

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter Minnesota Power's
Petition for Approval of a 10 MW
Blanchard Solar Power Purchase
Agreement

Docket No. E-015/M-18-_____

PETITION FOR APPROVAL

SUMMARY OF FILING

On May 31, 2018 Minnesota Power (the "Company") submitted to the Minnesota Public Utilities Commission ("Commission") a revised Petition for Approval of a Power Purchase Agreement (the "PPA" or "Agreement") with Cypress Creek Renewables to purchase 10 MW of solar-generated energy and capacity from the Blanchard solar-generation facility located near Royalton in Morrison County, in central Minnesota, to serve Minnesota Power's customers. This Petition is filed in accordance with the Commission's September 19, 2017 Order Referring Gas Plant for Contested Case Proceedings, and Notice and Order for Hearings in Docket Nos. E-015/AI-17-568 and E-015/RP-15-690, which directed the Company to refile its solar PPA in a separate docket¹. In this Petition, the Company requests approval of the solar PPA portion of the Company's overall Energy**Forward** Resource Package, a unique and synergistic combination of resources designed as an integrated package.

¹ On June 11, 2018, the Commission issued its Order ("Order") In the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation Under Minnesota Statutes § 216H.06 (Docket No. E-999/CI-07-1199). The initial analysis and petition filing was substantially completed for the Petition prior to when the Order was issued. The resource analysis provided in the Petition includes the previous Commission orders and carbon scenarios.

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PETITION FOR APPROVAL

I. Introduction

Minnesota Power (the “Company”) is seeking Minnesota Public Utilities Commission (“Commission”) approval of the Power Purchase Agreement (the “PPA” or “Agreement”) with Cypress Creek Renewables to purchase 10 MW of solar-generated energy and capacity from the Blanchard Solar Project (or, “the Project”) located near Royalton in Morrison County, in central Minnesota.

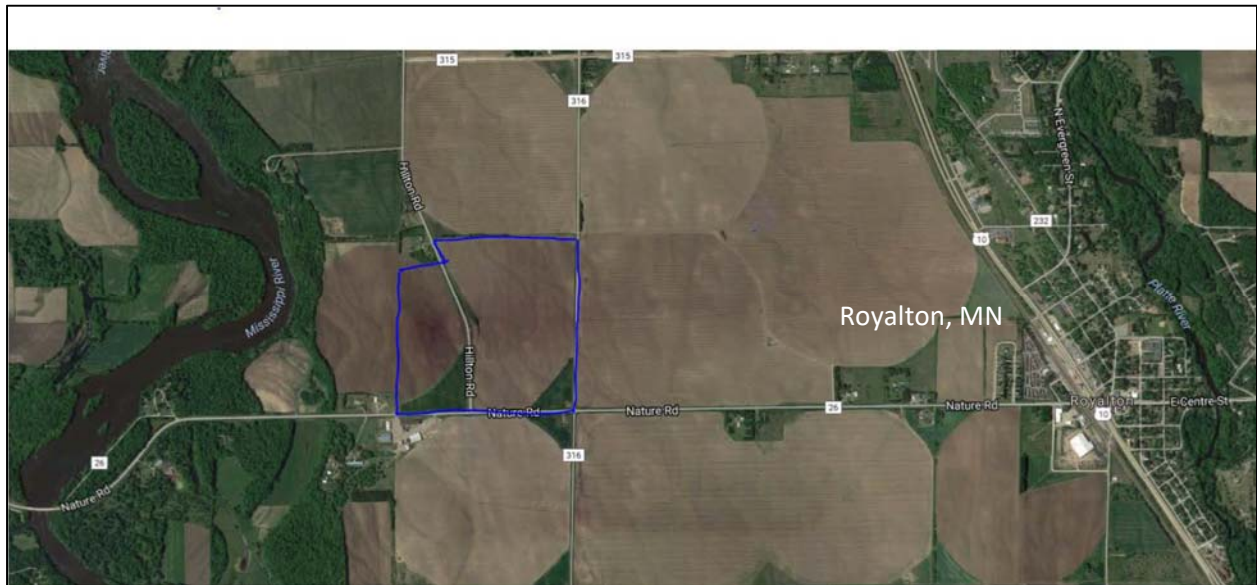


FIGURE 1: BLANCHARD SOLAR-GENERATION FACILITY SITE

The site is located in the southern part of Minnesota Power’s service territory which has a strong solar profile (expected 20% capacity factor) and will access Minnesota Power’s distribution system to deliver approximately 18,000 MWhs of solar power to customers each year.

