition, Heartland has worked with its partners in PPGA to develop multiple markets for beneficial reuse of coal combustion byproducts. These efforts have drastically reduced the amount of CCR material in storage on site. WEC2 continues to be well-positioned to meet many existing and future rules pending with the EPA.

Heartland and its customers have also made a commitment to developing and producing energy from renewable resources to provide a diverse and environmentally conscious resource mix. Heartland and its customers are fulfilling this commitment through their participation in the Wessington Springs Wind Energy Center. With the energy, and associated renewable attributes, produced by the WSWEC, Heartland and its customers currently meet and will continue to meet all current and future Renewable Energy Objectives (REO) and Renewable Portfolio Standards (RPS) in the states where Heartland customers operate. In addition to WSWEC, Heartland also operates a net metering program on behalf of its customers to purchase renewable energy produced by PURPA qualified facilities within their respective service areas.

Along with the steps taken as part of its supply-side resources, Heartland and its customers are also administering existing and implementing new Demand Side Management (DSM) programs to reduce energy usage and increase the efficient use of energy. A detailed description of these programs and how they will be implemented can be found in the Demand Side Resource Summary and the Action Plan.

Action Plan

Heartland and its customers have developed the following Action Plan as a set of guidelines to assist in the development of programs and operations for the next 5 years. To the extent that assumptions pertaining to resources, costs and any other pertinent information would change, Heartland and its customers will review and modify this plan accordingly.

	Class	2025	2026	2027	2028	2029
Economic Development						
Energy Once Incentive	C/I	CP	CP	CP	CP	CP
Growth Incentive	C/I	CP	CP	CP	CP	CP
Economic Development Grants	N/A	CP	CP	CP	CP	CP
Revolving Loan Fund	C/I	CP	CP	CP	CP	CP
Beneficial Electrification/EE/DSM						
Electric Water Heater Rebate Program	R/C	CP	CP	CP	CP	CP
Energy Star Partnership	R/C	CP	CP	CP	CP	CP
Energy Efficiency Education Program	R/C/I	CP	CP	CP	CP	CP
Direct Load Management Program(s)	R/C	CP	CP	CP	CP	CP
LED Lighting Program(s)	C/I	CP	CP	CP	CP	CP
HVAC Program(s)	R/C	CP	CP	CP	CP	CP
Refrigeration/Freezer Program	C	CP	CP	CP	CP	CP
Energy Efficiency Grants	N/A	CP	CP	CP	CP	CP
Residential EV Charger Rebate	R	CP	CP	CP	CP	CP
Municipal EV Charger Program	N/A		EPP	EPP	EPP	EPP
New Ulm PUC Programs*	R/C/I	CP	CP	CP	CP	CP
Operations						
Real-time Metering System	N/A	CP	CP	CP	CP	CP
Market Operations	N/A	CP	CP	CP	CP	CP
Surplus Power Marketing	N/A	CP	CP	CP	CP	CP
Renewable/Green Energy Sales/Rate	N/A	CP	CP	CP	CP	CP
Workforce Development Program	N/A	CP	CP	CP	CP	CP
Customer Cybersecurity Program	N/A	CP	CP	CP	CP	CP
PPE Program	N/A	CP	CP	CP	CP	CP

Residential	R
Commercial	C
Industrial	I

DP	Develop Program
IP	Implement Program
CP	Continue Program
ACP	Assess Current Program
EPP	Evaluate Potential Program

*See below for list and details of New Ulm programs

Figure 15: Action Plan

Economic Development

Energy One Incentive (Large Customer) – Discounted energy only rate fixed for three years to qualified new or expanding businesses of 1 MW or larger. No demand charge during incentive period.

Energy One Incentive (Small Customer) - Discounted energy only rate fixed for three years to qualified new or expanding businesses of .5 MW or larger. No demand charge during incentive period.

Growth Incentive – Equivalent of one year's worth of energy rebated over a three-year period to qualifying businesses in Heartland customer communities (new or expanding retail loads only).

Economic Development Grants – Grants provided to Heartland customers or their economic development corporations for the purpose of fostering economic growth and community development.

Revolving Loan Fund – Revolving loan fund administered by Heartland to finance business ownership and expansion, job creation and retention, and entrepreneurial enterprises.

Beneficial Electrification/EE/DSM

Electric Water Heater Rebate Program – Provide incentives to residential and commercial customers for purchasing lifetime warranty electric water heaters or Energy Star rated heat pump water heaters.

Energy Star Partnership – Heartland has partnered with the national Energy Star program to promote the efficient use of electricity – particularly the purchase of Energy Star rated products.

Energy Efficiency Education Program – Heartland works to educate consumers about the benefits of energy efficiency and how to make more efficient choices. This is done through our website, social media, print material and by partnering with our customers to promote efficiency in their communities.

Direct Load Management Programs – Aid customers in operation and monitoring individual direct load management system. Investigate future program enhancement including coordinated load management for use as a collective Heartland resource.

LED Lighting Program(s) – Provide incentives to commercial and industrial businesses for upgrading lighting to more efficient fixtures. A variety of prescriptive rebates are available as well as custom incentives.

HVAC Program – Provide incentives to residential and commercial customers for purchasing an Energy Star qualified air-source heat pump, geothermal heat pump or mini split heat pump.

Refrigeration/Freezer Program – Provide incentives to commercial customers for purchasing energy efficient refrigeration and freezer equipment.

Energy Efficiency Grants – Grants are administered to Heartland customers to improve efficiency at city facilities and promote beneficial electrification.

Beneficial Electrification/EE/DSM – New Ulm Public Utilities Programs

Air Conditioner Rebate (NU) – Provide incentive for customers purchasing energy efficient cooling equipment. Includes central air, mini-split, and ductless systems.

Air Conditioner Cleaning (NU) – Provide discount to customers who have their air conditioner inspected/serviced for efficient operation.

Furnace Cleaning Rebate (NU) – Provide discount to customers who have their furnace or boiler inspected/serviced for efficient operation.

Energy Star Appliance Rebate (NU) – Provide incentive for customers purchasing Energy Star certified appliances. Includes clothes washers, dishwashers, refrigerators, freezers, room air conditioners, and refrigerator/freezer decommission.

Furnace Rebate (NU) – Provide incentive for customers purchasing high efficiency furnaces or boilers. Incentive also offered for variable speed motor.

Programmable Thermostat (NU) – Provide incentive for customers purchasing programmable thermostats.

Residential Lighting Rebate (NU) – Provide incentive for customers purchasing Energy Star qualified lighting. Includes CFL and LED bulbs.

LED Holiday Light Rebate (NU) – Provide incentive for customers purchasing LED lighting during the months of October through December.

Releaf Tree Program (NU) – Provide incentive for customers planting tree for shade or windbreak purposes. Trees must provide an energy savings.

Electric Water Heater Rebate (NU) – Provide incentive to customers who purchase electric water heaters.

Gas Water Heater/Heater Blanket Rebate (NU) – Provide incentive to customers who purchase Energy Star qualified natural gas water heaters.

Energy Audit (NU) – Provide rebate for business customers who conduct an energy audit using an independent firm.

High Efficiency Lighting (NU) – Provide funding for energy conservation improvements to the homes of qualified low-income customers.

Low Income Program (NU) – Provide incentive for business customers who install efficient lighting and or lighting sensors.

Motor & Variable Speed Drive Program (NU) – Provide incentive for customers who install high efficiency motors or variable speed drives.

Custom Rebate (NU) – Provide incentive based on kWh savings per year of an implemented project or measure. To be used for projects that do not fall under currently available rebates.

Operations

Real-time Metering System – Monitor customer loads and resource production in real-time to assist in market operations, forecast, and power supply planning activities.

Market Operations – Perform all hourly, daily, monthly, and annual tasks associated with operating within local Regional Transmission Organizations (including MISO and SPP) and the associated organized energy markets.

Surplus Power Marketing – Market excess resource on a short- and long-term basis to optimize power supply and ensure lowest costs possible to customers.

Renewable/Green Energy Sales/Rate – Provide energy and renewable attributes for purchase by wholesale customers at a specific renewable/green energy rate.

Workforce Development Program – Provide scholarships for customer staff training along with funding for workforce recruitment and retention in Heartland customer communities.

Customer Cybersecurity Program – Work with industry partners to provide Heartland customers professional services to ensure their utility systems are secure.

PPE Program – Provide funding and supply of PPE equipment for Heartland customer community line workers.

Along with the programs and processes described in the Figure 15 Action Plan, Heartland and its customers plan on accomplishing the following tasks in all years of the plan.

- Heartland will assist its customers with meeting all reporting requirements of regional, state, and federal entities.
- Heartland will assist its customers with any studies needed to assess power delivery, infrastructure upgrades and additions, and other areas of need in their electric utilities as appropriate.
- Heartland will assist its customers with meeting all regional, state, and national renewable energy and energy conservation goals and requirements.

Heartland and its customers will review the Action Plan on an annual basis to assess the performance and effectiveness of each program/project. The Beneficial Electrification/DSM/EE programs will be assessed based on estimated energy impacts and calculations will be done to estimate the financial effectiveness of each program. Each program will also be evaluated based on actual estimated energy savings versus projected energy savings if applicable. Heartland and its customers will then reassess the overall Action Plan and make decisions on changes to existing programs and addition or subtraction of new programs.

Public Participation

While developing the Integrated Resource Plan, Heartland and its customers took special care to ensure ample opportunity was provided for public participation. The following is a list of steps taken to provide the opportunity for public participation in the IRP process:

- Multiple correspondence sent to Heartland customers defining the IRP, its timeline and process.
- A newspaper advertisement, example seen below, was placed in the following publications to advertise for written comments pertaining to the IRP process in all IRP Cooperative member communities: Madison Daily Leader, Sioux Falls Argus Leader, Volga Tribune, Valentine Midland News, and New Ulm Journal.
- A newspaper advertisement, example seen below, was placed in the following publications to advertise for written comments pertaining to the IRP process in all SCO Cooperative member communities: Miller Press, The Arlington Sun, Brookings Register, Hamlin County Herald Enterprise, Moody County Enterprise, Groton Daily Independent, Marshall County Journal, Tyndall Tribune and Register, Miner County Pioneer, Tri-City Star, Estelline Journal, True Dakotan, Akron Hometowner, South Dakota Mail, Tyler Tribute, Corson/Sioux County News Messenger, Parker New Era, and Carroll Times Herald.
- Responses received from the newspaper solicitation were reviewed and considered in development of the IRP plan. Copies of responses were sent to the individual IRP and SCP customers for their review.
- Official agenda notice of IRP discussions and formal commission or council action for “approval” included in the IRP Cooperative customer communities was noted in all established legal publications.

