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INTRODUCTION

This report was prepared in accordance with the North Dakota Public Service Commission's (Commission) Guidelines (Guidelines) for compliance with the requirements of Chapter 49-22-04 of the North Dakota Century Code. Great River Energy (GRE) offers to provide additional information to the Commission upon request.

SECTION 1: Owned Energy Conversion Facilities

A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing 10 years, as well as those facilities to be removed from service during the 10-year period.

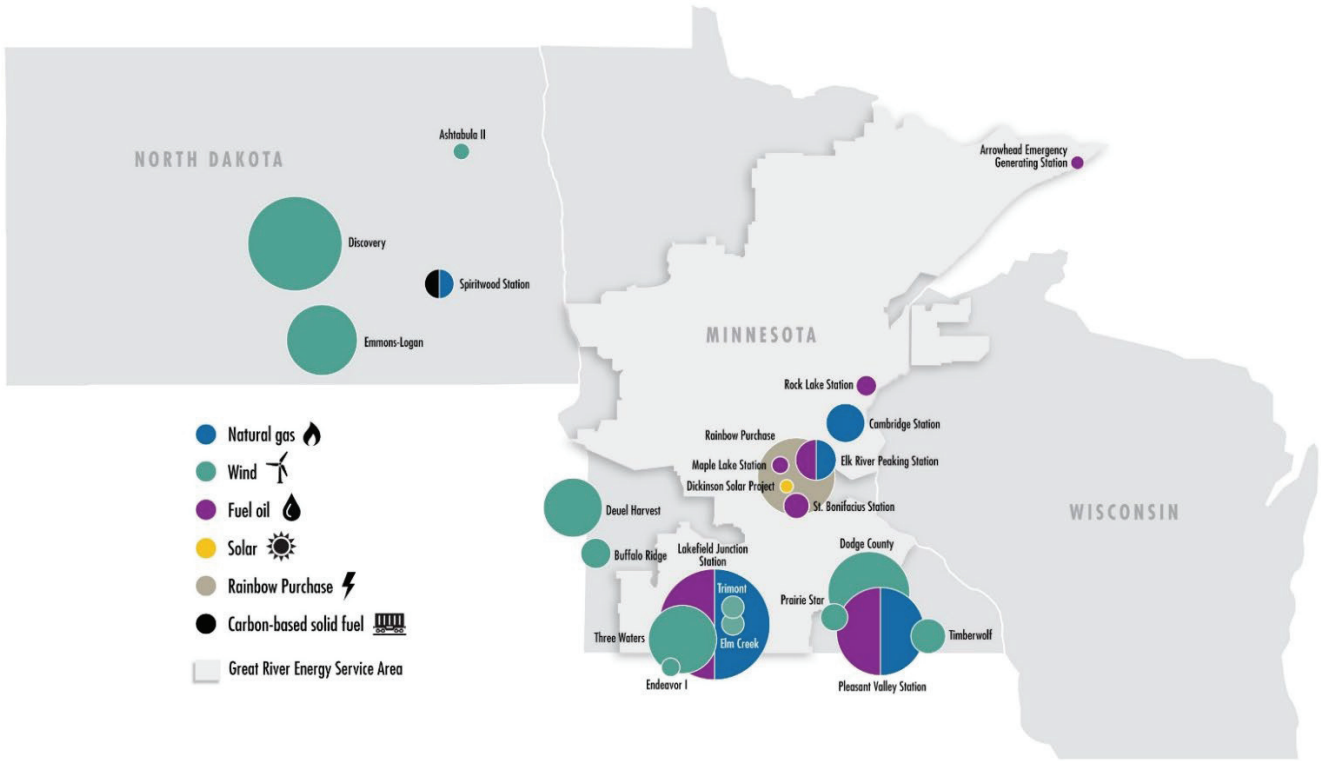
GRE's power supply portfolio is comprised of the following:

- Wind power purchase agreements (PPAs)
- Natural gas (NG) combustion turbines
- Fuel oil (FO) combustion turbines
- Fuel oil emergency reciprocating generators
- Hydroelectric PPAs
- Counterparty energy purchases
- Combined heat and power

