Fredrikson
& BYRON, P.A.

October 13, 2017

VIA ELECTRONIC FILING

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
Saint Paul, MN 55101-2147

Re: In the Matter of the Application of Nobles 2 Power Partners, LLC for a Certificate of Need for the up to 260 MW Nobles 2 Wind Project and Associated Facilities in Nobles County, Minnesota
Docket No. IP-6961/CN-16-289

Dear Mr. Wolf:

Enclosed for filing is the Certificate of Need Application of Nobles 2 Power Partners, LLC ("Nobles 2") in connection with the above-referenced matter.

In accordance with Minn. R. 7829.0500, and Minn. Stat. Ch. 13, Nobles 2 has designated as **TRADE SECRET** certain commercially sensitive information, *i.e.*, pricing information in the Power Purchase Agreement between Nobles 2 and Minnesota Power, included with the **TRADE SECRET** version of Appendix A of the Certificate of Need, and cost information, included with the **TRADE SECRET** version of Appendix C of the Certificate of Need, which, if released, would have a detrimental effect on Nobles 2 by providing potential competitors and others with valuable information not otherwise readily ascertainable and from which these persons would obtain economic value.

Given the need to include trade secret information, Nobles 2 has prepared and is e-filing both **NON-PUBLIC AND TRADE SECRET** and public versions of Appendices A and C of the Certificate of Need.

A check in the amount of $5,750.00 for payment of the processing fee, which is calculated in accordance with Minn. R. 7849.0210, subp. 1, is also enclosed with this filing.

In accordance with Minn. R. 7829.2500, Minn. R. 7849.0200, and staff consultation, Nobles 2 is providing the 5 copies of the CN Application and 3 copies of the **TRADE SECRET** Appendices A and C to the Minnesota Public Utilities Commission. Nobles 2 is also providing copies of the CN Application to other state agencies with regulatory responsibilities related to the proposed facility. A copy of this filing is also being served upon the persons on the Official Service List of record. Please let me know if you have any questions or concerns.

Sincerely,

/s/ *Jeremy P. Duehr*

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Certificate of Need Application to the Minnesota Public Utilities Commission

NOBLES 2 POWER PARTNERS, LLC

Docket Number: IP-6964/CN-16-289

Nobles County, Minnesota

October 13, 2017

Prepared For:

Nobles 2 Power Partners, LLC
14302 FNB Parkway
Omaha, NE 68154-5212

Project Name:	Nobles 2 Wind Farm
Project Location:	The Project's footprint spans approximately 42,550 acres in Bloom, Larkin, Leota, Lismore, Summit Lake, and Wilmont Townships in Nobles County
Applicant:	Nobles 2 Power Partners, LLC
Authorized Representatives:	Mr. Gregory B. Kelly
Signature:	
Address:	1701 East Lamar Boulevard, Suite 100 Arlington, TX 76006
Phone:	817-303-3600
Email:	gkelly@tnsk.com

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ACRONYMS

AADT	Annual Average Daily Traffic
Applicant or Nobles 2	Nobles 2 Power Partners, LLC
BBCS	Bird and Bat Conservation Strategy
Biennial Report	2015 Biennial Transmission Projects Report
BOP	Balance of Plant
CN	Certificate of Need
Commission	Minnesota Public Utilities Commission
CO_2	Carbon Dioxide
CPP	Clean Power Plan
CRP	Conservation Reserve Program
CSAH	County State Aide Highway
dB(A)	The dBA scale is A-weighted decibels
EIA	U.S. Energy Information Administration
EPC	Engineering, Procurement and Construction
Exemption Request	Request for Exemption from Certain Certificate of Need Application Content Requirements
FAA	Federal Aviation Administration
IRP	Integrated Resource Plan
ITC	Investment Tax Credit
LEGF	Large Electric Generating Facility
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt hour
LHVTL	Large High Voltage Transmission Line
LiDAR	Light Range Detecting Unit
LWECS	Large Wind Energy Conversion System
Minn. R.	Minnesota Rules
Minn. Stat.	Minnesota Statutes
MISO	Midcontinent Independent System Operator
MnDOT	Minnesota Department of Transportation
MP	Minnesota Power
MPCA	Minnesota Pollution Control Agency
MVP	Multi Value Project

MW	Megawatt Alternating Current (AC)
MWh	Megawatt hour
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
POI	Point of Interconnection
PPA	Power Purchase Agreement
Project	Nobles 2 Wind Farm
PTC	Production Tax Credit
RES	Renewable Energy Standard
RFP	Request for Proposal
SCADA	Supervisory Control and Data Acquisition
SoDAR	Sonic Range Detecting Unit
SWPPP	Storm Water Pollution Prevention Plan
Tenaska	Tenaska Wind Holdings II, LLC
WIRS	Wildlife Incident Reporting System

Minnesota Rule	Required Information	Application Section(s)	Exemption Granted
7849.0120	**Criteria – Probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, the applicant's customers, or to the people of Minnesota and neighboring states**		
A(1)	Accuracy of the applicant's forecast	4.1	Yes
A(2)	Effects of applicant's existing or expected conservation programs and state and Federal conservation programs		No
A(3)	Effects of promotional practices on demand		Yes
A(4)	Ability of current and planned facilities, not requiring certificates of need, to meet future demand	4.1	No
A(5)	Effect of proposed facility in making efficient use of resources		No
7849.0120	**Criteria – A more reasonable and prudent alternative has not been demonstrated**		
B(1)	Appropriateness of size, type, and timing	4.2.1	No
B(2)	Cost of facility and its energy compared to costs of reasonable alternatives	4.2.2	No
B(3)	Effects of the facility upon natural and socioeconomic environments compared to the effects of reasonable alternatives	4.2.3	No
B(4)	Expected reliability compared to reasonable alternatives	4.2.4	No
7849.0120	**Criteria – Facility will provide benefits to society**		No
C(1)	Relationship of proposed facility to overall state energy needs	4.3.1	No
C(2)	Effects of facility upon the natural and socioeconomic environments compared to the effects of not building the facility	4.3.2	No
C(3)	Effects of facility in inducing future development	4.3.3	No
C(4)	Socially beneficial uses of the output of the facility, including to protect or enhance environmental quality	4.3.4	No
D	Facility or suitable modification will not fail to comply with relevant policies, rules, and regulations of other state and Federal agencies and local governments	4.4	No
7849.0210	**Filing Fees and Payment Schedule**	2.3	No
7849.0240	**Need Summary and Additional Considerations**		
Subp. 1	Need Summary – summary of major factors justifying need for facility	3.1	No
Subp. 2(A)	Additional Considerations – Socially beneficial uses of the output of the facility, including to protect or enhance environmental quality	3.2.1	No
Subp. 2(B)	Additional Considerations – Promotional activities that may have given rise to the demand for the facility	3.2.2	Yes
Subp. 2(C)	Additional Considerations – Effects of the facility in inducing future development	3.2.3	No

Minnesota Rule	Required Information	Application Section(s)	Exemption Granted
7849.0250	**Proposed LEGF and Alternatives Application**		
A(1)	Description – Nominal generating capability and effects of economies of scale on facility size and timing	5.1.1	No
A(2)	Description – Anticipated operating cycle, including annual capacity factor	5.1.2	No
A(3)	Description – Type of fuel, reason for selection, projection of availability over life of facility, and alternative fuels	5.1.3	No
A(4)	Description – Anticipated heat rate	5.1.4	No
A(5)	Description – Anticipated areas where facility will be located	5.1.5	No
B(1)	Discussion of Alternatives – Purchased power	5.2.1.1	Yes
B(2)	Discussion of Alternatives – Increased efficiency of existing facilities	5.2.1.2	Yes
B(3)	Discussion of Alternatives – New transmission lines	5.2.1.3	Yes
B(4)	Discussion of Alternatives – New generating facilities of a different size and energy resource	5.2.1.4-10	Yes
B(5)	Discussion of Alternatives – Reasonable combination of alternatives	4.2.1.11	Yes
C	Proposed Facility and Alternatives	5.3	
C(1)	Capacity cost in current dollars per kilowatt	5.3.1	Yes
C(2)	Service life	5.3.2	Yes
C(3)	Estimated average annual availability	5.3.3	Yes
C(4)	Fuel costs in current dollars per kilowatt hour	5.3.5	Yes
C(5)	Variable operating and maintenance costs in current dollars per kilowatt hour	5.3.4	Yes
C(6)	Total cost in current dollars of a kilowatt hour provided by it	5.3.6	Yes
C(7)	Estimate of its effect on rates system-wide and in Minnesota	5.3.7	Yes
C(8)	Efficiency, expressed for a generating facility as the estimated heat rate	5.3.8	Yes
C(9)	Majoring assumptions made in providing information in subitems (1) to (8), including projected escalation rates for fuel costs and operating and maintenance costs, as well as projected capacity factors	5.3	Yes
D	System Map	5.4	Yes
E	Other relevant information about the facility and alternatives that may be relevant to a determination of need		No
7849.0270	**Peak Demand and Annual Consumption Forecast**		Yes
Subp. 1	Scope – Application shall contain pertinent data concerning peak demand and annual electrical consumption within the applicant's service area and system	6.0	Yes
Subp. 2	Content of Forecast	6.0	Yes
Subp. 3	Forecast Methodology	6.0	Yes
Subp. 4	Data Base for Forecasts	6.0	Yes
Subp. 5	Assumptions and Special Information	6.0	Yes
Subp. 6	Coordination of Forecasts with Other Systems	6.0	Yes

Minnesota Rule	Required Information	Application Section(s)	Exemption Granted
7849.0280	**System Capacity**	7.0	Yes
7849.0290	**Conservation Programs**	8.0	Yes
7849.0300	**Consequences of Delay**	9.0	Yes
7849.0310	**Environmental Information – Provide environmental data in response to part 7849.0250, Item C, or 7849.0260, Item C, and information as requested in part 7849.0320 to 7849.0340**		
7849.0320	**Generating Facilities**		
A	Estimated range of land requirements, including water storage, cooling systems, and solid waste storage	11.1	No
B	Estimated amount of vehicular, rail, and barge traffic generated by construction and operation of facility	11.2	No
C	Fossil-fuel facilities – Fuel	11.3.1	No
D	Fossil-fuel facilities – Emissions	11.3.2	No
E	Water Use for Alternate Cooling Systems	11.4	No
F	Sources and types of discharges to water	11.5	No
G	Radioactive releases	11.6	No
H	Types and quantities of solid wastes in tons/year	11.7	No
I	Sources and types of audible noise attributable to facility operation	11.8	No
J	Estimated work force required for facility construction and operation		No
K	Minimum number and size of transmission facilities required to provide a reliable outlet for the generating facility		No
7849.0330	**Transmission Facilities**	5.2.1.10	Yes
7849.0340	**No-Facility Alternative**	5.2.1.9	Yes

1.0 EXECUTIVE SUMMARY

Nobles 2 Power Partners, LLC ("Nobles 2" or "Applicant") submits this application for a Certificate of Need ("CN") to the Minnesota Public Utilities Commission ("Commission"), pursuant to and in accordance with Minnesota Statutes Section 216B.243 and Minnesota Rules Chapter 7849. Nobles 2 respectfully requests that the Commission issue a CN for an up to 260 MW Nobles 2 Wind Farm ("Project"), a "large energy facility," as defined in Minnesota Statutes Section 216B.2421, subdivision 2(1).[1]

2.0 INTRODUCTION

2.1 THE NOBLES 2 WIND FARM

Nobles 2 is an independent power producer that proposes to construct and operate the Project at a site within Nobles County in southwest Minnesota.

The Project will be located in Nobles County, and the Project's footprint spans approximately 42,550 acres in Bloom, Larkin, Leota, Lismore, Summit Lake, and Wilmont Townships in Nobles County. Nobles 2 has selected Vestas V136-3.6 megawatt ("MW") wind turbine generator as the primary wind turbine model for the Project. If the technology is economical and commercially proven, Nobles 2 may elect to utilize Vestas V136-3.45 MW, V136-4.0 MW or V136-4.2 MW turbines instead. These turbine model variants have siting requirements that are equal to or lesser than the V136-3.6 MW. The Project will also include 10 to 21 Vestas V110-2.0 MW wind turbines for the purpose of qualifying for the Federal Production Tax Credit ("PTC"). The final number of Vestas V110-2.0 MW turbines will be determined by Nobles 2 based upon PTC requirements, turbine availability and other economic considerations. As a result, the number of turbines installed could range from 65 to 82, depending on the configuration selected. In addition to wind turbines, the Project will consist of an electrical collection system, access roads, permanent meteorological towers, substation and interconnection facilities, an operation and maintenance facility, and other infrastructure typical of a wind farm. The Project will interconnect at an existing 115 kV transmission line that is located in the west-central portion of the Project footprint. Nobles 2 plans to construct the Project on a schedule that facilitates an in-service date as early as the fourth-quarter of 2019.

2.2 PROJECT OWNERSHIP

Nobles 2's parent, Tenaska Wind Holdings II, LLC ("Tenaska") is an affiliate of Tenaska, Inc. Tenaska, Inc., based in Omaha, Nebraska, is one of the largest private, independent energy companies in the United States. Tenaska, Inc., and its affiliates have developed 10,000 MW of natural gas-fueled and renewable power generation and manage operations for 7,000 MW. Tenaska, Inc. affiliates also market natural gas and electric power. An affiliate of Tenaska, Tenaska Power Services Co., has end-use customers, none of which are

[1] The Project is also a Large Wind Energy Conversion System ("LWECS"), as defined in Minnesota Statutes Section 216F.01, subdivision 2.

in the Midcontinent Independent System Operator ("MISO") service area. Nobles 2 does not have ownership or financial interests in any other operating Large Wind Energy Conversion System ("LWECS") in Minnesota. Tenaska and its affiliates partner with community members to meet common goals while constructing new renewable energy generation sources that benefit the state and the region in which they are located. Nobles 2 is receiving development assistance from PRC Wind.

PRC Wind is an experienced developer, financier, constructor, owner and operator of renewable energy projects, with a proven track record of successful wind energy development in the Midwest U.S. Based in Minneapolis, Minnesota, PRC Wind has successfully developed 19 wind energy projects for clients and energy purchasers, representing 1,800 MW of operating capacity. The PRC Wind team includes personnel with substantial experience in project management, community relations, permitting, financing, construction, and operation. PRC Wind, and its affiliates, currently own and operate several wind and solar projects in Minnesota and continue to develop renewable energy projects in the Midwest. For example, PRC Wind recently developed the 48 MW Lakeswind Wind Farm in Clay and Becker County, MN.

2.3 POWER PURCHASE AGREEMENT

Nobles 2 has entered into a Power Purchase Agreement ("PPA") with Minnesota Power ("MP") whereby MP agreed to purchase up to 250 MW of the energy generated by the Project (Appendix A). MP sought and entered into the PPA with Nobles 2 after the Commission issued an Order Approving Resource Plan with Modifications ("July 2016 IRP Order"), on July 18, 2016, whereby the Commission, in part, ordered MP to begin a competitive acquisition process, by the end of 2017, to procure 100-300 MW of installed wind capacity.[2] On July 27, 2016, MP issued a request for proposal ("RFP") for a wind resource of up to 300 MW.[3] MP submitted a petition ("MP Petition") on July 28, 2017 seeking Commission approval of the PPA and two other resource acquisition requests.[4] While MP provided the Commission with the type of information considered in a CN proceeding, MP has not requested that the Commission issue a CN for the Project as part of the Commission's consideration of the Nobles 2 PPA.[5] On September 19, 2017, the Commission issued an order on MP's Petition and noted, in part, that the "Commission has already approved the acquisition of additional wind and solar generation by [MP], and [MP] shall refile its wind and solar PPAs for Commission approval in a separate

[2] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 18, 2016) eDockets ID No. 2016-123403-01.

[3] Minnesota Power Informational Response. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (March 30, 2017) eDockets ID No. 2017-130375-01. See also, Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID Nos. 20177-134359-01 through 10.

[4] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan*. Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03

[5] *Id.* at 1-9

docket."[6] As of the date of this Application, MP has not yet refiled the Nobles 2 PPA in a separate docket for Commission approval. Therefore, the Commission has not determined the need for the Project or approved the PPA.

A certificate of need ("CN") from the Minnesota Public Utilities Commission is required for all "large energy facilities," defined to include generators greater than 50 MW in size, constructed in Minnesota, unless a statutory exemption applies.[7] Nobles 2 proposes to construct a Large Wind Energy Conversion System ("LWECS") of up to 260 MW in Nobles County Minnesota. Therefore, absent an exemption, a CN will be required. It is Noble 2's understanding that MP is not seeking a CN for the Project as part of its request for PPA approval. MP's RFP process was not a Commission-approved resource acquisition process; therefore, Nobles 2 is proceeding with this Application because, at this time, it is not clear that the Project is exempt from the CN requirement. [8]

It is also important to note that the Nobles 2 PPA includes a condition precedent that the Commission approve MP's entire Energy*Forward* Resource Package. Given that the Commission has not yet approved the Nobles 2 PPA, this Application does not limit the forecasted need for the Project to the need identified by the Commission for MP to procure 100-300 MW of wind or the need identified in MP's request for approval of the Nobles 2 PPA. This Application also demonstrates how this Project is needed to meet the Renewable Energy Standard ("RES") and other clean energy requirements in Minnesota and neighboring states.[9] In addition to the foregoing, Nobles 2 has qualified the Project to receive the full federal Production Tax Credit ("PTC") and is thereby positioned to provide much needed renewable energy at a low-cost to utilities and their rate-payers. Nobles 2 respectfully requests that the Commission issue a CN for the Project on the basis of a need for economical renewable energy writ large even if the Commission does not approve MP's request for approval of the Nobles 2 PPA. This approval will preserve the Project's ability to achieve the commercial operation date required to maintain its qualification for the full Federal PTC value and thereby preserve the Project's ability to generate low-cost energy for ratepayers.

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[6] *Order*. In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan. Docket ID. E-015/RP-15-690 (September 19, 2017) eDockets ID No. 2017-135644-02.

[7] Minn. Stat. §§ 216B.243 and 216B.2421.

[8] Minn. Stat § 216B.2422, subd. 5

[9] See Also. Comments of the Minnesota Department of Commerce, Division of Energy Resources. *In the Matter of the Application of Blazing Star Wind Farm, LLC for a Certificate of Need for the 200 Megawatt Blazing Star Wind Project in Lincoln County*. Docket ID. IP-6961/CN-16-215 (February 3, 2017) eDockets ID No. 20172-128844-01 at 4. Order Granting Certificate of Need. *In the Matter of the Application of Blazing Star Wind Farm, LLC for a Certificate of Need for the 200 Megawatt Blazing Star Wind Project in Lincoln County*. Docket ID. IP-6961/CN-16-215 (February 3, 2017) eDockets ID No. 20178-134488-01

2.4 PROJECT CONTACTS

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2.5 FILING FEES AND PAYMENT SCHEDULE (MINN. R. 7849.0210)

The total fee for the CN Application and the schedule for payment are shown in Table 2.5. The fee determination for the Project is based on a capacity of an up to 260 MW, per the requirements of Minn. R. 7849.0210, subp. 1. The payment schedule is based on Minn. R. 7849.0210, subp. 2.

Table 2.5: Certificate of Need Application Schedule of Payments

Fee Calculation	Amount
Fee Calculation Equation	$10,000 + $50/MW
Due with CN Application	$5,750.00
Due 45 days after Application submittal date	$5, 750.00
Due 90 days after Application submittal date	$5, 750.00
Due 135 days after Application submittal date	$5, 750.00
Total Calculated Fee	$23,000.00

2.6 EXEMPTION REQUEST

Minn. R. Ch. 7849 sets forth the data an applicant must provide in a CN application. An applicant may be exempted from providing certain information if the applicant requests an exemption in writing that shows that the data requirement is either unnecessary to determine the need for the proposed facility or may be satisfied by submitting another document. Minn. R. 7849.0200, subp. 6.

On April 5, 2016 Nobles 2 submitted a Request for Exemption from Certain Certificate of Need Application Content Requirements ("Exemption Request"). In its Exemption Request, Nobles 2 requested that the Commission grant its exemptions for an up to 300 MW project[10],

[10] In its Exemption Request, Nobles 2 contemplated the nameplate capacity of the Project could be up to 300 MW and would be located in Nobles and Murray Counties, Minnesota. After the Commission granted the Exemption Request, Nobles 2 reduced the nameplate capacity of the Project to up to 260 MW located exclusively in Nobles County in response to siting, commercial and other economic considerations.

pursuant to Minn. Stat. § 216B.243 and Minn. R. 7849.0200, from certain CN data requirements that are not necessary to determine the need for an independent power production facility, or a renewable energy facility designed to satisfy the RES requirements set forth in Minn. Stat. § 216B.1691 or other clean energy standards.

On May 25, 2016, the Commission issued an order granting Nobles 2 the exemptions it requested in its Exemption Request.[11] Where appropriate in this Application, Nobles 2 will reference the specific exemptions granted by the Commission.

3.0 NEED SUMMARY AND ADDITIONAL CONSIDERATIONS (MINN. R. 7849.0240)

3.1 NEED SUMMARY

On September 1, 2015, MP filed its 2015 Integrated Resource Plan ("2015 IRP") under Minn. Stat. § 216B.2422 and Minn. R. 7843 for Commission review and approval.[12] On July 18, 2016, the Commission issued an Order Approving Resource Plan with Modifications ("July 2016 IRP Order") whereby the Commission approved MP's 2015 Integrated Resource Plan and ordered MP to begin a competitive acquisition process, by the end of 2017, to procure 100-300 MW of installed wind capacity[13] (See Appendix B). On July 27, 2016, MP issued a request for proposal ("RFP") for a wind resource of up to 300 MW.[14] In response to the RFP, MP received proposals for 35 project sites from 17 bidders, totaling over 5,000 MW of nameplate capacity.[15] MP utilized the services of Sedway Consulting, Inc., an independent third party evaluator to assist in reviewing the proposals received in response to its wind RFP.[16] MP then used Sedway Consulting's economic analysis to shortlist RFP responses and initiated contract negotiations with the selected counterparties.[17] The other proposals had higher net costs than the Project and other attributes that made them less attractive than the Project for meeting MP's resource

[11] Order, *In the Matter of the Application of Nobles 2 Power Partners, LLC for a Certificate of Need for the up to 300 Megawatt Nobles 2 Wind Project in Nobles and Murray Counties, Minnesota*, Docket No. IP-6964/CN-16-289 (May 25, 2016), eDockets Doc. ID 20165-121609-01.

[12] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

[13] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 18, 2016) eDockets ID No. 2016-123403-01.

[14] Minnesota Power Informational Response. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (March 30, 2017) eDockets ID No. 2017-130375-01. See also, Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID Nos. 20177-134359-01 through 10.

[15] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 4-1.

[16] *Id.*

[17] *Id*. at 4-2.

needs.[18] Nobles 2 and MP entered into a 20-year PPA for the purchase and sale of all power generated by the Project. The Project will help MP meet a capacity deficit that will begin in 2018, increasing to approximately 300 MW by 2025 and further increase to 500 MW in 2031.[19] Accordingly, in the absence of procuring more energy through sources such as the Project, MP would need to source approximately 10 percent of its energy from the MISO market in the 2025 timeframe, increasing to approximately 20 percent by 2031, resulting in significant market exposure for MP's customers.[20] The deficit is due, in part, to MP's ongoing process of idling, removing or refueling resources, including approximately 700 MW of coal-fired capacity that have already been or are planned to be removed or idled.[21] The addition of the Project, and 10 MW of solar power also proposed to be acquired by MP, will also bring MP's renewable energy resources to 44 percent of its overall energy portfolio while reducing carbon emissions by 40 percent.[22]

MP initiated the process of seeking Commission approval of the PPA with Nobles 2, a PPA for 10 MW of solar and the approval of the construction of a combined-cycle natural gas power plant as part of its Energy*Forward* Resource Package.[23] The need for MP to acquire between 100-300 MW of wind energy has already been determined through its 2015 IRP regulatory review process and the July 2016 IRP Order.[24] On September 19, 2017, the Commission issued an order on MP's Petition and noted, in part, that the "Commission has already approved the acquisition of additional wind and solar generation by [MP], and [MP] shall refile its wind and solar PPAs for Commission approval in a separate docket."[25] As of the date of this Application, MP has not yet refiled the Nobles 2 PPA in a separate docket for Commission approval. Therefore, the Commission has not determined the need for the Project or approved the PPA.

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[18] *Id*. at 4-7.

[19] *Id*. at 1-5.

[20] *Id.* at 2-2.

[21] *Id*. at 1-8.

[22] Reply Comments. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 12, 2017) eDockets ID No. 2017-133783-01

[23] Extension Variance Request. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 8, 2017) eDockets ID No. 20176-132650-01

[24] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 18, 2016) eDockets ID No. 2016-123403-01. See also, Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (March 30, 2017) eDockets ID Nos. 20177-134359-01 through 10.

[25] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan*. Docket ID. E-015/RP-15-690 (September 19, 2017) eDockets ID No. 2017-135644-02.

Should the Commission not approve the Nobles 2 PPA with MP, the Project can be utilized by other utilities who have a need to meet the growing demand for additional renewable resources necessary to meet the RES and other clean energy requirements in Minnesota and neighboring states. Pursuant to Minn. Stat. § 216B.1691, utilities are required to provide 25 percent of their total retail electric sales from eligible renewable resources by 2025. As shown on Table 3.1, the Legislature also established interim milestones to ensure that utilities make progress towards the 25 by '25 requirement.

Table 3.1: 25 X '25 Interim Milestones

Year	Non-Nuclear Utility Requirement	Xcel Energy Requirement
2016	17%	25%
2020	20%	30% (25% from wind)
2025	25%	30% (25% from wind)

On October 30, 2015, the Minnesota Transmission Owners jointly filed the 2015 Biennial Transmission Projects Report (the "Biennial Report"), which outlines the transmission upgrades needed to support development of renewable energy resources needed to meet RES requirements. In the Biennial Report, "[t]he utilities recognize that additional transmission and generation will be necessary for 2020 and beyond in Minnesota, and that other demands for renewable energy will impact Minnesota's compliance status."[26] Minnesota utilities and utilities in the region must develop or purchase a significant amount of additional renewable generation in order to satisfy the RES and other clean energy standards.[27] On August 2, 2017 the Commission found all utilities subject to the RES requirements were in compliance with the 2014 and 2015 RES requirements.[28]

Regardless, a review of utilities' IRPs, requests for proposals, and similar documents confirms that utilities have and will continue to seek additional renewable generation resources in the next several years.[29] In some cases, utilities will be seeking additional renewable energy generation sources above and beyond that which is required by the RES due, in part, to the

[26] 2015 Biennial Transmission Projects Report, Docket No. E999/M-15-439 (Oct. 30, 2015), at 138, eDocket ID No. 201510-115227-01.

[27] *Id.* at 138-39.

[28] Order. *In the Matter of Commission Consideration and Determination on Compliance with Renewable Energy Standards (RES)*. Docket ID. E-999/M-16-83 (August 2, 2017) edockets ID No. 20178-134457-02.

[29] *E.g.*, Xcel Energy, Upper Midwest Resource Plan 2016-2030 (available at https://www.xcelenergy.com/company/rates_and_regulations/filings/upper_midwest_2016-2030_resource_plan); Minnesota Power, 2015 Integrated Resource Plan (available at http://www.mnpower.com/Content/documents/Environment/2015-ResourcePlan.pdf) (approved by the Minnesota Public Utilities Commission on June 10, 2015); Otter Tail Power Company, Application for Resource Plan Approval 2017-2031 (available at https://www.otpco.com/about-us/resource-plan/).

extension of federal renewable energy tax credits.[30] For example, in the MISO region, utilities have expressed a need for more than 1,000 MW of renewable energy (including wind) before 2020.[31] Utilities will continue to require additional renewable energy generation between 2020 and 2030. Given this demand for renewable energy, a market exists for independently produced electricity generated from wind and other renewables, including the up to 260 MW to be generated by the Project.

3.2 ADDITIONAL CONSIDERATIONS

3.2.1 Socially Beneficial Uses of Energy Output

Energy produced by the Project will provide significant, numerous, and varied societal benefits. First, the Project will provide a large amount of renewable energy with minimal environmental impact, as discussed in Section 10 in this application. Further, regional and national security and energy reliability can be enhanced through the development of diversified generation resources such as wind energy generation sources like the Project. The Project will also assist MP in replacing its older coal plants with renewable energy and reducing carbon dioxide emissions.[32]

The Project will also provide a supplementary source of income for the rural landowners and farmers on whose land the Project will be sited. The landowners in the Project footprint who host turbines will receive annual lease payments for each turbine sited on their property. Participating landowners in the footprint will also share in an energy payment, which will be based on the Project's annual energy production. Large-scale wind energy operations usually pay between $4,000 and $6,000 per turbine each year to lease wind rights. Because only a portion of the land will be used for the Project, agricultural operations can continue largely undisturbed. Specifically, although the Project will be sited over an area spanning approximately 42,550 acres, less than one percent of those acres will be removed from agricultural use over the life of the Project.

3.2.2 Promotional Activities Giving Rise to Demand

Nobles 2 was granted an exemption from Minn. R. 7849.0240, subp. 2(B), which requires that each large electric generating facility ("LEGF") CN application contain "an explanation of the relationship of the proposed facility to promotional activities that may have given rise to the

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[30] *E.g.*, Xcel Energy, Upper Midwest Resource Plan 2016-2030 (available at https://www.xcelenergy.com/company/rates_and_regulations/filings/upper_midwest_2016-2030_resource_plan)

[31] *Id.*; *see also* MISO, *Results for MISO's Mid-Term Analysis of EPA's Final Clean Power Plan*, at 14 (Mar. 16, 2016) (stating that study results showed "that a cost effective way to achieve high levels of CO_2 reduction is to build wind in resource-rich areas and transmission to deliver it to the rest of MISO") (available at https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/PAC/2016/20160316/20160316%20PAC%20Item%2002b%20CPP%20Final%20Rule%20Analysis%20Mid%20Term%20Results.pdf).

[32] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 1-8.

demand for the facility." Nobles 2 has not engaged in promotional activities which could have given rise to the need for the electricity to be generated by the Project. Thus, consistent with its determinations in past CN proceedings, the Commission granted an exemption to Nobles 2.

3.2.3 Effects of Facility in Inducing Future Development

The Project is not expected to directly affect development in Nobles County. However, additional wind energy infrastructure in the Project area may nonetheless provide significant benefits to the local economy and local landowners. Landowners in the Project area will benefit from annual lease payments. Additional wind energy infrastructure will also provide an additional source of revenue in to the county and townships in which the Project is sited. For instance, the Project is estimated to provide annual production tax revenues ranging from approximately $1.1 to $1.3 million.

Nobles 2 aims to be a good business neighbor by developing and implementing charitable giving programs in the communities in and around Nobles 2. Charitable programs implemented in association with other projects previously developed and/or operated by Tenaska Inc., or its affiliates often support scholarship programs for local area high school seniors, other educational and youth programs, and first responder and emergency service programs. A community giving policy has been established by Nobles 2 that will be used by Nobles 2 to evaluate funding opportunities.

The Project will also provide significant income opportunities for local residents not affiliated with Project ownership. The Project is anticipated to generate up to 230 construction jobs during the peak of construction activities and approximately 15 full-time operations jobs plus additional seasonal and support staff. The Project has already created consulting, management, and environmental work.

At the same time the Project is providing income to local residents, it will also help make the energy those residents may rely upon less susceptible to volatility.[33] The development of wind energy technology now makes wind power's relative price competitive with, and likely, cheaper than new natural gas and coal-fueled generation.[34] The development of wind energy in Minnesota reduces dependence on potentially volatile fossil fuel markets and helps keep energy dollars in Minnesota.[35]

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[33] U.S. Dept. of Energy, *Wind Vision: a New Era for Wind Power in the United States*, at iivi (March 2015) ("Increased wind power adds fuel diversity, making the overall electric sector 20% less sensitive to changes in fossil fuel costs.") U.S. Dept. of Energy, *2015 Wind Technologies Market Report*, at 65 (Aug. 2016) (stating that wind power can provide a "hedge against rising and/or uncertain natural gas prices").

[34] *Id.* at 21 ("[R]ecent wind PPA prices are quite competitive with natural gas fuel cost projections."); U.S. Energy Information Administration, *Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2016*, at Tables 1a, 1b, (August 2016) available at http://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf.

[35] *See* U.S. Dept. of Energy, *Wind Vision: a New Era for Wind Power in the United States*, at iivi (March 2015) (noting benefits of decreased greenhouse gas emissions and air pollution arising from increase wind power).

4.0 COMPLIANCE WITH CERTIFICATE OF NEED CRITERIA (MINN. R. 7849.0120)

The Commission has established criteria to assess the need for an LEGF in Minn. R. 7849.0120. The Commission must grant a CN to an applicant upon determining that:

> A. (T)he probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states;
>
> B. (A) more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record;
>
> C. (B)y a preponderance of the evidence on the record, the proposed facility, or a suitable modification of the facility, will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health; and
>
> D. (T)he record does not demonstrate that the design, construction, or operation of the proposed facility, or a suitable modification of the facility, will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments.

As discussed further below, the Project satisfies all four of the Commission's criteria for granting a CN for the Project.

4.1 THE PROBABLE RESULT OF DENIAL OF NOBLES 2'S APPLICATION WOULD BE AN ADVERSE EFFECT ON THE ADEQUACY, RELIABILITY, AND EFFICIENCY OF THE REGIONAL ENERGY SUPPLY (MINN. R. 7849.0120(A)).

The Project will provide up to 260 MW of nameplate capacity to meet the electricity needs of Minnesota and the region. Nobles 2 has negotiated a PPA with MP for 250 MW of the energy generated by the Project and, if necessary due to unforeseen circumstances, including Commission denial of MP's request for approval of MP's entire Energy*Forward* Package, will offer the Project's output for sale on the wholesale market. As discussed in Section 4.2.1, Nobles 2 is also requesting Commission approval to install up to an additional 10 MW of nameplate capacity to, in part, account for the terms of the PPA with MP and to, in part, provide a hedge against expected and unexpected disruptions in turbine availability. Denying the application would result in the loss of a significant amount of electricity needed to satisfy state and regional demand and would deny MP and its customers the opportunity to purchase clean, low-cost energy that will count toward satisfying the RES and/or other clean energy standards.

As discussed in Section 3.1, there is a significant body of state legislative policy requiring utilities to obtain a certain percentage of their total energy resources from renewable energy, which supports the need for reliable, efficient renewable resources, like the wind energy produced by the Project. While MP is currently positioned to meet its 2025 RES targets, it continually assesses a wide range of power supply resources, including renewable energy sources such as wind, to augment its portfolio.[36]

MP identified five significant factors that contribute to its projected need for capacity and energy from the Project and additional resources by the mid-2020's: MP projects increases in its customer load of about 180 MW; MP will be retiring two coal-fueled facilities in 2018, resulting in the loss of approximately 135 MW of supply from MP's system; a purchase contract for 100 MW of lignite coal resources is expiring; short-term contracts for 250 MW of capacity are expiring; and MP idled and will terminate coal-fired operations at its Taconite Harbor Energy Units 1 and 2 in 2020.[37]

Further, MP discovered that an additional 250 MW of wind energy generation in a different geographical region than MP's current wind assets in North Dakota, will provide valuable diversification of wind energy production.[38] MP also determined that 250 MW balances MP's customer needs and reduces customer cost without oversupplying MP's power supply with excess wind energy.[39]

In addition to the specific need for renewable energy to serve Minnesota utilities, many other states in the region have similar renewable energy requirements. For example, Illinois requires certain utilities to obtain 25 percent of eligible sales from renewables by 2025.[40] Similarly, North Dakota has adopted the national "25 by '25" initiative, which establishes a goal of having not less than 25 percent of total energy consumed within the United States come from renewable resources by January 1, 2025.[41] Although by the end of 2016 16,802 MW of wind power nameplate capacity have been installed throughout the MISO footprint,[42] the regional need for renewable resources, and the potential to produce renewable resources from wind, far

[36] Compliance Filing. *In the Matter of Commission Consideration and Determination on Compliance with Renewable Energy Standards.* Docket ID. E-999/M-16-83 (June 1, 2016) eDocket ID No. 20166-121842-02.

[37] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 2-2

[38] *Id*. at 3-6

[39] *Id*.

[40] 20 Ill. Comp. Stat. sec. 3855/1-75(c)(1).

[41] *See* N.D. Cent. Code. § 17-01-01.

[42] *See* American Wind Energy Association, *Annual Report 2016,* at 110.

exceeds this number.[43] Based on this data, there is a need for more wind power to adequately, reliably, and efficiently meet the region's need for renewable energy than is currently available.

4.2 NO MORE REASONABLE AND PRUDENT ALTERNATIVE TO THE NOBLES 2 WIND PROJECT HAS BEEN DEMONSTRATED (MINN. R. 7849.0120(B)).

Minn. R. 7849.0120(B) requires a CN applicant to examine possible project alternatives so that the Commission can determine whether a more reasonable and prudent alternative exists. Applying the factors set forth in Minn. R. 7849.0120(B), the Project has many advantages when compared to other renewable alternatives.

4.2.1 Size, Type, and Timing.

When evaluating alternatives, the Commission examines whether the project is the appropriate size, whether it is the right type, and whether the timing is appropriate. With respect to other proposed wind projects, the Commission has concluded that the proper inquiry in evaluating the size of the project is the appropriateness of the size of the project to the overall state and regional need for renewable energy. As demonstrated in Section 3.1, the need for renewable energy in Minnesota in the coming years far exceeds the amount of energy to be supplied by the Project. Moreover, in the July 2016 IRP Order, the Commission determined that MP had a need to purchase 100-300 MW of wind energy.[44] On September 19, 2017, the Commission again issued and noted, in part, that the Commission has already approved the acquisition of additional wind generation by MP."[45]

After the Commission issued its order for a range of MW of wind energy, MP conducted additional analyses to determine the amount of additional wind energy generation that would be most effective for its system.[46] Through those analyses, the Project was selected most often from the various wind RFP responses modeled in MP's Strategist expansion plan analysis.[47] MP also discovered that an additional 250 MW of wind energy generation in a different geographical region than MP's current wind assets in North Dakota, will provide valuable diversification of wind energy production.[48] Furthermore, MP determined that 250 MW balances MP's customer

[43] *See Id.* at 65 (describing wind capacity in the upper Midwest); MISO, MISO Transmission Expansion Plan 2015, at 102 (explaining that certain proposed transmission projects will facilitate the interconnection of "41 million MWh of wind energy to meet renewable energy mandates and goals"), https://www.misoenergy.org/Library/Repository/Study/MTEP/MTEP15/MTEP15%20Full%20Report.pdf.