The Project was selected as part of a broader request for proposal (“RFP”) process seeking power supply proposals for 1 MW to 300 MW of utility-scale solar generation that qualifies under Minnesota’s

solar energy standard (“SES”). Minnesota Power sought proposals that would maximize the benefits of the federal Investment Tax Credit (“ITC”) for customers. While Minnesota Power solicited bids for, and fully evaluated adding additional solar beyond what is required to comply with the SES², the Company’s analysis concluded that utility scale solar is substantially more expensive than wind and does not provide the same capacity benefits due to Minnesota Power’s system peaking in the evening hours of winter. For those reasons, Minnesota Power’s current strategy remains to add sufficient solar resources to meet its SES obligations.

The RFP issued on August 4, 2016 was completed in compliance with Order Points 10 and 11 of the Commission’s July 2016 Integrated Resource Plan (“IRP”) Order³. The RFP required offers be for capacity that is creditable under Midcontinent Independent System Operator (“MISO”) resource adequacy rules in MISO Local Resource Zone 1, and have an initial term of at least 20 years. Proposals could have commercial operation dates between January 1, 2018, and December 31, 2022. Responses were due by September 14, 2016.

Independent evaluator Sedway Consulting monitored the RFP process and evaluated the proposals. All of the proposals were evaluated and ranked based on economics, including the value of energy produced, cost of energy, and debt equivalence on a levelized basis. The top-ranked proposals were also evaluated on non-economic factors (e.g., site control, permitting, interconnection, project team experience).

From Sedway Consulting’s evaluation and ranking, a short list of projects were identified for power purchase agreement negotiations. The negotiations concluded with Minnesota Power selecting the 10 MW Blanchard Solar Project for the reasons outlined via this Petition.

A Petition seeking approval of this PPA as part of the Company’s overall Energy**Forward** Resource Package was filed on July 28, 2017.⁴ The Energy**Forward** Resource Package (“EFRP”) is a unique and synergistic combination of 250 MW of wind, 10 MW of solar, and approximately 250 MW of dispatchable natural gas capacity, all designed as an integrated package. The following map shows each element of the EFRP in relation to the Company’s existing generation assets and service territory:

² Docket No. E-015/AI-17-568 Appendix J - Detailed Resource Planning Analysis

³ Docket No. E-015/RP-15-690.

⁴ Docket Nos. E-015/AI-17-568 and E-015/RP-15-690.