Table 1. GRE's Owned Energy Conversion Facilities

Generation Facility	Location	Unit	Make	Model(s)	Primary Fuel	Secondary Fuel	Nameplate (MW)
Arrowhead Emergency Station	Colvill, MN	N/A	Cummins	9 reciprocating engine generators	FO	-	18
Cambridge Station	Cambridge, MN	1	GE	MS5001	FO	-	28.5
Cambridge Station	Cambridge, MN	2	Siemens	SGT6-4000F (V84)	NG	-	188
Elk River Peaking Station	Elk River, MN	11	Siemens	SGT6-5000F4(A)	NG	FO	230
Lakefield Junction Station	Trimont, MN	1	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	2	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	3	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	4	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	5	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	6	GE	MS7001EA	NG	FO	105
Lakefield Junction Station	Trimont, MN	D	Caterpillar	Caterpillar	FO	-	2
Maple Lake Station	Maple Lake, MN	1	GE	MS5001	FO	-	28.5
Pleasant Valley Station	Dexter, MN	11	Siemens	SGT6-4000F (V84.3A(2))	NG	FO	188
Pleasant Valley Station	Dexter, MN	12	Siemens	SGT6-4000F (V84.3A(2))	NG	FO	188
Pleasant Valley Station	Dexter, MN	13	Siemens	Westinghouse D501D5A	NG	FO	135
Rock Lake Station	Pine City, MN	1	GE	MS5001	FO	-	28.5
St. Bonifacius Station	Saint Bonifacius, MN	1	P&W	Twin FT4C3	FO	-	75
Spiritwood Station	Spiritwood, ND	1	Siemens	Combined Heat and Power	NG	coal	99

Figure 1. GRE's Owned Energy Conversion Facility Locations



GRE has two combustion turbine peaking facilities located in southern Minnesota (Pleasant Valley and Lakefield Junction), five combustion turbine peaking facilities located in central Minnesota (Cambridge, Rock Lake, Maple Lake, St. Bonifacius, and Elk River), and Arrowhead Emergency Station located near Colvill, Minnesota.

GRE's combined heat and power facility, Spiritwood Station, has been retrofitted to allow for 100% natural gas generation. This natural gas retrofit also provides additional fuel flexibility, including co-generation utilizing coal or potentially biomass, if a fuel source can be identified. This conversion maximizes multi-fuel optionality for the purpose of both economics and reliability.

GRE plans to convert Cambridge Station unit 2 into a dual fuel unit capable of generating with natural gas or fuel oil. Currently, this is GRE's only large frame combustion turbine without the ability to burn both natural gas and fuel oil. GRE is currently working with the Minnesota Public Utilities Commission to amend the Cambridge Station air and site permits. These permit amendments, once approved, will allow installation of the fuel oil generation option. The addition of dual fuel at Cambridge Station will increase reliability and resiliency.

GRE also works with its member-owner cooperatives to develop local renewable resources as well as deploy energy efficiency and demand response programs that make electricity more sustainable, affordable, and reliable. GRE and its member-owners have installed 20 solar installations across Minnesota, including a 250-kilowatt (kW) installation at GRE's Maple Grove, Minnesota, headquarters. Nineteen more GRE-owned 20-kW arrays were installed at our member-owned locations, and nine of

those sites were expanded to include member-owner community solar projects. GRE has approximately 360 megawatts of demand response resources in its member portfolio.

GRE does not own or operate any wind generation facilities. All wind is procured through competitive PPAs with for-profit developers. These developers can capitalize on the production tax credit. GRE is not planning to remove any facilities from service during the 10-year period addressed by this plan.

SECTION 2: Energy Conversion Facilities and Transmission Under Construction

An identification of the location of the tentative preferred site for all electric energy conversion facilities and the tentative location of all electric transmission facilities on which construction is intended to be commenced within the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.

GRE regularly tests technologies and business strategies to improve the way it will serve members in the future. An example of this is the Form Energy Storage Pilot Project under development at GRE's Cambridge Station facility. The project consists of a multi-day storage resource with the potential to turn variable sources of renewable energy into dependable, dispatchable energy resources. A battery that discharges over several days could provide electricity long enough to outlast most periods of extreme weather, which can pose challenges to the grid. The project is scheduled to be operational by the end of 2023.

No additional energy conversion facilities are currently under construction by GRE. No additional energy conversion facilities are intended to be commenced within the first five years of this plan in Minnesota or North Dakota. GRE continues to evaluate future needs as part of the resource planning process.

Summary information for GRE's North Dakota transmission facilities is provided in Table 2. Certain information concerning GRE's transmission facilities qualifies as Critical Energy Infrastructure Information (CEII). A map of transmission facilities owned and operated by GRE in North Dakota will be made available upon request as noted in Exhibit 1, subject to the requirements applicable to CEII.

GRE transferred ownership of CU HVDC system to Nexus Line, LLC, in 2022. As such, those facilities are no longer being reported by GRE in Table 2.