[44] July 2016 IRP Order.

[45] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 19, 2017) eDockets ID No. 2017-135644-02.

[46] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 3-6

[47] *Id.*

[48] *Id.*

needs and reduces customer cost without oversupplying MP's power supply with excess wind energy.[49]

Nobles 2 is also seeking Commission approval to install up to an additional 10 MW of nameplate capacity, beyond the 250 MW to be purchased by MP, for the following reasons:

- The defined term Installed Capacity in the Nobles 2 PPA contemplates up to 253 MWs of nameplate capacity being installed (Appendix C). To account for the terms of the PPA, Nobles 2 is requesting approval to install a nameplate capacity greater than 250 MWs.

- The installation of up to 10 MW of additional generating capacity could serve as a hedge or self-insurance against planned and unplanned wind turbine generator outages.

Regarding the type of facility, the Commission granted Nobles 2 an exemption from Minn. R. 7849.0250(B) with respect to evaluating fossil fuel alternatives because such alternatives do not meet the Project's objective of providing energy that will satisfy the RES and other clean energy standards.

MP identified five major factors that contribute to its projected need for capacity and energy from the Project and additional resources by the mid-2020's: MP projects increases in its customer load of about 180 MW; MP will be retiring two coal-fueled facilities in 2018, resulting in the loss of approximately 135 MW from MP's system; a purchase contract for 100 MW of lignite coal resources is expiring; short-term contracts for 250 MW of capacity are expiring; and MP idled and will terminate coal-fired operations at its Taconite Harbor Energy Units 1 and 2 in 2020.[50] The Project is expected to be on-line and operational by the end of 2019, depending on completion of regulatory approvals and the MISO interconnection process. This will help MP secure necessary capacity and energy to meet its identified needs in a timely manner. The Nobles 2 Project is the correct size and type of facility and will be delivered on the time frame required to meet MP's needs or the needs of other utilities seeking economical renewable energy prior to the expiration of the PTC.

4.2.2 Cost Analysis.

As noted in Section 3.1, MP selected the Project through a competitive acquisition process. MP received proposals for 35 project sites from 17 bidders, totaling over 5,000 MW of nameplate capacity.[51] MP utilized the services of Sedway Consulting, Inc., an independent third

[49] *Id.*

[50] *Id.* at 2-2.

[51] *Id.* at 4-1.

party evaluator to assist in reviewing the proposals received in response to its wind RFP.[52] MP then used Sedway Consulting's economic analysis to shortlist RFP responses and initiated contract negotiations with the selected counterparties.[53] The shortlisted other proposals had higher net costs than the Project and other attributes that made them less attractive than the Project for meeting MP's resource needs.[54] Accordingly, Nobles 2 secured a PPA with MP for the sale of the energy to be produced by the Project at an attractive price and with attractive terms. As an independent power producer, the risk of the PPA not being approved by the Commission, the risk of otherwise not selling the Project's output, and the risk of construction and operational cost overruns all lies entirely with Nobles 2, and not with the State of Minnesota or ratepayers. The Project will generate electricity at a lower cost per kilowatt hour than would other possible renewable energy options, such as solar, hydroelectric and biomass.[55]

4.2.3 Potential Environmental and Socioeconomic Impacts.

The purpose of this analysis is to compare the potential impacts of various renewable generation options. The Commission and the Department have previously concluded that the environmental impacts of a wind power project are minimal and significantly less than a fossil-fuel based facility. At the same time, the socioeconomic benefits of a utility-scale wind power project are considerable, as described in Section 4.3 below. For example, the Project will allow landowners to continue to use over 99 percent of the existing cropland for agricultural and other uses.

4.2.4 Reliability.

The Project turbines are expected to be available approximately 95 percent of the time, consistent with other utility-scale wind projects.

4.3 THE NOBLES 2 WIND PROJECT WILL BENEFIT SOCIETY IN A MANNER COMPATIBLE WITH THE NATURAL AND SOCIOECONOMIC ENVIRONMENTS (MINN. R. 7849.0120(C))

Minn. R. 7849.0120(C) requires a CN applicant to address whether the proposed project will benefit society in a manner that is compatible with protecting natural and socioeconomic environments, including human health. Applying the factors set forth in Minn. R. 7849.0120(C), the energy produced by the Project will provide significant, numerous, and varied societal benefits, with minimal negative impacts.

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[52] Order. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 18, 2016) eDockets ID No. 2016-123403-01

[53] *Id*. at 4-2.

[54] *Id*. at 4-7.

[55] *See* Energy Information Agency, *Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2016* (predicting that in 2022, the cost per megawatt hour of wind energy would be lower than that of other renewable energy options), https://www.eia.gov/forecasts/aeo/electricity_generation.cfm.

4.3.1 Overall State Energy Needs

As discussed in Section 3.1 above, utilities continue to require renewable energy to meet the RES and other clean energy standards, as well as to meet consumers' energy demands. In the July 2016 IRP Order, the Commission determined MP had a need to procure between 100 and 300 MW of wind energy.[56] Thus, the Project is compatible with Minnesota's energy needs.

4.4 POTENTIAL ENVIRONMENTAL AND SOCIOECONOMIC IMPACTS COMPARED TO NO-BUILD ALTERNATIVE

Negative impacts to socioeconomic resources will be relatively minor. Only approximately 115 acres of agricultural land (i.e., <0.5 percent of the 30,356 acres of land under leases and easements with Nobles 2) will be permanently removed from production, and the areas surrounding each turbine will still be able to be farmed. Project construction will not negatively impact leading industries within the Project area. There is no indication that any minority or low-income population is concentrated in any one area of the Project.

One of the greatest attributes of wind energy is its minimal impact on the environment. The Project will not release carbon dioxide, sulfur dioxide, nitrogen oxides, mercury, or particulate matter. It will not require water for power generation and will not discharge wastewater containing any heat or chemicals during operation. It will produce energy without the extraction, processing, transportation, or combustion of fossil fuels. The Project will permanently impact less than one percent of the total acreage within the Project's boundaries, and will be sited so as to minimize environmental impacts.

The development of wind energy has been and will continue to be important in diversifying and strengthening the economic base of Nobles County and Minnesota. Local contractors and suppliers will be used for portions of construction when possible. Wages and salaries paid to contractors and workers in Nobles County will contribute to the total personal income of the region. At least part of the wages paid to temporary and permanent Project workers will be circulated and recirculated within the county and the state. Expenditures made by the Applicant for equipment, fuel, operating supplies, and other products and services will benefit businesses in the county and the state. Participating landowners within the Project footprint will receive annual lease payments for the life of the Project, and these payments will diversify and strengthen the local economy.

Long-term benefits to the county's tax base as a result of the construction and operation of the Project will contribute to improving the local economy. For example, the Project will pay a Wind Energy Production Tax to the local units of government of $0.0012 per kWh of electricity produced, resulting in an annual Wind Energy Production Tax ranging from approximately $1.1 to $1.3 million.

Not building an electrical generation facility would result in no physical impact to the environment in Nobles County. However, not building the Project would also withhold an

[56] *Id.*

additional source of tax revenues to the county, an increase in the income stream to residences and businesses, or an increase in the amount of low-cost, clean, reliable renewable energy available to state or regional utilities and their customers. The Project will have a minimal impact on the physical environment, while simultaneously providing significant benefits.

4.4.1 Inducing Future Development

Although the Project is not expected to directly affect development in Nobles County, the Project will provide significant benefits to the local economy and local landowners. Landowners in the Project area will benefit from annual lease payments, and installation of wind energy infrastructure will increase the local tax base in the county and townships in which the Project is sited. The Project will also provide significant income opportunities for local residents through the creation of temporary construction and permanent O&M positions.

4.4.2 Socially Beneficial Uses of Output

The Project will produce affordable, clean, renewable energy that will help meet renewable energy demands of MP and the RES and other clean energy standards. It will produce enough energy to meet the energy needs for approximately 62,000 to 75,000 average Minnesota households annually. In addition, the local economy will benefit from the landowner lease payments for turbine siting, production taxes, income from jobs created, and local spending.

4.5 THE NOBLES 2 WIND PROJECT IS CONSISTENT WITH FEDERAL, STATE, AND LOCAL RULES AND POLICIES (MINN. R. 7849.0120(D))

4.5.1 The Project is Consistent with Minnesota Energy Policy

The Project will provide a significant amount of renewable energy, which is consistent with Minnesota's policy to increase renewable energy use. Wind, as renewable energy, is a favored energy resource under Minnesota law.[57] In addition, as discussed previously, the RES includes the "25 by '25" requirement, which mandates increased electric generation from renewable resources.[58] The state has also set a goal to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 30 percent below 2005 levels by 2025 and to a level at least 80 percent below 2005 levels by 2050.[59] Adding additional sources of electric energy with no emissions, like wind energy, is essential to meeting these goals.

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[57] *See* Minn. Stat. § 216B.243, subd. 3a ("The commission may not issue a certificate of need under this section for a large energy facility that generates electric power by means of a nonrenewable energy source, or that transmits electric power generated by means of a nonrenewable energy source, unless the applicant for the certificate has demonstrated to the commission's satisfaction that it has explored the possibility of generating power by means of renewable energy sources and has demonstrated that the alternative selected is less expensive (including environmental costs) than power generated by a renewable energy source. For purposes of this subdivision, 'renewable energy source' includes hydro, wind, solar, and geothermal energy and the use of trees or other vegetation as fuel.").

[58] Minn. Stat. § 216B.1691, sub. 2a.

[59] Minn. Stat. § 216H.02.

MP's acquisition of the power generated by the Project will allow MP to reduce carbon dioxide ("CO_2") emissions, replace existing coal-fired generation, and diversify both the location and type of its energy supply. As previously mentioned, the Minnesota Green House Gas Emissions Reduction Goal identifies greenhouse gas emission reduction targets of 30 percent below 2005 levels by 2025 and 80 percent below 2005 levels by 2050.[60] The Project will help MP exceed compliance with the state goals by helping to replace nearly 700 MW of older coal generation that has been or will be retired, removed, refueled or idled by 2025.[61] Overall, the Project will help MP achieve a 41 percent reduction in greenhouse gas emissions by 2025.[62] The Project is also geographically separated from MP's existing wind resources in North Dakota, spreading weather and energy price risk.[63]

Further support for the conclusion that the Project is consistent with state energy policy can be found in the favorable tax treatment that wind energy facilities receive. The state legislature has exempted all real and personal property of wind energy conversion systems from property taxes.[64] Wind energy conversion systems, as well as the materials used to manufacture, install, construct, repair, or replace wind systems, are also exempt from state sales tax.[65]

4.5.2 The Project is Consistent with Applicable Minnesota Statutory Provisions

In addition to the criteria set forth in Minn. R. Ch. 7849, there are a number of statutory provisions that may apply to a CN application. As discussed below, the Project is consistent with these statutory requirements.

4.5.2.1 Renewable Preference

Minn. Stat. § 216B.243, subd. 3a provides a preference for renewable resources:

> The commission may not issue a certificate of need under this section for a large energy facility that generates electric power by means of a nonrenewable energy source, or that transmits electric power generated by means of a nonrenewable energy source, unless the applicant for the certificate has demonstrated to the commission's satisfaction that it has explored the possibility of generating power by means of renewable energy sources and has demonstrated that the alternative selected is less expensive

[60] Minn. Stat. § 216H.02

[61] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 1-8.

[62] *Id*. at 3-16

[63] *Id*. at 1-8

[64] Minn. Stat. § 272.02, subd. 22.

[65] Minn. Stat. § 297A.68, subd. 12.

> (including environmental costs) than power generated by a renewable energy source. For purposes of this subdivision, 'renewable energy source' includes hydro, wind, solar, and geothermal energy and the use of trees or other vegetation as fuel.

Minn. Stat. § 216B.2422, subd. 4, is also applicable:

> The commission shall not approve a new or refurbished nonrenewable energy facility in an integrated resource plan or a certificate of need, pursuant to section 216B.243, nor shall the commission allow rate recovery pursuant to section 216B.16 for such a nonrenewable energy facility, unless the utility has demonstrated that a renewable energy facility is not in the public interest.

The Project consists of a renewable energy source and is therefore consistent with Minnesota's preference for renewable energy and satisfies these statutory criteria by furthering available resources to meet this renewable energy preference.

4.5.2.2 Distributed Generation

Minn. Stat. § 216B.2426 states that:

> The commission shall ensure that opportunities for the installation of distributed generation, as that term is defined in section 216B.169, subdivision 1, paragraph (c), are considered in any proceeding under section 216B.2422, 216B.2425, or 216B.243.

Pursuant to Minn. Stat. § 216B.169, subd. 1(c), "distributed generation" references projects of less than 10 MW. The Project's transmission opportunities and economies of scale make it a superior renewable resource choice as compared to distributed generation projects that have available transmission but not the economies of scale that will be realized through this Project.

4.5.2.3 Innovative Energy Preference

Minnesota also requires the Commission to consider an innovative energy project[66] before authorizing construction or expansion of a fossil-fueled generation facility. Minn. Stat. § 216B.1694, subd. 2(a)(4). Because the Project is not a fossil-fuel facility, this requirement is not applicable.

[66] An "innovative energy project" is defined as a coal-burning facility employing innovative technology and located on the Iron Range. Minn. Stat. § 216B.1694, subd. 1.

4.5.2.4 RES Compliance

Minn. Stat. § 216B.243, subd. 3(10) requires the Commission to evaluate whether a CN applicant is in compliance with Minnesota's RES. Nobles 2, however, is not subject to the RES because it has no retail sales of electricity in Minnesota. Therefore, this requirement does not apply to the Project.

4.5.2.5 Environmental Cost Planning

Minn. Stat. § 216B.243, subd. 3(12) requires the Commission to evaluate the extent to which an applicant has considered the risk of environmental costs and regulation. As the Commission and the Department of Commerce have determined, this statute does not apply to renewable generation facilities such as the Project.[67]

4.5.2.6 Transmission Planning Compliance

Minn. Stat. § 216B.243, subd. 3(10) requires the Commission to consider whether a utility seeking a CN is in compliance with certain transmission planning requirements to meet the RES. As an independent power producer, this statute does not apply to Nobles 2.

4.5.3 The Project is Consistent with Federal Energy Policy

4.5.3.1 Clean Power Plan

The finalized Clean Power Plan ("CPP") was announced by President Obama and the Environmental Protection Agency on August 3, 2015. Under the CPP, carbon dioxide emissions will be cut from existing power plants by 32% from 2005 levels.[68] On October 10, 2017, the Environmental Protection Agency issued a notice for its proposal to repeal the CPP.[69] Despite a pending federal lawsuit, Minnesota has pledged to move forward with preparations to comply with the CPP. Accordingly, the Minnesota Pollution Control Agency ("MPCA") is currently reviewing the CPP and assessing potential pathways for compliance. MPCA states that the Minnesota state plan "will need to consider current and new electricity production and pollution control policies in order to achieve necessary carbon pollution reductions while supporting reliable, affordable power for all Minnesotans."[70] The Project will help MP significantly reduce its CO_2 emissions by helping to replace nearly 700 MW of older coal generation that has been or

[67] *Elm Creek*, Docket No. IP6631/CN-07-789, Commission Order Granting Certificate of Need (Jan. 15, 2008), at 12.

[68] *E.g.*, https://www.pca.state.mn.us/air/clean-power-plan-rulemaking-minnesota.

[69] *See*. https://www.epa.gov/stationary-sources-air-pollution/electric-utility-generating-units-repealing-clean-power-plan

[70] *Id.*

will be retired, removed, refueled or idled by 2025.[71] The Project will help MP achieve a 41 percent reduction in greenhouse gas emissions by 2025.[72]

4.5.3.2 Tax Incentives

Federal energy policy provides significant U.S. federal tax incentives to attract investment in renewable energy projects, including wind energy conversion projects like the Project.

The renewable electricity PTC provided by Section 45 of the Internal Revenue Code provides for a federal income tax credit for each qualified kilowatt hour sold by a project during the tax year for the first ten years of the life of the project. In December 2015, the Consolidated Appropriations Act extended the expiration date for the PTC for wind facilities to December 31, 2019. The PTC is currently $0.023 per kWh and is phased down each calendar year for facilities commencing construction between January 1, 2017 and December 31, 2019. According to the Internal Revenue Service, commencement of construction is determined by either the 'physical work test' or the payment or incursion of five percent of the total cost of the project.[73] Nobles 2 has incurred five percent of the total cost of the Project through the purchase of Vestas V110 2.0 MW wind turbines. Accordingly, between 10 and 21 V110 turbines must be utilized as part of the Project to satisfy PTC requirements. The final number of Vestas V110-2.0 MW turbines will be determined by Nobles 2 based upon PTC requirements, turbine availability and other economic considerations.

4.5.4 The Project Complies with Federal, State, and Local Environmental Regulation.

The Project will meet or exceed the requirements of all applicable federal, state, and local environmental laws and regulations. Table 12.4 in Section 12.4 provides a list of approvals the Project may need to obtain from governmental entities to demonstrate full compliance. Nobles 2 is committed to obtaining all necessary environmental and other approvals required under federal, state, and local requirements.

5.0 DESCRIPTION OF PROJECT AND ALTERNATIVES (MINN. R. 7849.0250)

5.1 PROPOSED PROJECT (MINN. R. 7849.0250(A))

The Project will consist of an array of wind turbines, electrical collection system, access roads, permanent meteorological towers, temporary crane paths, substation and interconnection

[71] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 1-7.

[72] *Id*. at 3-16

[73] *See* https://energy.gov/savings/renewable-electricity-production-tax-credit-ptc

facilities, an operation and maintenance facility, and other infrastructure typical of a wind farm. The Project will interconnect to an existing 115 kV line that is located in the west-central portion of the Project footprint. The turbines will be interconnected by communication and electric power collection cables within the wind farm. See Figures 2a and 2b.

Each turbine will be accessible via all-weather gravel roads that are approximately 16 feet wide, depending on the turbine size selected, and will extend from public roads to the turbines. Nobles 2 estimates that up to 25 miles of gravel access roads will be constructed, depending on the final design. Land will be graded on-site for the turbine pads. Drainage systems, access roads, crane paths, storage areas, and O&M facilities will be installed as necessary to fully accommodate all aspects of the construction, operation, and maintenance of the Project.

Nobles 2 is proposing to utilize between 65 and 82 turbines ranging from 2.0 to 4.2 MW in size. Nobles 2 made its turbine selections based on optimization of wind and land resources, as well as cost-efficiency. The turbine selected will have Supervisory Control and Data Acquisition ("SCADA") communication technology, which permits automatic, independent operation, and remote supervision that allows simultaneous control of the wind turbines. In addition, Nobles 2 will maintain a computer program and database to track each wind turbine's operational history.

Each tower will be secured by a concrete foundation that can vary in design depending on the soil conditions. A control panel inside each turbine will house communication and electronic circuitry. Each turbine will be equipped with a wind speed and direction sensor that communicates to the turbine's control system to signal when sufficient winds are present for operation. The turbines feature variable-speed control and independent blade pitch to assure aerodynamic efficiency.

In the nacelle of each turbine, a step-up transformer will be installed to raise the voltage to power collection line voltage of 34.5 kV. Generally, the electrical lines will be buried in trenches. At the public road, the power collection lines will either rise from underground to overhead lines or continue as underground lines. The collection lines will occasionally require an aboveground junction box when the collection lines from separate spools need to be spliced together.

Power generated by the Project will reach the electric grid by traveling through approximately 77 miles of 34.5 kV collector circuits to the newly-constructed project substation. The Project will then interconnect on the Nobles to Fenton 115 kV transmission line. The electrical system design and the interconnection details will be determined as a result of studies currently being conducted by, and agreements with, MISO.

5.1.1 Nominal Generating Capacity and Effect of Economies of Scale

Each turbine will have a net nominal rating of between 2.0 and 4.2 MW. Larger wind projects, such as the Project, can realize economies of scale by spreading out the relatively fixed transaction, operation, and maintenance costs over the entire project, resulting in decreased costs per kWh of electricity produced.

5.1.2 Annual Capacity Factor

A net capacity factor of between approximately 42.5 percent and 47 percent, with projected average annual output of between approximately 930,000 and 1,100,000 MWhs, is anticipated for the Project.

5.1.3 Fuel

The wind turbines will be powered by the wind.[74]

5.1.4 Anticipated Heat Rate

The conversion of wind to electricity does not generate heat as combustion or nuclear electricity generation facilities would when generating electricity. Therefore, heat rates are not applicable to a wind project.

5.1.5 Facility Location

The Project will be located within Bloom, Larkin, Leota, Lismore, Summit Lake, and Wilmont Townships in Nobles County. The closest cities to the Project area are Wilmont, Lismore, and Reading Minnesota. The Project area spans approximately 42,550 acres, and Nobles 2 currently has site control over approximately 30,356 acres. Of this total, approximately 115 acres or < 0.5 percent will be permanently impacted by the construction and installation of wind turbines, access roads, and ancillary facilities. Approximately 64 acres of the total would be associated with the construction of turbine pads, and 43 acres of the total would be associated with the construction of access roads. Approximately 4 additional acres of land will be used for construction of the proposed substation and another 4 acres of land would be associated with construction of the proposed O&M facility. Approximately 10 additional acres of land will be used for a temporary construction laydown area.

The Project area is rural with an agricultural-based economy. The Project site was selected based on its excellent wind resources, its close proximity to existing transmission infrastructure and substations, and the landowners' interest in participating in the Project.

5.2 AVAILABILITY OF ALTERNATIVES (MINN. R. 7849.0250(B))

The objective of this alternatives analysis is to determine whether there are other energy sources that can satisfy the need identified for the Project. As noted above, the Commission has determined that MP has a need to purchase between 100-300 MW of wind energy as part of its

[74] Minn. R. 7849.0250(A)(3) also requests information projecting the availability of the Project's fuel source and alternative fuels. The Commission has determined that these data requirements are inapplicable to a wind facility because Minnesota's wind resources are more than sufficient to support a wind facility, which cannot use an alternative fuel source. *See, e.g., In the Matter of the Application of High Prairie Wind Farm II, LLC for a Certificate of Need for a Large Energy Facility*, Docket No. PT-6556/CN-06-1428, Order (Dec. 11, 2006).

2015 IRP[75]. MP also determined, through its competitive bidding process, that the Project was the least-cost alternative to meet its needs of 250 MW of wind energy.[76] In the event the Commission does not approve the PPA with MP, the Project is a generation source that Nobles 2 can market to aid other utilities in satisfying the renewable energy need created by the Minnesota RES and other federal and state renewable and clean energy standards. Therefore, non-renewable energy sources have been excluded from this alternatives analysis.[77] The criteria used in this analysis include: (1) is the energy source cost-effective; (2) is the energy source commercially-proven and reliable for the electrical generation output needed; and (3) is the energy source appropriate for the site selected.

Developing and operating generating sources that are cost-effective and use proven technology is particularly important to an independent power producer, like Nobles 2. Nobles 2 does not have access to ratepayer funds that could provide a resource for retirement of capital investments. In addition, as a seller of electricity to MP, Nobles 2 must keep its prices – and, thus, its costs – low enough to remain competitive. For these reasons, Nobles 2 must exercise diligence in deciding where and when to pursue opportunities for capital investment in new power-generating facilities. As indicated in this application, the current pricing for wind energy is more cost effective than other renewable and non-renewable sources of electricity. Moreover, MP's selection of the Nobles 2 Project after MP's competitive bidding RFP process indicated the Project is cost effective when compared to other wind energy projects.

Commercial feasibility and reliability with respect to the generation output needed are important considerations in selling the power generated, and wind is a proven and reliable resource. However, with respect to the alternatives discussed below, without a guaranty of long-term reliability and cost-effectiveness, it is difficult or impossible to convince customers that an unproven technology should be selected for purchase.

5.2.1 Alternatives Considered

Nobles 2 respectfully submits and hereby incorporates by reference MP's 2015 IRP which was approved by the Commission, with modifications, via the July 2016 IRP order.[78] Chapter IV and Appendix K of MP's 2015 IRP discuss the various renewable energy alternatives available to meet MP's resource needs and generally sets forth a qualitative analysis of the cost-

[75] Order. *In the Matter of Minnesota Power's2016-2030 Integrated Resource Plan.* Docket ID E-015/RP-15-690 (July 18, 2016). eDockets ID No. 2016-123403-01.

[76] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 4-15.

[77] Minn. R. 7849.0250(B)(4) requires an applicant to discuss the availability of new generating facilities of a different size or using a different energy source as an alternative to the proposed facility. The Commission granted Nobles 2 a partial exemption from this data requirement, and Nobles 2 will discuss only renewable alternatives. However, it is important to note the MP is seeking Commission approval for a combined cycle natural gas facility and 10 MW of solar in addition to a PPA for the Project as part of its Energy*Forward* Release Package.

[78] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

effectiveness of the renewable energy alternatives.[79] Further, the Commission considered MP's 2015 IRP and determined MP needed to acquire between 100-300 MW of installed wind capacity and additional solar capacity[80]. Additional alternatives are considered below.

5.2.1.1 Purchased Power

Nobles 2 is an independent power producer and does not purchase power. Instead, Nobles 2 will sell power to MP, or, if necessary, other utilities or other potential customers. As such, this data requirement is not applicable, and the Commission granted Nobles 2 an exemption.

5.2.1.2 Upgrades to Existing Resources

Nobles 2 has no existing facility in Minnesota for which it might seek improved operating efficiency. As such, this data requirement is not applicable, and the Commission granted Nobles 2 an exemption.

5.2.1.3 New Transmission

Nobles 2 has no plans to become involved in owning or operating transmission lines beyond the collection and feeder lines that will be needed for interconnection of the Project. The development, construction, and operation of transmission and distribution lines designed to deliver power to end use customers will be left to utilities with defined service area obligations to retail customers. As such, this data requirement is not applicable, and the Commission granted Nobles 2 an exemption.

5.2.1.4 Solar Power

Minnesota has a significant and important solar resource that can and is being used for capacity services within the State's generating portfolio. However, advances to make solar installations more dense would be needed to make solar a reasonable alternative to the Project. Specifically, Nobles 2 estimates that, for a solar project to meet the same amount of direct energy output as the Project, the solar project would need to have more than 570 MW of nameplate capacity covering more than 2,850 acres of land. In Nobles 2's experience, assembling that large of a tract of land is prohibitively expensive. In addition, the current estimated levelized cost of solar is more expensive than wind.[81]

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[79] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 and 05.

[80] July 2016 IRP Order.

[81] *See* Energy Information Agency, *Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2016* (predicting that in 2022, the cost per megawatt hour of wind energy would be lower than that of other renewable energy options, including solar), https://www.eia.gov/forecasts/aeo/electricity_generation.cfm

5.2.1.5 Hydropower

Hydropower is also not an alternative to the Project. In 2010, hydropower in Minnesota produced 534,259 MWh of power, down from 574,680 MWh in 2005 and 635,541 MWh in 2000 – a 20% decrease over ten years.[82] According to the 2012 Quad Report, this decline is primarily caused by "[c]osts of maintaining and operating dams compared to other sources of energy. . . , as well as increased concern about the potential negative effect dams can have on Minnesota's river ecosystems."[83]

5.2.1.6 Biomass

Minnesota communities do have accessible and low-value biomass feedstocks. However, the cost of these feedstocks vary widely, and the supply of biomass feedstock is limited.[84] Further, the environmental impacts of a biomass facility may be greater than the Project, due to both the facility itself and the machinery and equipment needed to gather and transport the biomass fuel. For these reasons, a biomass plant is not an alternative to the Project.

5.2.1.7 Emerging Technologies

New renewable emerging power generation technologies are being developed, and Nobles 2 believes that the current approaches are not sufficiently mature to provide the output needed to match the nameplate capacity of the Project or to be cost-effective and reliable.

5.2.1.7.1 Pumped Storage

The proposed site in Nobles County is not suited to a pumped storage application because the topography of the site is relatively flat and pumped storage requires the storage of large amounts of water in an elevated reservoir. Therefore, pumped storage is only commercially and technically viable in locations with certain existing geology for water storage and large (i.e., steep) elevation changes. In addition, there is currently no net generation from pumped storage in Minnesota.[85] Accordingly, this technology is not an alternative to the Project.

5.2.1.7.2 Compressed Air

Highly specialized geological sites are needed to make use of compressed air technology. Such sites are scarce in Minnesota, and those that do exist are not located in the vicinity of the

[82] Minnesota Department of Commerce, *Energy Policy and Conservation Quadrennial Report 2012* (hereinafter, "2012 Quad Report"), at 21.

[83] *Id.*

[84] 2012 Quad Report, at 20.

[85] EIA, Net Generation from Hydroelectric (Pumped Storage) Power by State by Sector, *available at* http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_1_12_a (accessed July 26, 2017).

site. This technology has been implemented on a limited basis; accordingly, it is not an alternative to the Project.[86]

5.2.1.7.3 Thermal Storage

This technology, which makes use of accumulated heat transferred to insulated repositories, is not yet commercially-proven. Moreover, the Project is intended to generate electricity, not store electricity. The storage of electricity is not being considered as a part of the Project. Accordingly, it is not an alternative to the Project.

5.2.1.7.4 Hydrogen and Fuel Cells

Hydrogen, and its use in fuel cells, has received a lot of attention for its potential to impact energy production and use. Fuel cells can be used to produce energy in the form of electricity and heat. This energy can be applied to power vehicles and buildings. Fuel cells use a chemical reaction rather than a combustion reaction. Fuel cells have a similar level of efficiency as natural gas combustion sources, and, when using hydrogen as fuel, have nearly no pollution. Hydrogen, however, is expensive, as it requires substantial amounts of energy to produce. While much research is being done regarding hydrogen and fuel cells, the technology is not yet available on a commercial scale.

5.2.1.7.5 Non-CN Facilities (Minn. R. 7849.0120(A)(4))

Under Minn. Stat. §§ 216B.2421 and 216B.243, subd. 2, and Minn. R. Ch. 7849, a CN is required for the Project because it is a "large energy facility," *i.e.*, larger than 50 MW. As an independent power producer, Nobles 2 must compete with other available technologies to sell power on the wholesale market, if necessary. Due to the size of the Project, Nobles 2 has the advantage of additional economies-of-scale not available to smaller, non-CN facilities.

5.2.1.8 No Facility Alternative (Minn. R. 7849.0340)

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0340, which requires an applicant to submit data for the alternative of "no facility," including a discussion of the impact of this alternative on the applicant's generation and transmission facilities, system, and operations. The Rule also requires an analysis of "equipment and measures that may be used to reduce the environmental impact of the alternative of no facility." Minn. R. 7849.0340(C).

Nobles 2 does not have a "system," nor does it have other generation and transmission facilities in Minnesota. As such, the requirements of Minn. R. 7849.0340 are not applicable to the Project and are not necessary to determine need for the facility. Instead, Nobles 2 will provide data regarding the impact of the "no facility" alternative on its potential customers and the region.

[86] See e.g., http://www.powersouth.com/mcintosh_power_plant/compressed_air_energy

Given that the Project is designed to increase the amount of energy available for purchase on the wholesale market that will satisfy clean energy standards, not building the facility is not an alternative. Not building the facility would result in no increase in renewable energy and, in turn, no opportunity for utilities to purchase the Project's output to satisfy the RES and other clean energy standards. Such an outcome is contrary to Nobles 2's objective for the Project and will not satisfy the state and regional need for renewable energy.

Notwithstanding the foregoing, Nobles 2 respectfully submits MP's 2015 IRP to meet the requirements of Minn. R. 7849.0340.[87] The extensively developed information found in MP's 2015 IRP contains all relevant information related to MP's system and future resource needs[88].

Approval of Nobles 2's application for a CN would allow MP to meet its energy requirements in a cost-effective and reliable manner, in compliance with the July 2015 IRP Order. The alternative of not building the Project would require MP to purchase other wind energy to meet the requirements of the July 2016 IRP Order. The cost of replacement energy is likely to be higher than that produced by the Project.

5.2.1.9 Facility Information for Alternatives Involving Construction of a LHVTL (Minn. R. 7849.0330)

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0330, which requires the applicant to provide certain data for each alternative that would involve construction of a large high voltage transmission line ("LHVTL"). Transmission facilities are not true alternatives to the Project, since the purpose of the Project is to increase the supply of available renewable energy. The Project will interconnect via a new switch yard located along the Nobles to Fenton 115 kV Line. Any transmission line for the Project will be short and limited in use to connecting the Project to the broader transmission system. Nobles 2 does not currently plan on installing any facilities that would be defined as an LHVTL. Thus, it is anticipated that the electricity generated will be transmitted via facilities owned or operated by others. For these reasons, Minn. R. 7849.0330 is not applicable, and the Commission granted Nobles 2 an exemption from this data request.

5.2.1.10 Combinations

No combination of the aforementioned alternatives would be appropriate because, as compared to the Project, they would not enable Nobles 2 to more efficiently or cost-effectively produce electric output to be purchased by MP or other utilities to provide needed energy and satisfy the RES and other clean energy standards.

5.2.2 Economic Comparison

[87] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

[88] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

Table 5.2.2 below, taken from the EIA, demonstrates that wind energy has both a lower capital cost and a lower operating cost than other types of renewable resources. Wind continues to be the most practical of all renewable generation.

Table 5.2.2: Renewable Technology Costs[89]

Technology	Size (MW)	Total Overnight Cost in 2015 (2015 $/kW)	Variable O&M (2015 $/mWh)	Fixed O&M (2015 $/kW/yr.
Fuel Cells	10	7,181	44.21	0.00
Biomass	50	3,765	5.41	108.63
Conventional Hydropower	500	2,411	2.62	14.70
Wind	100	1,644	0.00	45.98
Photovoltaic	150	2,480	0.00	21.33
Solar Thermal	100	4,168	0.00	69.17

5.2.3 Alternatives Summary

The Project is the best alternative for meeting the renewable energy needs in Minnesota and the region in the near term. All other potential alternatives reviewed by Nobles 2, including the use of alternative renewable resources or emerging technologies, non-CN facilities, or the no-build alternative, fall short in one or more categories. Moreover, Nobles 2 competed with other sources of energy to obtain a power purchase agreement and was able to secure a PPA with MP. Nobles 2's analysis demonstrates that the Project is a cost-effective energy resource; the Project uses commercially proven and reliable generating technology for the electrical generation output needed; and the Project is the energy source appropriate for the site selected for the Project.

5.3 Discussion of Proposed Facility and Alternatives (Minn. R. 7849.0250(C))

The Commission granted Nobles 2 a partial exemption from Minn. R. 7849.0250(C)(1) – (9), which requires a discussion of various details regarding both the proposed facility and each of the alternatives discussed in response to Minn. R. 7849.0250(B). Consistent with the Commission granting Nobles 2 a partial exemption from the data requirements in Minn. R. 7849.0250(B), thereby limiting the discussion required to only renewable alternatives, the Commission also limited the information required under this data requirement to only those renewable alternatives discussed in response to Minn. R. 7849.0250(B)(4) that could provide electric power at the asserted level of need. As discussed above, no such alternatives exist. Therefore, only information regarding the Project is applicable.

Nonetheless, Nobles 2 also submits MP's 2015 IRP to fulfill the requirements of Minn. R. 7849.0250(c).[90] Chapter IV and Appendix K of MP's 2015 IRP discuss those options available to meet MP's resource needs, and sets forth a qualitative analysis of the cost-

[89] The figures in this table are taken from a report of the U.S. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2016 (January 2017*), at 107, *available at* http://www.eia.gov/forecasts/aeo/assumptions/pdf/electricity.pdf.

[90] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

effectiveness of renewable energy alternatives.[91] This information and the July 2016 IRP Order further demonstrates the need for this Project and supports MP's decision to purchase the energy generated by the Project.

5.3.1 Capacity Cost

Wind energy projects are accredited by MISO at a fairly low capacity rate (currently about 15% of nameplate) and are most often used as energy resources. Thus, costs for wind energy facilities are typically not expressed in terms of capacity costs. The Project will deliver energy and accredited capacity to utilities on an as-generated basis and will receive payment for both in the form of a single $/MWh payment. Nobles 2's estimated total cost for the Project per kW is provided in Appendix C, Section 5.3.1, which has been designated trade secret. The largest component in the total cost of the Project will be the wind turbines; however, infrastructure costs for access roads and electrical collection systems also are factors.

5.3.2 Service Life

A service life of 30 years has been assumed to estimate annualized capital costs. With proper maintenance, service, and replacement of parts, the expected life of the Project is 30 years. Nobles 2 is confident that its maintenance program will result in excellent longevity for the Project.

5.3.3 Estimated Average Annual Availability

Nobles 2 estimates that the Project turbines will be available approximately 95 percent of the year, which is consistent with industry standards.

5.3.4 Fuel Costs

The Project will be fueled by wind, which is free. The easements for the wind rights on the land where the turbines will be located will require annual lease payments. Nominal purchases of electricity will be necessary to provide 'house power' to run the portions of the Project that require electrical inputs, with Nobles 2 ultimately selling the Project's net output.

5.3.5 Variable Operating and Maintenance Costs

Nobles 2's estimated variable operating and maintenance costs of turbines over a 30 year period is provided in Appendix C Section 5.3.5, which has been designated trade secret. An advantage of wind energy facilities is that they typically do not require going completely offline for maintenance. Individual turbines can be serviced while the rest of the facility continues to deliver energy.

[91] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 and 05.

5.3.6 Total Cost

Nobles 2's estimated total capital cost per kWh for the Project is provided in Appendix C, Section 5.3.6, which has been designated trade secret. This estimate assumes typical wind farm design, construction, and operational data for a 30-year estimated service life. The price for which Nobles 2 will sell the energy was determined as a result of negotiations with MP.

5.3.7 Estimate of Facility's Effect on Rates

Minn. R. 7849.0250(C)(7) requires an applicant to estimate its proposed project's "effect on rates system wide and in Minnesota, assuming a test year beginning with the proposed in-service date." The Commission granted Nobles 2 an exemption from this requirement because it does not have a "system" as defined by the Rules, and it is not a utility with retail rates for the power it plans to generate. As such, the data are neither available to Nobles 2 nor necessary to determine the need for the Project.

Notwithstanding the foregoing, MP has indicated that the Project was selected through its robust wind RFP process as the least-cost bid to meet MP's customers' needs.[92] Nobles 2's acquisition of turbines as a safe-harbor under the PTC means that MP's customers will benefit from availability of the full PTC amount through a low PPA price.[93] MP's RFP evaluation process selected the Project at the low cost regardless of inclusion of a CO_2 regulation penalty.[94] The purchase of the energy generated by Project via a long-term fixed-price PPA, allowed MP to address the energy and capacity needs of its customers while limiting exposure to volatile market forces and the potential for additional environmental regulation in the future.[95] The Project PPA is a key component of MP's Energy*Forward* Resource Package, which is expected to provide a reduction in rates.[96] The Commission will evaluate the effect of the Project PPA on MP's rates during the Commission's consideration of the Project PPA. Instead, Nobles 2 proposes to submit data on the Project's impact on state or regional wholesale prices.