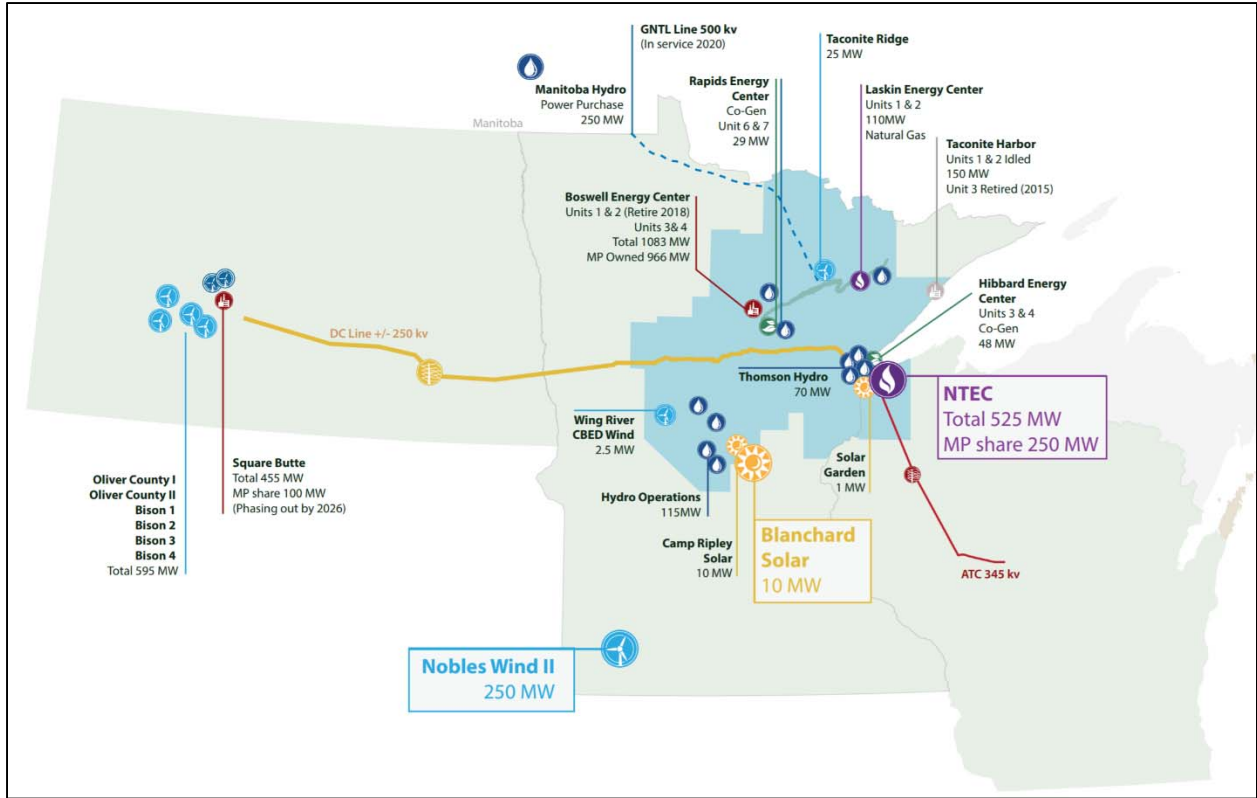


FIGURE 2: ENERGYFORWARD RESOURCE PACKAGE MAP

In response to the EFRP Petition, the Commission issued its Order Referring Gas Plant for Contested Case Proceedings, and Notice and Order for Hearings on September 19, 2017, which directed the Company to refile its solar PPA in a separate docket. The Commission’s September 2017 Order and the Tax Cuts and Jobs Act of 2017 prompted further discussion and consideration of the Blanchard PPA between Minnesota Power and Cypress Creek Renewables, but ultimately the parties decided to move forward with the PPA without revision. This Petition is the re-filing of the PPA in accordance with the Commission’s September 2017 Order.

II. Procedural Matters

A. General Filing Information

Pursuant to Minn. Rule 7829.1300, Minnesota Power provides the following required general filing information.

1. *Summary of Filing (Minn. Rule 7829.1300, subp.1)*

A one-paragraph summary accompanies this Petition.

2. *Service on Other Parties (Minn. Rule 7829.1300, subp. 2)*

Pursuant to Minn. Stat. § 216.17, subd. 3 and Minn. Rules 7829.1300, subp. 2, Minnesota Power eFiles the Petition on the Department and the Residential Utilities Division of the Office of Attorney General. A summary of the filing prepared in accordance with Minn. Rules 7829.1300, subp. 1 is being served on Minnesota Power's general service list.

3. *Name, Address and Telephone Number of Utility (Minn. Rule 7829.1300, subp. 3(A))*

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4. *Name, Address and Telephone Number of Utility Attorney (Minn. Rule 7829.1300, subp. 3(B))*

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5. *Date of Filing and Date Proposed Rate Takes Effect (Minn. Rule 7829.1300, subp. 3(C))*

This Petition is being filed on June 18, 2018 and will have no effect on Minnesota Power's base rates. A condition precedent in the Agreement is approval by the Commission by October 31, 2018.