Example of Newspaper Advertisement Seeking Public Comment

NOTICE OF SOLICITATION OF WRITTEN COMMENTS

NOTICE is hereby given that Heartland Energy, on behalf of the City of Volga, is requesting written comments from the customers of the Volga Municipal Electric System.

Comments can relate to:

- Current electric conservation measures that are being used in the City of Volga
- Both power supply and energy conservation options for meeting the future electric needs of Volga, including but not limited to:
    - Preferred generation resources/fuel types
    - Use of demand side resources including load management and time-based rates
    - Relative importance of outcomes (cost, reliability, environmental impacts, etc.)
- Offer ideas and promote the efficient use of electricity in Volga

This public solicitation for written comments is being conducted to comply with a federal regulation, which requires the City of Volga to seek public participation regarding the implementation of an Integrated Resource Plan (IRP). Comments will be considered in the development of the IRP. Volga must adopt an IRP in order to continue to receive its allocation of electric hydropower from Western Area Power Administration. Heartland Energy, one of Volga's power suppliers, is assisting with this project and will accept comments for 10 days following this notice.

Please send written comments to Heartland Energy, PO Box 248, Madison, SD 57042; Attn: Adam Graff. Heartland will also be accepting comments electronically via the email address, *IRP@heartlandenergy.com*.

Appendix A: IRP Cooperative Customer Information

City of Madison, South Dakota
116 W. Center St.
P.O. Box 308
Madison, SD 57042-0308

Ph: (605) 256-7521
Email: nathan.zimmerman@cityofmadisonsd.com
Contact: Nathan Zimmerman, Utilities Director

City of Sioux Falls, South Dakota
224 W. 9th St.
P.O. Box 7402
Sioux Falls, SD 57117-7402

Ph: (605) 373-6979
Email: jjongeling@siouxfalls.org
Contact: Jerry Jongeling, Light and Power Superintendent

City of Volga, South Dakota
226 Kasan Ave.
P.O. Box 217
Volga, SD 57071-0217

Ph: (605) 627-9113
Email: michael@volgacity.com
Contact: Michael Schulte, City Administrator

New Ulm Public Utilities
310 First North St.
New Ulm, MN 56073

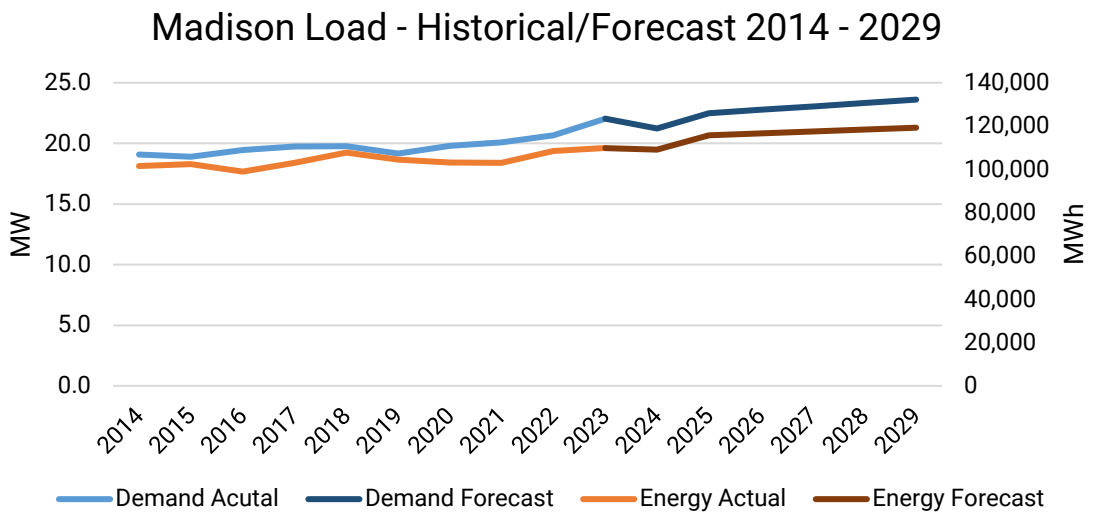
Ph: (507) 359-8264
Email: krism@newulmmn.gov
Contact: Kris Manderfeld, Utility Dir.

City of Valentine, Nebraska
323 N. Main St.
Valentine, NE 69201

Ph: (402) 376-2323
Email: ssiewert@cityofvalentine.com
Contact: Shane Siewert, City Manager

Appendix B: IRP Cooperative Customer Load Information – Historical/Forecast

Madison, SD – Load History/Forecast



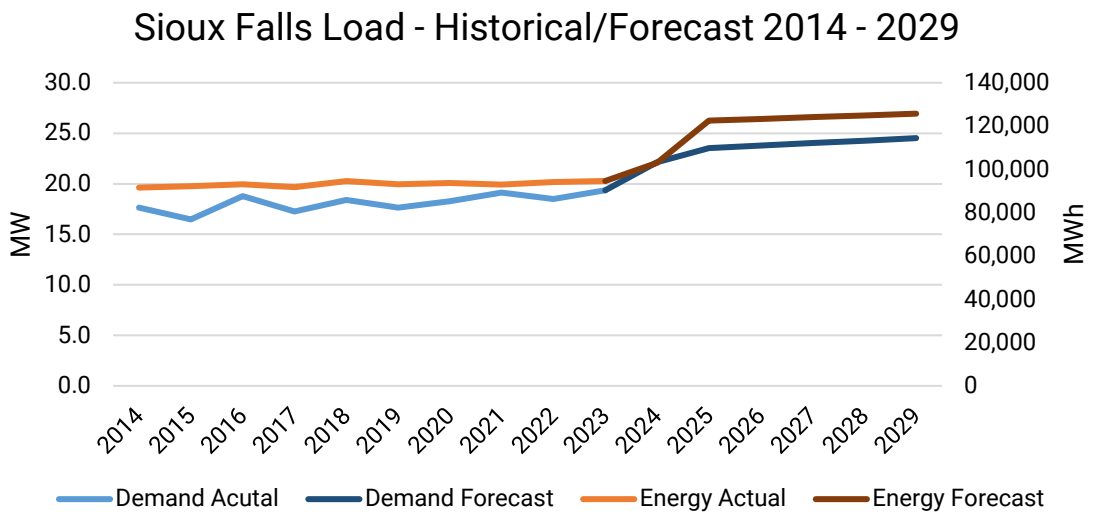
Madison Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	19.1	101,505
2015	18.9	102,429
2016	19.4	98,962
2017	19.7	103,054
2018	19.8	107,790
2019	19.2	104,467
2020	19.8	103,191
2021	20.1	103,091
2022	20.7	108,545
2023	22.0	109,877

Madison Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	21.2	109,112
2025	22.5	115,674
2026	22.8	116,551
2027	23.0	117,438
2028	23.3	118,334
2029	23.6	119,240

Sioux Falls, SD – Load History/Forecast



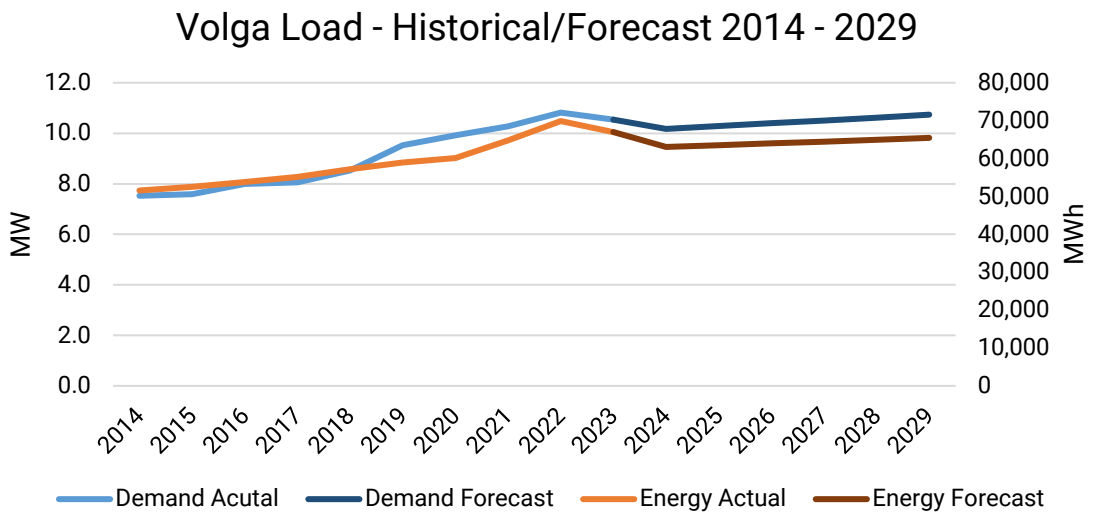
Sioux Falls Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	17.7	91,593
2015	16.5	92,282
2016	18.8	93,156
2017	17.3	91,723
2018	18.4	94,531
2019	17.6	93,182
2020	18.3	93,647
2021	19.1	92,897
2022	18.5	94,191
2023	19.4	94,644

Sioux Falls Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	22.1	103,078
2025	23.5	122,531
2026	23.8	123,320
2027	24.0	124,117
2028	24.3	124,922
2029	24.5	125,737