The Project's energy production will be modest in comparison to the annual energy consumption of Minnesota and the region and will likely not have a measurable effect on rates. However, the Project could ultimately play a role in stabilizing or even lowering rates by

[92] Compliance Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (July 28, 2017) eDockets ID No. 20177-134359-03 at 4-15.

[93] *Id.* at 4-13

[94] *Id.*

[95] *Id.*

[96] Compliance filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan*, Docket I.D. E-015/RP-15-690 (July 28, 2017) eDockets I.D. No. 20177-134359-03 at 3-52.

offering an alternative to conventional generation sources.[97] For instance, MP can purchase output from the Project to partially replace energy from generation sources with higher or more volatile pricing, such as natural gas plants or coal facilities that MP will be retiring. In addition, the Project will not face the same cost-increasing hurdles to construction (*e.g.*, potential carbon regulation and higher permitting costs due to increased regulatory scrutiny) faced by conventional fossil-fuel generation sources. For example, the Project is consistent with the CPP's goal of reducing carbon emissions. Minnesota and other states are moving forward with implementing the CPP, and it is anticipated that existing coal plants will be retired in an effort to comply with the CPP's requirements.[98]

5.3.8 Efficiency

Because no fuel is burned in the production of energy at the Project, this information is not applicable.

5.4 MAP OF SYSTEM (MINN. R. 7849.0250(D))

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0250(D), which requires an applicant to include a map showing the applicant's system. As an independent power producer, Nobles 2 does not have a "system." The information requested is not available to Nobles 2 or relevant to the determination of need for the Project. Instead, maps showing the proposed site of the Project and its location relative to the power grid are included as Figure 2.

6.0 PEAK DEMAND AND ANNUAL CONSUMPTION FORECAST (MINN. R. 7849.0270)

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0270, subps. 1-6, which require the applicant to provide "data concerning peak demand and annual electrical consumption within the applicant's service area and system." Nobles 2 does not have a "service area" or "system" and, as such, the requested data are inapplicable. Moreover, Nobles 2 will sell power generated by the Project to MP, or if necessary due to Commission disapproval of the Project's PPA with MP, at wholesale to one or more buyers affiliated with different systems and serving different areas. Nobles 2 cannot reasonably forecast peak demand for those buyers' service areas and systems due to such information being unavailable to Nobles 2. As an alternative to the requested data, Nobles 2 submits MP's 2015 IRP.[99] The relevant system and service area in this case is MP's system, which is described in detail in MP's 2015 IRP. Nobles

[97] *E.g.*, "Clean Power Green Jobs," Union of Concerned Scientists (2009) (analyzing impacts of meeting "25 by '25" nationally on consumer electric rates); "Wind and solar reducing consumer bills," Good Energy (Oct. 2015) (analyzing impact of renewable energy usage on electric rates in the United Kingdom).

[98] *E.g.*, Jim Spencer and David Shaffer, "Minnesota vows to move ahead with clean power," StarTribune (Feb. 16, 2016); Jeffrey Tomich, "MISO projects additional coal retirements under Clean Power Plan," Midwest Energy News (Mar. 18, 2016); "Coal made up more than 80% of retired electricity generating capacity in 2015," U.S. Energy Information Administration (Mar. 8, 2016).

[99] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

2 also provides the following data regarding the regional demand, consumption, and capacity data from credible sources to demonstrate the need for the independently produced renewable energy that will be generated by the Project.

A review of utilities' IRPs, requests for proposals, and similar documents confirms that utilities will seek additional renewable generation resources in the next several years.[100] For example, in the MISO region, utilities have expressed a need for more than 1,000 MW of renewable energy (including wind) before 2020.[101] Utilities will continue to require additional renewable energy generation between 2020 and 2030. Given this demand for renewable energy, a market exists for independently produced electricity generated from wind and other renewables, including the up to 260 MW to be generated by the Project.

7.0 SYSTEM CAPACITY (MINN. R. 7849.0280)

Minn. R. 7849.0280 requires a CN applicant to provide information on the ability of its existing system to meet the forecasted demand. As an independent power producer, Nobles 2 does not have a "system" as defined by the Rules. Accordingly, the Commission granted Nobles 2 an exemption from this requirement and permitted Nobles 2 to instead provide regional demand, consumption, and capacity data from credible sources to demonstrate the need for the independently produced renewable energy that will be provided by the Project. This information is provided in Section 3.0.

Regardless, Nobles 2 also submits MP's 2015 IRP to meet the requirements of Minn. R. 7849.0280.[102] The relevant system and service area in this case is MP's system. Nobles 2 requests that the Commission determine that the submission of MP's 2015 IRP fulfills this requirement, to the extent the previously granted exemption from this requirement may no longer be applicable.

8.0 CONSERVATION PROGRAMS (MINN. R. 7849.0290)

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0290, which requires an applicant to describe its energy and conservation plans, including load management, and the effect of conservation in reducing the applicant's need for new generation and transmission facilities.

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[100] *E.g.*, Xcel Energy, Upper Midwest Resource Plan 2016-2030 (available at https://www.xcelenergy.com/staticfiles/xe/Regulatory/Regulatory%20PDFs/03-Preferred-Plan.pdf); Minnesota Power, 2015 Integrated Resource Plan (available at http://www.mnpower.com/Content/documents/Environment/2015-ResourcePlan.pdf) (approved by the Minnesota Public Utilities Commission on June 10, 2015); Otter Tail Power Company, Application for Resource Plan Approval 2017-2031 (available at https://www.otpco.com/media/838904/resource-plan.pdf).

[101] *Id.*

[102] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

Notwithstanding, Nobles 2 submits MP's 2015 IRP, which contains all relevant information related to MP's system, conservation and resource needs.[103] The purpose of this rule is to determine need in light of a utilities' conservation efforts. The need for the Project is based on the Commission's July 2015 IRP Order. MP is in the process of retiring several fossil-fuel based resources, and, as a result requires additional energy resources to meet existing and future energy demands.

9.0 CONSEQUENCES OF DELAY (MINN. R. 7849.0300)

The Commission granted Nobles 2 an exemption from Minn. R. 7849.0300, which requires the applicant to "submit data on the consequences of delay on the potential customers and the region." Nobles 2 is not a utility and has no "system" as defined by the Rules. Thus, this data requirement is inapplicable to Nobles 2 and is unnecessary to determine the need for the Project. Instead, Nobles 2 provides the following data on the consequences of delay to MP and the region.

The primary consequences of delaying construction of the Project would be that Nobles 2 would not be able to fulfill its obligations to MP to develop the facility and MP would then have difficulty meeting its obligations under the July 2016 IRP Order. Delaying an up to 260 MW wind project has the potential to jeopardize MP's efforts to obtain wind energy in a cost-effective and reliable manner. In addition, the PTC is currently being phased down, meaning an extended delay could result in fewer tax benefits and potentially higher costs to MP's ratepayers.

10.0 ENVIRONMENTAL INFORMATION FOR PROPOSED PROJECT AND ALTERNATIVES (MINN. R. 7849.0310)

Nobles 2 is submitting a Site Permit Application, in addition to this Application for a CN. Included below is a summary of some of the impacts to key resources found within the Project area, including visual resources, land use, and wildlife. Additional environmental information is provided in Section 11, below, and in the Site Permit Application.

10.1 IMPACTS TO VISUAL RESOURCES

10.1.1 Visual Impacts and Mitigation

The existing visual character of the Project area and surrounding region is that of an agricultural landscape dominated by cropland, farmsteads, and large open vistas. The majority of the landscape within the Project area may be classified as agricultural and rural open space and contains a number of operating wind farms to the north, west and south. The construction and operation of these adjacent wind farms has created a new visual character to the landscape in which turbines are a component. Based on significantly positive local support from land owners and government officials, this landscape has been accepted into the local character

[103] Initial Filing. *In the Matter of Minnesota Power's 2016-2030 Integrated Resource Plan.* Docket ID. E-015/RP-15-690 (September 1, 2015) eDockets ID No. 20159-113710-01 through 05.

Within the Project area, local vegetation is predominantly agricultural crops consisting of primarily corn and soybeans, which visually create a low uniform profile. Aside from the local vegetation and adjacent wind farms, the main focal points present in the agricultural landscape are the farm residences and outbuildings, with many dating back to the late nineteenth and early twentieth century.

The wind turbine arrays associated with the proposed Project will be prominent features in the landscape and will have an effect on the visual quality of the site and surrounding areas. The degree to which visual impacts are considered adverse is subjective, and can be expected to vary depending on each individual viewers aesthetic responses. For some viewers, wind turbines could be perceived as a visual intrusion on the natural aesthetic character of the landscape. For other viewers, wind turbines have their own positive aesthetic qualities, distinguishing them from other non-agricultural land uses. Although the turbines are high-tech in appearance, they are not expected to appreciably change the rural character and remote setting of the site and surrounding area.

Nobles 2 will avoid or minimize visual impacts during the final design and siting of the Project to the extent practicable and will work directly with landowners to identify and address concerns related to Project aesthetics. The following mitigation measures are proposed to reduce the level of visual impacts from the proposed Project:

- Turbines will be uniform in color;
- Project siting will minimize impacts to native habitats to the maximum extent practicable;
    - Turbines will be sited in agricultural fields to minimize impacts to grassland, forest, wetland and other native vegetation communities.
    - For the proposed turbine layout, all native prairie will be avoided to the maximum extent practicable.
- Turbines will be illuminated to meet the minimum requirements of FAA regulations;
- Collector lines will be buried to minimize aboveground structures within the turbine array;
- Existing roads will be used for construction and maintenance where possible to minimize the number of new roads constructed; and
- Access roads created for the Project will be located on gentle grades to minimize the amount of erosion, visible cuts, and fills.

10.1.2 Shadow Flicker Impacts and Mitigation

Shadow flicker caused by wind turbines is defined as alternating changes in light intensity at a given stationary location, or receptor, such as the window of a home. In order for shadow flicker to occur, three conditions must be met: (1) the sun must be shining with no clouds to obscure it; (2) the rotor blades must be spinning and must be located between the receptor and the sun; and (3) the receptor must be sufficiently close to the turbine to be able to distinguish a shadow created by it. Shadow flicker intensity and frequency at a given receptor are determined by a number of interacting factors:

- Sun angle and sun path – As the sun moves across the sky on a given day, shadows are longest during periods nearest sunrise and sunset, and shortest near midday. They are longer in winter than in summer. On the longest day of the year (the summer solstice), the sun's path tracks much farther to the north and much higher in the sky than on the shortest day of the day (the winter solstice). As a result, the occurrence and duration of shadow flicker at a given receptor will change significantly from one season to the next.

- Turbine and receptor locations – The frequency of shadow flicker at a given receptor tends to decrease with greater distance between the turbine and receptor. The frequency of occurrence is also affected by the sightline direction between turbine and receptor. A turbine placed due east of a given receptor will cause shadow flicker at the receptor at some point during the year, while a turbine placed due north of the same receptor at the same distance will not, due to the path of the sun.

- Cloud cover and degree of visibility – As noted above, shadow flicker will not occur when the sun is obscured by clouds. A clear day has more opportunity for shadow flicker than a cloudy day. Likewise, smoke, fog, haze, or other phenomena limiting visibility would reduce the intensity of the shadow flicker.

- Wind direction – The size of the area affected by shadow flicker caused by a single wind turbine is based on the direction that the turbine is facing in relation to the sun and location of the receptor. The turbine is designed to rotate to face into the wind, and as a result, turbine direction is determined by wind direction. Shadow flicker will affect a larger area if the wind is blowing from a direction such that the turbine rotor is near perpendicular to the sun-receptor view line. Similarly, shadow flicker will affect a smaller area if the wind is blowing from a direction such that the turbine rotor is near parallel to the sun-receptor view line.

- Wind speed – Shadow flicker can only occur if the turbine is in operation. Turbines are designed to operate within a specific range of wind speeds. If the wind speed is too low or too high, the turbine will not operate – i.e., it will be stationary -- thereby eliminating shadow flicker. The turbines for this Project will not rotate during these conditions and will be stationary.

- Obstacles – Obstacles, such as trees or buildings, which lie between the wind turbine and the receptor have a screening effect and can reduce or eliminate the occurrence of shadow flicker.

- Contrast – Because shadow flicker is defined as a change in light intensity, the effects of shadow flicker can be reduced by increasing the amount of light within a home or room experiencing shadowing flicker.

- Local topography – Changes in elevation between the turbine location and the receptor can either reduce or increase frequency of occurrence of shadow flicker, compared to flat terrain.

Shadow flicker frequency calculations for the Project were modeled by 590 residences (receptors) with a windPRO model utilizing digital elevation data. Results are presented as realistic shadow flicker, which accounts for weather impacts on turbine operation. The maximum predicted shadow flicker impacts that occurred at a residence for each turbine layout are show in Tables 10.1 and 10.2.

Table 10.1: Maximum Predicted Shadow Flicker Impacts – Participating Residences

House_ID	Participation Status	Realistic Shadow hrs /yr
H153	Participating	29:07
H85	Participating	29:04
H170	Participating	26:18
H102	Participating	25:16
H28	Participating	24:44
H133	Participating	24:36
H99	Participating	24:28
H29	Participating	24:18
H91	Participating	21:56
H98	Participating	21:39
H127	Participating	20:45
H573	Participating	20:22

Table 10.2: Maximum Predicted Shadow Flicker Impacts – Non-Participating Residences

House_ID	Participation Status	Realistic Shadow hrs /yr
H155	Non-Participating	26:00
H137	Non-Participating	21:47
H3	Non-Participating	21:08

10.2 IMPACTS TO LAND USE

Nobles 2 currently has leases and easements on approximately 30,356 acres of land within the Project area. Of this total, approximately 115 acres or < 0.5 percent will be permanently impacted by the construction and installation of wind turbines, access roads, and ancillary facilities. Approximately 64 acres of the total would be associated with the construction of turbine pads, and 43 acres of the total would be associated with the construction of access roads. Approximately 4 additional acres of land will be used for construction of the proposed substation and another 4 acres of land would be associated with construction of the proposed O&M facility. A more accurate determination of impacts to agricultural lands will be made once the exact locations of turbines, access roads, and other associated Project facilities have been finalized.

The loss of agricultural land from the construction and operation of the proposed Project will reduce the amount of land for agricultural production. However, only a very small portion of agricultural land within the Project area will be impacted, and this will not appreciably contribute to decreased crop production in the Project area or the surrounding region. Existing land uses will continue on the remainder of land unaffected by the Project. Nobles 2 does not anticipate any impact on woodlots or mining.

If damage to drain tile occurs as a result of construction activities, Nobles 2 will work with effected property owners to repair the damaged drain tile in accordance with the conditions contained in the existing lease agreement between Nobles 2 and the landowner. The preliminary layout avoids impacts to all 536 acres of CRP land within the Project Area with the exception of one proposed collector line that is routed through land that may still be under CRP. CRP areas will be verified by evaluating current land lease agreements for participating landowners prior to construction. Nobles 2 plans to avoid CRP lands as it continues to develop the Project. However, if these lands are unavoidable, Nobles 2 will work collaboratively with the USDA and the landowner to remove the impacted portion of the parcel from the applicable program.

10.3 IMPACTS TO WILDLIFE

The overall impact of the proposed Project on wildlife is expected to be minimal because turbines, access roads, and other Project facilities will be placed on agricultural lands. Native vegetation communities such as grasslands, forested areas, shrublands, and wetlands will be avoided to the greatest extent practicable. Most of the wildlife species inhabiting the Project area include those typically found in heavily disturbed habitats. These species are typically opportunistic and are able to utilize rural, urban, or agricultural habitats. Most of these wildlife species are common and widely distributed throughout the Project area and the loss of some individuals as a result of construction of the proposed Project would have a negligible impact on populations of these species throughout the region.

Collision risk may be introduced to avian and bat species that migrate, breed, or winter within the proposed Project area, and at least some degree of avian and bat mortality from collisions with turbines would be an unavoidable consequence of the operation of the proposed Project. Collisions may occur with resident birds and bats foraging and flying within the Project area or with migrant birds and bats seasonally moving through the area.

The Project has been sited and designed to be a low-risk site for birds and bats. Numerous studies have been performed to characterize the local species and habitat and can be found in the Project's LWECS Site Permit application. The Project area does not contain distinct topography, unique habitats or resources, or other features that could concentrate bird or bats. No indicators of high avian and bat risk in the Project area (e.g., presence of federally-listed species, impacts to high quality avian and bat habitat, high volume use as migration stopover habitat, etc.) were discovered during either the preliminary site evaluation or the pre-construction avian and bat surveys conducted for the Project. Based on available data from operational wind projects in other wind sites in southwestern Minnesota, bird and bat collisions at the Project are expected to occur at a low frequency and be comparable with that of other Midwest wind energy facilities. Impacts are not expected to occur to a degree which would adversely affect populations.

In order to minimize impacts to wildlife, Nobles 2 has incorporated the following mitigation measures into the siting, construction, and operational phases of the proposed Project:

- Rock and brush piles that could create habitat for raptor prey will be removed from turbine areas.

- To avoid attracting wildlife to the construction site, contractors will provide appropriate trash collection receptacles throughout the Project area to collect construction related waste materials, including garbage and refuse.

- All operations personnel will be trained to identify potential wildlife conflicts and the proper response. This training will include sensitivity to birds and other terrestrial wildlife. For operations, Nobles 2 will develop an incidental reporting process by which operations personnel document bird or bat casualties during routine maintenance work and at other times that they are within the Project area.

- All carrion discovered on-site during regular maintenance and monitoring activities will be removed, pursuant to the terms of all applicable permits, to avoid attracting bald eagles and other raptors.

- A Wildlife Incident Reporting System ("WIRS") will be implemented at the start of operations and it will remain active for the life of the Project.

- Seasonal feathering of turbine blades will be implemented when operating below equipment cut-in-speed as specified by the manufacturer for the lifespan of the Project to reduce mortality of birds or bats. If bat fatalities are high, despite seasonal feathering of the blades, and taking into account economic feasibility, other operational mitigation such as raising the cut-in speed will be considered as a potential practice to reduce fatalities.

Nobles 2 has prepared a Bird and Bat Conservation Strategy ("BBCS") for the Project which includes detailed provisions for avoiding, reducing, and, if warranted, mitigating for

potential impacts to birds and bats from construction and operation of the Project. That BBCS was submitted as an appendix to the LWECS application.

11.0 FACILITY INFORMATION FOR PROPOSED PROJECT AND ALTERNATIVES INVOLVING CONSTRUCTION OF A LEGF (MINN. R. 7849.0320)

11.1 LAND REQUIREMENTS (MINN. R. 7849.0320(A))

The Project is located on land that is zoned for agricultural use. Nobles 2 has leases and easements on approximately 30,356 acres of land within the Project area. The leases and easements are sufficient to support up to 82 Vestas turbines, associated wind rights, access roads, collection system, substation, and O&M facility. The primary turbine to be utilized at the site is the Vestas V136 3.6 MW turbine. If the technology is economical and commercially proven, Nobles 2 may elect to utilize Vestas V136-3.45 MW, V136-4.0 MW or V136-4.2 MW turbines instead. These turbine model variants have siting requirements that are equal to or lesser than the V136-3.6 MW. Between 10 and 21 Vestas V110 2.0 MW turbines will be incorporated into the overall design. The final number of Vestas V110-2.0 MW turbines will be determined by Nobles 2 based upon PTC requirements, turbine availability and other economic considerations. Ultimately, the Project will impact approximately 115 acres during construction, which is < 0.5 percent of the 30,356 acres under leases and easements.. Typical wind farms require approximately one-half to one acre per turbine for the turbine pad, transformer, access road, and associated infrastructure.

The preliminary site layout includes a three to five rotor-diameter distance between turbines. Setbacks between roads and residences have been designed to minimize noise and shadow-flicker issues and maintain impacts within legal limits. Construction, maintenance, and operation of the turbines will require installation of approximately 25 miles of all-weather gravel access roads.

The land requirements for the Project are consistent with the requirements for wind projects of a similar size. No relocation of people or businesses will be necessary for the Project.

11.1.1 Land Requirements for Water Storage

The Project will not require any land for water storage.

11.1.2 Land Requirements for Cooling System

The Project will not require any land for a cooling system.

11.1.3 Land Requirements for Solid Waste Storage

The Project will require minimal space in the maintenance facility for the storage of used oil and other lubricants, as well as for spare parts and tools.

11.2 TRAFFIC (MINN. R. 7849.0320(B))

Existing roadway infrastructure in and around the Project area consists of county and township roads that generally follow section lines, with private unpaved farmstead driveways and farming access roads. Interstate Highway 90 is located approximately 7.5 miles south of the Project area. County State Aide Highway ("CSAH") 25 runs east/west through the southern portion of the Project area and provides the main access to nearby communities. Various county and township roads (two-lane paved and gravel roads) provide access to the Project area.

Constructing the Project will require approximately 25 miles of newly constructed gravel access roads. During initial construction, the turbine access roads will be wide enough to accommodate construction traffic (up to 25-40 feet), but will be reduced to a permanent width of approximately 16 feet after the completion of construction.

The maximum construction workforce is expected to generate up to 500 additional vehicle trips per day. The functional capacity of a two-lane paved rural highway is in excess of 5,000 vehicles per day. Because the area roadways have AADTs currently well below capacity, the addition of up to 500 vehicle trips on a temporary basis would be noticeable, but similar to seasonal traffic increases such as observed during autumn crop harvest. Existing AADT of roadways currently serving the Project Area is provided in Table 11.2.

Truck access to the Project area would be primarily served by Interstate 90, CSAH 25, and county roads throughout the Project area. Specific additional truck routes will be determined by the location required for delivery. Additional operating permits will be obtained for over-sized truck movements. Transportation of equipment and materials associated with the construction of wind projects involves oversized and/or overweight loads and road use that is not consistent with normal traffic in the Project area. All local road use will be subject to a road use agreement to be established with Nobles County. This agreement will address wear from the project and specify repair requirements.

Once project construction is completed, maintenance crews will periodically use access roads within the Project area to monitor and maintain the wind turbines. There would be a slight increase in traffic for occasional turbine and substation repair, but no impacts to traffic function would result from this small increase. The Project is not expected to have any impact on rail or barge traffic during construction or operation.

Table 11.2: Existing AADT Along Road Segments Serving the Project[104]

Table 11.2: Existing Daily Traffic Levels			
Road	**Number of Road Segments in Project**	**AADT (Range over Segments)**	**Total Miles within Project Area**
MNTH 91	2	1,200-1,350	4.5 Miles
CSAH 9 (McCall Ave)	2	360-465	<1 Mile
CSAH 13 (Hesselroth Ave)	2	225-350	5 Miles
CSAH 15 (Edwards Ave)	3	200-320	7 Miles
CSAH 16 (160th St)	6	170-1,300	10.5 Miles
CSAH 18 (140th St)	2	120-185	8.5 Miles
CSAH 25	1	1,250	2 Miles
CSAH 31 (Grain St)	1	135	<1 Mile
CR 63 (Knauf Ave)	3	205-630	1 Mile
CR 66 (140th St)	1	30	1 Mile
CR 69 (150th St)	1	50	1.5 Miles
CR 70 (110th St)	2	120-200	1 Mile
CR 71 (1st St)	1	45	4.5 Miles

[104] *2014 Traffic Volume General Highway Map, Lincoln County, MN*, available at http://www.dot.state.mn.us/traffic/data/maps/trunkhighway/2014/counties/lincoln.pdf.

Table 11.2: Existing Daily Traffic Levels			
Road	**Number of Road Segments in Project**	**AADT (Range over Segments)**	**Total Miles within Project Area**
CR 72 (1st St)	2	45-70	1.5 Miles
CR 88 (1St St)	1	75	<1 Mile
MNTH 91	1	65	<1 Mile
CSAH 9 (McCall Ave)	1	35	<1 Mile

11.3 INFORMATION PERTAINING TO FOSSIL-FUELED ACTIVITIES (MINN. R. 7849.0320(C)-(D))

11.3.1 Fuel

The Project is not a fossil-fueled facility. The Project will be fueled by wind.

11.3.2 Emissions

The Project is not a fossil-fueled facility and will not release any emissions from the power generation process.

11.4 WATER USAGE FOR ALTERNATE COOLING SYSTEMS (MINN. R. 7849.0320(E))

Wind power plants do not utilize cooling systems. Water requirements are, therefore, minimal, and limited to potable water needs for Project personnel. The water requirements of the O&M building will be met through the local rural water service or the installation of a well in accordance with applicable regulations.

11.5 WATER DISCHARGES (MINN. R. 7849.0320(F))

No wastewater discharges will occur as a result of the construction or operation of the Project except for domestic-type sewage discharges of Project personnel. Temporary dewatering may be required during construction for specific turbine foundations and/or electrical trenches. Water may be used during construction to provide dust control and water for concrete mixes and

other construction purposes. If temporary dewatering is required during construction activities, discharge of dewatering fluid will be conducted under the National Pollutant Discharge Elimination System ("NPDES") permit program and addressed by the Project's Storm Water Pollution Prevention Plan ("SWPPP"), as required. Temporary sanitary facilities will be provided during construction, and the O&M building may require a septic system, which will be installed in accordance with applicable regulations.

11.6 RADIOACTIVE RELEASES (MINN. R. 7849.0320(G))

The Project will not produce any radioactive releases.

11.7 SOLID WASTE (MINN. R. 7849.0320(H))

The Project is not expected to generate significant quantities of solid waste during operation. The Project will require use of certain petroleum products such as gear box oil, hydraulic fluid, and gear grease. These materials will be recycled or otherwise stored and disposed of in accordance with applicable State and Federal regulations. In addition, some waste streams will be generated at the O&M facility. These materials will also be stored, recycled, and/or disposed of in accordance with applicable local, State, and Federal regulations.

11.8 NOISE (MINN. R. 7849.0320(I))

Background noise levels in the Project area are typical of those in rural settings, where existing nighttime noise levels are commonly in the 25 to 35 dB(A) range. The dB(A) scale is A-weighted decibels based on the range of human hearing. Low to mid-30 dB(A) are relatively low background levels and are generally representative of the site. Higher levels exist near roads and other areas of human activity.

When in motion, wind turbines emit a perceptible sound. The level of this sound varies with the speed of the turbine and the distance of the listener from the turbine. Sound is generated from the wind turbine at points near the hub or nacelle, and from the blade tips as they rotate. The wind turbines to be used within the Project site are warranted to generate a maximum apparent sound power level no greater than 108.2 decibels immediately adjacent to the turbine.

The decibels decrease as the receptor moves further away from the turbine. The turbines are expected to generate less than 50 decibels at approximately 1,000 feet. The sound a turbine makes can be described as a "whoosh" sound when the rotors are moving. There is more noise on relatively windy days; however, the turbine noise levels are often masked by the same wind that creates the increased noise.

The MPCA establishes acceptable sound levels based on time of day and the use of an area. For example, higher sound levels are acceptable in industrial areas during the day than residential areas during the night. According to Minnesota Rules Chapter 7030.0040, night time sound levels in an area must be below 50 dB(A) 50 percent of the time within an hour (referred to as L50), and below 55 dB(A) 90 percent of the time within an hour (referred to as L90).

Noise modeling was completed for the worst case of the two wind turbine models, the Vestas V136, using WindPro sound-modeling software. Results from the modeling indicated that the maximum sound pressure level at any residential receiver was at 48.8 dB(A). The analysis indicates that operation of the proposed Project would not have noise levels of 60 dB(A) or greater during the daytime conditions or 50 dB(A) or greater during the nighttime conditions on any modeled receptor, nor will the cumulative impact on any residence exceed 50 dB(A) or 60 dB(A) when assuming a 35 to 40 dB(A) background sound level. Use of the Vestas V110 2.0 model at select turbine locations will create a lesser impact because this turbine produces lower noise levels under most operating conditions.

In summary, all modeled sound levels at the provided occupied residences are anticipated to be below 50 dB(A) for all scenarios (i.e., all layouts, all turbine models, all ambient noise scenarios), therefore the proposed Project would be in compliance with Minnesota's allowable sound levels as described in Minnesota Rules Chapter 7030.

11.9 WORK FORCE FOR CONSTRUCTION AND OPERATION (MINN. R. 7849.0320(J))

Onsite, physical construction of the Project is anticipated to be completed by 2019. During peak construction, approximately 230 construction-related personnel will be working on the Project. Up to 20 permanent positions will likely be created to operate the Project.

Nobles 2 anticipates engaging a single contractor ("Contractor") for Balance of Plant ("BOP") Engineering, Procurement and Construction ("EPC") of the Project. The BOP EPC Contractor will be the lead entity for the construction management of the Project. Nobles 2 anticipates that the BOP EPC Contractor will self-perform certain construction scope and may subcontract some scope to others. For subcontracted scope, the BOP EPC Contractor will consider the services of local contractors.

11.10 NOBLES 2 WILL MANAGE THE OVERALL OPERATIONS AND MAINTENANCE OF THE PROJECT.

Nobles 2 anticipates contracting with the turbine supplier to perform certain turbine maintenance for a term of at least 3 years. Nobles 2 will also have an operations agreement with another entity for performance of BOP O&M. The BOP O&M provider will be either an affiliate of Tenaska or an experienced third party. O&M staff may initially be comprised of employees hired by the turbine vendor under the turbine supply agreement for the Project. Nobles 2 and its O&M contractors will hire employees or other appropriate contractors to complete operations and maintenance tasks.

11.11 NUMBER AND SIZE OF TRANSMISSION FACILITIES (MINN. R. 7849.0320(K))

Within each turbine a step-up transformer will be installed to raise the voltage to the power collection line voltage of 34.5 kV. Power will be transported through an underground and/or overhead collection system. Generally, the electrical lines will be buried in trenches. At public roads, the power collection lines will either rise from underground to overhead lines or continue as underground lines. At this time, it is believed that all collection lines will be underground unless site specific conditions warrant the need for aboveground collection lines.

Regardless, the collection lines will occasionally require an aboveground junction box where the collection lines from separate spools need to be spliced together.

Power generated by the Project will reach the electric grid by traveling through up to 75 miles of 34.5 kV underground feeder circuits to a new Project substation. The power will be stepped up from 34.5 kV to 115 kV at the Project substation for delivery to the transmission grid. The substation will be located on private land, and Nobles 2 has acquired all easements necessary to construct and operate the Project's substation. From that location, the Project will interconnect at the Nobles to Fenton 115 kV transmission line.

The interconnection details will be determined as a result of studies, discussions, and agreements with MISO. Access to transmission facilities beyond interconnection will be arranged by the utility or utilities purchasing the Project's energy output, and will depend on the buyer and the ultimate destination for the energy output.

12.0 OTHER FILINGS AND PERMITS

12.1 EXEMPTION REQUEST

On April 5, 2016, Nobles 2 requested an exemption from several of the informational requirements in Minn. R. Ch. 7849. On May 25, 2016, the Commission granted Nobles 2's Exemption Request.[105]

12.2 ENVIRONMENTAL REPORT

Pursuant to Minn. R. 7849.1000 - .2100, the Department of Commerce is required to prepare an Environmental Report for any large energy facility for which a CN must be obtained.

12.3 SITE PERMIT

Nobles 2 will also submit to the Commission a Site Permit Application for a Large Wind Energy Conversion System, as required by Minn. Stat. § 216F.04.

12.4 OTHER PROJECT PERMITS

Project permits and approvals that may be necessary to complete the Project are listed in Table 12.4. Nobles 2 will obtain these approvals, as necessary, prior to Project construction.

[105] Order, *In the Matter of the Application of Nobles 2 Power Partners, LLC for a Certificate of Need for the up to 300 Megawatt Nobles 2 Wind Project in Nobles and Murray Counties, Minnesota*, Docket No. IP-6964/CN-16-289 (May 25, 2016), eDockets Doc. ID 20165-121609-01.

Table 12.4: Project Permits and Approvals

Regulatory Authority	Permit/Approval
Federal Approvals	
U.S. Army Corps of Engineers	Wetland Delineation Approvals
	Jurisdictional Determination
	Federal Clean Water Act Section 404 and Section 10 Permit(s)
U.S. Fish and Wildlife Service	Review for compliance with Federal Endangered Species Act; Bald and Golden Eagle Protection Act
Environmental Protection Agency (region 5) (EPA) in coordination with the Minnesota Pollution Control Agency (MPCA)	Spill Prevention Control and Countermeasure (SPCC) Plan
Lead Federal Agency (National Historic Preservation Act)	Federal Section 106 Review (Class I Literature Review / Class III Cultural Field Study)
Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard)
	Notice of Actual Construction or Alteration (Form 7460-2)
Federal Land Manager (BLM, USBR, Forest Services)	Right-of-Way Grant over Federal Lands
U.S. Department of Agriculture	Conservation / Grassland / Wetland Easement and Reserve Program releases and consents
	Farm Services Agency Mortgage Subordination & Associated Environmental Review
Federal Communications Commission	Federally Licensed Microwave Study
	NTIA Communication Study
Federal Energy Regulatory Commission	Exempt Wholesale Generator Self Cert. (EWG)
	Market-Based Rate Authorization
Federal Emergency Management Agency	Flood Plain Designation/Letter of Map Revision/Letter of Map Amendment
State of Minnesota Approvals	
Minnesota Department of Labor and Industry	Electrical Plan Review and Inspections

Minnesota Public Utilities Commission	Site Permit for Large Wind Energy Conversion System (LWECS)
	Certificate of Need
Minnesota State Historic Preservation Office (SHPO)	Cultural and Historic Resources Review and Review of State and National Register of Historic Sites and Archeological Survey
Minnesota Pollution Control Agency	Section 401 Water Quality Certification
	National Pollutant Discharge Elimination System Permit (NPDES) – MPCA General Storm water Permit for Construction Activity
	Very Small Quantity Generator (VSQG) License – Hazardous Waste Collection Program
	Aboveground Storage Tank (AST) Notification Form
Minnesota Department of Health	Environmental Bore Hole (EBH)
	Water Supply Well Notification
	Plumbing Plan Review
Minnesota Department of Natural Resources	License to Cross Public Land and Water
	Native Prairie Protection Plan (Review as part of PUC Site Permit process)
	Biological Surveys (Review as part of PUC Site Permit process)
	General Permit for Water Appropriations (Dewatering)
	Public Waters Work Permit
Minnesota Department of Transportation	Utility Permits on Trunk Highway Right-of-way
	Oversize/Overweight Permit for State Highways
	Access Driveway Permits for MnDOT Roads
	Tall Structure Permit
Local Approvals	
Nobles County	Right-of-way permits, crossing permits, driveway permits for access roads, oversize/overweight permits for County Roads
Townships	Right-of-way permits, crossing permits, driveway permits for access roads, oversize/overweight permits for township roads

Nobles County Soil and Water Conservation Districts	Wetland Conservation Act Approvals
MISO	Generator Interconnection Agreement

61886519_5.docx

Figure 1:

Project Location

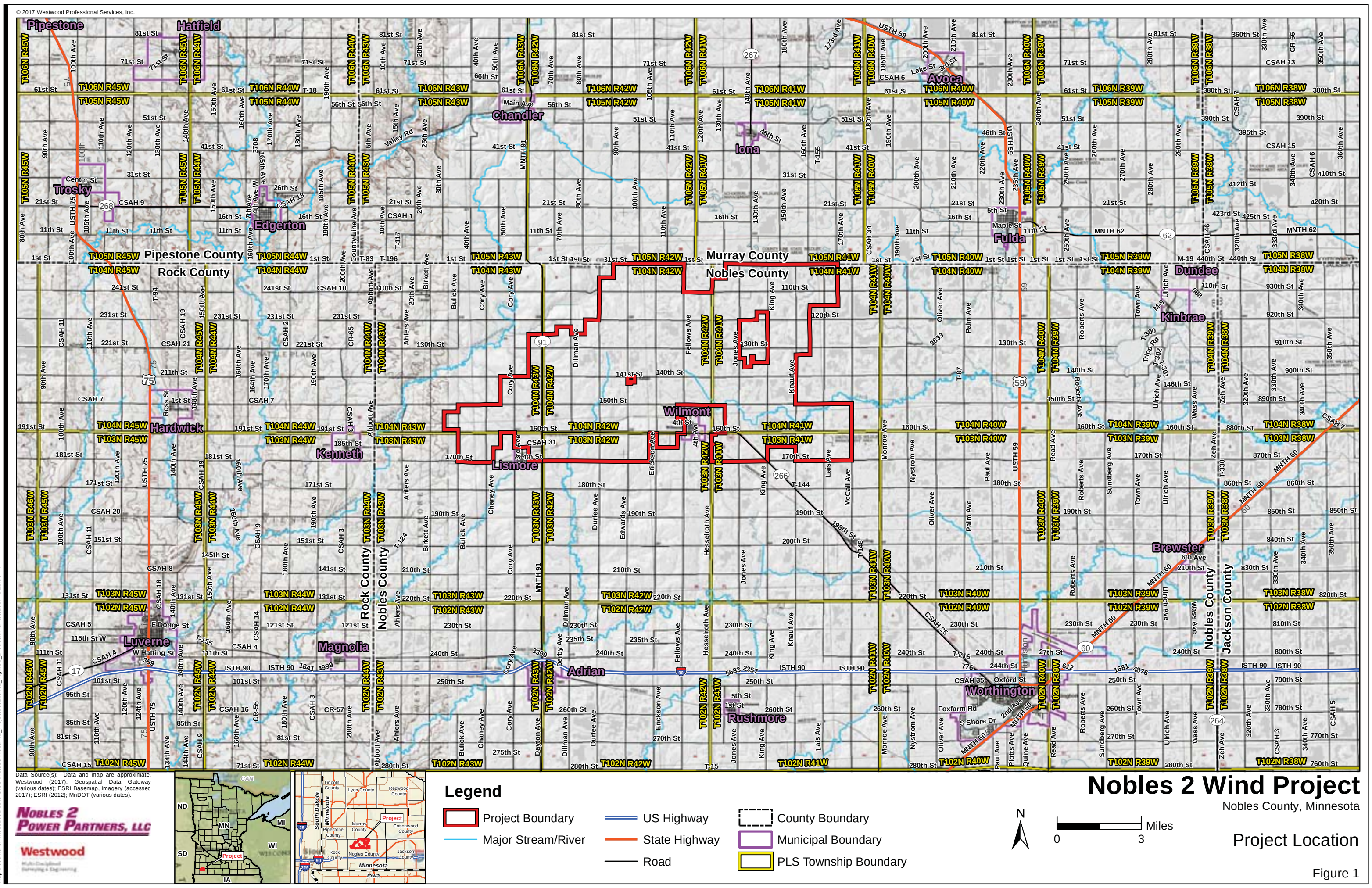
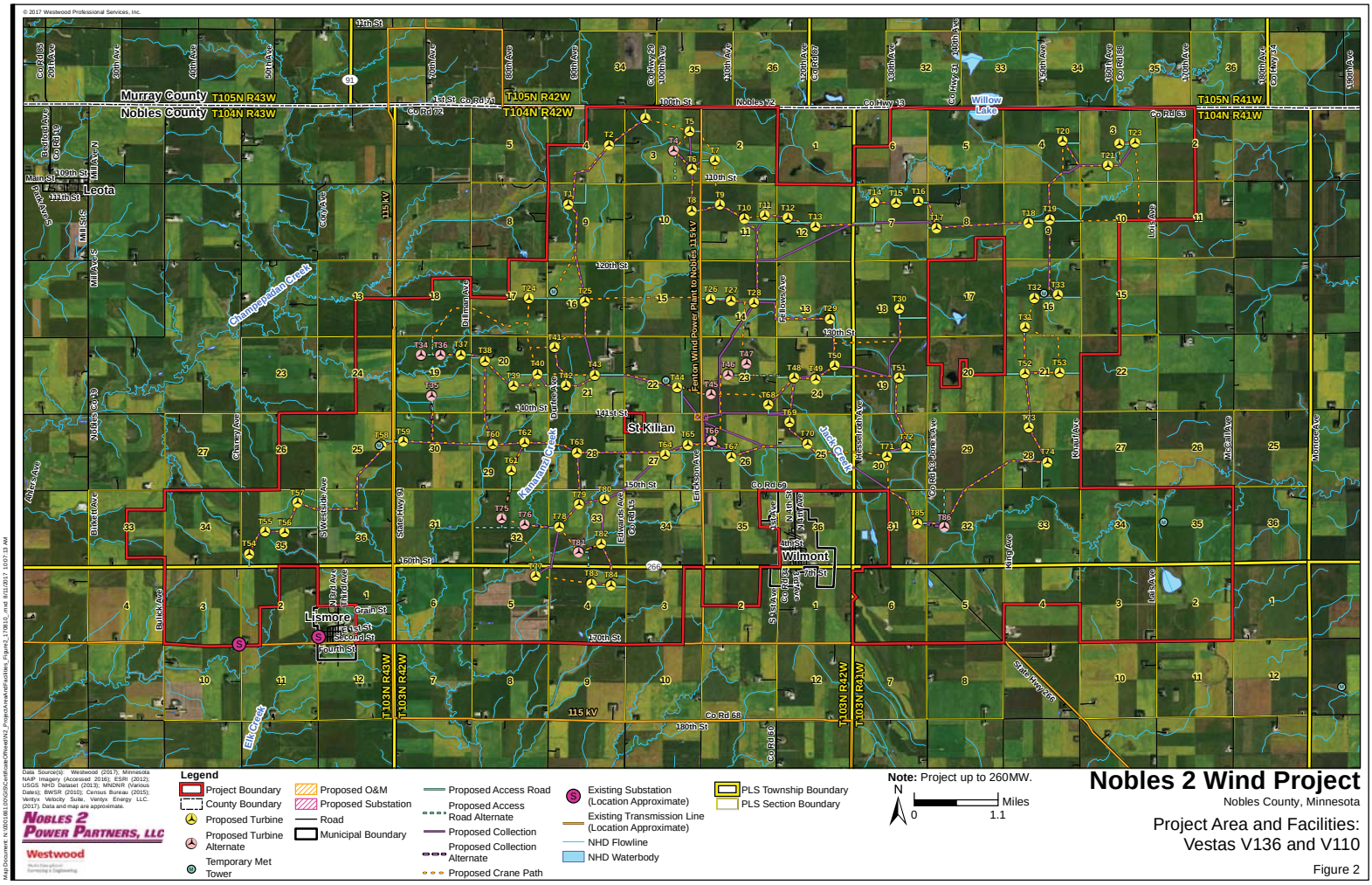

© 2017 Westwood Professional Services, Inc.
Pipestone
Hatfield
Trosky
Edgerton
Chandler
Iona
Avoca
Fulda
Dundee
Kinbrae
Hardwick
Kenneth
Wilmont
Lismore
Brewster
Luverne
Magnolia
Adrian
Rushmore
Worthington
Pipestone County
Rock County
Murray County
Nobles County
Jackson County
Data Source(s): Data and map are approximate. Westwood (2017); Geospatial Data Gateway (various dates); ESRI Basemap, Imagery (accessed 2017); ESRI (2012); MnDOT (various dates).
Nobles 2 Power Partners, LLC
Westwood
Legend
Project Boundary
Major Stream/River
US Highway
State Highway
Road
County Boundary
Municipal Boundary
PLS Township Boundary
N
0
3
Miles
Nobles 2 Wind Project
Nobles County, Minnesota
Project Location
Figure 1

Figure 2:

Project Area and Facilities: Vestas V136 3.6 MW and V110 2.0 MW



Nobles 2 Wind Project

Nobles County, Minnesota

Project Area and Facilities:
Vestas V136 and V110

Figure 2

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

Execution Version

MINNESOTA POWER

AND

NOBLES 2 POWER PARTNERS, LLC

WIND POWER PURCHASE AGREEMENT FOR 250 MW OF RENEWABLE GENERATION

DATED MAY 10, 2017

MINNESOTA POWER

TABLE OF CONTENTS

APPENDICES

THIS POWER PURCHASE AGREEMENT (the "PPA" or the "Agreement") is made as of the 10th day of May, 2017 (the "Effective Date") by and between ALLETE, Inc. d/b/a/ Minnesota Power ("MP"), a Minnesota corporation with headquarters at 30 West Superior Street, Duluth, Minnesota 55802, and Nobles 2 Power Partners, LLC, a Minnesota limited liability company ("Seller"). Seller and MP are each referred to herein as a "Party" and collectively as the "Parties."

WHEREAS, MP is a public utility, as defined in Minnesota Statutes Section 216B.1691, subdivision 1(b);

WHEREAS, Seller will plan, design, finance, construct, own, operate and maintain a project consisting of a wind electric generating plant, which may be a phase or portion of a larger wind energy generation facility, to provide Accreditable Capacity and associated Contract Energy to MP, and which is further defined below as the "Facility";

WHEREAS, Seller intends to locate the Facility in Nobles and Murray Counties, Minnesota and to interconnect the Facility with Interconnection Provider's System (as hereinafter defined); and

WHEREAS, Seller will generate, sell and deliver MP's Percentage (as hereinafter defined) of Accreditable Capacity, Contract Energy and any associated Green Tags produced by the Facility at the Point of Delivery to MP, and MP will receive and purchase the same all in accordance with the terms of this Agreement.

NOW THEREFORE, in consideration of the mutual covenants herein contained, the sufficiency and adequacy of which are hereby acknowledged, the Parties agree to the following:

ARTICLE 1

TERM AND CONTINGENCIES TO EFFECTIVENESS

1.1 Term. The Term of this Agreement (the "Term") shall commence on the Commencement Date and shall expire on the date that is twenty (20) years from the Commercial Operation Date with this Agreement remaining in full force and effect through the interim unless terminated or extended in accordance with the terms of this Agreement. Applicable provisions of

this PPA shall continue in effect after termination, including early termination, to the extent necessary to enforce or complete the duties, obligations or responsibilities of the Parties arising prior to termination and, as applicable, to provide for: final billings and adjustments related to the period prior to termination, repayment of any money due and owing to either Party pursuant to this PPA, repayment of principal and interest associated with security funds, and the indemnifications specified in this PPA.

1.2 MP Contingencies.

1.2.1 (a) MP shall submit this PPA together with resource additions comprising an approximately 10 MW solar project and an approximately 200 to 250 MW share of a natural gas-fired power plant resulting from the MPUC's July 18, 2016 Order Approving Resource Plan with Modifications in MPUC Docket No. E015/RP-15-690 (collectively "IRP Compliance Filing") for MPUC Approval as soon as practicable after execution of this PPA, and obtaining MPUC Approval shall constitute a condition precedent to MP's performance of its other obligations hereunder. MP shall use commercially reasonable efforts to obtain MPUC Approval on or before October 31, 2018 (the "MPUC Approval Deadline Date"). Seller agrees to provide reasonable assistance to MP, if requested, in order to assist MP in obtaining MPUC Approval.

(b) If the MPUC declines to approve this PPA as part of the IRP Compliance Filing or approves this PPA as part of the IRP Compliance Filing subject to material conditions that are unacceptable to MP or Seller, each in its sole discretion, then for a period of sixty (60) days from the date of the MPUC's written order declining to approve this PPA as part of the IRP Compliance Filing or approving this PPA as part of the IRP Compliance Filing with such material unacceptable conditions, the Parties agree to negotiate in good faith to amend this PPA in a manner that will satisfactorily address the MPUC's reason for disapproval of this Agreement or result in the modification of such material unacceptable conditions such that no material unacceptable conditions form part of the MPUC Approval, provided that it shall not be a failure of good faith on the part of Seller if it is not willing to reduce the prices set forth in this Agreement for the Accreditable Capacity and Contract Energy generated from the Facility or to modify any term hereof that could have the result of increasing Seller's risks or potential liability. Any amendment agreed to by the Parties shall be subject to MPUC Approval, and MP shall submit this Agreement, as amended, for MPUC Approval as soon as practicable after the execution of this Agreement, as amended.

(c) If either (i) MPUC Approval, either with or without amendments to this PPA, if any, agreed to pursuant to paragraph (b) of this **Section 1.2.1**, is not obtained on or

before the MPUC Approval Deadline Date, or (ii) the Parties cannot agree on mutually acceptable amendments by the end of the sixty (60) days or such longer period as the Parties may agree in writing as described in paragraph (b) of this **Section 1.2.1**, then either Party shall have the right to terminate the PPA upon written Notice to the other Party delivered, in the case of clause (i) above, within 15 days after the MPUC Approval Deadline Date or in the case of clause (ii) above, within fifteen (15) days after the end of the sixty (60) days or such longer period as the Parties have agreed, in each case with no further financial or other obligations under this Agreement. Failure of either Party to provide Notice of termination within the time period specified above shall be deemed a waiver of this condition, and neither Party shall thereafter have the right to terminate this Agreement on the basis of the failure of this condition to have been satisfied.

1.2.2 On or before [TRADE SECRET DATA EXCISED] Seller shall have obtained NRIS status for the Facility. If this condition is not satisfied by [TRADE SECRET DATA EXCISED] MP shall have the right to terminate this Agreement by delivering written Notice to Seller on or before December 15, 2018. Failure of MP to provide Notice of termination by December 15, 2018 shall be deemed a waiver of this condition, and MP shall not thereafter have the right to terminate this Agreement on the basis of the failure of this condition to have been satisfied.

1.2.3 If the maximum estimate for network upgrades set forth in the MISO Interconnection Facilities Study for the Facility for which Seller is responsible exceeds [TRADE SECRET DATA EXCISED] (the "Seller Network Upgrade Cost Cap") and Seller declines in its sole discretion to waive the purchase price adjustment under **Section 3.3.2** for the amount of network upgrade costs for which it is responsible above the Seller Network Upgrade Cost Cap, MP shall have the right to terminate this Agreement by delivering written Notice to Seller after the tenth (10th) Day after MISO releases such Interconnection Facilities Study but prior to the fifteenth (15th) Day after MISO releases such Interconnection Facilities Study. Failure of MP to provide Notice of termination within the time period specified above shall be deemed a waiver of this condition, and MP shall not thereafter have the right to terminate this Agreement on the basis of the failure of this condition to have been satisfied.

1.3 Seller Contingencies.

1.3.1 Seller shall have the right to terminate this PPA, without any further financial or other obligation to MP as a result of such termination, by Notice to MP if any of the following has not occurred by the date specified below:

(a) On or before [TRADE SECRET DATA EXCISED] Seller has obtained all Permits which it is responsible to receive and which are necessary to own, construct, and operate the Facility or to sell the Contract Energy and Accreditable Capacity to MP as contemplated by this PPA and all such Permits are final and non-appealable. MP agrees to provide reasonable assistance to Seller, if requested, in order to assist Seller in obtaining any Permit.

(b) On or before [TRADE SECRET DATA EXCISED] an Interconnection Agreement for the Facility, having terms and conditions (other than network upgrade costs associated with the Facility for which Seller is responsible, which Seller hereby accepts under **Section 3.3.2**) acceptable to Seller, has been executed by all parties thereto.

1.3.2 Seller shall have the right to terminate this PPA, without any further financial or other obligation to MP as a result of such termination, by Notice to MP if at any time after the Effective Date but prior to the date on which Seller closes on its financing for construction of the Facility pursuant to Financing Documents, Buyer does not have an Investment Grade Credit Rating subject to Buyer being allowed a thirty (30) Day period after Notice from Seller in which to cure the failure to have an Investment Grade Credit Rating.

1.3.3 Seller may at any time by delivery of Notice to MP waive satisfaction of any of the Seller contingencies describes in **Section 1.3.1** or **1.3.2**. Failure of Seller to provide Notice of termination within (i) in the case of **Section 1.3.1**, fifteen (15) Days after the applicable date set forth in paragraphs (a) or (b) of such section, as applicable, or (ii) in the case of **Section 1.3.2**, sixty (60) Days after the date on which Buyer no longer has an Investment Grade Credit Rating shall be deemed a waiver of the relevant condition and Seller shall not thereafter have the right to terminate this Agreement on the basis of failure of the relevant condition.

1.3.4 [TRADE SECRET DATA EXCISED]

1.4 Pre-COD Obligations.

Notwithstanding anything to the contrary in this Agreement, Seller's sole liability and Buyer's sole remedy upon the occurrence of an Event of Default by Seller, including for Abandonment of the Facility or anticipatory repudiation of performance of Seller's obligations,

prior to the Commercial Operation Date shall be termination of this Agreement and an action for damages, and the maximum liability to Buyer for an Event of Default by Seller prior to the Commercial Operation Date shall be the amount posted as the Development Security.

ARTICLE 2

PURCHASE AND SALE

2.1 Sale and Purchase.

2.1.1 Beginning on the Commercial Operation Date, Seller shall generate from the Facility and sell Contract Energy and Accreditable Capacity attributable to MP's Percentage of the electric generating capacity of the Facility to MP. Beginning on the Commercial Operation Date, MP shall accept and purchase at the prices set forth in this Agreement MP's Percentage of the Accreditable Capacity and Contract Energy generated from the Facility and delivered by Seller to the Point of Delivery during the Term.

2.1.2 MP agrees to accept and purchase all Test Energy attributable to MP's Percentage of the electric generating capacity of the Facility and delivered to the Point of Delivery at a rate equal to [TRADE SECRET DATA EXCISED]. Seller shall notify MP, to the extent practicable, fifteen (15) Days prior to the initial delivery of Test Energy to MP. In no instance shall MP be obligated to purchase Test Energy in amounts in excess of that associated with MP's Percentage of the electric generating capacity of the Facility.

2.2 Title and Risk of Loss.

2.2.1 As between the Parties, Seller shall retain title to, and be deemed to be in control of, the Accreditable Capacity, Contract Energy and Test Energy attributable to MP's Percentage of the electric generating capacity of the Facility up to and until delivery to MP at the Point of Delivery.

2.2.2 MP shall take title to, and be deemed to be in control of, the Accreditable Capacity, Contract Energy, Test Energy, and Green Tags purchased by MP hereunder, from and after delivery at the Point of Delivery.

2.2.3 Seller warrants that it will deliver to MP the Accreditable Capacity, Contract Energy, Test Energy, and Green Tags purchased by MP hereunder, free and clear of all

liens, security interests, claims, and encumbrances or any similar interest therein or thereto in favor of any Person and arising or attaching prior to the Point of Delivery.

2.3 Green Tags.

The Parties agree that the price set forth in **Exhibit B** includes compensation for Green Tags, Accreditable Capacity and Zonal Resource Credits associated with the Contract Energy purchased by MP pursuant to this Agreement during the Term and that MP is entitled to utilize any and all such Green Tags. To the full extent allowed by Applicable Laws, MP shall own or be entitled to claim all Green Tags purchased by MP hereunder to the extent such Green Tags may exist during the Term, and to the extent necessary, Seller shall assign to MP all rights, title and authority for MP to register, own, hold and manage such Green Tags in MP's own name and to MP's account, including any rights associated with any renewable energy information or tracking system that may be established with regard to monitoring, tracking, certifying, or trading such Green Tags.

ARTICLE 3

CONTRACT CAPACITY AND CONTRACT ENERGY

3.1 Capacity. For purposes of this Agreement, "Installed Capacity" means an amount in MWs between 247 and 253 as specified in writing by Seller to MP not later than the date on which Seller closes on its construction financing for the Facility, subject to adjustment if Seller elects to make the Capacity Buy-Down Payment pursuant to **Section 4.6**.

3.2 Mechanical Availability.

3.2.1 Commencing with the first Measurement Period and for each Measurement Period thereafter, MP's Percentage of the Facility shall achieve a Mechanical Availability Percentage equal to or greater than [TRADE SECRET DATA EXCISED] or Seller shall pay liquidated damages as provided in **Section 3.2.1(a)**.

(a) If the Mechanical Availability Percentage for any Measurement Period is less than [TRADE SECRET DATA EXCISED] then Seller shall pay MP liquidated damages in an amount (if positive) equal to the product of (i) the Energy Deficit for such Measurement Period (expressed in MWh) and (ii) (x) the Facility generation weighted real time generator node Facility LMP over such Measurement Period at the Point of Delivery; *minus* (y)

the price per MWh for Contract Energy for the relevant Contract Years comprising the Measurement Period (the "Availability Liquidated Damages"). Amounts payable pursuant to this **Section 3.2.1(a)** shall be subject to the Aggregate Damage Limitation.

3.3 Pricing for Accreditable Capacity and Contract Energy. Seller shall be entitled to payment for Accreditable Capacity, Zonal Resource Credits, Contract Energy and any associated Green Tags in accordance with this **Section 3.3**. MP's payment under this PPA includes Accreditable Capacity, Zonal Resource Credits, Contract Energy, and any associated Green Tags. Seller shall have all right, title and interest in and to all Renewable Energy Incentives. MP acknowledges that any Renewable Energy Incentives belong to Seller.

3.3.1 MP shall pay Seller for each MWh of Contract Energy delivered to MP at the Point of Delivery an amount equal to the price per MWh for the relevant Contract Year specified in **Exhibit B**, plus, if applicable:

3.3.2 [TRADE SECRET DATA EXCISED]

3.4 House Power and Maintenance Power. This PPA does not provide for the supply of any electric service by MP to Seller or to the Facility, and nothing in this Agreement shall obligate MP to provide any electric service to Seller or to the Facility. Seller recognizes and acknowledges that it shall be solely responsible for obtaining electric service for the Facility in accordance with Applicable Law.

3.5 Ancillary Services. Any and all Ancillary Services (as that term is defined and implemented pursuant to the relevant Tariff and FERC Order No. 827) that the Facility is capable of providing associated with the Installed Capacity shall be deemed to have been purchased by MP hereunder at no additional charge. Upon achieving the Commercial Operation Date, Seller shall use all commercially reasonable efforts to maximize the Ancillary Services available to MP to the extent available from the Installed Capacity, consistent with and subject to Good Utility Practice, provided that Seller shall not be required to make any capital expenditures or incur any increased operating expenses in connection with such efforts other than what is already required to comply with the requirements of the Interconnection Agreement and any related instructions from MISO or the Interconnection Provider. Notwithstanding anything in this paragraph to the contrary, Seller shall not reduce, curtail or suspend production and delivery of Contract Energy to MP for the purpose of preserving or providing reactive power to itself or any other Person.

ARTICLE 4

FACILITY REQUIREMENTS

4.1 General Description. The Accreditable Capacity and Contract Energy purchased by MP under this Agreement shall be exclusively generated by the Facility located at the Site. Seller shall design, construct, operate and maintain the Facility in material compliance with all Facility Permits and Requirements of Law, and according to Good Utility Practice.

4.2 Site. Seller shall construct, own or lease, operate, and maintain the Facility, which, subject to Seller's right to make the Capacity Buy-Down Payment pursuant to **Section 4.6**, shall consist of Wind Turbines and associated equipment having a Rated Capacity not less than the Installed Capacity. **Exhibit A** contains a scaled map that identifies the Site; the expected, as of the Effective Date, location of the Facility at the Site; the equipment and components that as of the date of this Agreement are anticipated to make up the Facility; a one-line diagram; the approximate location of Electric Metering Devices; and the Point of Delivery. **Exhibit A** shall be amended by Seller prior to the Commercial Operation Date to reflect any material changes in siting of the generating facilities or related facilities during permitting and construction.

4.3 Milestones. Seller acknowledges that time is of the essence with respect to Seller meeting its obligation to supply the Accreditable Capacity and Contract Energy purchased by MP hereunder. To that end, Seller shall use all commercially reasonable efforts to complete the Facility by the Commercial Operation Milestone as set forth in **Exhibit C**. In furtherance of Seller's obligation, Seller shall reasonably endeavor to achieve each of the interim Major Milestones set forth in **Exhibit C** on or prior to the applicable date set forth for such Major Milestone. Notwithstanding the foregoing, Seller's liability for any failure to complete the Facility by the Commercial Operation Milestone or to complete any interim Major Milestone by the applicable date set forth such Major Milestone shall be limited to the remedy for failure to achieve the Commercial Operation Milestone as set forth in **Section 4.4**.

4.4 Milestones; Extensions. The Major Milestone dates listed in **Exhibit C** (including the Commercial Operation Milestone) may be extended upon the occurrence of Force Majeure; provided that in no event shall the total number of Days of all such extensions as a result of Force Majeure exceed three hundred sixty (360) Days in the aggregate; provided, further, that if Seller shall fail to achieve the Commercial Operation Date within three hundred sixty (360) Days after the Commercial Operation Milestone for any reason whatsoever, including

Force Majeure but excluding any default under this Agreement by MP that results in a delay in achievement of the Commercial Operation Milestone, then such failure shall entitle MP to terminate this PPA without further obligation to Seller.

4.5 Conditions to Commercial Operation. All Contract Energy delivered by Seller prior to the Commercial Operation Date shall be Test Energy. Commercial Operation of the Facility shall commence the Day following MP's acceptance (which shall not be unreasonably withheld or delayed) of Seller's Notice that all conditions set forth in this **Section 4.5** have been successfully satisfied. An officer of Seller who has knowledge of the Facility must certify in written Notice to MP that all of the conditions set forth in this **Section 4.5** have been satisfied. Thereafter, MP shall have ten (10) Business Days to challenge the satisfaction of any condition set forth in this **Section 4.5** and if MP raises any such challenge, Seller shall provide MP with additional information establishing satisfaction of the condition. If the Parties are unable to agree upon satisfaction of the conditions to Commercial Operation, the matter shall be referred to dispute resolution in accordance with this Agreement. Seller must certify that:

4.5.1 Installation of Wind Turbines with an aggregate nameplate capacity equal to at least ninety-five percent (95%) of the Installed Capacity ("Minimum Capacity") have been completed. Seller is in full compliance with the terms of this Agreement, Seller is in material compliance with the Interconnection Agreement, and the Facility can be safely operated in conformance with this Agreement;

4.5.2 Seller has successfully completed testing of the Facility which is required by the Facility's Permits and the Interconnection Agreement;

4.5.3 Seller has executed all agreements and made all arrangements necessary to deliver the Contract Energy and Accreditable Capacity from the Facility to the Point of Delivery in compliance with the provisions of this PPA;

4.5.4 all Security arrangements in accordance with **Article 9** have been established in a form and in the amounts sufficient to meet the requirements of this Agreement and that Seller has provided MP with proof that such arrangements are in place;

4.5.5 certificates proving insurance coverages required by this Agreement have been submitted to MP; and

4.5.6 all Permits required to be obtained from any Governmental Authority to construct and/or operate the Facility in compliance with applicable Requirements of Law and this PPA have been obtained and are in full force and effect.

4.6 Buy-Down. If Seller established the Commercial Operation Date with less than the Installed Capacity but equal to or more than the Minimum Capacity, then Seller shall have an additional sixty (60) days after the Commercial Operation Date to complete construction and commissioning of Wind Turbines up to an aggregate nameplate capacity equal to at least one hundred percent (100%) of the Installed Capacity provided that Seller may, if it elects to do so in its sole and absolute discretion, pay to MP at any time on or before the sixtieth (60th) Day after the Commercial Operation Date a one-time capacity buy-down payment equal to (A) the number of MWs equal to the Installed Capacity less MP's Percentage of the Rated Capacity of the Wind Turbines and associated equipment that has been completed at the beginning of the Day the payment is made multiplied by (B) [TRADE SECRET DATA EXCISED] (the "Capacity Buy-Down Payment"), in which case the Installed Capacity shall for all purposes be equal to MP's Percentage of the Rated Capacity at the time of the Capacity Buy-Down Payment. The Capacity Buy-Down Payment shall not be subject to the Aggregate Damage Limitation under **Section 11.5**.

ARTICLE 5

INTERCONNECTION, DELIVERY AND METERING

5.1 Interconnection Service and Costs.

5.1.1 Seller shall apply for and use commercially reasonable efforts to obtain MISO (if applicable) or local utility interconnection service necessary to interconnect the Facility to the Electric Interconnection Point. If the interconnection is governed by MISO, Seller shall apply for Network Resource interconnection service as that term is defined in the MISO Tariff or comparably firm interconnection service sufficient to facilitate making the interconnected Facility available to MP's native load customers. Seller shall release deliverability study results to MP. Without limiting Buyer's right to terminate in accordance with **Section 1.2.2** and **Section 1.2.3** or Seller's right to terminate in accordance with **Section 1.3.1(b)** if the deliverability study findings determine that Network Resource status is not available, or is not available without substantial network upgrades for which Seller is unwilling to contribute in accordance with its respective obligation under any Tariff or for which Seller is compensated pursuant to the Contract Energy adjustment mechanism under **Section 3.3**, MP shall be

responsible for and procure transmission service as described in **Section 5.4**, provided that except as provided under alternative arrangements and agreed to by the Parties, MP is not responsible for any restriction or reduction of the Facility's output pursuant to this Facility's Interconnection Agreement resulting from conditional interconnection service or any Annual ERIS Evaluation or any Annual Interim Deliverability Study as provided under MISO BPM-015, as in effect as of the Effective Date.

5.1.2 If the Interconnection Agreement does not require MISO approval, Seller shall provide MP with such data and information about the interconnection as is necessary for MP to arrange for transmission service and otherwise meet its obligations under **Sections 5.3** and **5.4**.

5.2 Separate Interconnection Agreement. The Parties recognize that Seller will enter into a separate Interconnection Agreement with the Interconnection Provider.

5.2.1 The Parties acknowledge and agree that the Interconnection Agreement shall be a separate and free-standing contract regardless of Seller's counterparties to such an agreement, that nothing in the Interconnection Agreement shall alter or modify Seller's or MP's rights or obligations under this Agreement, and that nothing in this Agreement shall alter or modify Seller's rights or obligations under the Interconnection Agreement.

5.2.2 Seller recognizes that, for purposes of this Agreement, the Interconnection Provider shall be deemed to be a separate entity and separate contracting party whether or not the Interconnection Agreement is entered into with MP or an Affiliate of MP.

5.3 Transmission.

5.3.1 Seller shall be responsible for all interconnection, electric losses, transmission and ancillary service arrangements and costs required to deliver the Accreditable Capacity and Contract Energy, including Test Energy, from the Facility to MP at the Point of Delivery. Seller shall also be responsible for paying any transmission service charges required or assessed to either MP or Seller by non-MISO entities in connection with this PPA in connection with Seller's requirement to deliver the Accreditable Capacity and Contract Energy, including Test Energy, from the Facility to MP at the Point of Delivery.

5.3.2 MP shall be responsible for all electric losses, transmission and ancillary service arrangements and costs required to accept Contract Energy and Accreditable Capacity and shall arrange for transmission and delivery of the Contract Energy and Accreditable Capacity

from the Point of Delivery to MP's customers or any other point and MP shall bear all transmission and scheduling costs associated with accepting and transmitting the Facility's Accreditable Capacity and Contract Energy at and from the Point of Delivery to MP's customers or any other point. MP shall be responsible for any scheduling of the Contract Energy from the Point of Delivery to MP's customers or any other Person, including, without limitation, arranging any Open Access Same Time Information Systems, tagging, transmission scheduling or similar protocols from MISO or any other Persons. If at any time during the Term, either MP or the entity owning the transmission facilities at the Point of Delivery ceases to be a member of MISO or the facilities at the Point of Delivery cease to be subject to the MISO Tariff, then the Parties shall cooperate in good faith to amend this PPA to mitigate the impact of such changes on the Parties and to facilitate the delivery of Contract Energy from the Point of Delivery to MP's customers at no cost to Seller and at the least possible incremental cost to MP.

5.3.3 The Parties acknowledge and agree that the metering of the Contract Energy to be delivered pursuant to this PPA shall occur at the Point of Delivery and Seller shall be generally responsible for electric losses from transmission from the Facility to the Point of Delivery but not from the Point of Delivery to MP's customers or any other point.

5.4 Transmission Arrangements.

5.4.1 Subject, as provided in **Section 5.1.1**, to MP not being responsible for any restriction or reduction of the Facility's output pursuant to the Facility's Interconnection Agreement resulting from conditional interconnection service or any Annual ERIS Evaluation or any Annual Interim Deliverability Study as provided under MISO BPM-015, as in effect as of the Effective Date, MP shall be responsible for all transmission service arrangements for the total output of the Facility from the Point of Delivery. This may include, but is not limited to, network or point-to-point transmission service, or Network Integration Transmission Service. Seller, at no cost to it, shall cooperate and support MP's efforts to procure and maintain such transmission service arrangements.

5.4.2 Seller shall utilize Good Utility Practices in operating the Facility in compliance with the MISO Tariff. Seller shall not be responsible for imbalance payments for energy output deviations that satisfy MISO's Failure to Follow Dispatch Flag business manual practice applicable to intermittent energy sources, and such imbalance payments and charges shall be MP's responsibility as set forth in **Section 5.3.2**. The Parties recognize that (i) MISO or any New Joint Transmission Authority, or (ii) FERC and the applicable Electric Reliability Organization have established and approved electric market rules, including amendments thereto

that apply to MP's system and which allocate responsibility for imbalance or other payments associated with imbalances.

5.5 Electric Metering Devices. The Facility shall be designed to accommodate metering, generator telemetering equipment, and communications equipment that meet the requirements of this **Section 5.5**. To the extent not otherwise set forth in the Interconnection Agreement, metering equipment necessary for determining the Contract Energy, Test Energy and Accreditable Capacity (real and reactive) for billing purposes shall comply with MP's metering requirements for this installation and Electric Metering Devices shall include, but not be limited to, kWh and kvar meters, metering cabinets, metering panels, conduits, cabling, metering units, current transformers and potential transformers directly or indirectly providing input to meters or transducers, meter recording devices, telephone circuits, signal or pulse dividers, transducers, pulse accumulators and any other equipment necessary to implement the provisions of this Agreement. All Electric Metering Devices for billing purposes will be revenue billing grade devices and have an accuracy of at least +/- 0.2%. All instrument transformers used for metering will be metering class devices. Current transformers will have an accuracy of at least +/- 0.15% and voltage transformers will have an accuracy of at least +/- 0.3%. Current transformer ratios will be chosen to measure minimum power within the device's accuracy range. A primary meter and associated recording device shall measure and record the flow of Energy and Capacity (real and reactive) associated with the Facility. The meter shall measure the bidirectional watt-hour and var-hour quantities (or other quantities required by MP) and shall be used to determine the amount of Energy and Capacity received by MP from Seller.

5.5.1 To the extent not otherwise provided in the Interconnection Agreement, MP shall design, install, own, and maintain all Electric Metering Devices used to measure the Contract Energy and Accreditable Capacity made available to MP by Seller under this PPA and to monitor and coordinate operation of the Facility. If Electric Metering Devices are not installed at the Point of Delivery, meters or meter readings will be adjusted to reflect losses from the Electric Metering Devices to the Point of Delivery. All Electric Metering Devices used to provide data for the computation of payments shall be sealed, and only MP shall break the seal when such Electric Metering Devices are to be inspected and tested or adjusted in accordance with this **Section 5.5**. MP shall specify the number, type, and location of such Electric Metering Devices.

5.5.2 MP shall, at its own expense, inspect and test all Electric Metering Devices owned by MP, and Seller shall, at its own expense, inspect and test all Electric Metering Devices owned by Seller, upon installation and at least annually thereafter. Each Party will be

provided with reasonable advance Notice of, and a representative of the other Party shall be permitted to witness and verify, such inspections and tests, provided that the requesting Party shall comply with all applicable safety standards and not unreasonably interfere with or disrupt the activities of the testing Party. Each Party shall, if reasonably requested, perform additional inspections or tests of any Electric Metering Device and shall permit a qualified representative of the other Party to inspect or witness the testing of any Electric Metering Device, provided further, that the requesting Party shall comply with all of the testing Party's safety standards and shall not unreasonably interfere with or disrupt the activities of the testing Party. The requesting Party shall bear the actual expense of any requested additional inspection or testing of the other Party's Electric Metering Device, unless upon such inspection or testing an Electric Metering Device is found to register inaccurately by more than the allowable limits established in this **Section 5.5**, in which event the expense of the requested additional inspection or testing shall be borne by the testing Party. The testing Party shall, if requested in writing, provide copies of any inspection or testing reports to the requesting Party.

In addition to the Electric Metering Devices, any Party may elect to install and maintain, at its own expense, backup metering devices ("Back-Up Metering"). This installation and maintenance shall be performed in accordance with Good Utility Practice and in a manner acceptable to MP. The installing Party, at its own expense, shall inspect and test Back-Up Metering upon installation and at least annually thereafter. The installing Party shall provide the other Party with reasonable advance Notice of, and permit a representative of the requesting Party to witness and verify, such inspections and tests, provided that the requesting Party shall comply with all applicable safety standards and shall not unreasonably interfere with or disrupt the activities of the installing Party. Upon request, the installing Party shall perform additional inspections or tests of Back-Up Metering and shall permit a qualified representative of the requesting Party to inspect or witness the testing of Back-Up Metering, provided that the requesting Party shall comply with all applicable safety standards and shall not unreasonably interfere with or disrupt the activities of the testing Party. The requesting Party shall bear the actual expense of any such requested additional inspection or testing, unless, upon such inspection or testing, Back-Up Metering is found to register inaccurately by more than the allowable limits established in this **Section 5.5**, in which event the expense of the requested additional inspection or testing shall be borne by the testing Party. The testing Party shall, if requested in writing, provide copies of any inspection or testing reports to the requesting Party.

5.5.3 If any Electric Metering Devices or Back-Up Metering is found to be inaccurate or defective, it shall be adjusted, repaired, replaced, and/or recalibrated as near as

practicable to a condition of zero error by the Party owning such defective or inaccurate device and at that Party's expense.

5.6 Adjustment for Inaccurate Meters. If an Electric Metering Device, or Back-Up Metering, fails to register, or if the measurement made by an Electric Metering Device, or Back-Up Metering, is found upon testing to be inaccurate by more than one percent (1.0%), an adjustment shall be made correcting all measurements by the inaccurate or defective Electric Metering Device, or Back-Up Metering, for both the amount of the inaccuracy and the period of the inaccuracy, in the following manner:

5.6.1 If the Electric Metering Device is found to be inaccurate or defective, and Back-Up Metering has been tested and maintained in accordance with the provisions of this **Section 5.6**, the Parties shall use Back-Up Metering, if installed, to determine the amount of such inaccuracy. Back-Up Metering data shall be adjusted for losses if Back-up Metering is installed on the low side of Seller's step-up transformer. If Back-up Metering is also found to be inaccurate by more than one percent (1.0%) or no back-up metering was installed, the Parties shall use the SCADA data collected at each Wind Turbine in the Facility for the period of inaccuracy, adjusted as agreed by the Parties for losses occurring between each Wind Turbine and the Point of Delivery. If, and to the extent, such SCADA is incomplete or unavailable, the Parties shall estimate the amount of the necessary adjustment on the basis of deliveries of Contract Energy from the Facility during periods of similar operating conditions when the Electric Metering Device was registering accurately. The adjustment shall be made for the period during which inaccurate measurements were made.

5.6.2 If the Parties cannot agree on the actual period during which the inaccurate measurements were made, the period during which the measurements are to be adjusted shall be the shorter of (i) the one hundred eighty (180) Days immediately preceding the test that found the Electric Metering Device to be defective or inaccurate or (ii) the last one-half of the period from the last previous test of the Electric Metering Device to the test that found the Electric Metering Device to be defective or inaccurate.

5.6.3 MP shall use the corrected measurements as determined in accordance with this **Section 5.6** to recompute the amount due for the period of the inaccuracy to the extent that the adjustment period covers a period of deliveries for which payment has already been made by MP, and MP shall subtract the previous payments by MP for this period from such recomputed amount. If the difference is a negative number, that difference shall be paid by Seller to MP or, at the discretion of MP, may take the form of an offset to payments due Seller by

MP in an amount each month of no more than thirty percent (30%) of each applicable invoice; if the difference is a positive number, the difference shall be paid by MP to Seller. Payment of such difference by the owing Party shall be made not later than thirty (30) Days after the owing Party receives Notice of the amount due, except to the extent MP elects payment via an offset.

ARTICLE 6

FACILITY OPERATION AND MAINTENANCE

6.1 Facility Operations and Control. After the Commercial Operation Date, Seller shall staff, control, and operate the Facility consistent at all times with Good Utility Practice and according to the Operating Procedures developed pursuant to **Section 8.3**. Personnel capable of disconnecting the Facility shall be available twenty-four (24) hours per Day, three hundred and sixty-five (365) days per year, pursuant to such Notice as the Operating Committee shall decide. Seller shall ensure that personnel are available by telephone, email, fax and pager to ensure prompt response to contingencies.

6.2 Facility Planned Outages/Maintenance.

6.2.1 The provisions of this **Section 6.2** are subject in all respects to planning and coordination of Scheduled Outages/Deratings for the Facility being conducted in accordance with MISO Outage Operations Business Practices Manual – 008.

6.2.2 After the Commercial Operation Date, Seller shall maintain the Facility according to applicable warranty requirements, relevant equipment manufacturer's specifications, and Good Utility Practice(s).