6. *Statute Controlling Schedule for Processing the Filing (Minn. Rule 7829.1300, subp. 3(D))*

This Petition is made pursuant to Minn. Stat. § 216B.1645. Furthermore, Minnesota Power's Petition falls within the definition of a "Miscellaneous Tariff Filing" under Minn. Rules 7829.0100, subp.

11 and 7829.1400, subps. 1 and 4, permitting comments in response to a miscellaneous filing to be filed within 30 days, and reply comments to be filed no later than 10 days thereafter.

7. *Utility Employee Responsible for Filing (Minn. Rule 7829.1300, subp. 3(E))*

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8. *Impact on Rates and Services (Minn. Rule 7829.1300, subp. 3(F))*

This Agreement in and of itself will have no effect on Minnesota Power’s base rates. The energy costs under the Agreement will be assigned through Minnesota Power’s Rider for Fuel and Purchased Energy (“FPE Rider”) to customers.

9. *Service List (Minn. Rule 7829.0700)*

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B. Eligible Energy Technology Determination

Minnesota Power is proud to have achieved its requirements under Minnesota’s Renewable Energy Standard several years early and is currently in compliance with the 2025 requirement of providing 25 percent of its energy from renewable energy sources. During the 2013 legislative session, Minn. Stat. § 216B.1691, was amended to include an additional Solar Energy Standard. The SES requires 1.5 percent of a public utility’s retail sales, net of customer exclusions, to be served by solar energy resources by 2020. Minnesota Power requests that the Commission confirm the 10 MW PPA to be a reasonable and prudent way for the Company to continue to meet its obligations under Minn. Stat § 216B.1691. The approval will allow the solar renewable attributes associated with the PPA to be utilized on behalf of customers.

C. Justification for Excising Trade Secret Information

Minnesota Power provides the Agreement in Appendix B. The Agreement and this Petition contain material designated as “Trade Secret” pursuant to Minn. Stat. § 13.37, subd. 1(b) and they are filed consistent with the Commission policy on trade secret material. Minnesota Power believes that all information identified as “Trade Secret” within this filing meets the requirements of Minn. Stat. § 13.37, subd. 1(b) and Minn. Rule 7829.0500. A statement regarding justification for excising Trade Secret information accompanies this Petition.

III. Overview of the Agreement

Cypress Creek Renewables and Minnesota Power negotiated specific provisions into the PPA to protect the best interests of their respective companies and customers. These provisions are mainly standard terms that would be included in a PPA of this scale. Certain terms exist within the PPA solely to address potential scenarios and events and allocate risk between parties in the limited circumstances in which they could occur. In the following sections, the Company explains the PPA's significant terms. The full PPA is provided in Appendix B.

A. Discussion of Significant Agreement Terms

The Blanchard Solar Project PPA was executed between Minnesota Power and Cypress Creek Renewables on June 7, 2017. Subject to Commission approval, the term of the agreement begins once the project becomes commercially operational and expires at the end of twenty-five years. Construction of the project is expected to begin in 2019 and be completed by June 30, 2020.

The PPA is subject to a limited number of contingencies (identified in Sections 1.2 and 1.3 of the PPA), which recognize that events beyond the parties' control could result in the need to delay or cancel the PPA. These contingencies include if the necessary permits and regulatory approvals are not received, or if **TRADE SECRET DATA EXCISED**.

B. Services Provided

Pursuant to Section 2.1.1. of the Blanchard Solar Project PPA, beginning with commercial operation, Cypress Creek Renewables is required to generate from the project, and sell contract energy and creditable capacity to Minnesota Power at the prices set forth in the PPA. Additionally, Cypress Creek Renewables will construct, own or lease, operate, and maintain the project in material compliance with all permits and requirements of law, applicable warranty requirements, relevant equipment manufacturer's specifications, and in accordance with standard industry practice.

C. Environmental Attributes

Under Section 2.3 of the PPA, Minnesota Power is entitled to all Green Tags, or Renewable Energy Credits, associated with the purchase of contract energy. The Solar Renewable Energy Credits will be used by the Company to demonstrate compliance with the SES.