Volga, SD – Load History/Forecast



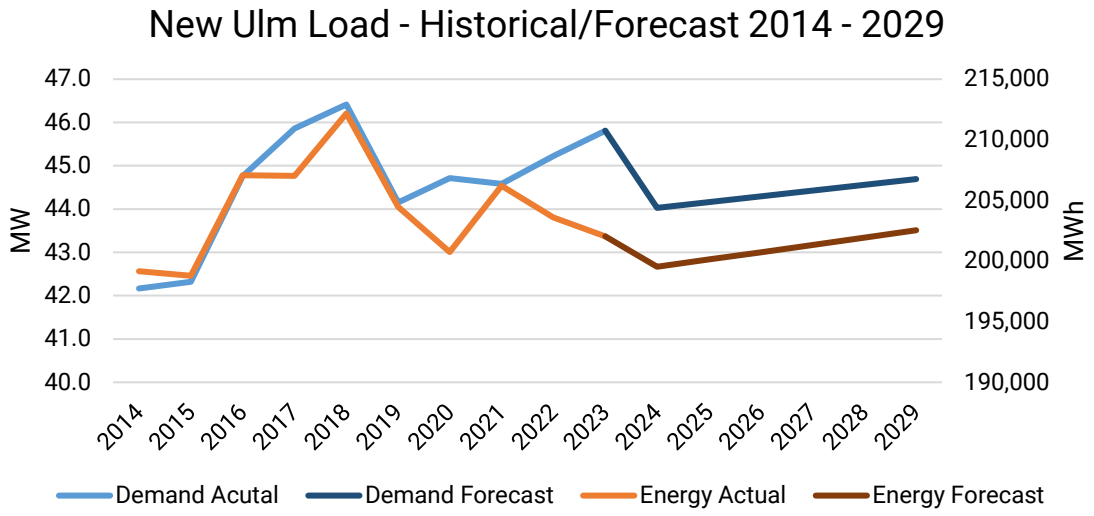
Volga Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	7.5	51,567
2015	7.6	52,552
2016	8.0	53,787
2017	8.1	55,168
2018	8.5	57,170
2019	9.5	58,973
2020	9.9	60,113
2021	10.3	64,772
2022	10.8	69,887
2023	10.5	66,998

Volga Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	10.2	63,066
2025	10.3	63,528
2026	10.4	63,996
2027	10.5	64,468
2028	10.6	64,946
2029	10.7	65,428

New Ulm, MN – Load History/Forecast



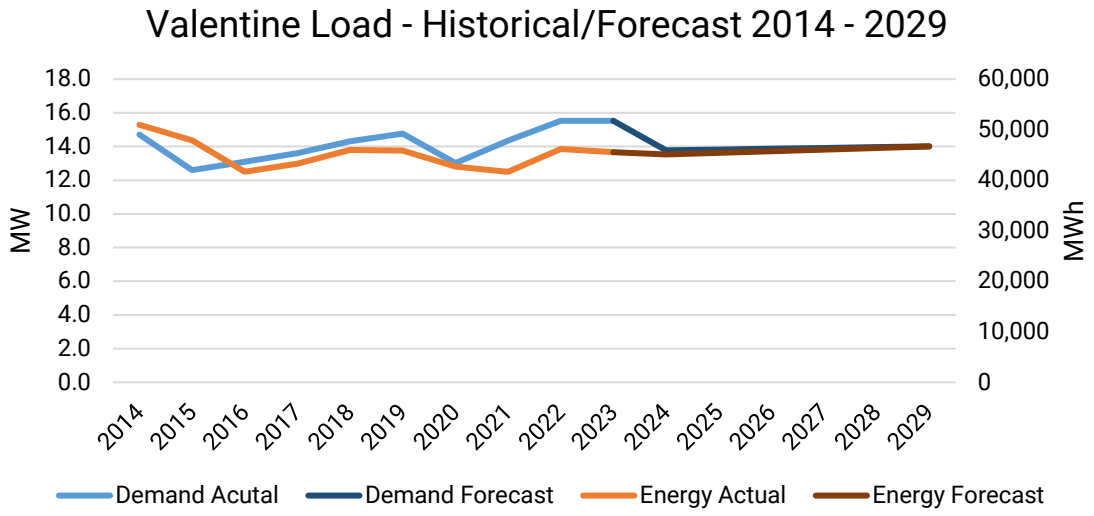
New Ulm Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	42.2	199,153
2015	42.3	198,786
2016	44.8	207,073
2017	45.9	207,023
2018	46.4	212,167
2019	44.2	204,470
2020	44.7	200,740
2021	44.6	206,199
2022	45.2	203,593
2023	45.8	202,024

New Ulm Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	44.0	199,529
2025	44.2	200,128
2026	44.3	200,728
2027	44.4	201,331
2028	44.6	201,935
2029	44.7	202,540

Valentine, NE – Load History/Forecast



Valentine Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	14.7	50,966
2015	12.6	47,900
2016	13.1	41,682
2017	13.6	43,259
2018	14.3	46,002
2019	14.8	45,855
2020	13.0	42,697
2021	14.4	41,653
2022	15.5	46,193
2023	15.5	45,558

Valentine Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	13.8	45,102
2025	13.8	45,416
2026	13.9	45,733
2027	13.9	46,053
2028	14.0	46,377
2029	14.0	46,703

Appendix C: Governing Body Approvals

Appendix C contains copies of the resolutions/minutes of the IRP Cooperative Governing Bodies that document the passage of approval for the Integrated Resource Plan and confirmation that all requirements of the IRP process have been met.

CITY OF MADISON - (EXCERPT)
BOARD OF COMMISSIONERS PROCEEDINGS
MADISON, SD 57042

May 6, 2024
Regular

The Board of Commissioners of the City of Madison met in regular session at 5:31pm on the 6th day of May with the following members present upon roll call: Commissioners Kelly Dybdahl, Jeremiah Corbin, Jerae Wire, Adam Shaw, and Mayor Lindsay.

The Pledge of Allegiance was recited.

Motion by Commissioner Dybdahl, seconded by Commissioner Shaw to adopt the May 6, 2024 agenda. Motion carried unanimously.

Commissioner Corbin was recognized for his nine years of dedicated service to the City of Madison.

Mayor Lindsay administered the Oath of Office for Commissioner Cronin and Commissioner Dybdahl.

Motion by Commissioner Cronin, seconded by Commissioner Wire to Approve Heartland Energy Integrated Resource Plan. Motion carried unanimously. This plan is a regulatory requirement that helps ensure an adequate power supply is available to our customers when they need it. The plan is used to help meet peak energy needs while holding resource margin in reserve. Heartland produces a new IRP as required every 5 years.

Notice of Hearing:	NA
Date of Hearing:	05/07/24
Date Adopted:	05/07/24
Date Published:	05/14/24
Date Effective:	06/03/24

RESOLUTION NO. **50-24**

A RESOLUTION APPROVING THE COOPERATIVE'S INTEGRATED RESOURCE PLAN ("IRP") AS REQUIRED BY THE ENERGY POLICY ACT OF 1992.

WHEREAS, the Energy Policy Act of 1992 and rules promulgated thereunder require the City of Sioux Falls, SD, (Sioux Falls) to file and submit an Integrated Resource Plan (IRP) with Western Area Power Administration (WAPA) every five years; and

WHEREAS, the Energy Planning and Management Program Submittal Procedures, 10 CFR Part 905.12, authorize the formation of cooperatives to develop IRPs; and

WHEREAS, Sioux Falls has participated in a cooperative to develop an IRP along with the cities of Madison and Volga in SD; Valentine, NE; and the New Ulm, MN Public Utilities Commission: and

WHEREAS, Sioux Falls and the other IRP cooperative members have developed the IRP under the revised guidelines of the Energy Planning and Management Program; and

WHEREAS, the Sioux Falls City Council has reviewed the June 2024 IRP prepared by the cooperative; and

WHEREAS, Sioux Falls desires to support the IRP, but only to the extent that the IRP is not inconsistent with the terms and conditions of the Power Sales Agreements between Sioux Falls and its suppliers;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF SIOUX FALLS, SD:

Section 1. The document attached hereto and made a part of this Resolution entitled "June 2024 Integrated Resource Plan" is hereby approved and adopted.

Section 2. The Mayor is hereby authorized to carry out all acts necessary to ensure that the IRP is filed with WAPA and regulatory bodies, as appropriate.

Section 3. The City shall publish this resolution without attachments after its passage. The attachments are on file and available in the office of the City Clerk.

Date adopted: 05/07/24 .

Paul TenHaken, Mayor

ATTEST:

Jermery J. Washington, City Clerk

RESOLUTION #2024-32

A RESOLUTION APPROVING AND ADOPTING AN INTEGRATED RESOURCE PLAN (IRP)

CITY OF VOLGA, SOUTH DAKOTA

WHEREAS, the Energy Policy Act of 1992 requires the City of Volga, SD (Volga) to file and submit an Integrated Resource Plan (IRP) every 5 years, and

WHEREAS, the Energy Planning and Management Program, paragraph (c) of section 2 of 905.12 submittal procedures of part 905 of the Code of Federal Regulations authorizes the formation of IRP cooperatives, and

WHEREAS, Volga has participated in a cooperative through Heartland Consumers Power District (dba Heartland Energy) to develop an IRP along with the cities of Madison and Sioux Falls in SD; New Ulm Public Utilities in MN; and Valentine, NE; and

WHEREAS, Volga and the IRP cooperative members above named have developed the IRP under the revised guidelines of the Energy Planning and Management Program, and

WHEREAS, the Volga City Council has reviewed the 2024 IRP prepared by the cooperative, and

WHEREAS, Volga desires to support the IRP, but only to the extent that the IRP is not inconsistent with the terms and conditions of the Power Sales Agreements between Volga and its suppliers.

NOW, THEREFORE, BE IT RESOLVED, that the IRP cooperative IRP dated June 2024 be, and it is hereby approved and adopted.

Dated at Volga, SD, this 20th day of May, 2024.

CITY OF VOLGA BY:

Ken Fideler, Mayor

ATTEST:

Krista Larson, Finance Officer

PUC RESOLUTION NO. 2024-03

Commissioner Fingland offered the following resolution and moved its adoption:

WHEREAS, the Energy Policy Act of 1992 requires New Ulm Public Utilities (New Ulm) to file and submit an Integrated Resource Plan (IRP) every 5 years; and

WHEREAS, the Energy Planning and Management Program, paragraph (c) of section 2 of 905.12 submittal procedures of part 905 of the Code of Federal Regulations authorizes the formation of IRP cooperatives; and

WHEREAS, New Ulm has participated in a cooperative through Heartland Consumers Power District (dba Heartland Energy) to develop an IRP along with the cities of Madison, Sioux Falls, and Volga in SD; and Valentine, NE; and

WHEREAS, New Ulm and the IRP cooperative members above named have developed the IRP under the revised guidelines of the Energy Planning and Management Program; and

WHEREAS, the New Ulm Public Utilities Commission has reviewed the 2024 IRP prepared by the cooperative; and

WHEREAS, New Ulm desires to support the IRP, but only to the extent that the IRP is not inconsistent with the terms and conditions of the Power Sales Agreements between New Ulm and its suppliers.

NOW, THEREFORE, BE IT RESOLVED, by the New Ulm Public Utilities Commission New Ulm that the IRP cooperative IRP dated June 2024 be, and it is hereby approved and adopted.