6.2.3 Seller shall provide MP with an annual schedule of the expected Scheduled Outages/Deratings for the Facility ("Maintenance Schedule") on November 1 of each preceding year during the Term. Seller shall also provide no later than sixty (60) days before the end of each year during the Term, a Maintenance Schedule that describes expected maintenance activities for the following two (2) Commercial Operation Years. Seller will use commercially reasonable efforts to provide Notice to MP of Scheduled Outages/Deratings involving the Facility, other than as listed in the Maintenance Schedule, as soon as practicable.

6.2.4 Seller shall use commercially reasonable efforts to avoid or limit any Scheduled Outages/Deratings for the Facility, excluding outages associated with Emergencies and Forced Outages and any outages required consistent with Good Utility Practice, during any On-Peak Month. Seller shall use good-faith efforts to minimize such outages, to minimize the occurrence and duration of such outages during any On-Peak Month, and to schedule such outages after 9:00 p.m.

6.2.5 Not less than twenty-four (24) hours prior to commencement of any Scheduled Outage/Derating of the Facility, MP may request, by phone, fax or email, that Seller defer such scheduled maintenance. Subject to Good Utility Practice, Seller shall use commercially reasonable efforts to comply with any such request, including by requesting MISO's review and approval thereof pursuant to MISO's Outage Operations Business Practices Manual, Manual No. 008, or any successor manual or business practice (the "MISO Outage Manual") and seek to reschedule such deferred maintenance to a subsequent date mutually agreed upon between the Parties and by MISO, it being agreed that Seller shall have no obligation to reschedule any Scheduled Outage/Derating of the Facility absent approval thereof by MISO pursuant to the MISO Outage Manual. In connection with any such request by MP for deferral of scheduled maintenance, Seller shall provide to MP, in advance, a non-binding good-faith estimate of the incremental direct costs to be incurred by Seller in order to comply with such request. If MP desires Seller to incur such incremental costs at MP's expense, MP shall promptly advise Seller to that effect. Seller may then invoice MP for, and MP shall pay Seller for, all of the actual incremental direct costs incurred by Seller in connection with such deferral and rescheduling of maintenance. If MP does not agree in advance to reimburse Seller for such incremental costs, then it shall be reasonable for Seller to deny such rescheduling request of MP.

6.3 Forced Outages. Seller shall use commercially reasonable efforts to minimize the occurrence, scope and duration of Forced Outages at the Facility. During the Peak Hours of On-Peak Months, Seller shall use all commercially reasonable efforts to avoid or overcome any Forced Outages at the Facility. MP's exclusive remedy for breach of Seller of this **Section 6.3** shall be failure to achieve Mechanical Availability Percentage as set forth in **Section 3.2.1(a)**.

6.4 Outage Reporting. Seller shall operate the Facility in a manner that complies with all national and regional reliability standards, including standards set by MAPP, NERC, MISO, MEMA, the MRO, the FERC and the MPUC, or any successor agencies setting reliability standards for the operation of generating facilities.

6.5 Capacity Accreditation. Seller recognizes that MP has certain planning, operating and reporting requirements with MAPP and MISO. As between the Parties, MP is responsible for seeking MAPP and MISO accreditation of the Installed Capacity, and Seller agrees to cooperate with MP, including the provision of data necessary for MP to calculate Accreditable Capacity. Currently, no generator tests are required by MISO or MAPP for accreditation of renewable energy conversion facilities; to the extent such testing is required in the future, Seller shall be responsible for the costs associated with such testing.

6.6 Obligation to Rebuild. In the event of substantial damage to all or a substantial portion of the Facility, any insurance proceeds shall be applied in accordance with the terms of the Financing Documents or similar instruments defining the rights of lenders and investors in the Facility or Seller. Seller shall use commercially reasonable efforts to negotiate terms in the Financing Documents that require use of the proceeds for reconstruction of the damaged portion of the Facility. If at the time of the damage (i) there are no requirements of Financiers that prevent reconstruction; and (ii) MP is relying on the Facility to meet any state and/or federal requirement for renewable energy generation, then Seller shall apply the proceeds of any such insurance to rebuild or repair the Facility, provided that if the cost to repair or reconstruct the Facility exceeds the available insurance proceeds for reasons other than a default by Seller under this PPA, the Parties shall amend this Agreement to permit the reconstruction or repair on terms that make the Facility, as reconstructed or repaired, financially viable.

ARTICLE 7

BILLING AND PAYMENT

7.1 Billing Statement and Invoices.

7.1.1 The monthly billing period shall be the calendar month. No later than twelve (12) Days after the close of the billing month, Seller shall provide to MP, by electronic mail or such other method of delivery as mutually agreed to by the Parties, an invoice for the amount due Seller by MP, under this PPA, for the billing period covered by the statement. The invoice will show Contract Energy delivered from the Facility during the applicable month, all billing parameters, rates and factors, and any other data reasonably pertinent to the calculation of monthly payments due to Seller, including any amounts owing to Seller as a result of Compensated Curtailments. Seller will send adjustment invoices to Buyer as soon as practicable if any changes or adjustments by MISO that affect payment occur after Seller has already

invoiced MP. Payment for any such adjusted amounts will be made by Buyer on or before the twentieth (20th) Day following receipt of any such adjusted invoice

7.1.2 If MP disputes any amount in the invoice, MP shall describe items in dispute, as well as all supporting documentation upon which MP relies to dispute the invoice. Billing disputes shall be resolved in accordance with **Article 14**.

7.2 Payments. Payments due under this PPA shall be due and payable by electronic funds transfer in accordance with **Section 7.5**, as designated by the owed Party, on or before the twentieth (20th) Day following receipt of the billing invoice. Remittances received by first-class mail will be considered to have been paid when due if the postmark indicates the payment was mailed on or before the payment due date. If any amount due is not paid by the due date, the amount due shall bear interest on the unpaid balance at a rate equal to two percent (2%) plus the prime rate as determined by Wells Fargo, N.A. or its successor for the days of the late payment period multiplied by the number of days elapsed from and including the Day after the due date to and including the payment date.

7.3 Billing Disputes. Either Party may dispute invoiced amounts, but shall pay to the other Party at least the undisputed portion of invoiced amounts on or before the date on which payment is due. To resolve any billing dispute, the Parties shall use the dispute resolution procedures set forth in this Agreement. When the billing dispute is resolved, the Party owing shall pay the amount owed within five (5) Business Days of the date of such resolution, plus interest at the rate set forth in **Section 7.2**.

7.4 Billing and Payment Records. To facilitate payment and verification, Seller and MP shall keep all books and records necessary for billing and payments and grant the other Party reasonable access to those records. All records of Seller pertaining to the operation of a Facility shall be maintained on the premises of the Facility or some other mutually agreed-upon location for a minimum of six (6) years.

7.5 Wire Transfer. MP shall make payment of invoices via wire transfer, ACH or similar electronic means of immediately available funds to the Seller's account as instructed in writing from time to time by Seller to MP pursuant to the Notice provisions. MP shall be entitled to conclusively presume, without any liability whatsoever, that the payment information furnished by Seller is accurate, and will not be required to pay any bill more than once where the invoice was first paid in accordance with Seller's payment instructions.

7.6 Curtailments.

7.6.1 Except as expressly provided for in this **Section 7.6** and in **Article 11**, Seller shall be entitled only to payment for Contract Energy actually delivered to the Point of Delivery.

7.6.2 No payment shall be due to Seller for curtailments of delivery of Contract Energy from the Point of Delivery resulting from any of the following (each an "Excused Curtailment"): [TRADE SECRET DATA EXCISED].

7.6.3 Seller shall be compensated in the event and to the extent production and delivery of Contract Energy is curtailed [TRADE SECRET DATA EXCISED].

7.6.4 All Excused Curtailments and Compensated Curtailments shall be deemed to be delivered for purposes of calculating the Mechanical Availability Percentage in **Section 3.2**.

ARTICLE 8

INFORMATION AND IMPLEMENTATION

8.1 Pre-COD Reporting Obligations.

8.1.1 If it is required by any Governmental Authority, and within thirty (30) Days after completion, Seller shall provide MP with a copy of a report summarizing a Phase I environmental investigation conducted of the Site by an independent environmental engineer familiar with the Site.

8.1.2 At the times specified by the Major Milestones, Seller shall provide to MP copies of Permits governing the design and construction of the Facility, and redacted copies or summaries of major contracts affecting the Facility showing the identity of the contracting parties, their execution of the contract, a summary of services or work involved, and the date the contract was executed, so that MP may monitor Seller's progress in meeting its obligations under this Agreement.

8.1.3 On or about the first Day of each calendar month after execution of this PPA, and weekly after physical construction has commenced and until the Commercial Operation Date is achieved, Seller shall submit to MP a progress report, which shall notify MP in reasonable detail of the current status of each Major Milestone, Facility permitting, financing and

construction, and any other information that will permit MP to assess the status of progress toward Commercial Operation.

8.1.4 MP shall have the right to monitor the construction, start-up and testing of the Facility, and Seller shall cooperate with all reasonable requests of MP with respect to these events. All persons visiting the Facility on behalf of MP shall comply with all of Seller's applicable safety and health rules and requirements, and the requirements of any lease or Permit as to the Site. MP's technical review and inspection of the Facility shall not be construed as endorsing the design of such Facility nor as any warranty of safety, reliability, or durability of the Facility.

8.2 Post-Construction Information. Seller and MP shall each keep complete and accurate records and all other data required by each of them for the purposes of proper administration of this PPA, including such records as may be required by Governmental Authorities in the prescribed format. Seller and MP may examine the records and data kept by the other Party relating to transactions under and administration of this PPA, upon reasonable request and during normal business hours.

8.2.1 Seller shall maintain an accurate and up-to-date operating log, in electronic format, at the Facility with records of real and reactive power production for each clock hour, energy production dedicated to this PPA and energy production generated for other purposes, changes in operating status, Scheduled Outage/Deratings and Forced Outages, number of generating unit starts, and any unusual conditions found during inspections. The operating log shall be made available to MP upon reasonable request and subject to **Section 17.19**. Seller shall provide the described information to the extent the SCADA, controller or similar equipment monitoring the Facility is capable of measuring and retaining the information.

8.2.2 Appropriate representatives of MP shall at all reasonable times and with reasonable prior Notice have access to the Facility to read meters and to perform all inspections, maintenance, service, and operational reviews as may be appropriate to facilitate the performance of this PPA. While at the Facility, such representatives shall observe such reasonable health and safety precautions as may be required by Seller and the requirements of any lease or Permit as to the Site and shall conduct themselves in a manner that will not interfere with the operation of the Facility.

8.2.3 Each Party shall deliver or cause to be delivered to the other Party certificates of its officers, accountants, engineers or agents as to matters as may be reasonably

requested, and shall make available, upon reasonable request, personnel and records relating to the Facility to the extent that the requesting Party requires the same in order to fulfill any regulatory reporting requirements, or to assist the requesting Party in litigation, including, but not limited to, administrative proceedings before utility regulatory commissions. Information provided to another party pursuant to this **Section 8.2.3** may be subject to **Section 17.19**.

8.3 Operating Committee and Operating Procedures.

8.3.1 There shall be an Operating Committee established to assist the Parties in implementing their obligations under this Agreement. The Operating Committee shall have no authority to modify the terms or conditions of this PPA.

8.3.2 In accordance with **Section 17.1.1**, MP and Seller shall each appoint one representative and one alternate representative to act in matters relating to the Parties' performance obligations under this PPA and to develop operating arrangements for the generation, delivery and receipt of power and energy hereunder. Such representatives shall constitute the Operating Committee. The Parties shall notify each other in writing of such appointments and any changes thereto. The Operating Committee may only take action that is agreed to by both Parties' Representatives.

8.3.3 The Operating Committee shall provide liaison between the Parties with respect to implementation of the provisions of this Agreement. The Operating Committee shall develop mutually agreeable written Operating Procedures, which shall include, but not be limited to, method of day-to-day communications; metering, telemetering, telecommunications, and data acquisition procedures; key personnel list for applicable MP and Seller operating centers; clearances and switching practices; operating and maintenance scheduling and reporting; unit operations log; and such other matters as may be mutually agreed upon by the Parties.

8.3.4 The Operating Committee shall have the following additional functions, among all others specified elsewhere in this Agreement:

(a) To review and make recommendations regarding Seller's schedule for Scheduled Outages/Deratings and Facility maintenance;

(b) To review Seller's implementation of its obligations under this Agreement;

(c) To establish, prepare and discuss the statistical and administrative reports, budgets, and information and other similar records, and the form thereof, to be kept by and furnished by Seller and MP as required by this Agreement;

(d) To perform such other functions and duties as it may undertake from time to time in connection herewith or as may be assigned to it by the Parties and to make any recommendations to either Party deemed appropriate or desirable.

8.4 Wind Data and Capacity.

(a) Seller shall install sufficient measuring equipment at the Facility to collect data necessary to reasonably determine the amount of Facility generation under various conditions, including conditions where production from the Facility has been curtailed. Seller shall install by no later than the Commercial Operation Date a permanent meteorological tower of least eighty (80) meter height at the Site to provide the capability of measuring and recording representative wind data twenty-four (24) hours per day, which wind data shall be used to calculate any amounts due Seller under this PPA for curtailed or lost production. The tower required by this PPA may be provided on a nearby or adjacent site and serve more than one facility and shall be at a location reasonably determined by Seller with input from the Operating Committee. After the Commercial Operation Date, MP shall have the right on a real-time basis to access wind data from the meteorological tower electronically and Seller shall cooperate reasonably in providing such access, provided that MP shall hold all such data confidential pursuant to the terms of this Agreement. The Parties shall develop protocols and procedures through the Operating Committee for the determination of potential production under particular circumstances.

(b) Seller shall cooperate reasonably to assist MP in maximizing (pursuant to the terms and conditions of this Agreement) and determining the amount of Accreditable Capacity. Seller shall collect data and perform tests and calculations in compliance with Module E of the Tariff and MISO Business Practices Manual for Resource Adequacy, as they change from time to time. All required testing shall be conducted at Seller's expense.

ARTICLE 9

SECURITY

9.1 Security Amount.

9.1.1 Not later than thirty (30) Days after the Effective Date, Seller shall provide MP security in the amount of [TRADE SECRET DATA EXCISED] consisting of either or a combination of a letter of credit and/or cash escrow as set forth under **Section 9.2** ("Initial Development Security"). Upon the earlier of (i) Seller's delivery of the Stepped Up Development Security, or (ii) sixty (60) Days after termination of this Agreement, except as set forth in **Section 1.4**, Buyer shall promptly return the Initial Development Security to Seller.

9.1.2 Not later than thirty (30) Days after the date on which all MP contingencies under **Section 1.2.1** and all Seller contingencies under **Section 1.3.1** have been satisfied or waived as provided under those sections, Seller shall provide MP security in the amount of [TRADE SECRET DATA EXCISED] multiplied by the MP's Commitment ("Stepped Up Development Security") in a form acceptable under **Section 9.2**. Upon the earlier of (i) Seller's delivery of the Performance Security, or (ii) sixty (60) Days after termination of this Agreement, Buyer shall promptly return the Stepped Up Development Security to Seller.

9.1.3 Not later than the Commercial Operation Date, and as a condition thereto, Seller shall provide MP security for performance of the Facility when and as required hereunder, and for performance of all of Seller's other obligations hereunder to be performed over the Term of this Agreement following the Commercial Operation Date (the "Performance Security"). The Performance Security shall be available to pay any amount due MP pursuant to this PPA, and to provide MP security that Seller will properly operate and maintain the Facility and deliver Accreditable Capacity and Contract Energy to the Point of Delivery pursuant to this Agreement. The Performance Security shall also provide security to MP to cover damages, including, but not limited to, Availability Liquidated Damages, should the Facility fail to operate in accordance with this PPA. Seller shall establish the Performance Security at a level equal to [TRADE SECRET DATA EXCISED] multiplied by the Installed Capacity. Seller shall maintain the Performance Security at such required level, less the aggregate amount of any draws on such Performance Security, throughout the remainder of the Term.

9.2 Security Characteristics and Draw.

9.2.1 Except as set forth under **Section 9.1.1**, Security shall be composed of either a Guaranty, a letter of credit as described in **Section 9.2.3** or a cash escrow as described in **Section 9.2.2**, at Seller's option, or a combination of these options as long as the total amount of Security is no less than the amount then required. Notwithstanding the foregoing, the Guaranty amount may not comprise more than fifty percent (50%) of the overall total amount of Security. Seller shall be (i) permitted from time to time to change the form and combination of such posted Security provided that no Event of Default with respect to Seller then exists so long as MP is provided timely Notice of the change, and (ii) required, if Seller has provided Security, or any portion thereof, in the form of a Guaranty, if the entity or entities providing a Guaranty no longer qualify as a Guarantor, Seller shall within ten (10) Business Days of MP's Notice to do so: (A) replace such Guaranty with either a Guaranty from an entity or entities meeting the requirements as a Guarantor and/or (B) deliver a letter of credit or performance bond as described in **Section 9.2.2** and/or (C) supply a cash escrow as described in **Section 9.2.2**, at Seller's option, in any case, in the aggregate amount of the then applicable required Security, less the aggregate amount of any prior draws on such Security. Upon receipt of such substitute Security, any such Guaranty shall be deemed cancelled.

9.2.2 If Seller elects to utilize a cash escrow as Security, it shall establish an interest-bearing escrow account with a commercial bank or other mutually acceptable escrow agent as escrow agent, and the account shall name MP as the exclusive beneficiary for the duration of the existence of the escrow account. The escrow account shall be in United States currency, and funds in the account may be invested in a money-market fund, short-term treasury obligations, investment-grade commercial paper or other investment-grade investments with maturities of three (3) months or less. All income and interest earned on the accounts held in the escrow account shall accrue for the benefit of Seller, and Seller may withdraw the income and interest earned at any time as long as the balance in the account after the withdrawal meets the minimum funding requirements of this **Section 9.2**. The escrow agreement shall require the escrow agent to notify MP of the balance in the escrow account from time to time. The escrow agreement governing the account shall include terms that (i) prohibit termination of the account prior to establishment of alternative Security that satisfies all the requirements of this PPA; (ii) require Notice of no less than sixty (60) Days by the escrow agent to MP prior to any termination of the account; and (iii) allow MP to draw the entire balance in the escrow account up to the amount of the Security if Security has not been replaced in accordance with this Agreement at least five (5) Business Days prior to the expiration or termination of the escrow

account, and MP shall hold such amounts in lieu of escrow until such time as the Security has been replaced, at which time the funds shall be returned to Seller. At the end of the Term, any balance remaining in the escrow account shall be returned or released to Seller.

9.2.3 In conjunction with or instead of a Guaranty or cash security as provided in **Section 9.2.2**, Seller may provide Security in the form of an irrevocable letter of credit in a commercially reasonable form and otherwise in compliance with the requirements of this **Section 9.2** and in form and substance acceptable to the Issuer (as defined below) (the "LOC"). [TRADE SECRET DATA EXCISED] The LOC must: (i) be issued for a minimum term of three hundred and sixty (360) Days, and, where permitted by the Issuer, shall be automatically extended for a period of one (1) year on each successive expiration date unless, at least ninety (90) Days before the current expiration date, the Issuer notifies Seller and MP by certified mail that the Issuer has decided not to extend the letter of credit; (ii) provide that draws shall be payable upon presentation of a sight draft executed by an officer of MP substantially in the form approved by MP; and (iii) expressly permit partial and multiple draws. Any unused portion of the letter of credit shall be available, regardless of renewal, through the then current expiration date. Seller may replace the letter of credit with another Issuer which includes a provision for at least ninety (90) Days advance Notice to MP and shall cause the renewal or extension of the LOC meeting the criteria set forth in this **Section 9.2.3** within thirty (30) days prior to the expiration or cancellation of the then current LOC, and failure to do so shall authorize MP to draw immediately upon the then current LOC. MP shall then, at Seller's cost and with Seller's funds, place the amounts so drawn in an interest bearing escrow account in accordance with **Section 9.2.2** above, until and unless Seller provides a substitute form of such security meeting the requirements of this **Section 9.2**. Security in the form of an irrevocable standby letter of credit shall be governed by the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Brochure No. 500 or as otherwise required by the Issuer of the LOC.

9.2.4 Seller shall provide Guarantor's annual audited financial statements to MP within one hundred twenty (120) days after the end of each calendar year. MP shall have the right to monitor the financial condition of Seller, Guarantor, and the Issuer to the extent set forth herein, and Seller shall provide written Notice to MP within five (5) Business Days of becoming aware that (i) the Issuer does not satisfy the requirements of the second sentence of **Section 9.2.3**, [TRADE SECRET DATA EXCISED] or (iii) if the Guarantor is not Tenaska Energy, Inc. and Tenaska Energy Holdings, such Person does not have an Investment Grade Credit Rating, and in such event Seller shall provide alternative Security as soon as practicable

that complies with this **Section 9.2.4** and in no event later than thirty (30) Days after becoming aware of the Issuer's or a Guarantor's failure to meet the requirements of this **Article 9**.

9.3 Release of Security. Promptly following the termination of this PPA and the completion of all Seller's obligations under this PPA, MP shall release the Security (including any accumulated interest, if applicable) to Seller.

9.4 Permitted Draws; Effects of Draws. In addition to any other remedy available to it, MP may, before or after termination of this PPA, draw against the Security to satisfy any undisputed obligations of Seller to MP arising under this Agreement (including, without limitation, the payment of Availability Liquidated Damages, if any, or any indemnification obligations) which Seller has not otherwise paid or performed when due, after any required Notice and opportunity to cure. If MP draws against the Security and Seller subsequently disputes MP's entitlement to any portion of the funds drawn, neither MP's draw, the Issuer's payment under the LOC, nor Seller's replenishment of the Security or reimbursement of the Issuer or escrow agent shall constitute a waiver of Seller's rights to seek recovery of any amount disputed. To the extent MP elects to draw upon the Security to satisfy obligations that otherwise constitute, or might constitute, an Event of Default by Seller and entitle MP to terminate this Agreement, MP's draw against the Security shall be deemed a cure of such Event of Default and shall waive MP's right to terminate in that respect. With respect to any Event of Default by Seller that remains uncured and which could be cured by payment of an undisputed amount to MP, MP shall first draw upon the Security to cure the Event of Default, and only if such Security is insufficient to cure the Event of Default shall any right of termination which MP may otherwise have be exercised by MP.

ARTICLE 10

FORCE MAJEURE

10.1 Applicability of Force Majeure. A Party shall not be responsible, liable or in default with respect to any delay or failure to perform hereunder if, and to the extent, the delay or failure is substantially caused by Force Majeure. The Party affected by Force Majeure shall exercise commercially reasonable efforts to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

10.2 Force Majeure Procedures.

10.2.1 A Party delayed in performing or unable to perform any obligation hereunder by reason of Force Majeure shall give Notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as practicable after the occurrence of the cause relied upon.

10.2.2 Telephone, facsimile or email Notices given pursuant to this **Section 10.2** shall be confirmed in writing as soon as reasonably possible and shall specifically state the full particulars of the Force Majeure, the time and date when such Force Majeure occurred and when the Force Majeure is reasonably expected to cease.

10.2.3 A Party's suspension of performance due to a Force Majeure shall be no longer or broader than necessary as a result of the Force Majeure, and the Party claiming Force Majeure shall resume full performance of its obligations as promptly as possible.

10.2.4 When the non-performing Party is able to resume performance of its obligations under this PPA, that Party shall give the other Party written Notice to that effect.

10.3 Limitations on Force Majeure. In no event will any delay or failure of performance caused by any conditions or Force Majeure extend this PPA beyond its stated Term. If any delay or failure of performance caused by Force Majeure continues for an uninterrupted period of three hundred sixty-five (365) Days from its inception, the Party not claiming Force Majeure may, at any time following the end of such three hundred sixty-five (365) Day period, terminate this PPA upon written Notice to the affected Party, without further obligation by either Party except as to costs and balances incurred prior to the effective date of such termination. The Party not claiming Force Majeure may, but shall not be obligated to, extend such three hundred sixty-five (365) Day period, for at least one hundred eighty (180) Days, and such additional time as it, at its sole discretion, deems appropriate, if the affected Party is exercising due diligence in its efforts to cure the Force Majeure.

ARTICLE 11

DEFAULT, TERMINATION, AND REMEDIES

11.1 Events of Default of Seller. Any of the following shall constitute an "Event of Default" of Seller:

11.1.1 Seller's Abandonment of the Facility;

11.1.2 Seller's failure to achieve the COD by the Commercial Operation Milestone and Seller has failed to cure such failure within one hundred eighty (180) Days after such Milestone for reasons other than Force Majeure or a delay or Event of Default by MP, provided that if during such one hundred (180) Day period Seller provides a written opinion from a mutually agreeable independent engineer that the COD can reasonably be achieved within an additional ninety (90) Day period, then Seller shall be allowed a total period not to exceed two hundred seventy (270) Days after the Commercial Operation Milestone to achieve the COD;

11.1.3 Seller's assignment of this PPA or any of its rights hereunder for the benefit of creditors (except for an assignment to Financier as security under the Financing Documents as permitted by this PPA);

11.1.4 Seller's filing of a petition in bankruptcy or insolvency for dissolution or liquidation under the bankruptcy laws of the United States or under any insolvency act of any state, or the filing of such a petition by another Person against Seller seeking dissolution or liquidation, and Seller's failure to obtain the dismissal of the petition within ninety (90) Days;

11.1.5 The sale by Seller to a third party, or diversion by Seller for any use by a third party, of Accreditable Capacity, Contract Energy, or any associated Green Tags to which MP is entitled under this PPA except as expressly allowed under this Agreement;

11.1.6 Seller's failure to establish and maintain the funding of the Security as and in the amounts required;

11.1.7 Seller's failure to make any payment required under this PPA unless such payment is subject to a good-faith dispute;

11.1.8 Seller's assignment of this PPA, or Seller's sale or transfer of its interest, or any part thereof, in the Facility, except as permitted by this Agreement to the extent such assignment is not deemed void;

11.1.9 Any representation or warranty made by Seller in this PPA shall prove to have been false or misleading in any material respect when made or any covenant made by Seller ceases to remain true during the Term if such cessation would reasonably be expected to result in a material adverse impact on MP, provided that Seller shall have a reasonable time not exceeding thirty (30) Days to correct the false or misleading condition; and/or

11.1.10 Seller's failure to comply with any other material obligation under this PPA, which would result in a material adverse impact on MP that does not constitute a separate event of default or provide for an exclusive remedy or liquidated damages.

11.2 Events of Default of MP. Any of the following shall constitute an "Event of Default" of MP:

11.2.1 MP fails to make a payment due to Seller that is not subject to a good-faith dispute when such payment is due;

11.2.2 MP's dissolution or liquidation, provided that division of MP into multiple entities, or other corporate reorganization, shall not constitute dissolution or liquidation if, but only if, the legal entity remaining obligated hereunder, together with any guarantor of MP's obligations hereunder, meets the requirements of the second sentence of **Section 16.1.2**;

11.2.3 MP's assignment of this PPA or any of its rights hereunder for the benefit of creditors;

11.2.4 MP's filing of a petition in bankruptcy or insolvency for dissolution or liquidation under the bankruptcy laws of the United States or under any insolvency act of any state, or the filing of such a petition by another Person against MP seeking dissolution or liquidation, and MP's failure to obtain the dismissal of the petition within ninety (90) Days;

11.2.5 Any representation or warranty made by MP in this PPA shall prove to have been false or misleading in any material respect when made or ceases to remain true during the Term if such cessation would reasonably be expected to result in a material adverse impact on Seller;

11.2.6 MP's assignment of this PPA except as permitted by this Agreement to the extent such assignment is not deemed void;

11.2.7 MP's failure or refusal to accept delivery of Contract Energy at the Point of Delivery, or Seller's inability to generate and proffer Contract Energy at the Point of Delivery as a result of MP's act or omissions, for reasons other than an Excused Curtailment, Economic Curtailments, or a Compensated Curtailment where the applicable payment is made to Seller with respect to such curtailment pursuant to the terms of the PPA; or

11.2.8 MP's failure to comply with any other material obligation under this PPA, which would result in a material adverse impact on Seller.

11.3 Remedies. Upon the occurrence of any curable default, the non-defaulting Party shall provide the defaulting Party with Notice of the default and a reasonable opportunity to cure, such period not to exceed twenty (20) Days with respect to any failure to pay described in **Sections 11.1.7** and **11.2.1** or thirty (30) Days from such Notice with respect to any other default. For any default which has not been cured in the time required, the non-defaulting Party may, at its option, do any, some or all of the following:

11.3.1 Terminate this Agreement to the extent permitted by **Section 11.4**;

11.3.2 Offset from any payments due from the non-defaulting Party to the defaulting Party any amount otherwise due;

11.3.3 Seek damages in such amounts and on such bases for the default as authorized by this Agreement; and/or

11.3.4 In the case of a default by Seller, MP may draw on the Security as the case may be in the amount of any damages subject to the terms of **Article 9**.

11.4 Termination. Upon the occurrence and continuation of an Event of Default which has not been cured within the time required or otherwise waived, as provided for in this Agreement, the non-defaulting Party shall have the right to terminate this PPA by Notice to the non-defaulting Party without further obligation to the defaulting Party except for obligations arising or accruing prior to the date of termination.

11.4.1 Upon the termination of this PPA under this **Section 11.4** except with respect to a default of Seller under **Section 11.1.2**, the exclusive remedy for which is set forth in **Section 4.4**, the non-defaulting Party shall be entitled to receive from the defaulting Party all of the actual damages incurred by the defaulting Party to the extent allowed by law including, if Seller is the defaulting Party, Availability Liquidated Damages as and when allowed by this Agreement, up to the Aggregate Damage Limitation set forth in **Section 11.5**, and subject to the limitations of **Section 1.4, Section 11.10** and other provisions of this PPA, and if MP is the defaulting Party, damages equal to the present value (using an appropriate discount rate agreed to by Seller and MP or as determined pursuant to **Article 14**) of the estimated payments under this Agreement minus the net present value (using the same discount rate) of amounts payable by a substitute purchaser (but not less than zero) and the value of any PTC Benefit determined on an after-tax basis, that is lost by Seller or an Affiliate due to an Event of Default of MP that Seller has not been able to mitigate after use of commercially reasonable efforts, but in no event more than the sum of the net present value of the remaining estimated payments under this PPA plus

the PTC Benefit determined on an after-tax basis, that is lost by Seller or an Affiliate due to an Event of Default of MP.

11.4.2 Applicable provisions of this PPA shall continue in effect after termination, including early termination, to the extent necessary to enforce or complete the duties, obligations or responsibilities of the Parties arising prior to termination and, as applicable, to provide for: final billings and adjustments related to the period prior to termination, repayment of any money due and owing to either Party pursuant to this PPA, repayment of principal and interest associated with Security, and the indemnifications specified in this PPA.

11.4.3 If the existence of an Event of Default or a Party's right to terminate this Agreement is disputed, and the dispute has been submitted to dispute resolution pursuant to **Article 14**, the Party claiming the right to terminate shall not be able to exercise that right until the conclusion of dispute resolution or any other applicable legal proceeding resolving the dispute.

11.5 Aggregate Damage Limitation. Subject to **Section 1.4** and except as otherwise provided in this **Section 11.5**, Seller's aggregate liability to MP for Availability Liquidated Damages and other damages prior to the Commercial Operation Date as set forth under **Section 4.5** shall not exceed [TRADE SECRET DATA EXCISED] multiplied by the MP's Commitment. After the Commercial Operation Date and except as otherwise provided in this **Section 11.5**, Seller's aggregate liability to MP for Availability Liquidated Damages and other damages shall not exceed [TRADE SECRET DATA EXCISED] times the Installed Capacity (the "Aggregate Damage Limitation"). If MP incurs such damages and after MP's application of (i) all Security available under this PPA, (ii) any amounts offset against obligations of MP to Seller and (iii) payments made by Seller, Financiers or other Persons toward such damages, there remains a balance due to MP which Seller fails to pay as required, then MP may terminate this Agreement pursuant to **Sections 11.1.7** and **11.4** The Aggregate Damage Limitation shall not apply to damages caused by or arising out of any of the following events and any such damages shall be due and payable without regard to the Aggregate Damage Limitation:

11.5.1 material intentional misrepresentation or intentional misconduct sanctioned by, or at the direction of, Seller in connection with this PPA;

11.5.2 the sale or diversion by Seller to another Person of Accreditable Capacity or Contract Energy to which MP is entitled under this PPA except to the extent permitted by this Agreement;

11.5.3 Seller's failure to apply any insurance proceeds to reconstruction of the Facility following a casualty as required by **Section 6.7**;

11.5.4 any claim for Indemnification arising under **Article 12** of this Agreement; or

11.5.5 any Environmental Contamination caused by Seller.

11.6 Seller's Right to Mitigate Damages. If MP fails to accept delivery of any Contract Energy, except for curtailment as permitted by **Sections 6.6** and **7.6** of this Agreement, (i) for a period of five (5) or more continuous Days or (ii) for any period after the sum of the number of Days described in clause (i) of this **Section 11.6** exceeds fifteen (15), notwithstanding any provision herein to the contrary, Seller shall be entitled to sell the Energy, Capacity and associated Green Tags produced by the Facility to MISO or another Person until such time as MP provides Notice to Seller that MP will resume receipt of delivery of the Contract Energy, and the net income from any such third-party sales shall be in the nature of mitigation of Seller's damages arising from MP's breach of its obligation to accept delivery of Contract Energy.

11.7 Specific Performance. Each Party recognizes that MP is relying upon the availability of the Installed Capacity and Contract Energy provided from the Facility and that this Agreement is a significant asset of Seller. Subject to **Section 1.4**, each Party further agrees that, if it defaults under this Agreement, and if the other Party thereafter brings an action seeking specific performance of this Agreement, the defaulting Party shall not defend against such action on the basis of the non-defaulting Party having an adequate remedy at law, provided that if MP is successful in obtaining a remedy against Seller for specific performance of this Agreement, in no event shall Seller be obligated to incur costs or expend amounts in an amount greater than Seller's aggregate liability to MP as specified in **Section 11.5**. Without limiting the rights of either Party as otherwise set forth in this Agreement, each Party hereby waives any and all rights to invoke any defenses to its respective obligations to perform under this Agreement to the extent based on the doctrines of commercial impracticability, impossibility of performance or frustration of purpose.

11.8 Remedies Cumulative. Subject to **Section 1.4** and the Aggregate Damage Limitation, and provisions of **Section 11.10** and except where an exclusive remedy or liquidated damages are provided, each right or remedy of the Parties provided for in this PPA shall be cumulative of and shall be in addition to every other right or remedy provided for in this PPA, and the exercise, or the beginning of the exercise, by a Party of any one or more or the rights or

remedies provided for herein shall not preclude the simultaneous or later exercise by such Party of any or all other rights or remedies provided for herein.

11.9 Waiver and Exclusion of Other Damages. The Parties confirm that the express remedies and measures of damages provided in this PPA satisfy the essential purposes hereof. If no remedy or measure of damages is expressly herein provided, the obligor's liability shall be limited to direct, actual damages only. Neither Party shall be liable to the other Party for consequential, incidental, punitive, exemplary or indirect damages; lost profits; or other business interruption damages by statute, in tort or contract (except to the extent expressly provided in this PPA); provided, that if either Party is held liable to a third party for such damages and the Party held liable for such damages is entitled to indemnification therefor from the other Party hereto, the Indemnifying Party shall be liable for, and obligated to reimburse the Indemnified Party for, such damages. To the extent any damages required to be paid hereunder are liquidated, the Parties acknowledge that the damages are difficult or impossible to determine, that otherwise obtaining an adequate remedy is inconvenient, and that the liquidated damages constitute a reasonable approximation of the harm or loss. MP further acknowledges that in the event MP fails or refuses to accept delivery of Contract Energy, except as otherwise permitted by this Agreement, the resulting loss of PTC Benefits by Seller shall be considered direct and actual damages incurred by Seller and not consequential damages.

11.10 Payment of Amounts Due to MP. Without limiting any other provisions of this **Section 11.10** and at any time before or after termination of this PPA, MP may send Seller an invoice for such damages or other amounts as are due to MP at such time from Seller under this PPA and any invoiced amounts not subject to good-faith dispute shall be payable within thirty (30) Days. MP may offset all such undisputed amounts from any monthly invoice due and owing to Seller up to a maximum amount equal to thirty percent (30%) of the invoice, and MP may withdraw funds from the Security as needed to provide payment for such undisputed amounts to the extent any such amounts are not paid by Seller or offset by MP on or before the tenth (10th) Business Day following the invoice due date.

11.11 Duty to Mitigate. Each Party agrees that it has a duty to mitigate damages in accordance with Applicable Law.

ARTICLE 12

INDEMNITY

12.1 Indemnification. Each Party (the "Indemnifying Party") agrees to indemnify, defend and hold harmless the other Party and its directors, officers, employees, members or agents (the "Indemnified Party") from and against all third-party claims, demands, losses, liabilities, penalties, and expenses (including reasonable attorneys' fees) for personal injury or death to persons and damage to the Indemnified Party's real property and tangible property or facilities or the property of any other Person to the extent arising out of, resulting from, or caused by an Event of Default under this PPA, a violation of any applicable environmental laws, or the negligent or intentional tortious acts, errors, or omissions of the Indemnifying Party or its directors, officers, employees, or agents. Nothing in this **Section 12.1** shall enlarge or relieve Seller or MP of any liability to the other for any breach of this Agreement. This indemnification obligation shall apply notwithstanding any negligent or intentional acts, errors or omissions of the Indemnified Party, but the Indemnifying Party's liability to pay damages to the Indemnified Party shall be reduced in proportion to the percentage by which the Indemnified Party's negligent or intentional acts, errors or omissions caused the damages. Neither Party shall be indemnified for its damages resulting from its sole negligence, intentional acts or willful misconduct. These indemnity provisions shall not be construed to relieve any insurer of its obligation to pay claims consistent with the provisions of a valid insurance policy.

12.2 Indemnified Party. If an Indemnified Party is entitled to indemnification under this Agreement as a result of a claim by a non-party, and the Indemnifying Party fails, after Notice and reasonable opportunity to proceed to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party, contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

12.3 Indemnifying Party. If an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this **Article 12**, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual loss, net of any insurance or other recovery.

12.4 Indemnity Procedures. Promptly after receipt by an Indemnified Party of any claim or Notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in **Section 12.1** may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any failure of or delay in such Notice

shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

12.4.1 The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Party. If the defendants in any such action include one or more Indemnified Parties and the Indemnifying Party and if the Indemnified Party reasonably concludes that there may be legal defenses available to it and/or other Indemnified Parties which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Party or Indemnified Parties having such differing or additional legal defenses.