Table 2. GRE's Existing Electric Transmission Facilities in North Dakota

Facility	Voltage	AC/DC	Install Year
Stanton – Leland Olds	230	AC	1966
Stanton – McHenry Tap	230	AC	1966
McHenry Tap – McHenry	230	AC	1966
McHenry – Balta	230	AC	1966
Balta – Ramsey	230	AC	1966
Ramsey – Prairie	230	AC	1966
Stanton – Square Butte	230	AC	1966
McHenry Tap – Coal Creek	230	AC	1979
Stanton – Coal Creek	230	AC	1979

As of 2022, GRE has no plans to retire or construct any transmission facilities in North Dakota within the next 10 years. GRE and other North Dakota Transmission Owners are actively engaged in the regional grid operator's ongoing Long-Range Transmission Plan which may identify the need for transmission expansion in North Dakota within the next 10 years.

SECTION 3: Coordinated Regional Plan for Meeting Utility Needs

A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.

The electric grid is heavily interconnected and must be evaluated, operated, and expanded in a coordinated manner to assure reliability and cost-effectiveness. GRE's generation and transmission planning are closely coordinated with other organizations. GRE is a member of — and directly participates in — several regional generation and transmission planning entities described below.

Midcontinent Independent System Operator (MISO)

MISO is an independent, not-for-profit, member-based organization responsible for operating the power grid across 15 U.S. states and the Canadian province of Manitoba. GRE works very closely with MISO, our region's grid operator, to ensure plans for the electric system reliably serve our members in an affordable manner via several ongoing efforts:

MISO Transmission Expansion Plan

This MISO plan is developed through an inclusive and transparent stakeholder process in which GRE is a stakeholder. MISO also conducts Sub-regional Planning Meetings to encourage an open and transparent planning process and to provide a forum for coordination and discussion of transmission issues and proposed projects among utilities and other interested stakeholders.

MISO Long-Range Transmission Plan (LRTP)

The LRTP enables MISO to address fleet change, extreme weather events, and other challenges facing the region. The LRTP is one of MISO's four elements in its reliability imperative and establishes a roadmap for long-term energy security.

More information on MISO and its ongoing reliability initiatives can be found at misoenergy.org.

Minnesota Transmission Owners (MTO)

A consortium of 16 sponsoring utilities and three participating government agencies, MTO fulfills the utilities' statutory obligations for transmission planning in the state of Minnesota. These obligations include the development of the Minnesota Biennial Transmission Plan as well as studies associated with meeting the Minnesota Renewable Energy Standard requirements. Further information about the MTO group is available at minnelectrans.com.

Grid North Partners

Grid North Partners, an evolution of CapX2020, is a broad mix of 10 investor-owned, not-for-profit cooperative, and municipal utilities working together to ensure continued safe, reliable, and affordable electric service. All partners serve customers in the Upper Midwest and own and operate transmission infrastructure throughout their respective service territories. More information on Grid North Partners can be found at gridnorthpartners.com.

Midwest Reliability Organization (MRO)

The MRO is a nonprofit organization of regional utilities established to develop regional reliability standards and ensure compliance with standards of the North American Electric Reliability Corporation (NERC) as well as its own standards. Further information about MRO is available at mro.net. Further information about NERC can be found at nerc.com.

Integrated resource plan (IRP) and regional resource assessment (RRA)

GRE develops and updates an IRP every two- to-three years. This process utilizes GRE's member load forecasts and pairs load with generation capacity needs. While this process incorporates input from various additional stakeholders, the size, type, and timing of generation capacity need reflects the projected load growth of GRE's members. The IRP does not consider regional energy needs outside of GRE's service territory. However, MISO has initiated a new RRA effort that uses publicly shared IRPs and goals of the region's electric utilities to develop a 20-year view of the evolving resource mix across the MISO region. This collection of data will provide utilities, state regulatory agencies, and MISO with better insight into the expected resource changes over the coming years. This, in turn, will provide stakeholders with the critical information needed to plan the grid of the future and ensure the continued flow of reliable, low-cost electricity. GRE is a participant in MISO's RRA efforts.

Minnesota Resource Planners

GRE meets quarterly with resource planners from other regional utilities to discuss generation, transmission, planning, and policy.

SECTION 4: Environmental Protection and Land-Use Planning

A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.

GRE employs a robust stakeholder process when planning new energy resources, and engages and complies with all applicable local, state, and federal agencies prior to siting any new resources or facilities. In addition, GRE engages both internal departments and external qualified services from environmental, engineering, land rights, and legal consulting firms.

GRE is not planning to develop any additional energy conversion facilities at this time.