The motion for the adoption of the foregoing resolution was duly seconded by Commissioner Hillesheim, and the roll being called, the following vote was recorded:

Voting Aye: Commissioners Fingland, Hillesheim, Schanus, Williams and President Visser.
Voting Nay: None.
Not Voting: None.

Whereupon said resolution was declared to have been duly adopted this 28th day of May, 2024.

President of the Public Utilities Commission

Attest:

Nicole, Jorgensen, Finance Director

City of Valentine Regular Council Meeting – (EXCERPT)
City Library Meeting Room
Thursday, May 9, 2024
6:00 p.m.

A regular meeting of the City Council of the City of Valentine, Nebraska was held May 9, 2024 at 6:00 p.m. in the City Library Meeting Room, the same notice of meeting was given according to law. All of the proceedings hereafter shown were taken while the meeting was open to the public. A public information council agenda packet was available at the public information table. Notice of the Open Meetings Act was provided as required by law.

Council President Kyle Arganbright opened the meeting with the following Council members in attendance: Ross Brockley, Brad Arnold, Neil Wescott, Kalli Kieborz. Also in attendance were City Manager Shane Siewert and City Clerk Deanna Schmit who recorded the minutes.

Councilmember Wescott made a motion, seconded by Arganbright, to approve Heartland Energy's Integrated Resource Plan to be submitted to the Western Area Power Administration on behalf of itself and its customers in the Integrated resource Plan Cooperative. Voting yes: Arnold, Brockley, Kieborz, Wescott, Arganbright. Motion carried unanimously.

MINUTES
OF
HEARTLAND ENERGY – (EXCERPT)
MAY 9, 2024

The regular meeting of the Board of Directors of Heartland Energy was called to order by President Mark Joffer at 9:36 A.M. on Thursday, May 9, 2024, in accordance with the Notice of the Meeting. The public was provided a call-in number through the meeting notice.

Roll Call:
President Joffer, Vice President Dave Hahler, Secretary Jeff Heinemeyer, and Directors Pat Anderson, Donna Fawbush, Suze Frentz, Vern Hill, Bill Lewellen, and Larry Nielson were present for all or a portion of the meeting. Treasurer Roger Fritz was absent, and Director Larry Nielson joined via Webex.

Also present for all or a portion of the meeting were Jerry Jongeling, Sioux Falls; Drew Duncan, General Counsel; Casey Crabtree, Kelly Dybdahl, Sharla Fedeler, Adam Graff, Ann Hyland, Nate Jones, Mike Malone, Theresa Schaefer, McCord Stowater and Russell Olson, of Heartland Energy.

It was moved by Anderson, seconded by Hahler to approve the Integrated Resource Plan for submission to Western Area Power Administration; motion carried by unanimous vote of the Directors present.

Appendix D: SCP Cooperative Customer Information

City of Arlington, South Dakota
202 W. Elm
P.O. Box 379
Arlington, SD 57212-0379

Ph: (605) 983-5251
Email: marshallmix40@yahoo.com
Contact: Marshall Mix, Utility Supt.

City of Aurora, South Dakota
102 W Front St.
P.O. Box 335
Aurora, SD 57002-0335

Ph: (605) 693-3548
Email: publicworks@itctel.com
Contact: Collin Kneip, Utility Manager

City of Bryant, South Dakota
P.O. Box 145
Bryant, SD 57221-0145

Ph: (605) 628-2931
Email: cityworks@itctel.com
Contact: Ryan Sikkink, Electric Supt.

City of Colman, South Dakota
112 N. Main
P.O. Box 54
Colman, SD 57017-0054

Ph: (605) 534-3611
Email: cityman572@hotmail.com
Contact: Grant Groos, Electric Supt.

City of Estelline, South Dakota
109 Main
P.O. Box 278
Estelline, SD 57234-0278

Ph: (605) 873-2388
Email: gilbertsonzeb@gmail.com
Contact: Zeb Gilbertson, Electric Maint.

City of Groton, South Dakota
120 N. Main
P.O. Box 587
Groton, SD 57445-0587

Ph: (605) 397-8422
Email: grotonelectric@nvc.net
Contact: Todd Gay, Light Supt.

City of Hecla, South Dakota
206 Main
P.O. Box 188
Hecla, SD 57446-0188

Ph: (605) 994-7334
Email: heclasd@heartlandpower.org
Contact: Jacob Lilla, Utility Supt.

City of Howard, South Dakota
100 S. Main St.
P.O. Box 705
Howard, SD 57349-0705

Ph: (605) 772-4391
Email: dawsonkody@gmail.com
Contact: Kody Dawson, Utility Supt.

City of McLaughlin, South Dakota
106 First Ave., W.

City of Miller, SD
120 W 2nd St.

P.O. Box 169
McLaughlin, SD 57642-0169

Ph: (605) 926-9101
Email: justinyellowhorse@mclsd.city
Contact: Justin Yellow Horse, Utility Mgr.

Miller, SD 57362-0069

Ph: (605) 853-2705
Email: dustin.graham@cityofmiller.com
Contact: Dustin Graham, Electric Supt.

City of Parker, South Dakota
115 N. Main Ave.
P.O. Box 265
Parker, SD 57053-0265

Ph: (605) 297-4453
Email: trauenhorst@parkersd.org
Contact: Tom Rauenhorst, Electric Supt.

City of Plankinton, South Dakota
102 S. Main St.
P.O. Box 517
Plankinton, SD 57368-0517

Ph: (605) 942-7767
Email: chance@cityofplankinton.com
Contact: Chance Boyd, Electric Supt.

City of Tyndall, South Dakota
110 N. Main
P.O. Box 29
Tyndall, SD 57066-0029

Ph: (605) 589-3481
Email: tynutility@hci.net
Contact: Bob Brattmiller, Light Supt.

City of Wessington Springs, South Dakota
107 Wallace Ave. N.
P.O. Box 443
Wessington Springs, SD 57382-0443

Ph. (605) 539-1691
Email: wessprsd@heartlandpower.org
Contact: Phil LaBore, Light Supt.

City of White, South Dakota
303 Patrick Ave., PO Box 682
White, SD 57276-0682

Ph: (605) 629-3661
Email: landmark@itctel.com
Contact: Chad Landmark, Utility Mgr.

Town of Langford, South Dakota
P.O. Box 191
Langford, SD 57454-0191

Ph: (605) 493-6457
Email: langfordcity@venturecomm.net
Contact: Sean Kramer, Utility Mgr.

City of Tyler, Minnesota
230 N. Tyler St.
Tyler, MN 56178-0398

Ph: (507) 247-5556
Email: jguida@heartlandpower.org
Contact: Judd Guida, Electric Supt.

City of Akron, Iowa
220 Reed St., P.O. Box 318
Akron, IA 51001

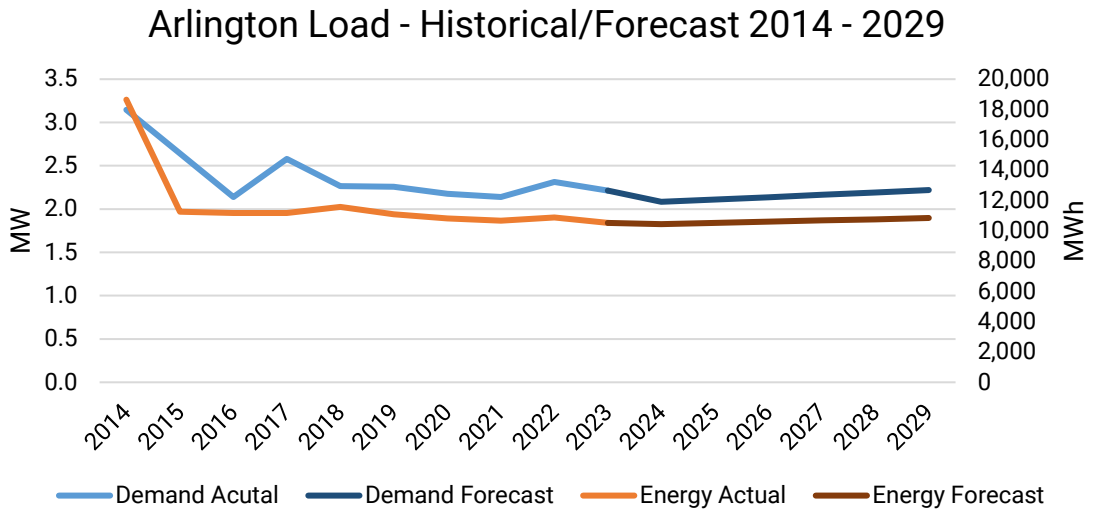
Ph: (712) 568-2041
Email: drolfes@akronia.org
Contact: Dan Rolfes, City Administrator

City of Auburn, Iowa
209 Pine St.
Auburn, IA 51433-0238

Ph: (712) 688-2264
Email: auburnpublicworks@gmail.com
Contact: Robert Rath, Public Works Supt.