12.4.2 The Indemnified Party shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Party and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Party, or there exists a conflict or adversity of interest between the Indemnified Party and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Party, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Party, which shall not be reasonably withheld, conditioned or delayed.

12.5 Damages. Except as otherwise provided in this **Article 12**, if a Party is obligated to indemnify and hold the an Indemnified Party harmless under this **Article 12**, the amount owing to the Indemnified Party will be the amount of the Indemnified Party's actual loss net of any insurance proceeds received by the Indemnified Party following a reasonable effort by the Indemnified Party to obtain such insurance proceeds.

ARTICLE 13

INSURANCE

13.1 Evidence of Insurance. Prior to the start of construction and annually thereafter on or prior to any policy renewal date, Seller shall provide MP with copies of insurance

certificates acceptable to MP evidencing that insurance coverages for the Facility are in compliance with the specifications for insurance coverage set forth below in this **Article 13**. Such certificates shall (a) reflect MP as an additional insured (except workers' compensation, builder's risk and property insurance); (b) provide that MP shall receive thirty (30) Days' prior written Notice of cancellation of any of the corresponding policies (except that such Notice shall be ten (10) Days for non-payment of premiums); (c) provide a waiver of any rights of subrogation against MP and its affiliated entities and their officers, directors, agents, subcontractors, and employees; and (d) indicate that the Commercial General Liability and/or Umbrella/Excess Liability policy has been endorsed as described above. All policies shall be written with insurers licensed to provide insurance in Minnesota with a Best's rating of A- or better and a financial category of VIII or better. All policies shall be written on an occurrence basis or other basis acceptable to MP, except as provided in this **Article 13**. All policies shall contain an endorsement that Seller's policy shall be primary in all instances regardless of like coverages, if any, carried by MP. Seller's liability under this PPA is not limited to the amount of insurance coverage required herein.

13.2 General Liability and Umbrella/Excess Liability Insurance. Commercial General Liability ("CGL") or Commercial Umbrella/Excess Liability ("EL") insurance shall be procured at a minimum limit of coverage of Twenty Million Dollars ($20,000,000) combined single limit each occurrence and the aggregate, where applicable. If such insurance contains a general aggregate limit, it shall apply separately to the Facility.

13.2.1 CGL insurance, if provided, shall be written on ISO occurrence form CG 00 01 10 01 (or a substitute form providing equivalent coverage and acceptable to MP) and shall cover liability arising from operations, products/completed operations, premises, independent contractors, property damage, personal injury and advertising injury, contracts, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract), all with limits as specified above. There shall be no endorsement or modification of the CGL insurance limiting the scope of coverage for liability arising from collapse, explosion, or underground property damage. EL coverage, if provided, may be provided on an AEGIS claims-made form.

13.2.2 MP shall be included as an additional insured under the CGL policy, using ISO additional insured endorsement CG 20 10 10 01 (or an updated substitute providing equivalent coverage), and shall be included under the Commercial Umbrella Liability insurance. The EL insurance shall provide coverage in excess of the CGL insurance, the Business Automobile Liability insurance, and the Employers Liability insurance. The EL insurance, in

addition to the underlying coverages, will provide a minimum of Twenty Million Dollars ($20,000,000) in limits. MP shall be included as an additional insured under the EL policy through a blanket additional insured endorsement.

13.2.3 The CGL and/or EL insurance to be obtained by or on behalf of Seller shall be endorsed as follows: "Such insurance as afforded by this policy for the benefit of MP shall be primary as respects any claims, losses, expenses, damages including reasonable attorneys' fees or liabilities arising out of this Agreement, and insured hereunder, and any insurance carried by MP shall be excess of and noncontributing with insurance afforded by this policy."

13.3 Business Automobile Liability Insurance. If applicable, Business Automobile Liability insurance shall be procured at a level of One Million Dollars ($1,000,000) per accident combined single limit bodily injury and property damage including all owned, non-owned, hired and leased autos. Business Automobile Liability insurance shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or an updated form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

13.4 Workers' Compensation Insurance. Workers' Compensation insurance shall be procured at the level required by relevant state statutes. Seller may comply with these requirements through the use of a qualified self-insurance plan.

13.5 Employers Liability Insurance. Employers Liability insurance shall be procured at the level of One Million Dollars ($1,000,000) each accident for bodily injury by accident, or One Million Dollars ($1,000,000) per employee for bodily injury by disease.

13.6 Builder's Risk Insurance. If applicable, Builder's Risk insurance shall be procured with a limit equal to the replacement value of the Facility except for the perils of flood and earthquake which may have a sub-limit of no less than Twenty-Five Million Dollars ($25,000,000). Builder's Risk insurance, or an installation floater, shall include coverage for earthquake and flood, resulting damage from faulty workmanship, collapse, materials and design, testing of machinery or equipment, and debris removal. There shall be no limitation of coverage for occupancy prior to full completion and acceptance. Such Builder's Risk policy may contain a series loss clause. Design defect language will be equal to LEG 2 or higher.

13.7 Property Insurance. Broad Form Property insurance, covering physical loss or damage to the Facility, shall be procured at the full replacement value of the Facility or with

lower limits acceptable to MP. A deductible may be carried, which deductible shall be the responsibility of Seller. Property insurance shall include coverage for flood, fire, wind and storm, tornado and earthquake with respect to facilities similar in construction, location and occupancy to the Facility, with sub-limits of no less than Twenty-Five Million Dollars ($25,000,000) annual aggregate each for flood and earthquake. The Broad Form Property policy may contain a serial-loss clause and design defect language equal to LEG2 or higher.

13.8 Term and Modification of Insurance.

13.8.1 All liability insurance(s) required under this PPA shall cover occurrences during the Term or occurrences which occur during the Term but are not reported for a period of up to two (2) years after the Term. If any insurance as required herein is commercially available only on a "claims-made" basis, such insurance shall provide for a retroactive date not later than the Commencement Date or the date that an occurrence-based form is no longer purchased and such insurance shall be maintained by Seller, with a retroactive date not later than the retroactive date required above, for a minimum of three (3) years after the Term.

13.8.2 If any insurance required to be maintained by Seller hereunder ceases to be reasonably available and commercially feasible in the commercial insurance market, Seller shall provide written Notice to MP, accompanied by a certificate from an independent insurance advisor of recognized national standing, certifying that such insurance is not reasonably available and commercially feasible in the commercial insurance market for electric generating plants of similar type, geographic location and capacity. Upon receipt of such Notice, Seller shall use commercially reasonable efforts to obtain other insurance which would provide comparable protection against the risk to be insured and MP shall not unreasonably withhold its consent to modify or waive such requirement.

ARTICLE 14

DISPUTE RESOLUTION

14.1 Dispute Resolution. The Parties will use reasonable efforts to resolve disputes informally and without the need to resort to litigation.

14.1.1 For all disputes that arise pursuant to the PPA, the Parties immediately, through their designated representatives selected in the sole discretion of each Party (individually, the "Party Representative"; together, the "Parties' Representatives"), shall negotiate with one another in good faith in order to reach resolution of the dispute. Such

negotiation shall commence within fourteen (14) Days of the date of the letter from one Party Representative to the other Party Representative notifying that Party of the nature of the dispute.

14.1.2 If the Parties' Representatives cannot agree to a resolution of the dispute within thirty (30) Days after the commencement of negotiations, written Notice of the dispute (the "Dispute Notice"), together with a statement describing the issues or claims, shall be delivered, within seventy-two (72) hours after the expiration of such thirty (30) Day period, by each of the Parties' Representatives to its respective senior officer or official (such senior officer or official to be selected by each of the Party Representatives in his or her sole discretion, provided that such senior officer or official has authority to bind the respective Party). Within three (3) Business Days after receipt of the Dispute Notice, the senior officers or officials for both Parties shall commence negotiating in good faith to resolve the dispute.

14.1.3 If the Parties are unable to resolve the dispute within fourteen (14) Days of receipt of the Dispute Notice by the senior officers or officials or a Party refuses to participate in such negotiations on the timelines provided herein, either Party may seek available legal remedies.

14.2 Governing Law. The interpretation and performance of this PPA and each of its provisions shall be governed and construed in accordance with the laws of the State of Minnesota, without regard to its conflict of laws principles of the United States of America, as applicable. The Parties hereby submit to the exclusive jurisdiction of the federal courts of the State of Minnesota. To the extent that the federal courts lack subject matter jurisdiction over any dispute (through lack of diversity or otherwise) the Parties hereby submit to the exclusive jurisdiction of the applicable Minnesota District Court.

ARTICLE 15

REPRESENTATIONS, WARRANTIES AND COVENANTS

15.1 Seller's Representations, Warranties and Covenants. Seller hereby represents and warrants as of the Effective Date as follows:

15.1.1 Seller is a limited liability company duly organized, validly existing and in good standing under the laws of the State of Minnesota. Seller is qualified to do business in each other jurisdiction where the failure to so qualify would have a material adverse effect on the business or financial condition of Seller, and Seller has all requisite power and authority to

conduct its business, to own its properties, and to execute, deliver, and perform its obligations under this PPA.

15.1.2 The execution, delivery, and performance of its obligations under this PPA by Seller have been duly authorized by all necessary company action, and do not and will not:

(a) require any consent or approval by any governing body of Seller, other than that which has been obtained and is in full force and effect (evidence of which shall be delivered to MP upon its request);

(b) violate any provision of law, rule, regulation, order, writ, judgment, injunction, decree, determination, or award currently in effect having applicability to Seller or violate any provision in any formation documents of Seller, the violation of which could have a material adverse effect on the ability of Seller to perform its obligations under this PPA;

(c) result in a breach or constitute a default under Seller's formation documents or bylaws, or under any agreement relating to the management or affairs of Seller or any indenture or loan or credit agreement, or any other agreement, lease, or instrument to which Seller is a party or by which Seller or its properties or assets may be bound or affected, the breach or default of which could reasonably be expected to have a material adverse effect on the ability of Seller to perform its obligations under this PPA; or

(d) result in, or require the creation or imposition of any mortgage, deed of trust, pledge, lien, security interest, or other charge or encumbrance of any nature (other than as may be contemplated by this PPA) upon or with respect to any of the assets or properties of Seller now owned or hereafter acquired, the creation or imposition of which could reasonably be expected to have a material adverse effect on the ability of Seller to perform its obligations under this PPA.

15.1.3 This PPA is a valid and binding obligation of Seller, subject to the contingencies identified in **Section 1.3**.

15.1.4 The execution and performance of this PPA will not conflict with or constitute a breach or default under any contract or agreement of any kind to which Seller is a party or any judgment, order, statute, or regulation that is applicable to Seller or the Facility.

15.1.5 To the best knowledge of Seller, and except for those Permits identified in **Exhibit D**, which Seller anticipates will be obtained by Seller in the ordinary course of business,

all Permits required by any Governmental Authority to authorize Seller's execution, delivery and performance of this PPA have been duly obtained and are in full force and effect.

15.1.6 Seller intends to comply with all applicable local, state, and federal laws, regulations, and ordinances, including, but not limited to, any applicable equal opportunity and affirmative action requirements and all applicable federal, state, and local environmental laws and regulations presently in effect or which may be enacted during the Term of this PPA.

15.1.7 Seller shall disclose to MP, to the extent that, and as soon as it is known to Seller, any violation of any environmental laws or regulations arising out of the construction or operation of the Facility, or the presence of Environmental Contamination at the Facility or on the Site, alleged to exist by any Governmental Authority having jurisdiction over the Site, or the existence of any past or present enforcement, legal, or regulatory action or proceeding relating to such alleged violation or alleged presence of Environmental Contamination.

15.2 MP's Representations, Warranties and Covenants. MP hereby represents and warrants as follows:

15.2.1 MP is an operating division of ALLETE, Inc., a corporation duly organized, validly existing and in good standing under the laws of the State of Minnesota and is qualified in each other jurisdiction where the failure to so qualify would have a material adverse effect upon the business or financial condition of MP, and MP has all requisite power and authority to conduct its business, to own its properties, and to execute, deliver, and perform its obligations under this PPA.

15.2.2 The execution, delivery, and performance of its obligations under this PPA by MP have been duly authorized by all necessary corporate action, and do not and will not:

(a) require any consent or approval of MP's Board of Directors, or shareholders, other than that which has been obtained and is in full force and effect (evidence of which shall be delivered to Seller upon its request);

(b) violate any provision of law, rule, regulation, order, writ, judgment, injunction, decree, determination, or award currently in effect having applicability to MP or violate any provision in any corporate documents of MP, the violation of which could have a material adverse effect on the ability of MP to perform its obligations under this PPA;

(c) result in a breach or constitute a default under MP's corporate charter or bylaws, or under any agreement relating to the management or affairs of MP, or any indenture or loan or credit agreement, or any other agreement, lease, or instrument to which MP is a party or by which MP or its properties or assets may be bound or affected, the breach or default of which could reasonably be expected to have a material adverse effect on the ability of MP to perform its obligations under this PPA; or

(d) result in, or require the creation or imposition of any mortgage, deed of trust, pledge, lien, security interest, or other charge or encumbrance of any nature (other than as may be contemplated by this PPA) upon or with respect to any of the assets or properties of MP now owned or hereafter acquired, the creation or imposition of which could reasonably be expected to have a material adverse effect on the ability of MP to perform its obligations under this PPA.

15.2.3 This PPA is a valid and binding obligation of MP, subject to the contingencies identified in **Section 1.2**.

15.2.4 The execution and performance of this PPA will not conflict with or constitute a breach or default under any contract or agreement of any kind to which MP is a party or any judgment, order, statute, or regulation that is applicable to MP.

15.2.5 To the best knowledge of MP, and except for the contingencies set forth in **Section 1.2**, all approvals, authorizations, consents, or other action required by any Governmental Authority to authorize MP's execution, delivery and performance of this PPA have been duly obtained and are in full force and effect.

ARTICLE 16

FINANCING PROVISIONS

16.1 No Assignment Without Consent.

16.1.1 Except as expressly permitted in this **Section 16.1**, neither Party shall assign this PPA or any portion thereof, without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed; provided that (i) at least thirty (30) Days' prior Notice of any such assignment shall be given to the other Party; (ii) any assignee shall expressly assume the assignor's obligations hereunder, unless otherwise agreed to by the other Party, and no assignment, whether or not consented to, shall relieve the assignor of

its obligations hereunder in the event the assignee fails to perform, unless the other Party agrees in writing in advance to waive the assignor's continuing obligations pursuant to this PPA; (iii) any assignee of Seller shall provide required Security; (iv) before the PPA is assigned by a Party, the proposed assignee must first obtain such approvals as may be required by all applicable Governmental Authorities; and (v) the proposed assignee is acceptable to any Financier to Seller and provides MP with reasonable evidence that the assignee itself, or the operator it proposes to use at the Facility, has past operational experience of at least two (2) years at a renewable generation facility of equal or greater size than the Facility.

16.1.2 Notwithstanding the foregoing, Seller's consent shall not be required for MP to assign this PPA to an Affiliate of MP, provided that MP provides assurances and executes documents reasonably required by Seller and any Financiers regarding MP's continued liability for all of MP's obligations under this PPA in the event of any nonperformance on the part of such assignee. If the assignee (i) has or obtains a Credit Rating equivalent to or better than the Credit Rating of MP as of the Effective Date (which is BBB+ from S&P and A3 from Moody's, and therefore, as a result of the application of the split rating portion of the definition of "Credit Rating," shall be deemed to be Baa1 from Moody's for purposes of ascertaining whether the assignee's Credit Rating is equivalent or better than MP's Credit Rating), (ii) has or achieves a tangible net worth of [TRADE SECRET DATA EXCISED] at the time of MP's assignment of this PPA, and (iii) has or obtains substantially the same operational expertise and skills as possessed by MP immediately prior to such assignment, then Seller agrees to relieve MP from its obligations under this PPA and any other assurances upon written request by MP.

16.1.3 MP's consent shall not be required for Seller to assign this PPA for collateral purposes to any Financier.

16.2 Accommodation of Financier. To facilitate Seller's obtaining of financing to construct and operate the Facility, MP shall provide such consents to assignments, certifications, representations, information or other documents as may be reasonably requested by Seller or any Financier in connection with the financing of the Facility; provided that in responding to any such request, MP shall have no obligation to provide any consent, or enter into any agreement, that materially adversely affects any of MP's rights, benefits, risks and/or obligations under this PPA. Seller shall reimburse, or shall cause any Financier to reimburse, MP for the incremental direct expenses (including, without limitation, the reasonable fees and expenses of counsel) incurred by MP in the preparation, negotiation, execution and/or delivery of any documents requested by Seller or any Financier, and provided by MP, pursuant to this **Section 16.2**.

16.3 Change of Control. Except as otherwise provided in this **Section 16.3**, any direct change of control of Seller shall require the prior written consent of MP, which shall not be unreasonably withheld, conditioned or delayed. For purposes of this **Section 16.3**, a direct change of control shall mean a transfer of at least fifty percent (50%) of the voting rights of Seller as a result of the transfer of membership interests in Seller unless notwithstanding such a transfer of fifty percent (50%) or more of the voting rights of Seller, the direct and indirect owners of Seller as of the Effective Date retain Management Control. MP's consent shall not be required for any change of control other than a direct change of control as described above, including any change of control which occurs by transfer of ownership of membership interest in entities that own membership interests in Seller or by operation of Seller's member control agreement and which merely results in a change of percentage ownership among Persons (including Financiers) who constitute Seller's members and which does not involve the addition of a new member or transfer of voting rights to any other Person.

16.4 Notice of Financier Action. Within ten (10) Days following Seller's receipt of each written Notice from any Financier of default, or any Financier's intent to exercise any remedies, under the Financing Documents, Seller shall deliver a copy of such Notice to MP.

16.5 Transfer Without Consent Is Null and Void. Any purported sale, transfer, or assignment of any interest in this PPA made without fulfilling the conditions precedent to such assignment (if any) or obtaining the consent of the other Party (if required) shall be null and void.

ARTICLE 17

MISCELLANEOUS

17.1 Notices. Notices required by this PPA shall be in writing and addressed to the other Party, including the other Party's Representative on the Operating Committee, at the addresses noted in **Exhibit E** as either Party updates them from time to time by written Notice to the other Party. Any Notice under this PPA shall either be hand delivered or delivered by first-class mail, postage prepaid, to the applicable representative of said other Party. If mailed, the Notice shall be simultaneously sent by facsimile or email. Any such Notice shall be deemed to have been received by the close of the Business Day on which it was postmarked, hand delivered or transmitted electronically (unless hand delivered or transmitted after the close of regular business hours in which case it shall be deemed received at the close of the next Business Day).

Real-time or routine communications concerning Facility operations shall be exempt from this **Section 17.1**.

17.1.1 Each Party shall, prior to the Commercial Operation Date, identify in writing a designated representative and an alternate representative to serve as that Party's Representative and alternate representative on the Operating Committee.

17.1.2 Either Party may change the information for their Notice addresses in **Exhibit E** at any time without the approval of the other Party by providing Notice to the other Party.

17.2 Taxes.

17.2.1 Seller shall be solely responsible for any and all present or future taxes relating to the construction, ownership or leasing, operation or maintenance of the Facility, or any components or appurtenances thereof, and all ad valorem taxes relating to the Facility, and all personal property or production taxes assessed against the Facility, whether based on value or production, and income taxes payable on income earned by Seller. MP shall be responsible for any taxes imposed on its purchase of the Contract Energy, Accreditable Capacity and Green Tags or any transmission, use or sale of Contract Energy, Accreditable Capacity or Green Tags after MP's receipt at the Point of Delivery.

17.2.2 The Parties shall cooperate to minimize tax exposure; provided that neither Party shall be obligated to incur any financial burden to reduce taxes for which the other Party is responsible hereunder. All electric energy delivered by Seller to MP hereunder shall be sales for resale, with MP reselling such electric energy. MP shall obtain and provide Seller with any certificates required by any Governmental Authority, or otherwise reasonably requested by Seller to evidence that the deliveries of electric energy hereunder are sales for resale.

17.2.3 Seller is entitled to receive any federal tax credits pursuant to 26 U.S.C. §45, as amended, and any other production tax credits or payments or other tax credits, grants or assistance available to Seller or the Facility from any Governmental Authority, and MP acknowledges that Seller is entitled to such credits.

17.3 Fines and Penalties.

17.3.1 Any fines, penalties or other costs incurred by either Party or such Party's agents, employees or subcontractors for non-compliance by such Party or its agents, employees

or subcontractors with the requirements of any Governmental Authority shall not be reimbursed by the other Party but shall be the sole responsibility of such non-complying Party.

17.3.2 If fines, penalties or other costs are assessed against a Party by any Governmental Authority or court of competent jurisdiction due to the wrongful or unlawful actions or inactions of the other Party, the Party causing the fine, penalty or other cost to be assessed shall indemnify and hold harmless the other Party against any and all losses, liabilities, damages and claims suffered or incurred thereby. The Indemnifying Party shall also reimburse the other Party for any and all legal or other expenses (including attorneys' fees) actually and reasonably incurred in connection with such losses, liabilities, damages and claims.

17.4 Rate Changes.

17.4.1 The terms and conditions and the rates for service specified in this Agreement shall remain in effect for the term of the transaction described herein. Absent the Parties' written agreement, this Agreement shall not be subject to change by application of either Party pursuant to Section 205 or 206 of the Federal Power Act.

17.4.2 Absent the written agreement of all Parties to the proposed change, the standard of review for changes to this Agreement whether proposed by a Party, a non-party, or FERC acting sua sponte shall be the "public interest" standard of review set forth in *United Gas Pipe Line v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956), and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956) (the "Mobile-Sierra doctrine").

17.5 Buyer Purchase Option. Buyer shall have the option to purchase the Facility from Seller on the terms set forth in **Exhibit F**.

17.6 Relationship of the Parties.

17.6.1 The duties, obligations and liabilities of the Parties are intended to be several and not joint or collective. This PPA shall not be interpreted to create an association, joint venture, or partnership between the Parties nor to impose any partnership obligation or liability or any trust or fiduciary obligation or relationship upon either Party. Except as specifically provided for in **Section 11.8**, neither Party shall have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, the other Party.

17.6.2 Seller shall be solely liable for the payment of all wages, taxes, and other costs related to the employment of persons to perform Seller's obligations under the PPA, including all federal, state, and local income, social security, payroll, and employment taxes and statutorily mandated workers' compensation coverage. None of the persons employed by Seller shall be considered employees of MP for any purpose; nor shall Seller represent to any person that it is or shall become an MP agent.

17.6.3 In executing this PPA, MP does not, nor should it be construed to, extend its credit or financial support for the benefit of any third parties lending money to or having other transactions with Seller. Nothing in this PPA shall be construed to create any duty to, or standard of care with reference to, or any liability to, any Person not a party to this PPA.

17.6.4 The relationship between MP and Seller shall be that of contracting party to independent contractor. Accordingly, subject to the terms of this Agreement, MP shall have no general right to prescribe the means by which Seller shall meet its obligations under this Agreement.

17.7 Subcontracting. Seller may subcontract its duties or obligations under this PPA without the prior written consent of MP, provided that no such subcontract shall relieve Seller of any of its duties or obligations hereunder.

17.8 Forward Contract. MP and Seller acknowledge and agree that this Agreement constitutes a "forward contract" within the meaning of the United States Bankruptcy Code.

17.9 Survival of Obligations. Cancellation, expiration, or earlier termination of this PPA shall not relieve the Parties of obligations that by their nature should survive such cancellation, expiration, or termination, prior to the term of the applicable statute of limitations, including, without limitation, warranties, remedies, or indemnities which obligation shall survive for the period of the applicable statute(s) of limitation.

17.10 Severability. In the event any of the terms, covenants, or conditions of this PPA, or the application of any such terms, covenants, or conditions, shall be held invalid, illegal, or unenforceable by any court or administrative body having jurisdiction, all other terms, covenants, and conditions of the PPA and their application not adversely affected thereby shall remain in force and effect; provided, however, that MP and Seller shall negotiate in good faith to implement an equitable adjustment in the provisions of this Agreement with a view toward the purposes of this Agreement by replacing the invalid, illegal or unenforceable provision with valid

provisions, the economic and other effects of which come as close as possible to that of the invalid, illegal or unenforceable provision.

17.11 Complete Agreement; Amendments. The terms and provisions contained in this PPA constitute the entire agreement between MP and Seller with respect to the Facility and shall supersede all previous communications, representations, or agreements, either verbal or written, between MP and Seller with respect to the sale of Capacity and Energy from the Facility. This PPA may be amended, changed, modified, or altered only in a writing signed by both Parties.

17.12 Binding Effect. This PPA, as it may be amended from time to time pursuant to this **Article 17**, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors-in-interest and assigns permitted hereunder.

17.13 Headings. Captions and headings used in this PPA are for ease of reference only and do not constitute a part of this PPA.

17.14 Waiver. Unless otherwise expressly set forth herein, the failure of either Party to enforce or insist upon compliance with or strict performance of any of the terms or conditions of this PPA, or to take advantage of any of its rights thereunder, shall not constitute a waiver or relinquishment of any such terms, conditions, or rights, but the same shall be and remain at all times in full force and effect.

17.15 Compliance with Laws. Each Party shall at all times comply with all Applicable Laws applicable to it, except for any non-compliance which, individually or in the aggregate, could not reasonably be expected to have a material effect on the business or financial condition of the Party or its ability to fulfill its commitments hereunder. As applicable, each Party shall give all required Notices; shall procure and maintain all necessary governmental Permits necessary for performance of this PPA; and shall pay its respective charges and fees in connection therewith.

17.16 Counterparts. This PPA may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

17.17 Publicity. The Parties will cooperate in good faith to agree upon press releases that can be issued following execution of the PPA, describing the location, size, type and timing of construction of the Facility; the long-term nature of the PPA; and other relevant factual information. Subject to the Parties' confidentiality obligation set forth in **Section 17.19**, nothing

in this **Section 17.17** shall restrict the contacted Party from responding to any such media contact.

17.18 Disclaimer of Third-Party Beneficiary Rights. Nothing in this PPA shall be construed to create any duty to, or standard of care with reference to, or any liability to, any Person not a party to this PPA. No provision of this PPA is intended to, nor shall it in any way, inure to the benefit of any customer or any other Person not a Party so as to constitute any such Person a third-party beneficiary under this PPA.

17.19 Confidentiality. This Agreement shall be considered proprietary and trade secret and shall not be provided in whole or in part to any other Person without prior written approval of the other Party. In the event certain information must be provided pursuant to a regulatory proceeding, the Parties shall take reasonable steps to protect the confidentiality of proprietary and trade secret information, and Seller shall cooperate with MP to limit the scope of information designated as proprietary to that which Seller, at the time, deems to still be trade secret.

The Parties acknowledge and agree that during the course of the performance of their respective obligations under this Agreement, either Party may need to provide information to the other Party that the disclosing Party deems confidential, proprietary or trade secret. All documentation and data, including, but not limited to, contracts, special techniques, methods, computer programs and software, that the disclosing Party wants the receiving Party to maintain as confidential shall be designated as proprietary, confidential or trade secret (collectively "Proprietary Data") and shall be treated as such by the receiving Party to be proprietary, confidential or trade secret. The disclosing Party hereby grants to the receiving Party authority to use Proprietary Data only for the purposes of this Agreement. The receiving Party agrees to keep such Proprietary Data confidential, to use it only for work necessary to the performance of this Agreement, and not to sell, transfer, sublicense, disclose or otherwise make available any such Proprietary Data to any other Persons, including any employees or agents of a Party (other than a Party's counsel, consultants, accountants, lenders and prospective lenders, investors and prospective investors, and prospective purchasers, who agree to maintain the confidentiality of the information). If a Party is required by law or regulatory or judicial order to disclose Proprietary Information of the other Party, the receiving Party shall provide prompt Notice of the proposed disclosure in order that the disclosing Party may take such action as is appropriate to prevent, limit or condition such disclosure. In such an event, the receiving Party shall take all reasonable actions to prevent the disclosure, to limit the scope of the disclosure, or to condition the disclosure on the receipt of adequate protections. Without limiting the generality of the foregoing, each Party shall observe at least the same safeguards and precautions with regard to

Proprietary Information of the other Party which such Party observes with respect to its own trade secret information. Each Party agrees that it will make Proprietary Information available to its own employees only on a need-to-know basis for purposes associated with approval or management of this Agreement, and that all Persons to whom such Proprietary Information is made available will be required to maintain the confidentiality of the information. MP specifically agrees that it shall not disclose any information or documents received from Seller to any MP agents, consultants, representatives, or contractors who are involved in the development, engineering, procurement, construction, operation, financing or otherwise with respect to energy conversion facilities to be owned or developed by MP, and MP employees shall not utilize any information or documents from Seller in the development, engineering, procurement, construction, operation, financing or otherwise with respect to energy conversion facilities to be owned or developed by MP. Notwithstanding the foregoing, either Party may disclose any Proprietary Information that becomes public information through no wrongful act of the receiving Party, or that is provided to the receiving Party by a third party without restriction known to the receiving Party and without breach of this Agreement. The obligations of the Parties under this **Section 17.19** shall remain in full force and effect for two (2) years following the termination of this Agreement.

Except as required by Applicable Law, regulation or securities exchange rule, any public announcement, press release or similar publicity with respect to this Agreement or the transaction contemplated hereby will be issued at such time, in such manner and with such content as the Parties mutually agree.

Notwithstanding the foregoing, the Parties will cooperate reasonably to prepare a "public version" of this PPA for inclusion in the public record at the MPUC. The Parties agree that the public version of this PPA will redact only such information that properly constitutes "trade secret" information.

ARTICLE 18

DEFINITIONS

18.1 Definitions. The following terms shall have the meanings set forth herein:

"**Abandonment**" – (i) the sale of the Facility by Seller, other than a transfer permitted under this PPA, or (ii) prior to the Commercial Operation Date, complete cessation of all Facility-related activities and construction of the Facility for ninety (90) consecutive Days by Seller or Seller's

contractors, but only if such sale or cessation is not caused by or attributable to a default of, or request by, MP, or Force Majeure.

"**Accreditable Capacity**" – the amount of net generating capability associated with the Facility for which capacity credit has been obtained under applicable MISO rules at the time of execution and delivery of the Interconnection Agreement. Initially, such requirements are set forth in Module E of the MISO Tariff and MISO Business Practices Manual for Resource Adequacy and subject to delivery to Zone 1 as defined by MISO.

"**Affiliate**" of any named Person or entity – any other Person or entity that controls, is under the control of, or is under common control with, the named entity. The term "control" (including the terms "controls," "under the control of" and "under common control with") means the possession, directly or indirectly, of the power to direct or cause the direction of the management of the policies of a Person or entity, whether through ownership interest, by contract or otherwise.

"**Aggregate Damage Limitation**" – shall have the meaning as set forth in **Section 11.5**.

"**Ancillary Services**" – shall have the meaning set forth in the relevant Tariff.

"**Annual ERIS Evaluation**" – shall have the meaning set forth in the relevant Tariff or applicable MISO Business Practice Manuals – currently MISO BPM-015, Section 6.6 effective March 15, 2017.

"**Annual Interim Deliverability Study**" – shall have the meaning set forth in the relevant Tariff or applicable MISO Business Practice Manuals – currently MISO BPM-015, Section 6.6 effective March 15, 2017.

"**Applicable Law**" – any statute, law, treaty, rule, regulation, ordinance, code, Governmental Approval, enactment, injunction, order, writ, decision, authorization, judgment, decree or other legal or regulatory determination or restriction by a court or Governmental Authority of competent jurisdiction, or any binding interpretation of the foregoing by a Governmental Authority, in each case applicable to MP, Seller or the Facility, as the case may be.

"**Available Hours**" for each Wind Turbine is the sum of the number of hours during a Measurement Period in which a Wind Turbine was available for energy production with Facility systems capable of delivering energy production to the Point of Delivery, as counted by a Wind Turbine's programmable logic controller, *plus* without duplication, the number of hours during

such Measurement Period in which a Wind Turbine was not available for energy projection with Facility systems capable of delivering energy production to the Point of Delivery as a result of (i) Excused Curtailments, (ii) Compensated Curtailments, (iii) curtailment required in order to maintain compliance with environmental or regulatory obligations, (iv) Scheduled Outage/Deratings, (v) an Emergency (other than an Emergency caused by Seller's breach of the PPA or the Interconnection Agreement), (vi) a Force Majeure event, (vii) the action or inaction of MP or any of its Affiliates or any of its or their agents, contractors, vendors or employees in breach of this Agreement, (viii) wind not being available at sufficient windspeed to operate the Wind Turbine below the Wind Turbine cut-in speed or wind being in excess of the Wind Turbine cut-out speed, or (ix) repowering activities on Wind Turbine(s) undertaken by Seller.

"**Availability Liquidated Damages**" – has the meaning set forth in **Section 3.2.1(a)**.

"**Back-Up Metering**" – has the meaning set forth in **Section 5.5.2**.

"**Business Day**" – any calendar day that is not a Saturday, a Sunday, or a NERC-recognized holiday.

"**Capacity**" – the output potential a machine or system can produce or carry under specified conditions. The capacity of generating equipment is generally expressed in MW. Capacity is also referred to as "capability" in the industry and for the purposes of this Agreement.

"**CGL**" – has the meaning set forth in **Section 13.2**.

"**Capacity Buy-Down Payment**" – has the meaning set forth in **Section 4.6**.

"**Commencement Date**" – the date on which both Parties shall have executed and delivered this PPA.

"**Commercial Operation**" – the period beginning on the Commercial Operation Date and continuing through the Term.

"**Commercial Operation Date**" or "**COD**" – the date that Seller successfully satisfies the provisions of **Section 4.5** and all of the conditions specified in **Section 4.5** have occurred or otherwise been satisfied.

"**Commercial Operation Milestone**" – the Major Milestone for the Commercial Operation Date. The Commercial Operation Milestone is specified in **Exhibit C**, subject to the provisions of this Agreement for extensions and modifications.

"**Commercial Operation Year**" – any consecutive twelve (12) month period, during the Term of this PPA, commencing with the Commercial Operation Date and including twelve (12) full months thereafter, and each twelve (12) month period thereafter.

"**Compensated Curtailment**" – has the meaning set forth in **Section 7.6.3**.

"**Construction Contract**" – the contract or contracts providing for the acquisition, manufacture, delivery and installation of the generating and step-up transformation equipment that is to be part of the Facility and the engineering, procurement and construction of the Facility. The Construction Contract may consist of a single engineering, procurement and construction contract, in which case such single engineering, procurement and construction contract shall constitute the Construction Contract, or it may consist of a series of contracts (such as a Wind Turbine supply and installation contract and a balance of plant contract), in which case such series of contracts shall collectively constitute the Construction Contract.

"**Contract Energy**" – for any relevant period of time, the amount of Energy generated by the Facility multiplied by MP's Percentage, which amount is delivered to MP at the Point of Delivery, including Zonal Resource Credits in respect of such amount.

"**Contract Year**" – means a period the period starting at 12:01 a.m. on the Commercial Operation Date and ending at 11:59 p.m. on the last Day of the calendar month in which the first anniversary of the Commercial Operation Date occurs, and each successive "Contract Year" shall mean the twelve (12) month period following the prior Contract Year.

"**Control Area**" – the system of electrical generation, distribution, and transmission facilities within which generation is regulated in order to maintain interchange schedules with other such systems.

"**Credit Rating**" – with respect to any entity, the rating then assigned to such entity's, unsecured, senior long-term debt obligations (not supported by third-party credit enhancements), or if such entity does not have a rating for its senior unsecured long-term debt, then the rating then assigned to such entity as an issuer rating, with an outlook designation of "stable," in either case by S&P or Moody's. If rating by S&P and Moody's are not equivalent, the lower rating shall apply.

"**Day**" – a calendar day.

"**Development Security**" – the Initial Development Security or the Stepped Up Development Security, as the case may be.

"**Dispute Notice**" – has the meaning set forth in **Section 14.1.2**.

"**Economic Curtailment**" – curtailments of delivery of Contract Energy that arise from MP's scheduling and other market participation activities as may be required of MP as market participant for the Facility by the Market Operator, if any, including any such curtailment arising from any energy offer made by, or on behalf of, MP with respect to the Facility, including offers of price and quantity that result in curtailment. If Seller asserts that any curtailment was an Economic Curtailment and MP disputes that such curtailment arose from such scheduling or market participation activities of MP, MP shall furnish to Seller, subject to **Section 17.19**, copies of such records of MP relating to MP's scheduling and market participation activities as Seller reasonably requests for purposes of resolving the dispute.

"**EL**" – has the meaning set forth in **Section 13.2**.

"**Electric Interconnection Point**" – the physical point identified and described in **Exhibit A** and which shall be the same location as the interconnection point under the Interconnection Agreement.

"**Electric Metering Device(s)**" – all meters, metering equipment, and data processing equipment used to measure, record, or transmit data relating to the electric power and energy output from the Facility.

"**Eligible Energy Resource**" – any resource that qualifies as a renewable eligible energy technology under Minnesota Statutes Section 216B.1691, subdivision 1.

"**Emergency**" – an "Emergency" as defined in the Interconnection Agreement and the MISO Tariff.

"**Energy**" – the amount of electricity either used or generated over a period of time, expressed in terms of MWh.

"**Energy Deficit**" – for each Measurement Period, an amount (expressed in MWh) calculated as follows:

ED = [GA-MA] x CE

where:

"ED" means the Energy Deficit for such Measurement Period;

"GA" means the minimum Mechanical Availability Percentage defined in **Section 3.2.1(a)**;

"MA" means the calculated Mechanical Availability Percentage for such Measurement Period; and

"CE" means the total Contract Energy delivered for such Measurement Period;

provided that, if such calculation results in a negative number, the Energy Deficit shall be deemed to be zero for such Measurement Period.

"**Environmental Contamination**" – the presence of Hazardous Materials at such levels, quantities or location, or of such form or character, as to constitute a violation of federal, state or local laws or regulations, and present a material risk under federal, state or local laws and regulations that the Site will not be available or usable for the purposes contemplated by this PPA.

"**Event of Default**" – shall have the meaning set forth in **Sections 11.1** and **11.2** as applicable.

"**Excused Curtailment**" – shall have the meaning set forth in **Section 7.6.2**.

"**Facility**" – Seller's electric generating facility and all of Seller's associated Interconnection Facilities, including, but not limited to, Seller's equipment, buildings, generators, step-up transformers, output breakers, protective and associated equipment, improvements, and other tangible assets on the Site reasonably necessary for the construction, operation, and maintenance of the electric generating facility that produces the power and energy to be delivered to MP pursuant to this PPA and, if Seller elects but without modifying Seller's obligation pursuant to this PPA, to other purchasers of power and energy.

"**Failure to Follow Dispatch Flag**" – shall have the meaning set forth in the MISO Tariff and the MISO Business Practice Manuals as interpreted by applicable FERC Orders.