SECTION 5: 10-Year Projected Demand for Service

A statement of the projected demand for the service rendered by the utility for the ensuing 10 years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.

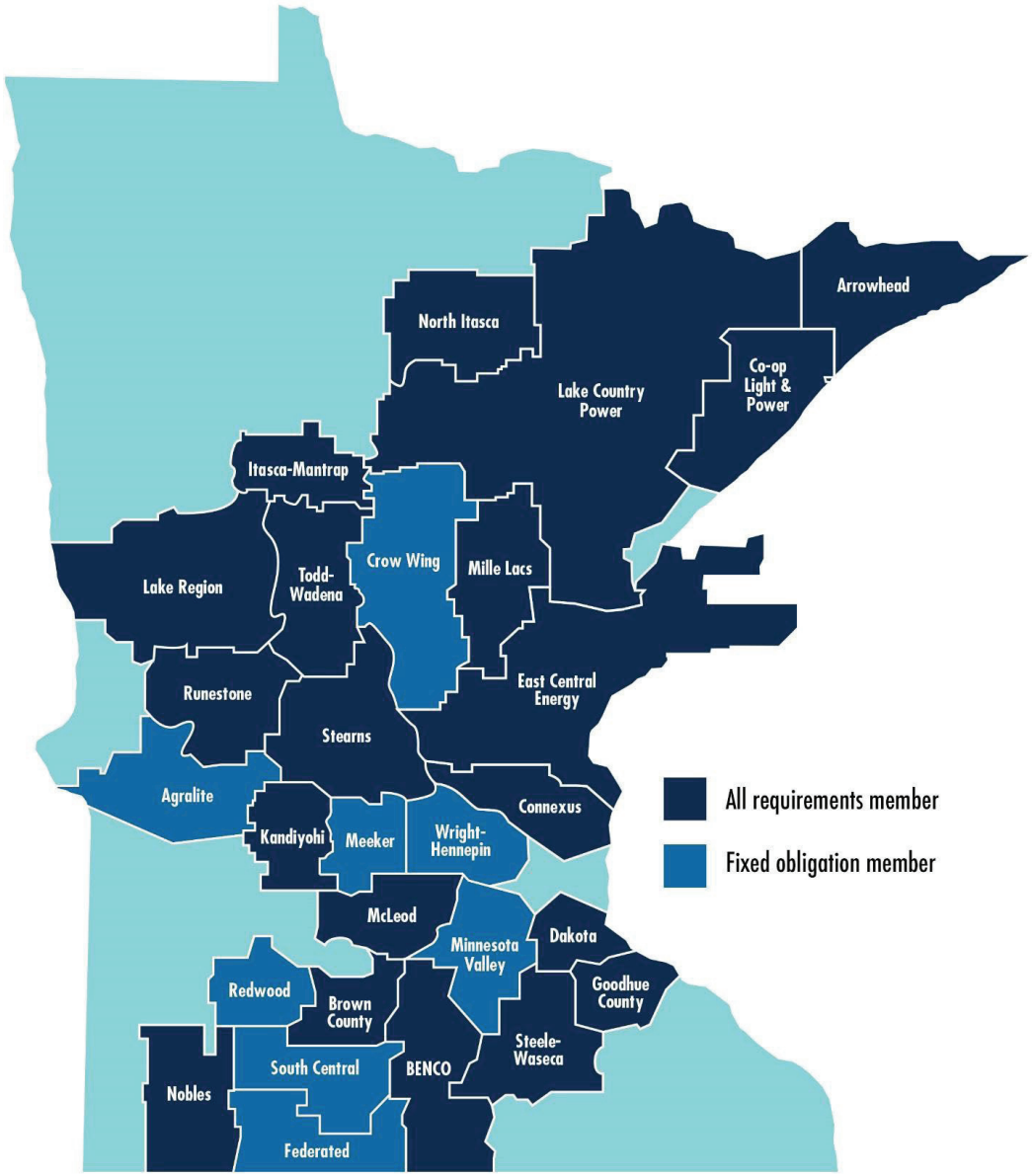
Projected demand

GRE's forecasted peak demands and energy requirements are provided in Exhibit 4.

Load centers

The service areas of GRE's 28 member-owners, shown in Figure 2, are located mainly in Minnesota with a small portion in Wisconsin. Twenty cooperatives are all-requirements member-owners that purchase all of their power from GRE, subject to limited exceptions. Eight cooperatives are fixed requirements member-owners that purchase a fixed amount of power from GRE and purchase all additional requirements from other power suppliers.