Appendix E: SCP Cooperative Customer Load Information – Historical/Forecast

Arlington, SD – Load History/Forecast



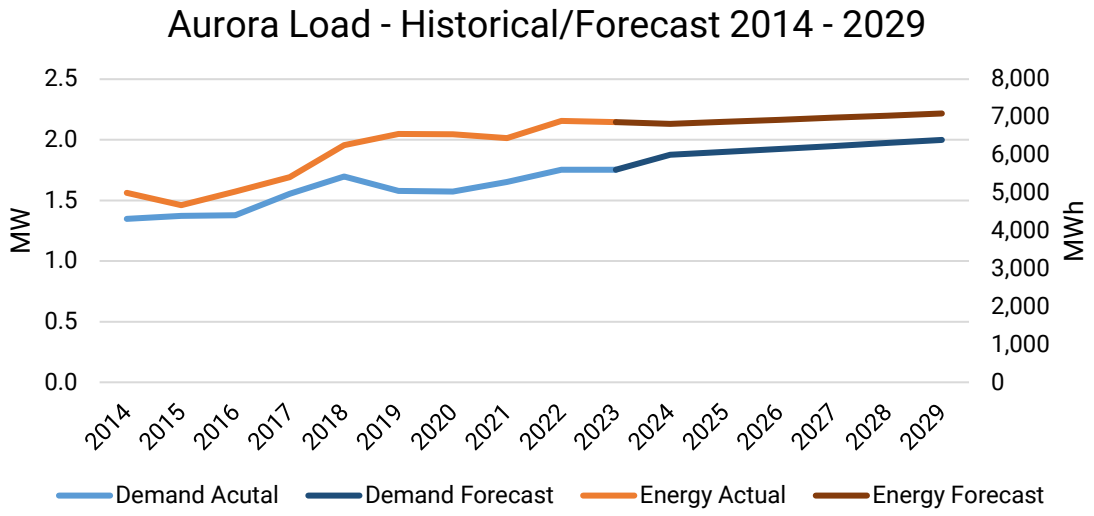
Arlington Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.1	18,648
2015	2.6	11,257
2016	2.1	11,172
2017	2.6	11,169
2018	2.3	11,572
2019	2.3	11,080
2020	2.2	10,814
2021	2.1	10,667
2022	2.3	10,882
2023	2.2	10,519

Arlington Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	2.1	10,435
2025	2.1	10,514
2026	2.1	10,595
2027	2.2	10,676
2028	2.2	10,758
2029	2.2	10,841

Aurora, SD – Load History/Forecast



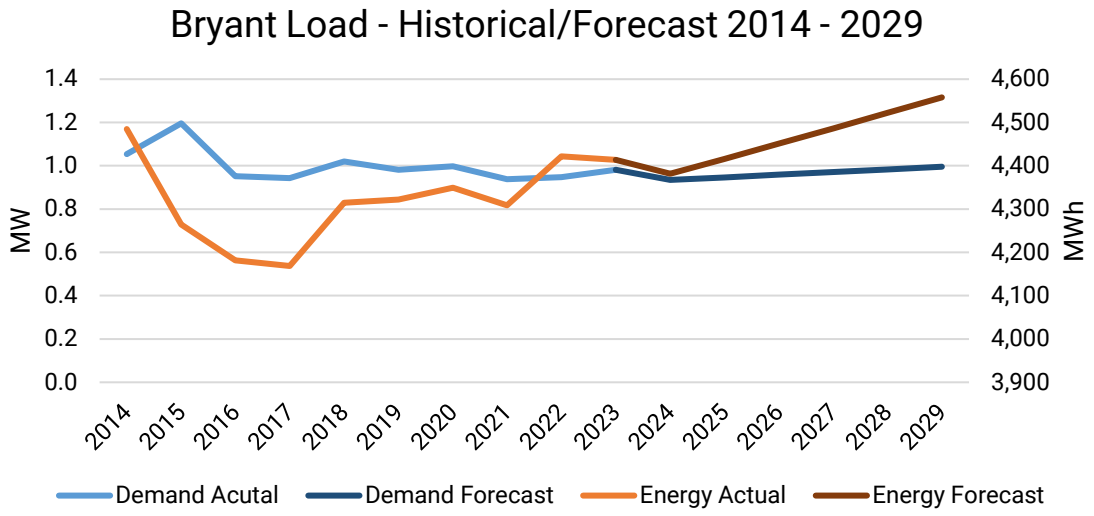
Aurora Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.3	5,002
2015	1.4	4,674
2016	1.4	5,036
2017	1.6	5,410
2018	1.7	6,260
2019	1.6	6,552
2020	1.6	6,547
2021	1.7	6,441
2022	1.8	6,899
2023	1.8	6,869

Aurora Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	1.9	6,820
2025	1.9	6,874
2026	1.9	6,928
2027	1.9	6,983
2028	2.0	7,038
2029	2.0	7,094

Bryant, SD – Load History/Forecast



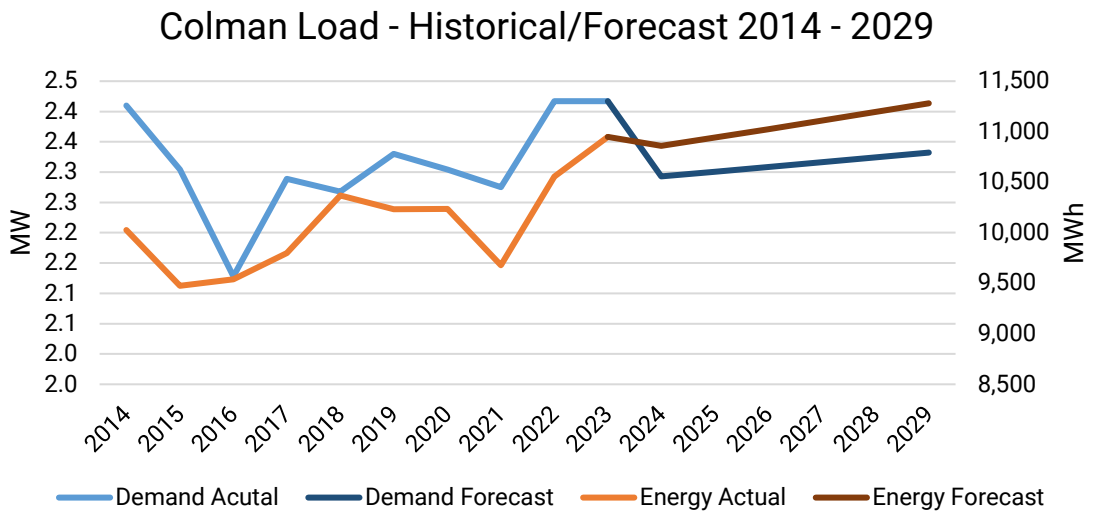
Bryant Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.1	4,485
2015	1.2	4,264
2016	1.0	4,181
2017	0.9	4,169
2018	1.0	4,315
2019	1.0	4,322
2020	1.0	4,349
2021	0.9	4,308
2022	0.9	4,422
2023	1.0	4,414

Bryant Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	0.9	4,382
2025	0.9	4,416
2026	1.0	4,451
2027	1.0	4,486
2028	1.0	4,522
2029	1.0	4,558

Colman, SD – Load History/Forecast



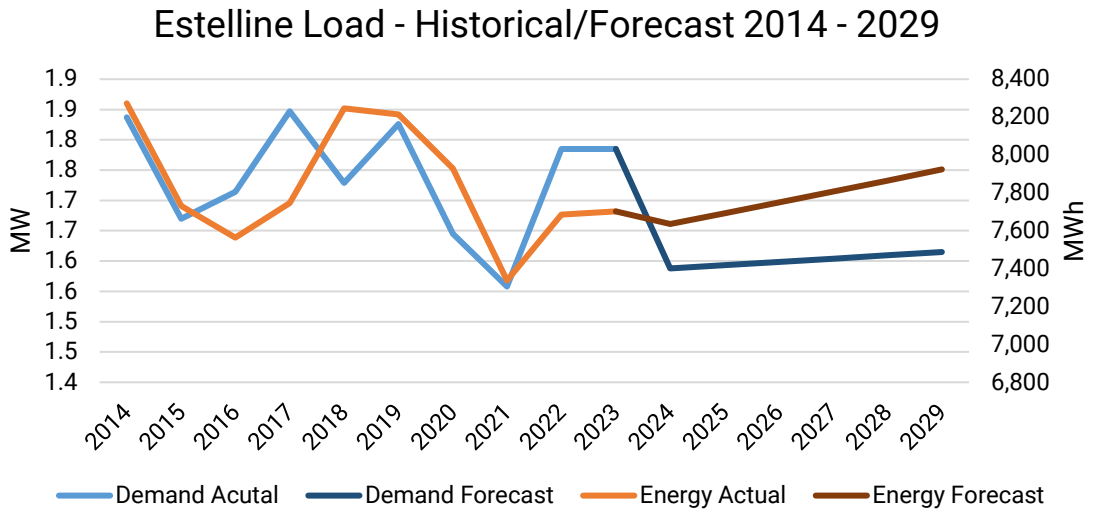
Colman Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	2.4	10,028
2015	2.3	9,475
2016	2.1	9,540
2017	2.3	9,798
2018	2.3	10,370
2019	2.3	10,233
2020	2.3	10,236
2021	2.3	9,679
2022	2.4	10,555
2023	2.4	10,949

Colman Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	2.3	10,860
2025	2.3	10,942
2026	2.3	11,026
2027	2.3	11,110
2028	2.3	11,195
2029	2.3	11,281

Estelline, SD – Load History/Forecast



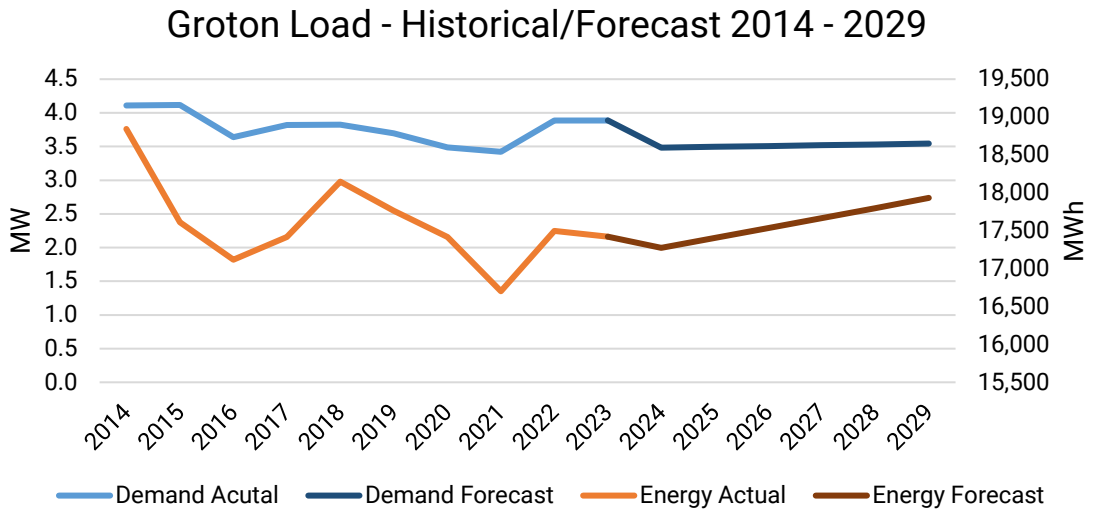
Estelline Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.8	8,272
2015	1.7	7,732
2016	1.7	7,563
2017	1.8	7,746
2018	1.7	8,246
2019	1.8	8,214
2020	1.6	7,929
2021	1.6	7,337
2022	1.8	7,686
2023	1.8	7,703

Estelline Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	1.6	7,636
2025	1.6	7,692
2026	1.6	7,749
2027	1.6	7,807
2028	1.6	7,865
2029	1.6	7,924