"**FERC**" – the Federal Energy Regulatory Commission and any successor agency.

"**Financier**" – Any individual or entity (including Affiliates of Seller) selected by Seller to provide or actually providing money or extending credit (including any capital lease) to Seller or any parent of Seller for (i) the construction, term, or permanent financing of the Facility whether in the form of debt, equity, tax equity or other financing; or (ii) working capital or other ordinary business requirements for the Facility. "Financier" shall not include common trade creditors of Seller.

"**Financing Documents**" – the loan and credit agreements, notes, bonds, indentures, security agreements, lease financing agreements, mortgages, interest rate exchanges, or swap agreements and other documents relating to the development, bridge, construction, tax equity financing, and/or the permanent financing or refinancing for the Facility, including any credit enhancement, credit support, working capital financing, or refinancing documents, and any and all amendments, modifications, or supplements to the foregoing that may be entered into from time to time at the discretion of Seller in connection with development, construction, ownership, leasing, operation or maintenance of the Facility.

"**Force Majeure**" – causes or events beyond the reasonable control of, and without the fault or negligence of, the Party claiming Force Majeure, which by exercise of due diligence and reasonable foresight could not reasonably have been avoided, including, without limitation, (i) acts of God; (ii) sudden actions of the elements, such as floods, earthquakes, hurricanes or tornadoes, lightning, ice storms, high winds of sufficient strength or duration to materially damage a facility or significantly impair its operation for a period of time longer than normally encountered in similar businesses under comparable circumstances; (iii) serial manufacturing and/or design defects in the Wind Turbines or other major components comprising the Facility only in the event and to the extent that such occurrence is established to constitute a serial defect under Seller's Wind Turbine supply agreement or Construction Contract; (iv) long-term material changes in renewable energy flows across the Facility caused by climactic change; (v) fire, sabotage, vandalism beyond that which could reasonably be prevented by Seller; terrorism; war; riots; fire; explosion; blockades; insurrection; (vi) actions or inactions by any Governmental Authority taken after the date hereof (including the adoption or change in any Applicable Laws imposed by such Governmental Authority); (vii) strikes, work stoppage or other labor disputes (in which case the affected Party shall have no obligation to settle the strike or labor dispute on terms it deems unreasonable) other than a strike, work stoppage or labor dispute limited only to any one or more of Seller, Seller's Affiliates, or Seller's contractors, but only if such requirements, actions, or failures to act prevent or delay performance; and (viii) inability, despite

due diligence, to obtain any Permits required by any Governmental Authority. Notwithstanding the foregoing, the term Force Majeure does not include (i) inability by Seller to procure Wind Turbines or any component parts, for any reason (the risk of which is assumed by Seller); (ii) any other acts or omissions of any third party, including any vendor, materialman, customer, or supplier of Seller, except failure of the Interconnection Provider (transmission owner) to complete all network upgrades (through no fault of Seller) necessary to deliver Contract Energy to the Point of Delivery, unless such acts or omissions are themselves excused by reason of Force Majeure; (iii) any full or partial curtailment in the electric output of the Facility that is caused by or arises from a mechanical or equipment breakdown or other mishaps, events or conditions attributable to normal wear and tear or flaws, unless such acts or omissions are themselves excused by reason of Force Majeure; (iv) failure to abide by Good Utility Practices; (v) changes in market conditions that affect the cost of Seller's supplies, or that affect demand or price for power and/or Green Tags; strike; slow-down or labor disruptions against Seller or Seller's contractors or subcontractors; or (vi) foreseeable disruptions to the Facility caused by weather events typically experienced in the region of the country where the Facility is located, but excluding events and actions listed in this definition above.

"**Forced Outage**" – any condition that requires immediate removal of the Facility, or some part thereof, from service, another outage state, or a reserve shutdown state.

"**Good Utility Practice(s)**" – any of the practices, methods, and acts engaged in or approved by a significant portion of the electric or electric power generation industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known or reasonably should have known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

"**Governmental Authority**" – any nation, government, state or other political subdivision thereof, whether foreign or domestic, including, without limitation, any municipality, township and county, and any entity exercising executive, legislative, judicial, regulatory, or administrative functions of or pertaining to government, including, without limitation, any corporation or other entity owned or controlled by any of the foregoing.

"**Green Tags**" **–** any contractual right to the full set of non-energy attributes, including any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, directly

attributable to a specific amount of capacity and/or electric energy generated from an Eligible Energy Resource, including any and all environmental air quality credits, benefits, emissions reductions, off-sets, allowances, or other benefits as may be created or under any existing or future statutory or regulatory scheme (federal, state, or local) by virtue of or due to the Facility's actual energy production or the Facility's energy production capability because of the Facility's environmental or renewable characteristics or attributes, including any renewable energy credits or similar rights arising out of or eligible for consideration in the M-RETS Program, provided that Green Tags exclude any Renewable Energy Incentives.

"**Guarantor**" – (i) subject to clause (ii) of **Section 9.2.4**, Tenaska Energy, Inc. and Tenaska Energy Holdings, LLC, jointly and severally, or (ii) a Person with an Investment Grade Credit Rating, who is not an Affiliate of MP, and who has issued a Guaranty for the benefit of MP.

"**Guaranty**" – a guaranty for the benefit of MP issued by Guarantor, in the form attached hereto as **Exhibit G** or otherwise acceptable to MP.

"**Hazardous Materials**" – any substance, material, gas, or particulate matter that is regulated by any Governmental Authority as an environmental pollutant or dangerous to public health, public welfare, or the natural environment including, without limitation, protection of non-human forms of life, land, water, groundwater, and air, including, but not limited to, any material or substance that is (i) defined as "toxic," "polluting," "hazardous waste," "hazardous material," "hazardous substance," "extremely hazardous waste," "solid waste" or "restricted hazardous waste" under any provision of local, state, or federal law; (ii) petroleum, including any fraction, derivative or additive; (iii) asbestos; (iv) polychlorinated biphenyls; (v) radioactive material; (vi) designated as a "hazardous substance" pursuant to the Clean Water Act, 33 U.S.C. §1251 *et seq.* (33 U.S.C. §1251); (vii) defined as a "hazardous waste" pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. §6901 *et seq.* (42 U.S.C. §6901); (viii) defined as a "hazardous substance" pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §9601 *et seq.* (42 U.S.C. §9601); (ix) defined as a "chemical substance" under the Toxic Substances Control Act, 15 U.S.C. §2601 *et seq.* (15 U.S.C. §2601); or (x) defined as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §136 *et seq.* (7 U.S.C. §136).

"**Indemnified Party**" – has the meaning set forth in **Section 12.1**.

"**Indemnifying Party**" – has the meaning set forth in **Section 12.1**.

"**Initial Development Security**" – shall have the meaning set forth in **Section 9.1.1**.

"**Installed Capacity**" – shall have the meaning set forth in **Section 3.1**.

"**Interconnection Agreement**" – the separate agreement between Interconnection Provider, Seller and MISO (if applicable) with respect to the interconnection of the Facility to the Interconnection Provider's System, as such agreement may be amended from time to time.

"**Interconnection Facilities**" – all the facilities installed for the purpose of interconnecting the Interconnection Provider's System and the Facility but not including any Interconnection Provider's Interconnection Facilities prior to the Interconnection Provider's System.

"**Interconnection Facilities Study**" – a MISO engineering study that evaluates the impact of the Facility's proposed interconnection on the safety and reliability of Buyer's transmission system and all other electric transmission or distribution systems or the electric system associated with an existing generating facility or of a generating facility higher in the interconnection queue than the Facility that are affected by the Facility's interconnection.

"**Interconnection Provider**" – the Person that owns and operates the transmission lines, Interconnection Provider Interconnection Facilities and other equipment and facilities with which the Facility interconnects at the Electric Interconnection Point, and any successor(s) or permitted assignees thereto.

"**Interconnection Provider's Interconnection Facilities**" – the facilities necessary to connect the Interconnection Provider's System with the Facility at the Electric Interconnection Point, including breakers, bus work, bus relays and associated equipment installed by the Interconnection Provider for the purpose of interconnecting the Facility, along with any easements, rights-of-way, surface use agreements and other interests or rights in real estate reasonably necessary for the construction, operation and maintenance of such facilities.

"**Interconnection Provider's System**" – the contiguously interconnected electric transmission and subtransmission facilities, including Interconnection Provider's Interconnection Facilities, over which the Interconnection Provider has rights (by ownership or contract) to provide interconnection service for the Contract Energy at the Electric Interconnection Point.

"**Investment Grade Credit Rating**" – with respect to (a) a corporation, limited liability company, partnership, or other entity other than a financial institution, a Credit Rating of BBB or above from Standard & Poor's Corporation ("S&P") or Baa2 or above from Moody's Investors Service ("Moody's"), in each case with a "stable" outlook, or (b) a financial institution, a rating on the senior long-term debt of such financial institution of BBB or above from S&P or Baa2 or

above from Moody's, in each case with a "stable" outlook, and provided in each case that if ratings by S&P and Moody's are not equivalent, the lower rating shall apply.

"IRP Compliance Filing" – shall mean the combined resource additions submitted to the MPUC by MP resulting from the MPUC's July 18, 2016 Order Approving Resource Plan with Modifications in MPUC Docket No. E015/RP-15-690.

"**Issuer**" – has the meaning set forth in **Section 9.2.3**.

"**kWh**" – kilowatt-hour.

"**kVar**" – kilovar.

"**LOC**" – has the meaning set forth in **Section 9.2.3**.

"**Maintenance Schedule**" – has the meaning set forth in **Section 6.2.3**.

"**Major Milestone(s)**" – the date(s) set forth in **Exhibit C** by which Seller agrees to achieve the corresponding result(s) specified for such date(s), including, but not limited to, the Commercial Operation Milestone.

"**Management Control**" – the possession, direct or indirect, of the power to contractually exercise control over the day-to-day management, operations, affairs and business of Seller, provided that for the purposes of this definition, any requirement that consents or approvals from Governmental Authorities, independent managers or directors, creditors or other investors and holders of any equity interests in Seller be obtained in order to take specified actions by or on behalf of Seller shall not be deemed to constitute the failure to possess the power to contractually exercise control over the day-to-day management, operations, affairs and business of Seller.

"**MAPP**" – the Mid-Continent Area Power Pool, and any successor organization.

"**Market Operator**" – the entity that instructs market participants and/or generators to regulate generation assets, including the Facility, within any energy market in which MP participates with respect to the Contract Energy or Accreditable Capacity and Ancillary Services based on price-based offer curves for the purpose of matching generation output to system load demand while maintaining bulk electric system reliability. If such entity is also the Transmission Provider, then "Market Operator" shall be construed to mean such entity acting in its capacity as the entity that instructs market participants and/or generators to regulate generation assets, including the Facility, within the energy market in which MP participates with respect to the Contract Energy

or Accreditable Capacity and Ancillary Services based on price-based offer curves for the purpose of matching generation output to system load demand while maintaining bulk electric system reliability.

"**Material Tax Legislation**" – has the meaning set forth in **Section 1.3.4**.

"**Material Tax Legislation Deadline Date**" – has the meaning set forth in **Section 1.3.4**.

"**Measurement Period**" – each twenty-four (24) consecutive calendar month period during the Term following the beginning of the second Contract Year (i.e., month 13 following the Commercial Operation Date), with the first such Measurement Period comprising full calendar months 13 through 36 following the Commercial Operation Date, the second such Measurement Period composed of calendar months 14 through 37 following the Commercial Operation Date, and so forth until the end of the Term.

"**Mechanical Availability Percentage**" **–** a percentage calculated for each Measurement Period in accordance with the following formula:

$$\text{Mechanical Availability Percentage} = 100 \times \frac{\text{(sum of all Available Hours for all Turbines during the applicable Measurement Period)}}{\text{(sum of all Period Hours for all Turbines during the applicable Measurement Period))}}$$

"**MEMA**" **–** the Mid-Continent Energy Marketers Association, or any successor organization.

"**Minimum Capacity**" – shall have the meaning set forth in **Section 4.5.1**.

"**MISO**" – the Midcontinent Independent System Operator, Inc. and any successor organization.

"**MISO Outage Manual**" – shall have the meaning set forth in **Section 6.2.5**.

"**MP's Commitment**" **–** an amount equal to the Installed Capacity.

"**MP's Percentage**" **–** the quotient, expressed as a percentage, determined by dividing MP's Commitment by the Rated Capacity; provided that if there is a curtailment of the Other Buyers' respective shares of the Energy from the Facility, then MP's Percentage shall mean the quotient expressed as a percentage, determined by dividing MP's Commitment by the Rated Capacity minus the Other Buyers' curtailed capacity (in MW).

"**MPUC**" – the Minnesota Public Utilities Commission and any successor agency.

"**MPUC Approval**" – receipt of a written final order from the MPUC approving this PPA together with the additional resources comprising the IRP Compliance Filing or which otherwise approves this PPA together with the additional resources comprising the IRP Compliance Filing as reasonable and in the public interest, subject only to the MPUC's ongoing jurisdiction to review the prudency of MP's purchases of Contract Energy, Accreditable Capacity and Green Tags pursuant to the PPA.

"**MPUC Approval Deadline Date**" – has the meaning set forth in **Section 1.2.1(a)**.

"**M-RETS Program**" – the Midwest Renewable Energy Trading System program, MPUC Docket No. E-999/CI-04-1616 and subsequent related proceedings.

"**MRO**" – the Midwest Reliability Organization and any successor organization.

"**MW**" – megawatt.

"**MWh**" – megawatt-hour.

"**NERC**" – the North American Electric Reliability Corporation and any successor organization.

"**Network Integration Transmission Service**" – a transmission service pursuant to which firm transmission service is provided over the transmission system to a network customer for the delivery of capacity and energy from its designated Network Resources to service its Network Loads all as defined in the MISO Tariff.

"**Network Resource**" – the applicable amount of Capacity for the Facility that has been designated for resource adequacy as a "Network Resource" under Module E of the MISO Open Access Transmission and Energy Markets Tariff.

"**Network Resource Interconnection Service**" **or** "**NRIS**" – network resource interconnection service as defined in the MISO Tariff. Network Resource Interconnection Service does not convey transmission service.

"**New Joint Transmission Authority**" – any independent service organization or other Person that may be created or becomes operational subsequent to the date of this Agreement and that is empowered or authorized to plan, coordinate, operate, regulate or otherwise manage any or all of the Interconnection Provider's System, whether in place of, or in addition to, MAPP or MISO.

"**Notice**" – any notice, request, consent, or other communication required or authorized under this PPA to be given by one Party to the other Party.

"**On-Peak Months**" – the calendar months of January, February, June, July, August, and December.

"**Operating Committee**" – one representative each from MP and Seller as described in **Section 8.3**.

"**Operating Procedures**" – those procedures implemented by the Operating Committee.

"**Other Buyers**" – any person other than Buyer with a contract to purchase Energy from the Facility.

"**Parties**" – MP and Seller, and their respective successors and permitted assignees.

"**Parties' Representatives**" – has the meaning set forth in **Section 14.1.1**.

"**Party**" – MP or Seller, and their respective successors and permitted assignees.

"**Party Representative**" – has the meaning set forth in **Section 14.1.1**.

"**Performance Security**" – has the meaning set forth in **Section 9.1.3**.

"**Period Hours**" – the total sum of hours for any given Measurement Period.

"**Permits**" – all state, federal, and locate authorizations, certificates, permits, licenses, and approvals required by any Governmental Authority for the construction, operation, and maintenance of the Facility.

"**Person**" – an individual, partnership, corporation (including a business trust), limited liability company, joint stock company, trust, unincorporated association, joint venture, Governmental Authority, or other entity.

"**Point of Delivery**" – the high-side of the step-up transformer at the Facility's busbar at which Seller makes available to MP and delivers to MP the Contract Energy being sold by Seller to MP under this PPA.

"**Proprietary Data**" – has the meaning set forth in **Section 17.19**.

"**PTCs**" – federal production tax credits arising from electricity produced from certain renewable resources pursuant to 26 U.S.C. §45 as amended, or such substantially equivalent tax credit that provides Seller (or its owners) with a tax credit based on energy production from any portion of the Facility.

"**PTC Benefits**" – the value of PTCs derived from the delivery or deemed delivery of Contract Energy, such value equal to the then applicable PTC amount as published by the Internal Revenue Service divided by (1 – the sum of the then applicable highest applicable federal and applicable state marginal income tax rate, expressed as a decimal).

"**Rated Capacity**" – the sum of the capacity of the Wind Turbines comprising the Facility, calculated using the manufacturer's nameplate capacity rating.

"**Renewable Energy Incentives**" – (a) all federal, state, or local tax credits or other tax benefits associated with the construction, ownership, or production of electricity from the Facility (including credits under Sections 38, 45, 46 and 48 of the Internal Revenue Code of 1986, as amended), including PTCs; (b) any federal, state, or local grants, subsidies or other like benefits relating in any way to the Facility, including a cash grant available under Section 1603 of Division B of the American Recovery and Reinvestment Act of 2009, provided in lieu of federal tax credits or any similar or substitute payment available under subsequently enacted federal legislation; (c) depreciation and other tax benefits arising from ownership or operation of the Facility unrelated to its status as a generator of renewable or environmentally clean energy; and (d) any other form of incentive relating in any way to the Facility that are not a Green Tags.

"**Requirements of Law**" – collectively, the certificate of incorporation and bylaws or other organizational or governing documents of Seller or MP and any United States or Canadian federal, state or provincial law, treaty, franchise, rule, regulation, order, writ, judgment, injunction, decree, award or determination of any arbitrator or a court or other Governmental Authority.

"**Scheduled Outage/Derating**" – a planned interruption/reduction of the Facility's generation that is reasonably required for inspection or preventive or corrective maintenance.

"**Security**" – the amount and type of Initial Development Security, Stepped Up Development Security or Performance Security, as applicable, that Seller is required to establish and maintain, pursuant to **Article 9**, as security for Seller's performance under this PPA.

"**Seller**" – Nobles 2 Power Partners, LLC, a Minnesota limited liability company, and its successors and permitted assignees.

"**Seller Network Upgrade Cost Cap**" **–** has the meaning given thereto in **Section 1.2.3**.

"**Site**" – the parcel of real property on which the Facility will be constructed and located, including any easements, rights-of-way, surface use agreements and other interests or rights in real estate reasonably necessary for the construction, operation and maintenance of the Facility. The Site is more specifically described in **Exhibit A** to this PPA.

"**Stepped Up Development Security**" – has the meaning given thereto in **Section 9.1.2**.

"**Tariff**" – the MISO Open Access Transmission and Energy Markets Tariff in effect and as amended from time to time in accordance with applicable FERC regulations and applicable MISO Business Practice Manuals.

"**Term**" – the period of time during which this Agreement is in effect.

"**Test Energy**" – that Energy which is produced by the Facility and delivered to MP at the Point of Delivery prior to the Commercial Operation Date.

"**Wind Turbines**" – those electric generating devices powered by the wind that are included in the Facility.

"**Zonal Resource Credits**" – shall mean Capacity Resources that are converted to Zonal Resource Credits pursuant to the MISO Tariff.

18.2 Rules of Construction. The capitalized terms in this Agreement shall have the meanings set forth herein whenever the terms appear in this PPA, whether in the singular or the plural or in the present or past tense. Other terms used in this PPA but not listed in **Section 18.1** shall have meanings as commonly used in the English language and the generally accepted technical or trade meanings for technical terms used herein. In addition, the following rules of interpretation shall apply:

18.2.1 (a) The masculine shall include the feminine and neuter, (b) the definitions of terms herein shall apply equally to the singular and plural forms of the terms defined, (c) the words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation," and (d) the word "or" is not exclusive.

18.2.2 References to "**Articles**," "**Sections**," or "**Exhibits**" shall be to **Articles**, **Sections**, or exhibits of this PPA.

18.2.3 The Exhibits attached hereto are incorporated in and made a part of this PPA; provided that in the event of a conflict between the terms of any Exhibit and the terms set forth in the body of this PPA, the terms set forth in the body of this PPA shall take precedence.

18.2.4 This PPA was negotiated and prepared by both Parties with advice of counsel to the extent deemed necessary by each Party. The Parties have agreed to the wording of this PPA, and none of the provisions hereof shall be construed against one Party on the ground that such Party is the author of this PPA or any part hereof.

18.2.5 The Parties shall act in accordance with the principles of good faith and fair dealing in the performance of this PPA. Unless expressly provided otherwise in this PPA, (a) where the PPA requires the consent, approval, or similar action by a Party, such consent or approval shall not be unreasonably withheld, conditioned or delayed, and (b) wherever the PPA gives a Party a right to determine, require, specify or take similar action with respect to a matter, such determination, requirement, specification or similar action shall be reasonable.

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IN WITNESS WHEREOF, the Parties have executed this PPA.

Nobles 2 Power Partners, LLC:

By: _____
Its:
Name:

ALLETE, INC., d/b/a Minnesota Power:

By: _____
Its: Alan R. Hodnik
Name: Chairman, President, and CEO

IN WITNESS WHEREOF, the Parties have executed this PPA.

Nobles 2 Power Partners, LLC:

By: _____
Its:
Name: **Daniel E. Lonergan**
CEO & Senior Managing Director

ALLETE, INC., d/b/a Minnesota Power:

By: _____
Its:
Name:

EXHIBIT A

FACILITY DESCRIPTION, ONE-LINE DIAGRAM, AND SITE MAP

The information on this Exhibit as of the Effective Date is subject to revision pursuant to Section 4.2.

The Facility will consist of one of the following two configurations.

Configuration 1 will consist of two turbine models as follows: (A) ten (10) to twenty-one (21) generators manufactured by Vestas and designated as its V110-2.0 model rated at 2.0 MW and (B) fifty-eight (58) to sixty-four (64) generators manufactured by Vestas and designated as its V136-3.6 model rated at 3.6 MW.

Configuration 2 will consist of two turbine models as follows: (A) ten (10) to twenty-one (21) generators manufactured by Vestas and designated as its V110-2.0 model rated at 2.0 MW and (B) one hundred four (104) to one hundred fifteen (115) generators manufactured by Vestas and designated as its V116-2.0 model rated at 2.0 MW.

The Facility will have a total Rated Capacity of not less than the Installed Capacity of between 247 MWs and 253 MWs as specified in writing by Seller to MP pursuant to Section 3.1, as may be adjusted pursuant to Section 4.6.

Access roads will be constructed to allow access by construction and delivery equipment and trucks, and reduced, as necessary, to appropriate size at the completion of construction.

The Facility will be located near Wilmont, Nobles County, Minnesota and interconnect with Xcel Energy.

Figure 1 is the Facility and interconnect one-line diagram taken from the interconnection request. Figure 2 is a Site map of the Facility.

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Figure 1: One-Line Diagram

[TRADE SECRET DATA EXCISED]

Figure 2: Site Map

As of the Effective Date the turbine layout on the Site is not yet determined and accordingly is not shown.

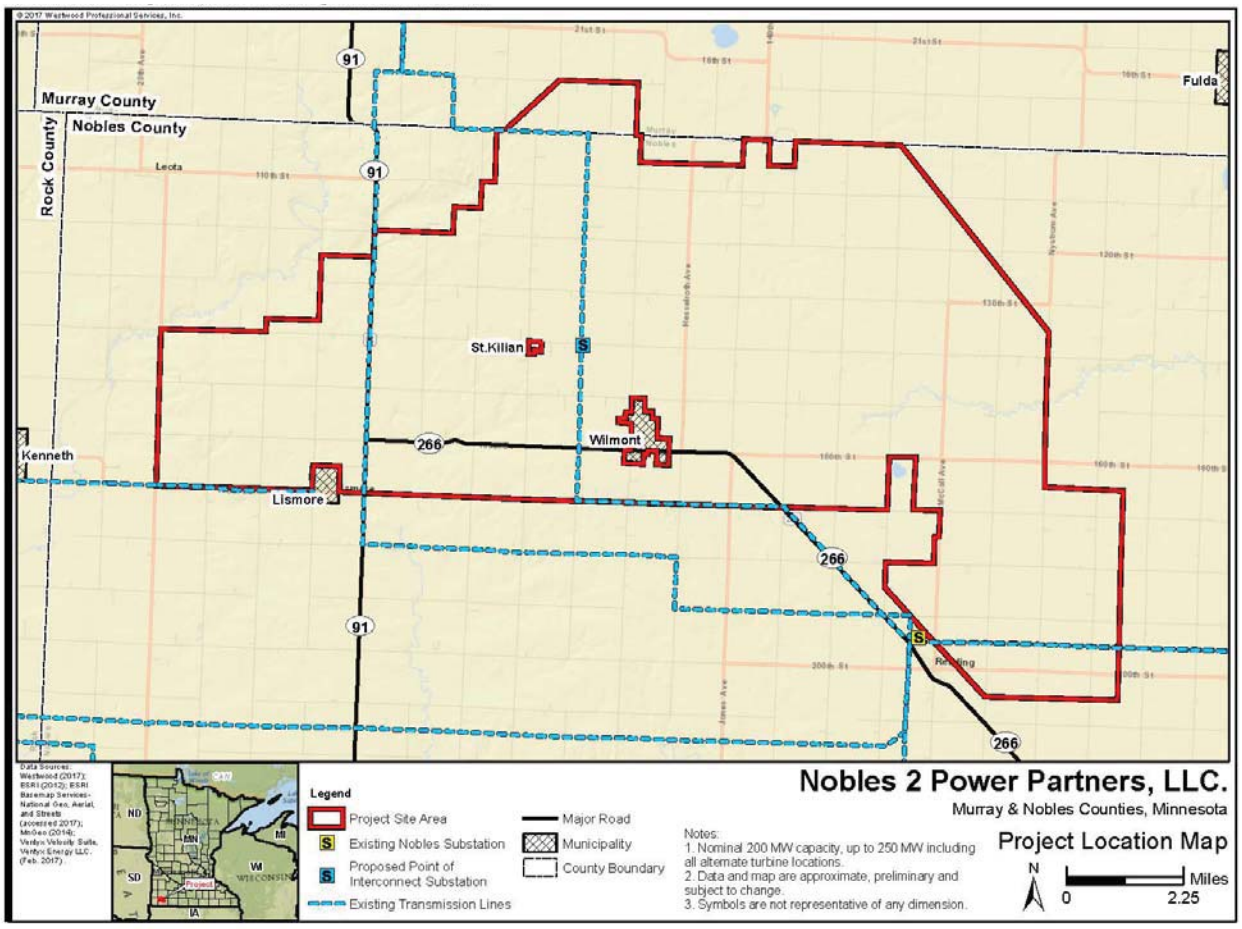

EXHIBIT B

CONTRACT ENERGY PRICE SCHEDULE [20 YEARS]

Contract Year	Contract Energy Price ($/MWh) [TRADE SECRET DATA EXCISED]
1	[redacted]
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Projected Contract Year 1 Starting Date: January 1, 2020
Commercial Operation Milestone: June 1, 2020

EXHIBIT C

MAJOR MILESTONES

Milestone	Estimated Date of Achievement
Receipt of Major Permits	[TRADE SECRET DATA EXCISED]
Interconnection Agreement Signed by All Parties Thereto	[TRADE SECRET DATA EXCISED]
Specify Final Facility Configuration	December 1, 2018
Notice to Proceed Issued to Balance of Plant Contractor	March 1, 2019
Beginning of Erection of First Turbine	June 30, 2019
Delivery of Main Transformers to Site	September 30, 2019
Beginning of Commissioning of First Turbine	October 31, 2019
Commercial Operation Date	June 1, 2020

EXHIBIT D

SELLER'S REQUIRED GOVERNMENTAL AUTHORITY, PERMITS, CONSENTS, APPROVALS, LICENSES AND AUTHORIZATIONS TO BE OBTAINED

Permit/ Approval	Issuing Agency
Site Permit for Large Wind Energy Conversion System	Minnesota Public Utilities Commission/Minnesota Department of Commerce
Determination of No Hazard to Air Navigation	Federal Aviation Administration
National Pollution Discharge Elimination System Permit – General Storm Water Permit for Construction Activity	Minnesota Department of Natural Resources
Federal Clean Water Action Section 404 Permit, if required (Wetlands)	U.S. Army Corps of Engineers
Section 401 Water Quality Certification	Minnesota Pollution Control Agency
Threatened and Endangered Species, Migratory Birds, Bald and Golden Eagle, Wildlife Consultation as required	U.S. Fish and Wildlife Service; Minnesota Department of Natural Resources
Utility Occupancy Permit(s)	Minnesota Department of Transportation/Minnesota Highway Patrol
Oversize/Overweight Permit(s) for State Highways	Minnesota Department of Transportation/Minnesota Highway Patrol
Access Driveway Permit(s) for Minnesota Department of Transportation Highways	Minnesota Department of Transportation/Minnesota Highway Patrol
Road Use and Maintenance Agreement(s)	Nobles County, MN
Building Permit(s)	Nobles County, MN
Utility Permit(s)	Nobles County, MN
Oversize/Overweight Permit(s) for County Roads	Nobles County, MN
Access Driveway/Approach Permit(s) for County Roads	Nobles County, MN
Exempt Wholesale Generator Certificate	Federal Energy Regulatory Commission
Market-Based Rate Authorization	Federal Energy Regulatory Commission
Additional federal or state permits as may be required depending on the types of activities during construction and operation	Relevant federal or state agency, as applicable
Additional municipal permits as may be required depending on exact final location of all assets comprising the Facility	Relevant municipal agency, as applicable

EXHIBIT E

NOTICE ADDRESSES

MP	SELLER
Notices: Minnesota Power Vice President Strategy & Planning 30 W. Superior Street Duluth, MN 55802 Phone: (800) 228-4966 Fax: (218) 723-3915 With a copy to: Chief Legal Officer Minnesota Power 30 W. Superior Street Duluth, MN 55802 Phone: (800) 228-4966 Fax: (218) 723-3955	**Notices:** Nobles 2 Power Partners, LLC 14302 FNB Parkway Omaha, NE 68154 Phone: (402) 691-9500 Fax: (402) 691-9719 With a copy to: General Counsel Nobles 2 Power Partners 14302 FNB Parkway Omaha, NE 68154 Phone: (402) 691-9500 Fax: (402) 691-9723
Operating Committee Representative: To be specified in accordance with Section 17.1.1 **Alternate:** To be specified in accordance with Section 17.1.1	**Operating Committee Representative:** To be specified in accordance with Section 17.1.1 **Alternate:** To be specified in accordance with Section 17.1.1

EXHIBIT F

TERMS OF BUYER PURCHASE OPTION

[TRADE SECRET DATA EXCISED]

EXHIBIT G

FORM OF GUARANTY

In consideration of Allete, Inc., d/b/a Minnesota Power ("Company"), entering into a power purchase agreement with Nobles 2 Power Partners, LLC (hereinafter referred to as "Applicant"), Tenaska Energy, Inc., a Delaware corporation, and Tenaska Energy Holdings, LLC, a Delaware limited liability company (hereinafter individually and collectively referred to together as "Guarantor"), agree with Company as follows:

1. The term "Obligations" shall mean all obligations, liabilities and indebtedness of any kind whatsoever arising in connection with the Power Purchase Agreement, dated _____ ___, 2017 between the Company and Applicant. The amount of Obligations existing from time to time shall be calculated after giving effect to all contractual netting arrangements between Applicant and the Company.

2. Guarantor unconditionally and irrevocably guarantees to Company the full, prompt and faithful payment and performance when due of each and all of the Obligations; provided, however, that Guarantor's total liability hereunder shall not exceed [INSERT AMOUNT OF REQUIRED PERFORMANCE SECURITY]. The Obligations of the Guarantors in this Section 2 are joint and several.

3. This is a continuing guaranty relating to the Obligations.

4. Any of the Obligations may be amended, modified, waived, or increased (whether or not beyond any dollar limitation hereunder) from time to time by Applicant and without further authorization from or notice to Guarantor, and no such action shall terminate, release, impair, reduce, discharge, diminish or in any way affect any of the Obligations of Guarantor hereunder or any security furnished by Guarantor or give Guarantor any recourse or defense against Company. Company need not inquire into the power of Applicant or the authority of its officers, directors, partners or agents acting or purporting to act in its behalf.

5. With respect to all Obligations, this is a guaranty of payment and performance and not of collection, and Guarantor waives and agrees not to assert or take advantage of:

(a) any right to require Company to proceed against Applicant or any other person or to resort to, proceed against or exhaust any security held by it at any time or to pursue any other remedy in its power before proceeding against any Guarantor;

(b) demand, presentment, protest and notice of any kind including, without limiting the generality of the foregoing, notice of nonperformance, protest, dishonor and acceptance of this Guaranty, and notice of the existence, creation or incurring of any new or additional indebtedness or obligation or of any action or non-action on the part of Applicant, Company, a guarantor under this or any other instrument, or creditor of Applicant or any other person whomsoever, in connection with any of the Obligations or any collateral for any of the Obligations or in connection with any of the Obligations; and

(c) any suretyship defenses and suretyship rights of every nature otherwise available under Minnesota law and the laws of any other state or jurisdiction.

6. All existing and future indebtedness of Applicant to Guarantor ("Intercompany Obligations") is subordinated to all Obligations hereby guaranteed. In the event of any default in the payment of any of the Obligations when due and until the Obligations guaranteed hereby have been paid in full, Guarantor shall pay to Company immediately any payments of such Intercompany Obligations received by Guarantor.

7. Guarantor agrees to pay all attorneys' fees (including, without limitation, reasonably allocated fees of in-house counsel) and all other costs and expenses which may be incurred by Company in the enforcement of this Guaranty against Guarantor.

8. This Guaranty is not assignable by Guarantor without Company's consent. This Guaranty shall inure to the benefit of Company and its successors and assigns, including the assignees of any Obligations, and bind the heirs, executors, administrators, successors and permitted (if any) assigns of Guarantor. This Guaranty is assignable by Company with respect to all or any portion of the Obligations, and when so assigned Guarantor shall be liable to the assignees under this Guaranty without in any manner affecting the liability of Guarantor hereunder with respect to any Obligations retained by Company.

9. This Guaranty shall be governed by and construed in accordance with the laws of the State of Minnesota, without reference to its choice of law provisions. Guarantor hereby irrevocably and unconditionally agrees that any legal action or proceeding against Guarantor or any of Guarantor's property with respect to this Guaranty may be brought in the federal courts for the County of Hennepin, Minnesota, as Company may elect, and by executing and delivering this Guaranty Guarantor hereby submits to and accepts with regard to any such action or proceeding for himself, herself or itself and in respect of his, her or its property, generally, irrevocably and unconditionally, the jurisdiction of the above mentioned courts.

10. Except as provided in any other written agreement now or at any time hereafter in force between Company and Guarantor, this Guaranty shall constitute the entire agreement of Guarantor with Company with respect to the subject matter hereof and no representation, understanding, promise or condition concerning the subject matter hereof shall be binding upon Company unless expressed herein.

11. All notices, demands, requests and other communications required or permitted hereunder shall be in writing and shall be given personally, by certified or registered mail, postage prepaid, return receipt requested, or by reliable overnight courier to the address of the Company set forth below (or to such new address as Company may designate hereafter in a notice to Guarantor) in the case of a communication to the Company and to the address appearing next to Guarantor's signature on this Guaranty (or to such new address as Guarantor may designate hereafter in a notice to Company) in the case of a communication to Guarantor. Any notice served personally shall be deemed delivered upon receipt, and any notice served by certified or registered mail or by reliable overnight courier shall be deemed delivered on the date of receipt as shown on the addressee's registry or certification of receipt or on the date receipt is refused as shown on the records or manifest of the U.S. Postal Service or such courier.

12. Until all of the Obligations guaranteed hereby have been satisfied in full, Guarantor shall have no right of subrogation or reimbursement from Applicant which Guarantor may have as a result of any payment by Guarantor under this Guaranty, and waives any right to enforce any remedy which Company now has or may hereafter have against Applicant as a result of such payment by Guarantor under this Guaranty and any other benefit of or right to participate in any security now or hereafter held by Company.

13. All amounts payable by Guarantor hereunder shall be paid without set-off or counterclaim and without any deduction or withholding whatsoever unless and to the extent that Guarantor shall be prohibited by law from doing so, in which case Guarantor shall pay to Company such additional amount as shall be necessary to ensure that Company receives the full amount it would have received if no such deduction or withholding had been made.

14. If any portion of this Guaranty is held to be unenforceable by a court of competent jurisdiction, the remainder of this Guaranty shall remain in full force and effect.

IN WITNESS WHEREOF, the undersigned Guarantor has executed this Guaranty on [MONTH AND DAY], [YEAR].

GUARANTOR:

Tenaska Energy Holdings, LLC
By Tenaska Energy, Inc., its manager
By:_____
Name:
Title:
Address:
14302 FNB Parkway
Omaha, NE 68154
Attention:

Tenaska Energy, Inc.
By:_____
Name:
Title:
Address:
14302 FNB Parkway
Omaha, NE 68154
Attention:

THIS FIRST AMENDMENT TO POWER PURCHASE AGREEMENT (the "First Amendment") is made as of the 20th day of July, 2017 (the "Effective Date") by and between ALLETE, Inc. d/b/a/ Minnesota Power ("MP" or "Buyer") and Nobles 2 Power Partners, LLC ("Seller"). Seller and MP are each referred to herein as a "Party" and collectively as the "Parties."

WHEREAS, Buyer and Seller are parties to that certain Power Purchase Agreement made as of the 10th day of May 2017 (the "Original PPA"); and

WHEREAS, Buyer and Seller wish to amend the Original PPA in certain respects.

NOW THEREFORE, in consideration of the mutual covenants herein contained, the sufficiency and adequacy of which are hereby acknowledged, the Parties agree to the following:

1. Definitions. Any capitalized term used but not defined herein has the meaning ascribed to it in the Original PPA.

2. Amendment. (a) Section 1.2.2 of the Original PPA is hereby amended to read in its entirety as follows:

> On or before **[TRADE SECRET DATA HAS BEEN EXCISED]**, Seller shall have obtained NRIS status for the Facility. If this condition is not satisfied by **[TRADE SECRET DATA HAS BEEN EXCISED]**, MP shall have the right to terminate this Agreement by delivering written Notice to Seller on or before June 15, 2019. Failure of MP to provide Notice of termination by June 15, 2019 shall be deemed a waiver of this condition, and MP shall not thereafter have the right to terminate this Agreement on the basis of the failure of this condition to have been satisfied.

(b) Section 1.3.1(b) of the Original PPA is hereby amended to read in its entirety as follows:

> On or before **[TRADE SECRET DATA HAS BEEN EXCISED]**, an Interconnection Agreement for the Facility, having terms and conditions (other than network upgrade costs associated with the Facility for which Seller is responsible, which Seller hereby accepts

under Section 3.3.2) acceptable to Seller, has been executed by all parties thereto.