D. Interconnection and Delivery

Cypress Creek Renewables is required to apply for and use commercially-reasonable efforts to obtain interconnection services necessary to interconnect the project to Minnesota Power's 34.5 kV distribution system.

Minnesota Power is responsible to design, install, own, and maintain all electric metering devices used to measure the energy and capacity made available to the Company by Cypress Creek Renewables under the PPA, and to monitor and coordinate operation of the Blanchard Solar Project. Cypress Creek Renewables and the Company have negotiated terms under Section 5.4 of the PPA in the event an electric metering device or back-up metering fails to register, or if the measurement by these devices is found to be inaccurate by more than one percent.

E. Other Provisions of the PPA

The following is a listing of standard provisions within the PPA:

- Article 6 contains typical provisions regarding operation and maintenance of the Blanchard Solar Project.
- Article 7 contains standard billing terms.
- Article 8 addresses the establishment of an operating committee designed to address issues that arise pursuant to the PPA and also the solar data and capacity requirements.
- Article 9 addresses security provided by Cypress Creek Renewables to Minnesota Power for the Blanchard Solar Project.
- Article 11 defines events of default and the termination of the PPA.
- Article 12 addresses indemnification.
- Article 13 addresses limitations of liability.
- Article 14 contains the standard arbitration clause used to address disputes between the parties of a PPA.
- Article 15 contains general terms and conditions standard in a PPA related to representations, warranties, and covenants.

These provisions are generally standard provisions in purchased power contracts.

IV. The Agreement is in the Public Interest

The Blanchard Project is Minnesota Power's second utility scale solar project located in the Company's service territory and a key component of the Company's evolving solar energy strategy. The Project will add a new renewable source to Minnesota Power's already diverse and growing renewable portfolio that includes hydroelectric, biomass, solar, and wind resources. The Blanchard Project is a cost effective solar resource option for customers to meet the SES requirement for 2020. The Project will provide capacity and carbon free energy that will be used to meet solar-paying⁵ customer energy requirements.

When fully operational by mid-2020, the Blanchard Project will add approximately 18,000 MWh of renewable energy and 5 MW of MISO accredited capacity per year to Minnesota Power's power supply for solar-paying customers. This amounts to approximately 30 percent of the solar energy required for the Company to comply with the SES.

A. Project Meets Identified Need

The SES requires Minnesota's public utilities to generate or procure sufficient electricity from solar sources so that by the end of 2020, at least 1.5 percent of the utility's retail electricity sales in the state that are non-exempt from the SES are produced from solar energy resources. Order Point 10 of the Commission's July 2016 IRP Order required that Minnesota Power acquire solar units of 11 MW by 2016, 12 MW by 2020, and 10 MW by 2025, to meet its SES obligations.⁶

Minnesota Power initiated implementation of its solar strategy in 2016 with the addition of the 10 MW Camp Ripley Solar Project and added a 1 MW Community Solar Garden Pilot Program project near Wrenshall, MN in 2017.

The Blanchard Project is the next step in Minnesota Power's SES Strategy. SRECs will be generated for each MWh that the Project produces. Minnesota Power will utilize the SRECs to demonstrate its

⁵ Some customer facilities are exempt from the SES. Costs incurred by Minnesota Power to meet the SES will be excluded from the rates of excluded customer facilities. The exclusion from the SES applies to two categories of customer facilities. The first includes any customer facility whose primary business purpose is iron mining extraction and processing, to include a scam mining facility. The second category includes any customer facility whose primary business purpose is a paper mill, wood products manufacturer, sawmill or oriented strand board manufacturer. Minnesota Rules part 6130.0100, subpart 16 & Minnesota Statute 216B.1691, subd. 2f(d)(1) and (2).

⁶ Order Point 11 of the Commission's July 2016 IRP Order further stated 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."

compliance with the SES through the Midwest Renewable Energy Tracking System (“M-RETS”) tool on an ongoing basis.