Groton, SD – Load History/Forecast



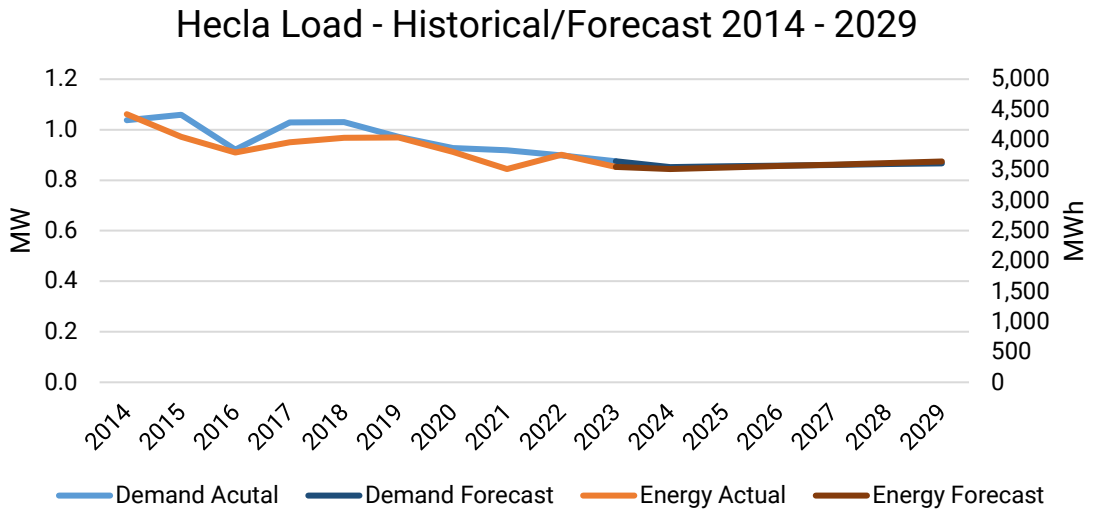
Groton Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	4.1	18,843
2015	4.1	17,612
2016	3.6	17,117
2017	3.8	17,415
2018	3.8	18,150
2019	3.7	17,764
2020	3.5	17,417
2021	3.4	16,701
2022	3.9	17,497
2023	3.9	17,422

Groton Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.5	17,274
2025	3.5	17,403
2026	3.5	17,534
2027	3.5	17,666
2028	3.5	17,799
2029	3.5	17,933

Hecla, SD – Load History/Forecast



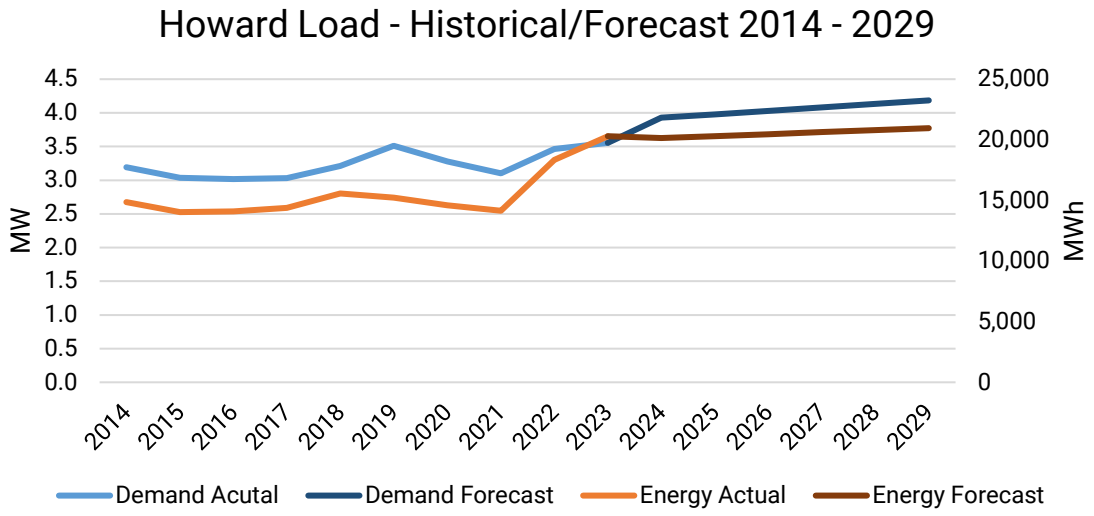
Hecla Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.0	4,422
2015	1.1	4,048
2016	0.9	3,789
2017	1.0	3,958
2018	1.0	4,031
2019	1.0	4,037
2020	0.9	3,801
2021	0.9	3,518
2022	0.9	3,752
2023	0.9	3,553

Hecla Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	0.9	3,517
2025	0.9	3,542
2026	0.9	3,567
2027	0.9	3,592
2028	0.9	3,617
2029	0.9	3,642

Howard, SD – Load History/Forecast



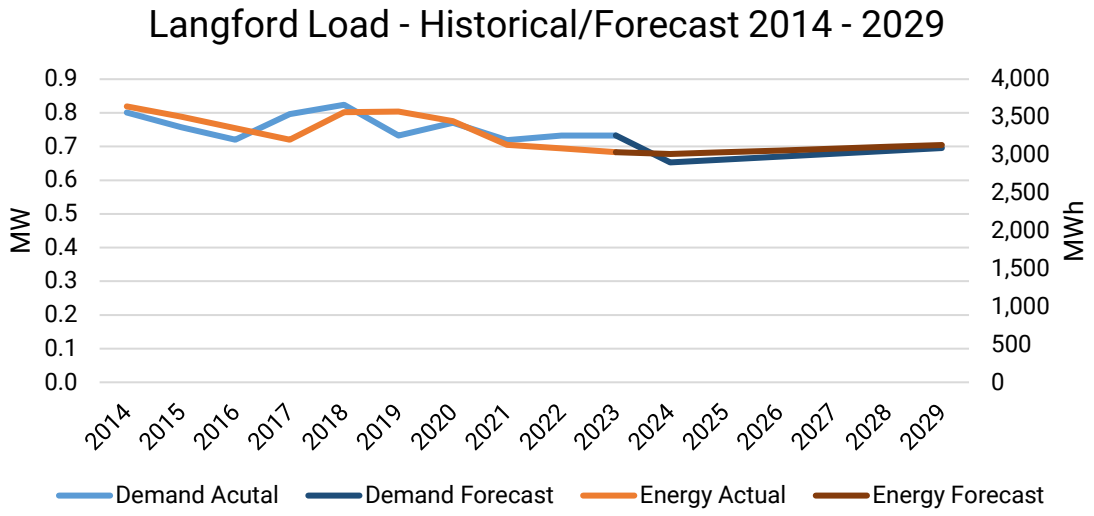
Howard Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.2	14,868
2015	3.0	14,036
2016	3.0	14,094
2017	3.0	14,375
2018	3.2	15,563
2019	3.5	15,242
2020	3.3	14,600
2021	3.1	14,159
2022	3.5	18,344
2023	3.6	20,290

Howard Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.9	20,145
2025	4.0	20,305
2026	4.0	20,465
2027	4.1	20,628
2028	4.1	20,792
2029	4.2	20,958

Langford, SD – Load History/Forecast



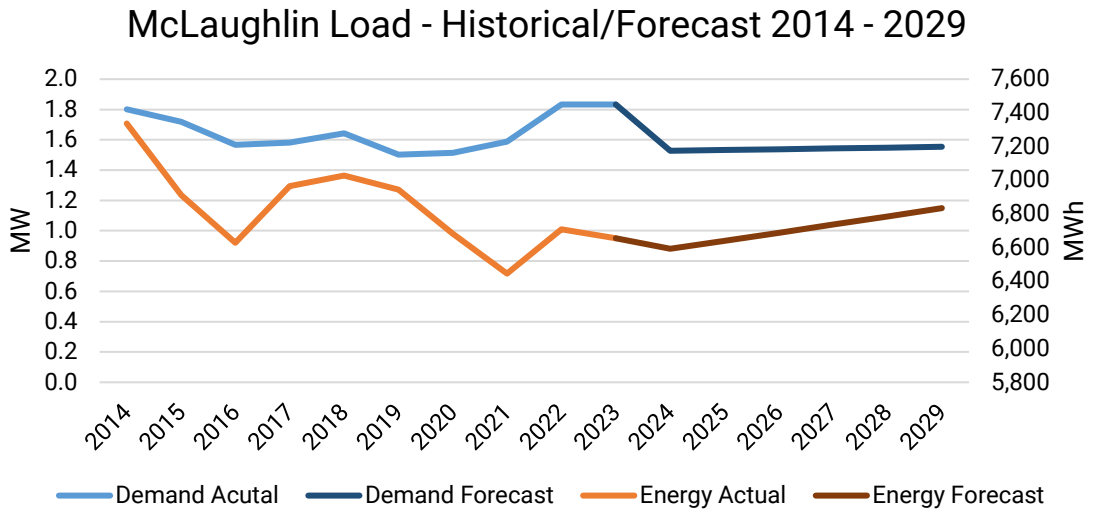
Langford Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	0.8	3,641
2015	0.8	3,504
2016	0.7	3,352
2017	0.8	3,203
2018	0.8	3,566
2019	0.7	3,571
2020	0.8	3,447
2021	0.7	3,133
2022	0.7	3,088
2023	0.7	3,037

Langford Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	0.7	3,013
2025	0.7	3,036
2026	0.7	3,059
2027	0.7	3,083
2028	0.7	3,107
2029	0.7	3,131