(c) Section 18.1 of the Original PPA is hereby amended to add the following definition:

"Buyer" – ALLETE, Inc. d/b/a/ Minnesota Power, a Minnesota corporation, and its successors and permitted assignees.

3. Miscellaneous. (a) Except as expressly set forth in the First Amendment, the Original PPA remains unchanged and in full force and effect.

(b) The terms and provisions hereof shall be binding on, inure to the benefit of, and be enforceable by, the successors and assigns of the Parties. Notwithstanding the foregoing, neither Party shall assign any rights or delegate any duties under this First Amendment except in connection with an assignment of the Original PPA as permitted thereunder.

(c) This First Amendment shall be considered proprietary and trade secret and shall not be provided in whole or in part to any other Person without prior written approval of the other Party. In the event certain information must be provided pursuant to a regulatory proceeding, the Parties shall take reasonable steps to protect the confidentiality of proprietary and trade secret information, and Seller shall cooperate with MP to limit the scope of information designated as proprietary to that which Seller, at the time, deems to still be trade secret.

(d) This First Amendment may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

(e) The interpretation and performance of this First Amendment and each of its provisions shall be governed and construed in accordance with the laws of the State of Minnesota, without regard to its conflict of laws principles of the United States of America, as applicable. The Parties hereby submit to the exclusive jurisdiction of the federal courts of the State of Minnesota. To the extent that the federal courts lack subject matter jurisdiction over any dispute (through lack of diversity or otherwise) the Parties hereby submit to the exclusive jurisdiction of the applicable Minnesota District Court.

(f) This First Amendment was negotiated and prepared by both Parties with advice of counsel to the extent deemed necessary by each Party. The Parties have agreed to the wording of this First Amendment, and none of the provisions hereof shall be construed against one Party on the ground that such Party is the author of this First Amendment or any part hereof.

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IN WITNESS WHEREOF, the Parties have executed this First Amendment.

Nobles 2 Power Partners, LLC:

By: _____

Its:

Name: **Daniel E. Lonergan**
CEO & Senior Managing Director

ALLETE, INC., d/b/a Minnesota Power:

By: _____

Its: Chairman, President & CEO

Name: Alan R. Hodnik

APPENDIX B: ORDER APPROVING RESOURCE PLAN WITH MODIFICATIONS

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
John A. Tuma	Commissioner

In the Matter of Minnesota Power's 2016–2030 Integrated Resource Plan

ISSUE DATE: July 18, 2016

DOCKET NO. E-015/RP-15-690

ORDER APPROVING RESOURCE PLAN WITH MODIFICATIONS

PROCEDURAL HISTORY

On September 1, 2015, Minnesota Power filed its 2015 Integrated Resource Plan under Minnesota Statutes section 216B.2422 and Minnesota Rules chapter 7843. The Company supplemented the plan on November 4.

On January 4, 2016, the following parties filed comments on Minnesota Power's resource plan:

- Minnesota Department of Commerce (the Department)
- Clean Energy Organizations[1]
- Large Power Intervenors[2]

The Department recommended that the Commission approve the plan with modifications. The Clean Energy Organizations criticized aspects of the Company's forecast and modeling and recommended several modifications to its plan. The Large Power Intervenors largely supported the plan but requested that the Company provide further information on the plan's rate impacts.

On March 4, the following parties filed reply comments:

- The Department
- Clean Energy Organizations
- Large Power Intervenors

[1] The following organizations filed jointly as the Clean Energy Organizations: Fresh Energy, Minnesota Center for Environmental Advocacy, Sierra Club, and Wind on the Wires.

[2] The following companies filed jointly as the Large Power Intervenors: ArcelorMittal USA (Minorca Mine); Blandin Paper Company; Boise Paper, a Packaging Corporation of America company; Enbridge Energy, LP; Hibbing Taconite Company; Mesabi Nugget Delaware, LLC; PolyMet Mining, Inc.; Sappi Cloquet, LLC; USG Interiors, LLC; United States Steel Corporation (Keewatin Taconite and Minntac Mine); United Taconite, LLC; and Verso Corporation.

- Minnesota Power

The Commission also received comments from some 1,700 members of the public. Most of these commenters voiced support for a resource plan that would hasten Minnesota Power's transition away from coal-fired generation and toward renewable resources and energy efficiency. A large number of commenters specifically supported maximizing community solar generation and ensuring that all ratepayers have the opportunity to participate in community solar.

On June 9, 2016, the Commission met to consider the matter.

FINDINGS AND CONCLUSIONS

I. Background

A. The Resource-Planning Process

The resource-planning statute and rules are detailed, but basically they require a utility to file biennial reports on (1) the projected energy needs of its service area over the next 15 years; (2) its plans for meeting projected need; (3) the analytical process it used to develop its plans for meeting projected need; and (4) its reasons for adopting the specific resource mix proposed to meet projected need.[3]

These requirements are designed to strengthen utilities' long-term planning processes by providing input from the public, other regulatory agencies, and the Commission. They are also designed to ensure that utilities give adequate consideration to factors whose public policy importance has grown in recent years, such as the environmental and socioeconomic impact of different resource mixes. For example, the statute requires utilities to develop plans for meeting 50% and 75% of new and refurbished capacity needs with conservation and renewable energy.[4] It also requires them to factor into resource decisions the environmental costs, or externalities, of different generation technologies.[5]

Although the Commission must approve, reject, or modify the resource plans of investor-owned utilities, the resource-planning process is largely collaborative and iterative.

The process is collaborative because there are few hard facts dictating resource choices or deployment timetables. The facts on which resource decisions depend—how quickly an area and its need for electricity will grow, how much electricity will cost over the lifetime of a generating facility or a purchased-power contract, how much conservation potential the service area holds and at what cost—all require the kind of careful judgment that sharpens with exposure to the views of engaged and knowledgeable stakeholders.

The process is iterative because analyzing future energy needs and preparing to meet them is not a static process; strategies for meeting future needs are always evolving in response to changes in

[3] *See* Minn. Stat. § 216B.2422; Minn. R. ch. 7843.

[4] Minn. Stat. § 216B.2422, subd. 2.

[5] *Id.*, subd. 3.

actual conditions in the service area. When demographics, economics, technologies, or environmental regulations change, so do a utility's resource needs and its strategies for meeting them.

B. Minnesota Power's Electric System

Minnesota Power, a division of ALLETE, Inc., serves about 144,000 retail electric customers and 16 municipal systems across a 26,000-square-mile service area in central and northeastern Minnesota.

In 2014, 54 percent of the Company's sales went to large power customers, primarily in the taconite mining, iron concentrate, paper, pulp, refining, and pipeline industries. Many of these industrial customers operate 24 hours a day, 7 days a week, contributing to the Company's 80-percent system load factor.

Minnesota Power procures most of its electricity from coal-fired generators, although it is working to rebalance its generation mix to be one-third coal, one-third natural gas, and one-third renewables.

The Company repowered its coal-fired Laskin Energy Center plant to run on natural gas in early 2015. In June 2015, the Company also shut down a coal-fired generator (Unit 3) at its Taconite Harbor Energy Center. In the current resource plan, it proposes to idle the two remaining units at Taconite Harbor (Units 1 and 2) by 2017, beginning their transition away from coal-fired generation.

Over the past decade, Minnesota Power has constructed or contracted to purchase more than 600 megawatts (MW) of wind generation. It has signed long-term agreements with Manitoba Hydro to purchase 383 MW of hydroelectricity beginning in 2020. And it has begun adding solar power to its generation fleet with a 10 MW project at the Camp Ripley National Guard base near Little Falls and a proposed community-solar pilot program.

C. Minnesota Power's Resource Plan

Minnesota Power anticipates minimal power-supply needs in the near term but projects a capacity deficit starting in the mid 2020s. Below are the basic outlines of the Company's preferred plan for addressing this deficit while continuing to rebalance its generation mix:

- Idle Taconite Harbor Units 1 and 2, using them for reliability when market conditions are favorable, and cease coal operations at Taconite Harbor by 2020;
- Reduce the sulfur-dioxide (SO_2) emissions of Boswell Energy Center Units 1 and 2 by routing their exhaust through Unit 3's pollution-control equipment;
- Use bilateral contracts to supply capacity needs between 2016 and 2019;
- Prepare its transmission system for the addition of the Manitoba Hydro purchased power in 2020; and
- Begin a competitive procurement process for 200–300 MW of natural gas combined-cycle generation for implementation by 2024.

III. Load Forecast

A utility's forecast of anticipated load is the foundation of a resource plan, informing decisions about the timing and magnitude of energy and capacity additions. In this resource plan, Minnesota Power used its 2014 Annual Electric Utility Forecast Report, which was the latest load outlook available in early 2015 when the Company began its resource-planning analysis.

The Company completed its 2015 forecast in mid-2015. In general, the 2015 forecast predicts lower load growth than the 2014 forecast. At hearing, Minnesota Power stated that it expected its forthcoming 2016 forecast to show a similar low-growth trend.

The Clean Energy Organizations argued that there were several flaws in the Company's load forecast, causing it to overestimate future demand. In particular, they argued that the forecast overstates industrial demand based on overly optimistic assumptions about when or whether several major proposed projects, including Polymet's copper-nickel mine, Enbridge's Sandpiper oil pipeline, and Essar Steel's taconite plant, would come to fruition.

The Department disagreed with most of the Clean Energy Organizations' criticisms of Minnesota Power's forecast. It saw less significance in an overstated load forecast, arguing that lower demand would support adding less renewable generation but would not affect the timing of coal-plant retirements. And it maintained that the Company had evaluated a reasonable range of forecasts in developing its resource plan.

The Commission concurs with the Department that Minnesota Power's range of load forecasting used for its 2015 resource plan is reasonable for planning purposes. However, the Clean Energy Organizations' comments serve to highlight the economic trends that have led to lower demand projections in recent forecasts. In light of these trends, Minnesota Power's load forecast scenarios used in its 2015 resource plan may overstate the size or timing of future needs. The Commission bears this fact in mind as it evaluates the Company's preferred plan in the following sections.

IV. Taconite Harbor Energy Center Units 1 and 2

A. Introduction

Minnesota Power's Taconite Harbor Energy Center currently has two operating coal-fired units with a combined capacity of 150 MW. In its last resource-plan order, the Commission directed the Company to analyze the effects of retiring Taconite Harbor Units 1 and 2 or of repowering them to run on different fuel.[6]

Minnesota Power's analysis found that shutting the plant down would create transmission-reliability concerns, requiring upgrades to ensure that electric service is maintained. One set of local transmission upgrades, costing approximately $8 million, would be required at the time of shutdown. A second set, costing approximately $30 million, would be required later if predicted

[6] *In the Matter of Minnesota Power's 2013–2027 Integrated Resource Plan*, Docket No. E-015/RP-13-53, Order Approving Resource Plan, Requiring Filings, and Setting Date for Next Resource Plan, at 8 (November 12, 2013) (hereafter "2013 Resource Plan Order").

load growth in the area materializes.

Minnesota Power compared three alternative timing options for ceasing coal operations at Taconite Harbor—shut down by 2026, shut down by 2019, and idle by 2017. The Company's analysis found the idle-by-2017 option to be the most cost-effective. Under this scenario, Minnesota Power would idle Units 1 and 2 and purchase lower-cost replacement energy on the wholesale market, while the units would remain available to restart if needed for system reliability.

Minnesota Power identified 2020 as the optimal time to either retire or repower the units, coinciding with the expected availability of purchased power from Manitoba Hydro.

B. Positions of the Parties

The Department recommended that Minnesota Power shut down Taconite Harbor Units 1 and 2 in 2017. The Department modeled several shutdown scenarios and found retiring the units early to be more cost-effective than shutting them down at a later date.

The Clean Energy Organizations recommended that Taconite Harbor Units 1 and 2 be immediately retired. They argued that the units are not economic to operate, and that there is significant risk that continued operation of Taconite Harbor will violate air-quality standards for sulfur dioxide (SO_2). And they argued that Minnesota Power's modeling methodology biased the results against shutting down its small coal units, including the Taconite Harbor units, sooner.

The Large Power Intervenors supported Minnesota Power's plan to idle Taconite Harbor Units 1 and 2 in the near term, arguing that this course of action would allow the Company flexibility in the face of uncertainty over the timing and details of anticipated carbon-dioxide (CO_2) emissions regulations.

C. Commission Action

The Commission concurs with Minnesota Power and the Large Power Intervenors that idling Taconite Harbor Units 1 and 2 will provide the Company with needed flexibility to call the units back to service for reliability purposes as it transitions away from coal-fired operations. Idling these units will also allow the Company to take advantage of inexpensive replacement energy offered in the wholesale market.

The Commission will require Minnesota Power to idle Taconite Harbor Units 1 and 2 in 2016, retaining the ability to restart them to address reliability or emergency needs on the transmission system, and cease coal-fired operation by the end of 2020. The Commission will consider future refueling and re-missioning opportunities for these units in the context of the Company's next resource plan, which will be filed on February 1, 2018.

The Commission will also direct Minnesota Power to remedy the local transmission-system issues identified in its analysis of retiring Taconite Harbor Units 1 and 2. These transmission upgrades will pave the way for the eventual retirement or re-missioning of Taconite Harbor; at hearing, the Company acknowledged that it planned to make these local upgrades in any case. Minnesota Power will be allowed to recover the reasonable costs of the upgrades, consistent with the estimate listed on page 16 of Appendix F of its resource plan.

Finally, questions remain as to how idling Taconite Harbor Units 1 and 2 will affect their operation. Minnesota Power plans to offer the units into the Midcontinent Independent System Operator's (MISO's) capacity auction each year they are idled. If the units are not selected through this process, the Company still plans to keep a modest fuel supply available onsite so that the units can be restarted to provide reliability or address system emergencies. To monitor costs and operations during idling, the Commission will require Minnesota Power to submit an annual report that includes the following information:

- Whether Taconite Harbor Energy Center Units 1 and 2 were selected in MISO's annual capacity auction;
- Whether the units will receive capacity accreditation in each MISO planning year;
- How often the units were dispatched in the previous planning year;
- For the previous and upcoming planning year, how much fuel was and will be delivered to the Taconite Harbor Energy Center site; and
- Quantification and demonstration of how and why the economic idling of the units is in ratepayers' interests.

V. Boswell Energy Center Units 1 and 2

A. Introduction

Boswell Energy Center is Minnesota Power's largest coal-fired power plant, with four generating units and a capacity of just over 1,000 MW. Units 1 and 2 are the smallest units, with a combined capacity of approximately 130 MW.

Under the terms of an agreement between Minnesota Power and the United States Environmental Protection Agency (U.S. EPA), Units 1 and 2 would require additional SO_2 emission controls to continue operating on coal past 2019. The Company proposes to take advantage of Unit 3's existing pollution-control equipment by rerouting the exhaust from Units 1 and 2 through the Unit 3 equipment, at an anticipated cost of $30 million. The Company's plan assumes that Units 1 and 2 would cease operation in 2024, the end of their useful lives for accounting purposes.

Minnesota Power considered other alternatives to comply with the SO_2 limits, including refueling Units 1 and 2 with natural gas or retiring them by 2019. According to Minnesota Power, because the units provide black-start capability for Units 3 and 4, a new system-restoration plan would need to be developed for the region if they are retired. In addition, the Company stated that shutting down the units would trigger a need for transmission upgrades of approximately $10 million.

B. Positions of the Parties

The Department recommended that Minnesota Power procure replacement generation for Boswell Units 1 and 2, including 200 MW of combined-cycle natural gas generation, and shut down the units once the natural gas generation is online, which the Department believed could happen by 2022.

The Department's modeling did not find a substantial cost difference between early and late retirement of these units; the main difference it found was that early shutdown required the Company to rely on substantial short-term baseload capacity for another three years. To avoid the need to rely on short-term market capacity and energy, the Department recommended that Minnesota Power retire the units coincident with the addition of natural gas capacity.

The Clean Energy Organizations agreed with the Department that Boswell Units 1 and 2 should be shut down as soon as replacement capacity is available, although they argued that this could occur sooner than 2022. They also questioned the need for a natural gas resource, arguing that Minnesota Power had failed to make the demonstration required by statute that a renewable energy facility is not in the public interest,[7] and asserting that a combination of renewable energy and conservation measures could offset the capacity lost by retiring the units.

Finally, the Clean Energy Organizations questioned the prudence of investing $30 million in SO_2-control measures, especially since, in their view, continued operation would likely result in additional costs to comply with EPA regulations on coal combustion residuals[8] and power-plant discharges to surface waters.[9] In light of these costs, the Clean Energy Organizations argued that retiring Boswell Units 1 and 2 in the near term would be the most prudent alternative.

The Large Power Intervenors supported Minnesota Power's plan to continue operating Boswell Units 1 and 2, maintaining that it would preserve flexibility to make prudent decisions for ratepayers. They argued that the Department and the Clean Energy Organizations had not addressed how retiring the units in the near term would affect the reliability and operation of the Company's system.

C. Commission Action

The Commission concurs with the Department and the Clean Energy Organizations that the most reasonable course of action on this record is to retire Boswell Units 1 and 2 when sufficient replacement energy and capacity are available, but no later than 2022.

The Department's analysis showed that the timing of Boswell Units 1 and 2's retirement had little impact on the overall cost of the Company's resource plan. The Department therefore recommended that the units be retired as soon as capacity and energy are available to replace the electricity provided by the units. The Department believed that replacement generation could be in place by 2022. In light of the Department's analysis, the Commission sees no reason to delay these units' retirement beyond 2022.

Units 1 and 2 will require additional pollution controls if they continue to operate using coal between 2019 and 2022. The Commission leaves to Minnesota Power the decision of how to address the emissions limits established in its agreement with the U.S. EPA. However, the Company has not demonstrated at this time that its proposed $30 million investment in SO_2 reduction is a reasonable investment to allow the units to run for three years. This is especially

[7] *See* Minn. Stat. § 216B.2422, subd. 4.

[8] *See* 40 C.F.R. pt. 257.

[9] *See* 80 Fed. Reg. 67,838 (Nov. 3, 2015).

true in light of the relatively modest cost of the transmission upgrades required to retire the units.

In the following sections, the Commission discusses resources that could replace Minnesota Power's retiring coal-fired generators and address forecasted load growth.

VI. Natural Gas Additions

A. Introduction

Minnesota Power proposes to add 200–300 MW of natural gas combined-cycle generation by 2024. The Company has already begun a competitive-bidding process to procure natural gas generation and intends to present the results of this process in its next resource plan.

Minnesota Power projects that, with the near-term idling of Taconite Harbor Units 1 and 2, it will need approximately 200 MW of new capacity from 2017–2019. In 2020, the Manitoba Hydro contracts are expected to begin filling much of this need, but the Company again forecasts a need for 200–300 MW of capacity in 2025 after the planned retirement or re-missioning of Boswell Units 1 and 2.

The Company's preferred plan relies on bilateral contracts to meet the capacity need before 2020; in the longer term, the Company's modeling found a natural gas resource of 200–300 MW to be a cost-effective addition to meet capacity needs.

B. Positions of the Parties

The Department recommended that Minnesota Power procure 200 MW of combined-cycle natural gas generation. The Department's modeling suggested that 200 MW of combined-cycle generation, in combination with renewable resources and energy conservation measures, could cost-effectively replace the capacity and energy of the Company's coal-based units.

The Clean Energy Organizations questioned the need for 200–300 MW of natural gas capacity by 2024, citing concerns with Minnesota Power's load forecast. They questioned why the Company was already soliciting bids despite the need being nearly eight years in the future. And they argued that solicitations for new capacity should be fuel-neutral rather than fuel-specific, so that consideration is given to renewable resources.

The Large Power Intervenors also questioned the need for and timing of Minnesota's request for proposals (RFP) for natural gas generation. And they queried whether the Company had considered potentially less expensive alternatives, such as demand-response measures or customer-owned generation. They recommended that Minnesota Power's RFP be withdrawn and revised to reflect the Company's Commission-approved resource plan and to allow for customer-owned generation.

C. Commission Action

The Commission agrees with the Clean Energy Organizations and the Large Power Intervenors that Minnesota Power's evaluation of replacement generation should not be limited to one resource. At the same time, the Commission does not wish to foreclose the Company's exploration of efficient combined-cycle generation as part of a portfolio of resources to replace

its small coal-fired generators. The Commission will therefore allow Minnesota Power to continue pursuing its RFP to investigate the possible procurement of combined-cycle natural gas generation to meet its energy and capacity needs in the absence of Boswell 1 and 2 and Taconite Harbor 1 and 2.

Acceptance of the RFP establishes no presumption that any or all of the generation identified in that bidding process will ultimately be approved. Moreover, to ensure that a wide variety of replacement options is considered in the next resource plan, the Commission will require that the plan include a full analysis of all alternatives to natural gas, including renewables, energy efficiency, distributed generation, and demand response, for providing the energy and capacity sufficient to meet the Company's needs.

VII. Wind Additions

A. Introduction

Minnesota Power did not recommend adding new wind generation in its 2015 resource plan. The Company stated that its modeling did not show wind additions to be a cost-effective capacity addition unless a significant carbon-emissions penalty was assumed.

B. Positions of the Parties

The Department's analysis found that procuring 300 MW of wind generation in about 2018 would be a cost-effective resource addition under its recommended small-coal retirement scenario. Longer term, it recommended procuring approximately 100 MW of wind (along with 200 MW of natural gas and 50 MW of solar) to help replace Boswell Units 1 and 2.

The Clean Energy Organizations supported the Department's recommendations. They argued that Minnesota Power's modeling disfavored the selection of wind by pricing it too high, failing to assign it any accredited capacity, and placing artificial limits on the number of units that could be selected for each year.

In reply comments, Minnesota Power acknowledged that the current favorable tax treatment of wind farms provided an opportunity to procure low-cost wind resources that could serve as an energy-price hedge for ratepayers. The Company suggested that adding 100 MW of new wind in 2018 could prove cost-effective; however, it argued that adding 300 MW of wind in that timeframe would likely create an energy surplus in the near term.

C. Commission Action

The Commission concurs with the parties that procuring additional wind generation in the near term, while it would not provide significant capacity, would benefit Minnesota Power's system by supplying low-cost energy at a fixed price.

The parties, however, disagree on how much wind to procure. The Department's modeling found 300 MW to be cost-effective under numerous scenarios, while Minnesota Power recommended 100 MW, cautioning that acquiring too much wind generation would cause an energy surplus. This scenario could result in a net cost if the Company is unable to generate sufficient revenue by selling the surplus energy on the wholesale market.

The Commission concludes that Minnesota Power should begin a competitive acquisition process, by the end of 2017, to procure 100–300 MW of installed wind capacity. This range reflects the positions of both parties; the final amount can be resolved in a future resource-acquisition proceeding with the benefit of specific proposals.

VIII. Solar Additions

A. Introduction

Minnesota's Solar Energy Standard (SES) requires a public utility to generate or procure sufficient electricity from solar energy so that by the end of 2020, at least 1.5 percent of the utility's total retail electric sales in Minnesota is generated by solar energy.[10]

Minnesota Power calculated that it would need to acquire 33 MW of solar generation during the planning period to meet and sustain the 1.5-percent-by-2020 requirement. The Company plans to acquire 11 MW of solar in 2016, 12 MW in 2020, and 10 MW in 2025.

Minnesota Power does not plan any solar additions beyond what is necessary to meet the Solar Energy Standard, but it recognized that solar power may become more cost-effective as the price of generating it decreases.

B. Positions of the Parties

The Department supported Minnesota Power's SES compliance strategy. Long term, the Department recommended that the Company procure an additional 50 MW of solar, partly to replace Boswell Units 1 and 2. The Department's modeling suggested a strong preference for 50 MW of solar generation as part of a cost-effective package of resources to replace the retiring coal units.

The Clean Energy Organizations argued that Minnesota Power's modeling methodology disfavored the selection of solar by overstating its unit cost and allowing the model to accept only one solar farm starting in 2017.

C. Commission Action

The Commission concurs with Minnesota Power and the Department that the Company should acquire 11 MW of solar generation by 2016, 12 MW by 2020, and 10 MW by 2025 to meet is SES obligations. But the Commission also agrees with the Department and the Clean Energy Organizations that additional solar generation is likely a cost-effective resource for Minnesota Power's system.

The market for solar generation is still evolving; however, under the Department's modeling, when solar was priced at the median or lower levels—a range of $80 to $100 per megawatt hour (MWh)—the model tended to select 100 MW or more of solar in addition to the amount needed

[10] Minn. Stat. § 216B.1691, subd. 2f(a). "Total retail electric sales" excludes sales to iron mining extraction and processing facilities, paper mills, wood products manufacturers, sawmills, and oriented strand board manufacturers. *Id.*, subd. 2f(d).

for SES compliance. Given that the Commission recently approved another utility's 187 MW solar portfolio with a levelized price of $73.20 per MWh,[11] a range of $80-100 per MWh may overstate the cost of solar generation.

For these reasons, the Commission finds that up to 100 MW of solar by 2022 is likely an economic resource for Minnesota Power's system and will require that the Company account for this finding in any competitive acquisition process.

IX. Energy Conservation

A. Introduction

Minnesota's conservation-improvement-program (CIP) statute sets an annual energy-savings goal of 1.5 percent of gross annual retail sales for each utility, subject to modification by the Department.[12] Minnesota Power's currently approved conservation-improvement program calls for annual energy savings of 46.5 gigawatt hours (GWh), or 1.5% of its gross annual retail sales.[13]

Large customers that face competitive or economic pressures to conserve energy may petition the Department for an exemption from their utility's conservation-improvement program.[14] Sales to CIP-exempt customers are not included in a utility's gross annual retail sales for the purposes of calculating compliance with its energy-savings goal, nor are CIP costs included in exempt customers' rates.

Almost 70 percent of Minnesota Power's load comes from approximately 14 large, CIP-exempt customers. None of this load is subject to the Company's energy-savings goal under its conservation-improvement program.

In Minnesota Power's last resource-plan proceeding, the Commission directed the Company to provide, in its next resource plan, cost assumptions for achieving energy savings beyond 1.5 percent of non-CIP-exempt retail sales.[15] The Commission also required the Company to provide data on embedded energy savings from its CIP-exempt and non-CIP-exempt customers and to evaluate conservation scenarios for achieving greater savings by both groups of customers.[16]

In this resource plan, Minnesota Power evaluated four CIP savings scenarios:

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[11] *In the Matter of Xcel Energy's Petition for Approval of a Solar Portfolio to Meet Initial Solar Energy Standard*, Docket No. E-002/M-14-162, Order Approving Solar Portfolio, at 3 (March 24, 2015).

[12] Minn. Stat. § 216B.241, subd. 1c.

[13] *See In the Matter of Minnesota Power's 2014–2016 Energy Conservation Improvement Plan*, Docket No. E-015/CIP-13-409.

[14] Minn. Stat. § 216B.241, subd. 1a(b).

[15] 2013 Resource Plan Order, at 8.

[16] *Id.*

Savings Plan	Annual Energy Savings (GWh)	Percent of Sales	Incremental Cost (millions)
Existing	46.5	1.5%	$0.0
+11 GWh	57.3	1.87%	$2.7
+15 GWh	61.2	2.0%	$4.1
+30 GWh	76.5	2.5%	$10.5

The Company proposed a resource-planning goal of procuring 57.3 GWh in annual energy savings, or 1.87 percent of annual retail sales.

B. Positions of the Parties

1. Energy-Savings Goal

The Department recommended that Minnesota Power procure average annual energy savings of 76.5 GWh, or 2.5 percent of its non-CIP-exempt sales. It stated that the Company has consistently exceeded the statutory 1.5-percent energy-savings goal since 2009 and has met or exceeded 1.87 percent since 2010. And, in 2014, the Company achieved savings of 2.49 percent.

The Department's modeling found that the overall cost-effectiveness of Minnesota Power's resource plan increased with the level of energy efficiency. It concluded that the 76.5-GWh savings scenario would provide a low-cost energy supply and potentially help the Company to defer the need for future resource acquisitions in a time of significant uncertainty with respect to future load.

Minnesota Power opposed a long-term resource-planning assumption of 2.5 percent energy savings. The Company acknowledged that it had achieved comparable savings in previous years, but characterized this achievement as the exception to the rule, dependent on certain large, irregular customer-specific projects. It argued that these projects' contribution skewed past results and that those savings should be normalized before being used for resource planning.

2. CIP-Exempt Customers

The Clean Energy Organizations argued that Minnesota Power had ignored the possibility of obtaining additional energy savings from its CIP-exempt customers. They argued that the Commission's prior order confirmed that sales to CIP-exempt customers must be considered in determining progress toward the statewide energy-savings goals described in Minn. Stat. §§ 216B.2401 and 216C.05. And they recommended that the Commission direct Minnesota Power to proactively seeks ways to increase conservation by its CIP-exempt customers.

The Large Power Intervenors argued that Minnesota Power is not required to verify the energy savings of its CIP-exempt customers. According to these intervenors, the CIP statute recognizes that large industrial customers are subject to competitive pressures to reduce costs and improve energy efficiency and allows them to seek CIP exemption on that basis. Thus, CIP-exempt

customers are responsible for planning, financing, and implementing their own energy-conservation and efficiency efforts.

The Department agreed with the Clean Energy Organizations that Minnesota Power should encourage its CIP-exempt customers to be as efficient as possible. However, it stated that because the CIP statute does not allow the Company to charge these customers for providing CIP services, it is not clear how the Company would engage with the customers and document their energy savings.

C. Commission Action

The Commission concurs with the Department that Minnesota Power's average annual energy savings goal should be set at 76.5 GWh for resource-planning purposes. The Department's modeling demonstrated that this level of energy savings would result in the lowest-cost expansion plan for the Company's system. Moreover, planning for a high level of energy savings recognizes that it is Minnesota's preferred energy resource.[17]

Minnesota Power expressed concern that it would not be able to achieve historic levels of energy savings. However, the Department's analysis showed that the level of energy savings selected does not affect the recommended supply-side resources. In other words, even if Minnesota Power is unable to achieve the savings goal set in this plan, it will still have enough generation to meet projected demand. And finally, because resource planning is an iterative process, the Commission can revisit the Company's energy-savings goal in its next plan and adjust it if appropriate.

The Commission agrees with the Department and the Large Power Intervenors that verifying the energy savings of Minnesota Power's CIP-exempt customers could present practical and legal challenges. However, the Commission also agrees with the Clean Energy Organizations that the Company should pursue conservation measures in which its CIP-exempt customers may participate voluntarily.

Accordingly, the Commission will require Minnesota Power to (1) propose a demand-response competitive-bidding process within six months of the date of this order and (2) investigate the potential for an energy-efficiency competitive-bidding process and summarize its investigation and findings in the next resource plan. These measures hold the potential both to promote state policy favoring energy savings and to benefit large customers competing in global markets.

X. Bilateral Contracts

In Minnesota Power's last resource-plan proceeding, the Commission approved the Company's plan to pursue cost-effective bilateral market purchases to cover an anticipated generation shortfall between 2014 and 2020.[18] The Commission directed the Company to file the pertinent details of any bilateral contract it entered into.[19]

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[17] *See* Minn. Stat. § 216B.2401 ("The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources.")

[18] 2013 Resource Plan Order, at 7.

[19] *Id.*

In August and September 2014 and March 2015, Minnesota Power made compliance filings detailing bilateral capacity and energy contracts that it had entered into to address resource needs through 2020.

In fall 2015, the Company executed three additional bilateral contracts for baseload power to be delivered in 2017–2019. The Company intends that these contracts will replace the energy and capacity lost when it retires Taconite Harbor Units 1 and 2. The Company did not file the details of these contracts until May 2016. At hearing, it stated that it understood the filing requirement in the prior order to refer only to contracts executed to address the specific need identified in its 2013 resource plan.

The Commission will continue to require that Minnesota Power file the pertinent details of its major bilateral contracts, such as the duration, price, and amount of capacity and energy. This requirement will ensure that the Commission, the Department, and other stakeholders have timely information on how the Company is planning for and addressing anticipated resource needs. To avoid creating an undue administrative burden, the Commission will limit the filing requirement to contracts exceeding one year or 50 MW.

XI. Resource-Plan Approval

For all the foregoing reasons, the Commission will approve Minnesota Power's 2015 resource plan as modified by this order.

ORDER

1. The Commission approves Minnesota Power's 2015 Integrated Resource Plan with the modifications below.

2. Minnesota Power's range of load forecasting used for its 2015 resource plan is reasonable for planning purposes; however, in light of updated information, Minnesota Power's load forecast scenarios used in its 2015 resource plan may overstate the size or timing of future needs.

3. Minnesota Power shall idle Taconite Harbor Energy Center Units 1 and 2 in 2016, retain the ability to restart them to address reliability or emergency needs on the transmission system, and cease coal-fired operation by the end of 2020. Future refueling and re-mission opportunities will be considered in planning and optimization of the facility for the next resource plan.

4. Minnesota Power shall remedy the local transmission-system issues identified in its analysis of closing Taconite Harbor Energy Center Units 1 and 2. The Company will be allowed to recover the reasonable costs of the upgrades consistent with the estimate listed on page 16 of Appendix F of its resource plan.

5. Minnesota Power has not demonstrated at this time that its proposed investment in SO_2 reduction at Boswell Units 1 and 2 is reasonable.

6. Minnesota Power shall retire Boswell Energy Center Units 1 and 2 when sufficient energy and capacity are available, but no later than 2022.

7. Minnesota Power may pursue an RFP to investigate the possible procurement of combined-cycle natural gas generation to meet its energy and capacity needs in the absence of Boswell Units 1 and 2 and Taconite Harbor Units 1 and 2, with no presumption that any or all of the generation identified in that bidding process will be approved by the Commission.

8. Minnesota Power's next resource plan shall include a full analysis of all alternatives, including renewables, energy efficiency, distributed generation, and demand response, for providing energy and capacity sufficient to meet its needs.

9. By the end of 2017, Minnesota Power shall initiate a competitive-bidding process to procure 100–300 MW of installed wind capacity.

10. Minnesota Power shall acquire solar units of 11 MW by 2016, 12 MW by 2020, and 10 MW by 2025 to meet is SES obligations.

11. The Commission finds that up to 100 MW of solar by 2022 is likely an economic resource for Minnesota Power's system; the Company shall account for this finding in its request for proposals in any competitive acquisition process.

12. Minnesota Power's average annual energy savings goal is set at 76.5 GWh.

13. Minnesota Power shall propose a demand-response competitive-bidding process within six months of the date of this order.

14. Minnesota Power shall investigate the potential for an energy-efficiency competitive-bidding process to supplement its existing conservation-improvement program, open to both CIP-exempt and non-CIP-exempt customers, and shall summarize its investigation and findings in its next resource plan.

15. Minnesota Power shall submit an annual report by August 1 of each year, to include:

    a. Whether Taconite Harbor Energy Center Units 1 and 2 were selected in MISO's annual capacity auction;

    b. Whether Taconite Harbor Energy Center Units 1 and 2 will receive capacity accreditation in each MISO planning year;

    c. How often the units were dispatched in the previous planning year;

    d. For the previous and upcoming planning year, how much fuel was and will be delivered to the Taconite Harbor Energy Center site; and

    e. Quantification and demonstration of how and why the economic idling of Taconite Harbor Energy Center Units 1 and 2 is in the ratepayers' interests.

16. Minnesota Power shall file the pertinent details of its bilateral contracts that exceed one year or 50 MW, such as the duration, price, and amount of capacity and associated energy to be procured, within 30 days after the contracts are signed.

17. Minnesota Power shall file its next resource plan on February 1, 2018.

18. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf
Executive Secretary

This document can be made available in alternative formats (e.g., large print or audio) by calling 651.296.0406 (voice). Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.

APPENDIX C: PROJECT COSTS

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

Section 5.3.1 Capacity Costs

Nobles 2 has estimated the cost for the Project to be between [**TRADE SECRET DATA HAS BEEN EXCISED]** per kW. The final calculation of cost will be dependent on several factors, including the type and composition of wind turbine generators and pending interconnection costs.

Section 5.3.5 Variable Operating and Maintenance Costs

Nobles 2 has estimated the variable operating and maintenance costs for the Project to be approximately [**TRADE SECRET DATA HAS BEEN EXCISED]** over a 30 year period.

Section 5.3.6 Total Cost

Nobles 2 has estimated the total capital cost to range from [**TRADE SECRET DATA HAS BEEN EXCISED]** per kW. The final calculation of total capital cost will be dependent on several factors, including the type and composition of wind turbine generators and pending interconnection costs.

AFFIDAVIT OF SERVICE

In the Matter of the Application of Nobles 2 Power Partners, LLC for a Certificate of Need for the up to 260 MW Nobles 2 Wind Project and Associated Facilities in Nobles County, Minnesota

Docket No. IP-6964/CN-16-289

STATE OF MINNESOTA)
) SS.
COUNTY OF HENNEPIN)

Breann L. Jurek, of the City of Coon Rapids, the County of Anoka, State of Minnesota, being duly sworn on oath, deposes and states that on the 13th day of October, 2017, she e-filed with the Minnesota Public Utilities Commission the following:

1. Certificate of Need Application;
2. Public and Nonpublic versions of Appendix A to the Application;
3. Appendix B to the Application;
4. Public and Nonpublic versions of Appendix C to the Application;
5. Summary of Filing; and
6. Affidavit of Service.

A copy has also been served in accordance with the attached service list of record.

Breann L. Jurek

Subscribed and sworn to before me
this 13th day of October, 2017

Notary Public

DEBRA J. KLEIST
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

62112456.1

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STATE OF MINNESOTA
BEFORE THE
PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner
Katie Sieben	Commissioner

In the Matter of the Application of Nobles 2 Power Partners, LLC for a Certificate of Need for the up to 260 MW Nobles 2 Wind Project and Associated Facilities in Nobles County, Minnesota	Docket No. IP-6964/CN-16-289 **SUMMARY OF FILING**

SUMMARY OF FILING

On October 13, 2017, Nobles 2 Power Partners, LLC (the "Applicant") filed an Application for a Certificate of Need ("CN") for a Large Energy Facility with the Minnesota Public Utilities Commission ("Commission") pursuant to Minnesota Statutes, Section 216B.243, subdivision 2. The Applicant is requesting a CN for the construction and operation of an up to 260 MW Large Wind Energy Conversion System to be located in Nobles County, Minnesota, that will provide energy and capacity to Minnesota Power pursuant to a Power Purchase Agreement ("PPA") to be approved by the Commission. In the absence of Commission approval of the PPA, the facility can be used to provide energy and capacity to wholesale customers, including utilities in Minnesota and the region, that have a need for additional, economical renewable energy.