Figure 2 GRE's Member Service Territory



As part of GRE's capacity expansion modeling, load forecasts are developed and the need for future generation is assessed. At this time, GRE does not forecast a need for additional energy or capacity facilities.

Manner and extent of meeting projected demand

In addition to GRE's current generation capacity, GRE has entered bilateral transactions of various types and durations with other utilities. GRE is a transmission owner and market participant in MISO. MISO operates the short-term energy and ancillary services markets that provide economic dispatch of generation and transmission congestion management over a broad region. GRE arranges for its load

service through the MISO markets and complies with the MISO resource adequacy requirements, which are designed to ensure that there is sufficient capacity available to meet expected demand requirements within its footprint.

GRE continues to evaluate capital improvements to existing generation facilities, other non-wind renewables, bilateral market purchases, demand response resources, and energy storage (both utility-side and customer-side). Evaluation is performed via capacity expansion modeling. GRE utilizes EnCompass power planning software to determine least-cost generation resource additions for future planning consideration.

SECTION 6: Other Relevant Information

Any other relevant information as may be requested by the commission. Upon receipt of the 10-year plans the commission shall proceed to assess the impact of the development proposed within the state to ensure that energy conversion facilities and transmission facilities will be sited in an orderly manner compatible with environmental preservation and efficient use of resources.

Provided upon request.

Exhibit 1

U.S. Department of Energy Form EIA-923

(Forms supplied upon request.)

Exhibit 2

Federal Energy Regulatory Commission Form FERC-714

(Forms supplied on request.)

Exhibit 3

GRE North Dakota Transmission Map

(Map supplied upon request.)

Exhibit 4

Projected Load Growth and Forecast Methodology

The forecasts shown below are econometric forecasts developed for GRE's 20 all-requirements members plus fixed amounts of demand and energy for the eight fixed members. GRE's fixed members purchase their supplemental requirements from suppliers other than GRE. In addition to GRE's member-owners' demand and energy, the forecasts include power supply sales to Dakota Spirit AgEnergy in Spiritwood, North Dakota, transmission losses, and GRE's own use.

The following figures show GRE's most current energy and demand forecasts from 2022 through 2032.

Year	50/50 All Requirement Member Forecast (=)	DC Line Losses (+)*	Transmission Losses (+)*	Allliant Load Southern Coops Forecasts (+)*	Fixed Member Requirements (+)*	Dakota Spirit Ag (+)*	Energy Requirement Forecast
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
2022	8,839,978	108,948	488,470	-	1,973,550	41,370	11,452,316
2023	8,852,666	-	476,298	-	1,689,873	41,850	11,060,687
2024	8,889,046	-	477,935	-	1,689,874	41,850	11,098,704
2025	8,898,633	-	483,393	111,704	1,689,873	41,850	11,225,452
2026	8,924,371	-	484,551	111,704	1,689,873	41,850	11,252,349
2027	8,955,409	-	485,948	111,704	1,689,873	41,850	11,284,784
2028	9,005,136	-	488,185	111,704	1,689,874	41,850	11,336,748
2029	9,021,359	-	488,915	111,704	1,689,873	41,850	11,353,701
2030	9,046,845	-	490,062	111,704	1,689,873	41,850	11,380,334
2031	9,075,220	-	491,339	111,704	1,689,873	41,850	11,409,986
2032	9,125,139	-	493,585	111,704	1,689,874	41,850	11,462,151

* All Forecasts share these components regardless of sensitivities

5-Year CAGR**	**-0.44%**
10-Year CAGR	**-0.04%**

Year	50/50 All Requirement Member Forecast (=)	DC Line Losses (+)*	Transmission Losses (+)*	Alliant Load Southern Coops Forecasts (+)*	Fixed Member Requirements (+)*	Dakota Spirit Ag (+)*	Coincident Peak Demand Requirement
	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)
2022	1,833	0	100	0	386	6	2,325
2023	1,845	0	95	0	265	6	2,211
2024	1,849	0	95	0	265	6	2,215
2025	1,854	0	97	28	265	6	2,250
2026	1,860	0	97	28	265	6	2,256
2027	1,867	0	97	28	265	6	2,263
2028	1,876	0	98	28	265	6	2,273
2029	1,883	0	98	28	265	6	2,281
2030	1,890	0	98	28	265	6	2,287
2031	1,897	0	99	28	265	6	2,295
2032	1,906	0	99	28	265	6	2,304

* **All Forecasts share these components regardless of sensitivities**

5-Year CAGR**	**-0.76%**
10-Year CAGR	**-0.15%**