McLaughlin, SD – Load History/Forecast



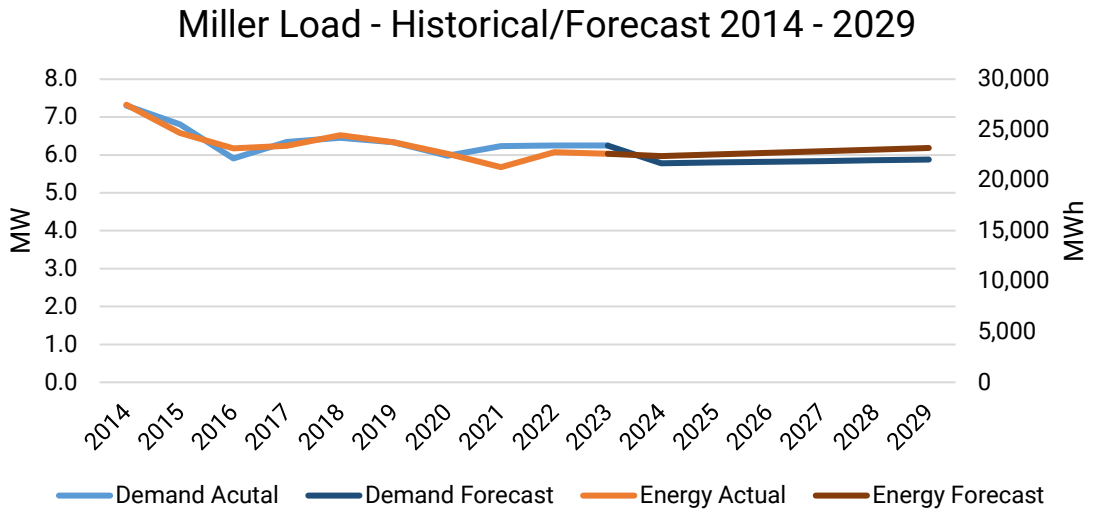
McLaughlin Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.8	7,337
2015	1.7	6,913
2016	1.6	6,628
2017	1.6	6,964
2018	1.6	7,027
2019	1.5	6,944
2020	1.5	6,682
2021	1.6	6,445
2022	1.8	6,709
2023	1.8	6,655

McLaughlin Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	1.5	6,593
2025	1.5	6,640
2026	1.5	6,688
2027	1.5	6,736
2028	1.5	6,785
2029	1.6	6,834

Miller, SD – Load History/Forecast



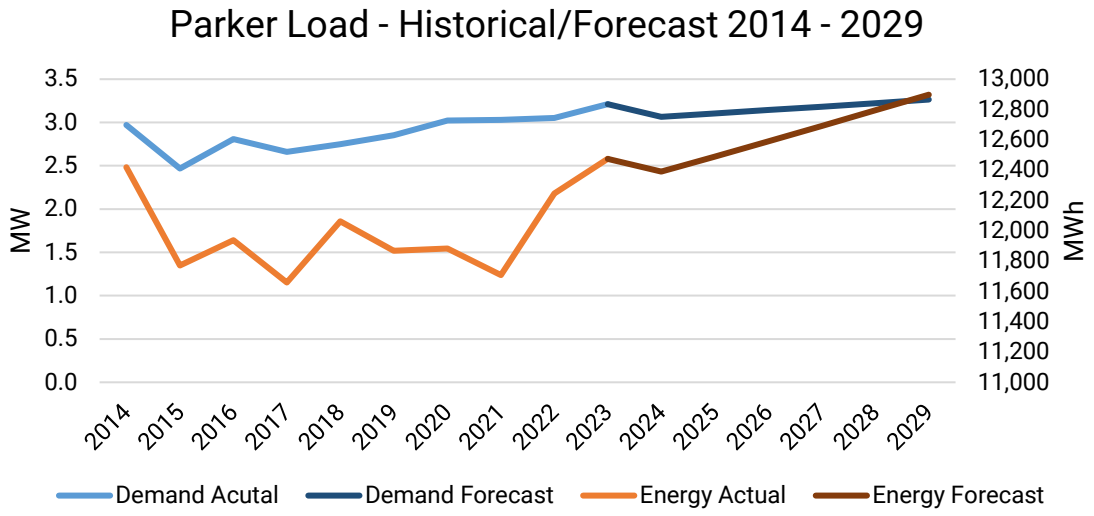
Miller Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	7.3	27,473
2015	6.8	24,670
2016	5.9	23,166
2017	6.3	23,408
2018	6.4	24,451
2019	6.3	23,759
2020	6.0	22,605
2021	6.2	21,291
2022	6.2	22,782
2023	6.2	22,610

Miller Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	5.8	22,387
2025	5.8	22,544
2026	5.8	22,703
2027	5.8	22,863
2028	5.9	23,025
2029	5.9	23,189

Parker, SD – Load History/Forecast



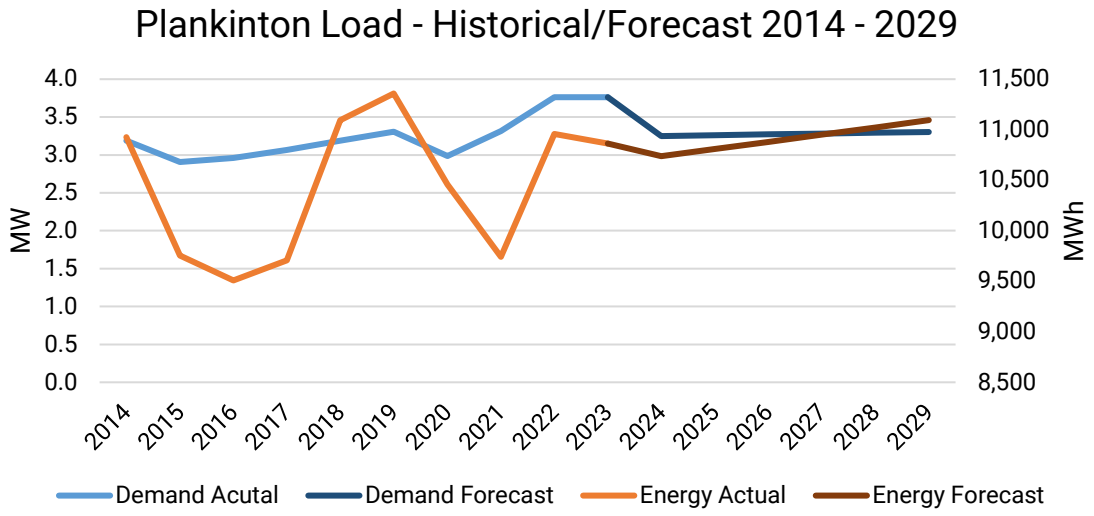
Parker Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.0	12,420
2015	2.5	11,771
2016	2.8	11,937
2017	2.7	11,658
2018	2.7	12,061
2019	2.9	11,869
2020	3.0	11,883
2021	3.0	11,707
2022	3.1	12,246
2023	3.2	12,475

Parker Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.1	12,390
2025	3.1	12,490
2026	3.1	12,590
2027	3.2	12,691
2028	3.2	12,794
2029	3.3	12,898

Plankinton, SD – Load History/Forecast



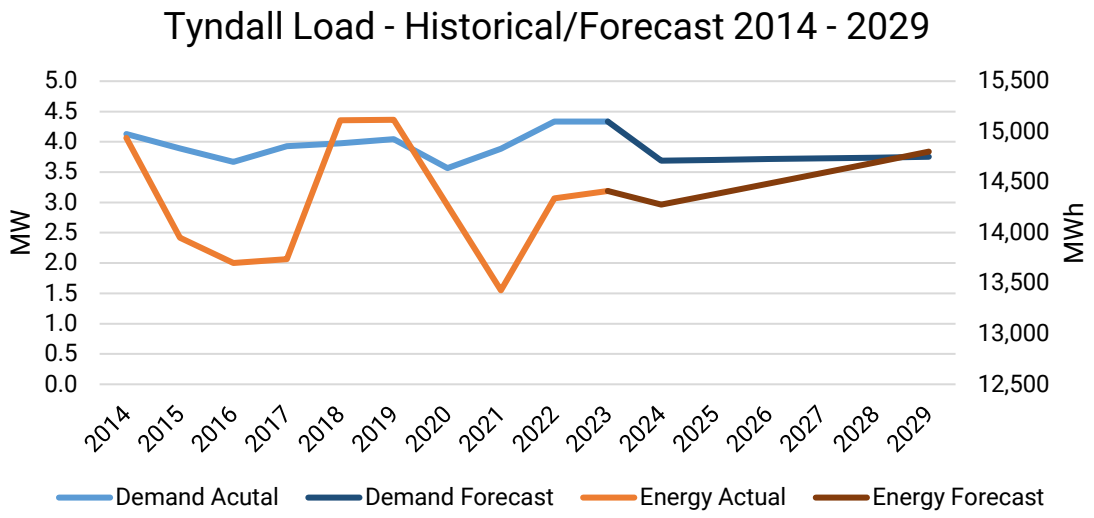
Plankinton Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.2	10,925
2015	2.9	9,755
2016	3.0	9,508
2017	3.1	9,706
2018	3.2	11,094
2019	3.3	11,358
2020	3.0	10,458
2021	3.3	9,742
2022	3.8	10,957
2023	3.8	10,862

Plankinton Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.2	10,738
2025	3.3	10,808
2026	3.3	10,879
2027	3.3	10,950
2028	3.3	11,022
2029	3.3	11,095

Tyndall, SD – Load History/Forecast



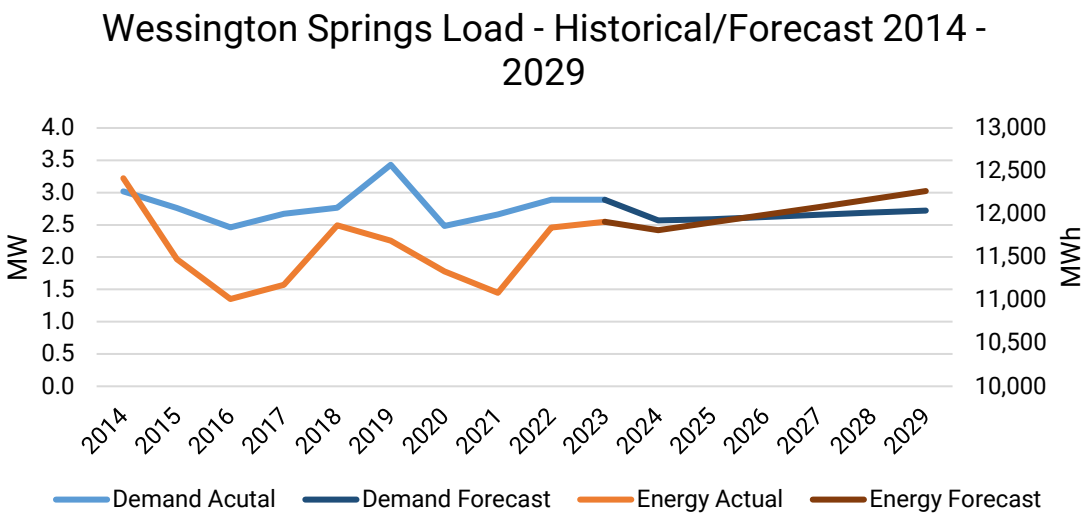
Tyndall Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	4.1	14,939
2015	3.9	13,949
2016	3.7	13,700
2017	3.9	13,739
2018	4.0	15,113
2019	4.0	15,118
2020	3.6	14,271
2021	3.9	13,430
2022	4.3	14,339
2023	4.3	14,413