The execution of its solar strategy demonstrates that with the Blanchard Project, Minnesota Power continues to diversify its renewable power supply resources. The initiatives that make up Minnesota Power’s solar energy strategy are planned and implemented with a focus on principles that include: 1) ensuring underutilized land is given priority to carefully manage Minnesota’s natural resource based economies, 2) diversifying locations of solar projects within the service territory footprint, and 3) working with partners to achieve multiple business, community, and customer objectives. These principles, along with searching for reasonable cost solutions, will position Minnesota Power for continuing a successful SES implementation.

The Blanchard Project will provide energy during periods of high customer demand during the on-peak hours of the day when solar irradiance is available. Solar-paying customer demand is higher when solar energy is available and typically coincides with regional market energy prices. This is most evident during the summer months. The Project helps to protect these customers against the volatility of regional energy markets where price spikes occasionally exceed the expected project cost. Figure 3 demonstrates the profile of customer load and the output of the solar array during a typical summer week.

[TRADE SECRET DATA EXCISED]

While timing of the Project’s energy production is fairly well-matched with customer demand in the summer, this is not the case in the winter season. In the winter it is possible to have no solar generation during the daily peak demand period because customer demand for energy is highest in the evening hours when the sun isn’t shining. Figure 4 demonstrates how the timing of customer demand versus solar production in a typical winter week is more misaligned than in a typical summer week. This variability of generation contributes to a lower accredited capacity value for a solar project for the purposes of demonstrating resource adequacy. Consequently, it is estimated that the Blanchard Project will provide 5 MW of accredited capacity versus the full 10 MW nameplate capacity of the solar array.

[TRADE SECRET DATA EXCISED]

With the Blanchard Project, Minnesota Power will generate approximately 18,000 MWh per year of solar energy. This solar-generated electricity is enough energy to power more than 2,000 households.

As a key component of Minnesota Power's solar strategy, the Project will provide energy during periods of high customer summer demand and protect against spikes in energy prices in the regional market.

Solar costs are declining and efficiency is increasing; however, large scale solar is still substantially more expensive than wind and does not provide the same capacity benefits for Minnesota Power customers due to Minnesota Power's system peaking in the evening hours of winter. Consequently, Minnesota Power's refined analysis did not identify cost-effective additions of solar capacity beyond those identified as part of SES compliance in the near term. Minnesota Power therefore identified 10 MW of solar from the RFP process for the next phase of its strategy to comply with the SES requirements. An additional 10 MW of solar meets Minnesota Power's identified need to comply with SES requirements in a timely manner.

B. Selection of Blanchard Solar Project

Pursuant to Order Points 10 and 11 of the Commission's July 2016 IRP Order, Minnesota Power issued an RFP on August 4, 2016, seeking power supply proposals for up to 300 MW of utility-scale solar generation that qualifies under Minnesota's SES. Minnesota Power sought proposals that maximized the benefits from the federal ITC for the benefit of customers. The RFP required offers be for capacity that is creditable under current MISO resource adequacy rules in MISO Local Resource Zone 1, and have an initial term of at least 20 years. Proposals could have commercial operation dates between January 1, 2018 and December 31, 2022. Responses were due by September 14, 2016. This request was part of the Company's broader evaluation process that considered the costs and characteristics of different power supply types (e.g., wind, solar, natural gas, demand response, and distributed generation) to optimize the mix of resources to meet customer needs.

Minnesota Power provided notice of the RFP to potential bidders through news media as well as industry publications and websites. Minnesota Power received a robust RFP response with proposals for 83 projects from 26 bidders, totaling approximately 3,400 MW of nameplate capacity. Minnesota Power submitted proposals for two self-build projects.

Sedway Consulting, as an independent evaluator, monitored the RFP process and evaluated the proposals received in response to the solar RFP. Sedway Consulting was familiar with Minnesota Power's evaluation processes and available planning assumptions due to providing evaluation services in past RFP processes. Sedway Consulting requested the Company provide as much information as possible prior to the receipt of proposals. This allowed Sedway Consulting to lock down and archive the basic evaluation

parameters for the process. Such information included forecasts of regional market energy prices, cost of capital components, discount rate, and historical locational marginal pricing information. These assumptions were incorporated into Sedway Consulting's own evaluation model and formed the basis for independently assessing the benefits and costs of resources that were bid into Minnesota Power's solicitation.