Tyndall Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.7	14,279
2025	3.7	14,381
2026	3.7	14,485
2027	3.7	14,590
2028	3.7	14,696
2029	3.8	14,803

Wessington Springs, SD – Load History/Forecast



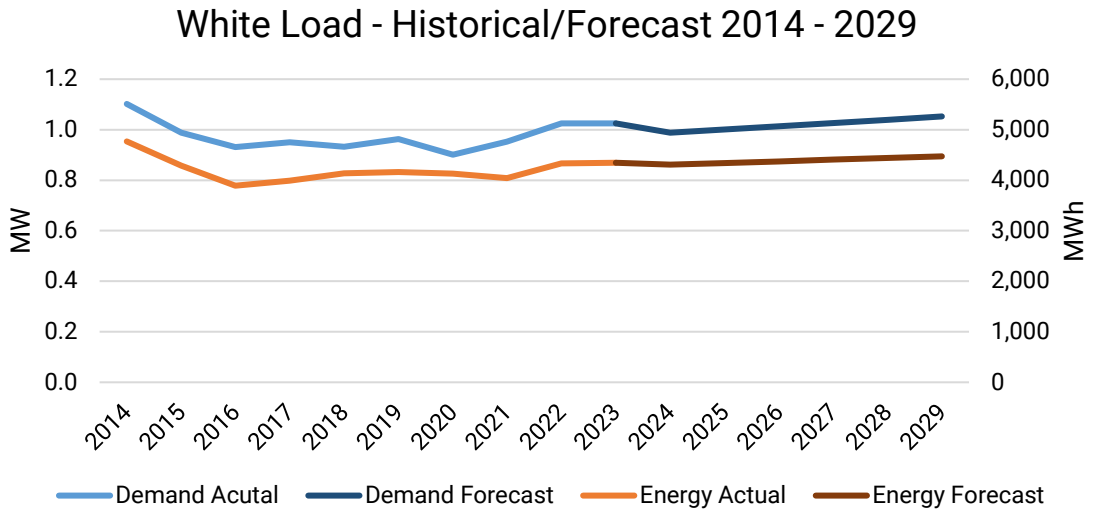
Wessington Springs Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.0	12,416
2015	2.8	11,475
2016	2.5	11,014
2017	2.7	11,180
2018	2.8	11,868
2019	3.4	11,692
2020	2.5	11,333
2021	2.7	11,084
2022	2.9	11,843
2023	2.9	11,911

Wessington Springs Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	2.6	11,813
2025	2.6	11,902
2026	2.6	11,992
2027	2.7	12,083
2028	2.7	12,175
2029	2.7	12,268

White, SD – Load History/Forecast



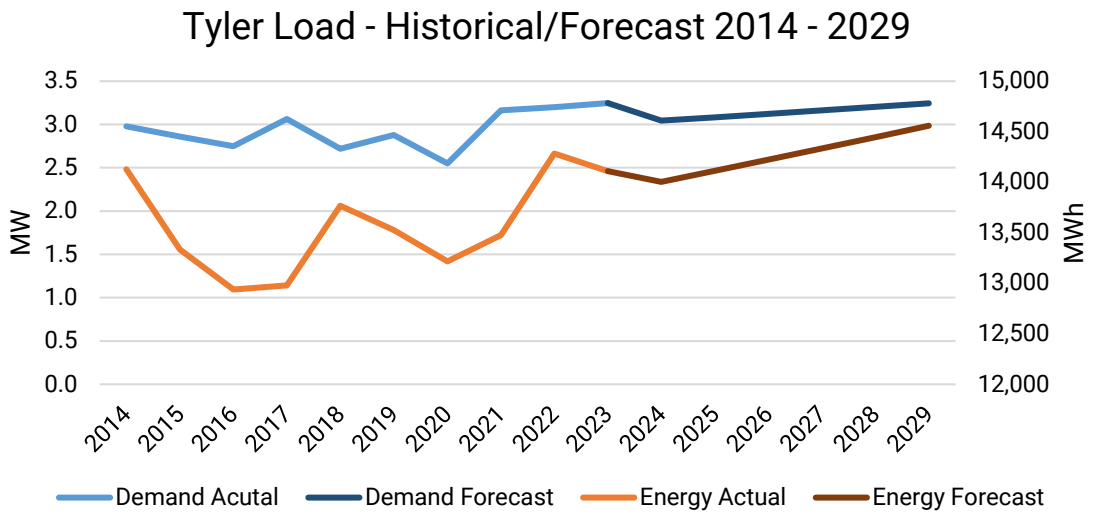
White Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	1.1	4,768
2015	1.0	4,291
2016	0.9	3,892
2017	1.0	3,991
2018	0.9	4,139
2019	1.0	4,159
2020	0.9	4,131
2021	1.0	4,039
2022	1.0	4,334
2023	1.0	4,346

White Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	1.0	4,309
2025	1.0	4,341
2026	1.0	4,373
2027	1.0	4,406
2028	1.0	4,439
2029	1.1	4,472

Tyler, MN – Load History/Forecast



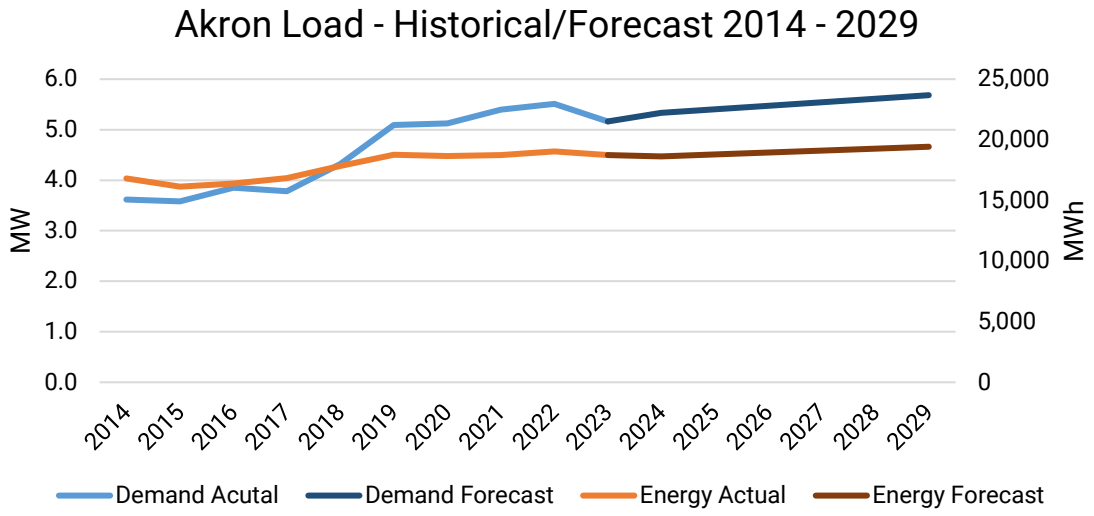
Tyler Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.0	14,129
2015	2.9	13,333
2016	2.8	12,938
2017	3.1	12,979
2018	2.7	13,769
2019	2.9	13,527
2020	2.6	13,217
2021	3.2	13,475
2022	3.2	14,284
2023	3.2	14,110

Tyler Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	3.0	14,003
2025	3.1	14,112
2026	3.1	14,222
2027	3.2	14,333
2028	3.2	14,445
2029	3.2	14,559

Akron, IA – Load History/Forecast



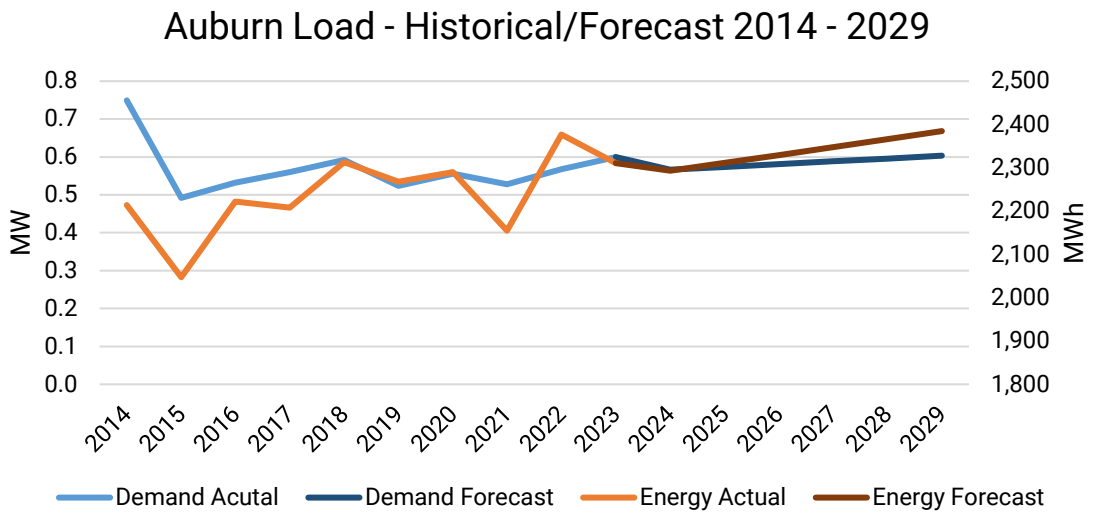
Akron Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	3.6	16,801
2015	3.6	16,135
2016	3.9	16,380
2017	3.8	16,851
2018	4.3	17,852
2019	5.1	18,761
2020	5.1	18,671
2021	5.4	18,733
2022	5.5	19,040
2023	5.2	18,735

Akron Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	5.3	18,630
2025	5.4	18,786
2026	5.5	18,944
2027	5.5	19,104
2028	5.6	19,266
2029	5.7	19,429

Auburn, IA – Load History/Forecast



Auburn Load - Historical 2014 - 2023

	Demand (MW)	Energy (MWh)
2014	0.7	2,214
2015	0.5	2,047
2016	0.5	2,222
2017	0.6	2,208
2018	0.6	2,313
2019	0.5	2,268
2020	0.6	2,290
2021	0.5	2,155
2022	0.6	2,377
2023	0.6	2,310

Auburn Load - Forecast 2024 - 2029

	Demand (MW)	Energy (MWh)
2024	0.6	2,293
2025	0.6	2,311
2026	0.6	2,329
2027	0.6	2,348
2028	0.6	2,366
2029	0.6	2,385