The evaluation process entailed a general review of all proposals and the calculation and ranking of levelized energy prices for all proposed options. In instances where proposals were found to be non-compliant or incomplete, bidders were notified and given an opportunity to supplement their proposal materials. More effort was focused on the higher-ranked proposals, performing a thorough qualitative assessment of those proposals that appeared to have the best quantitative value for Minnesota Power's customers. Concurrent with that qualitative analysis, Sedway Consulting undertook the modeling of all proposals to assess their energy benefits; specifically, Sedway Consulting performed detailed modeling to determine each proposal's net cost. Although the levelized price ranking provided a good approximation of how project economics might compare, an assessment of the offers' generation profiles and the energy benefits associated with those profiles provided a comprehensive comparison.

The detailed economic evaluation, which is provided as Appendix C, entailed modeling the bids in Sedway Consulting's Renewable Bid Evaluation Model. The costs in the net cost calculation included contract payments for delivered energy and an imputed debt cost for PPAs. Energy benefits were the product of the expected hourly generation of a facility and a forecast of hourly \$/MWh energy market prices over the term of the contract. Sedway Consulting's evaluation model normalized the net cost by dividing it by the present value of a project's expected energy deliveries, thereby yielding a \$/MWh levelized net cost. As bid prices varied depending on the project size, projects were evaluated based on three size groups: 25 MW or less, 26 to 74 MW, and 75 MW or greater.

In its evaluation, Minnesota Power determined that pursuing a 10 MW project would best serve customer needs and the top-ranked project counterparties were shortlisted and presented with the opportunity to resubmit bids for a 10 MW project. Shortlisted bidders submitted updated proposals on December 1, 2016. In January 2017, a key subset of the top-ranked projects from the updated bid pool were shortlisted for negotiations. Negotiations commenced with the counterparties that proposed these projects.

One of those shortlisted projects was the Blanchard Solar Project. Sedway Consulting concurred with Minnesota Power's decision to make a final selection of the Blanchard Solar Project and execute the Blanchard Solar Project PPA. The other shortlisted proposals had higher net costs and other attributes that made them less attractive for meeting Minnesota Power's SES obligations. On June 7, 2017, the Company executed a PPA for the 10 MW Blanchard Solar Project.

The Commission's September 2017 Order and the Tax Cuts and Jobs Act of 2017 prompted further discussion and consideration of the Blanchard PPA between Minnesota Power and Cypress Creek Renewables. The Tax Cuts and Jobs Act of 2017 which passed in December 2017 added significant uncertainty to the economics of renewable projects due to changing costs of corporate financing and effects on tax equity markets. Ultimately, Minnesota Power and Cypress Creek determined to move forward with the PPA without revisions.

C. Customer Impact Analysis

Minnesota Power identified the Blanchard Project as a compelling addition to its power supply as it provides competitive solar energy to customers and advances its strategy to meet the requirements of the SES. To quantify these benefits and to ensure that the Project is cost effective as a solar energy resource for Minnesota Power's solar-paying customers, a power supply analysis was performed. The Blanchard Project was added to the current Minnesota Power supply planning portfolio to determine the customer impact of the 2020 addition.

To determine the cost impact of the Project in Minnesota Power's long-term power supply, an incremental addition of the Project was added to Minnesota Power's power supply and evaluated in the Strategist production cost modeling software. The Strategist results quantified that the proposed Blanchard Project will: 1) displace fossil fuel generation and some on-peak wholesale market purchases as the new solar energy is added to the Minnesota Power system, 2) reduce total carbon dioxide ("CO₂") emissions, as well as other emissions, and 3) result in a nominal increase in power supply cost for Minnesota Power's solar-paying customers as it is priced higher than other power supply resources.

To quantify the change in power supply cost when adding the Project in 2020, the Strategist production cost model was utilized to simulate a power supply dispatch. There were ten Strategist futures utilized in the analysis with up to 30 sensitivities being conducted on each for a total of 241 cases used to simulate the potential impacts of the addition of the Blanchard Project.

TABLE 1: COMPARISON OF KEY ASSUMPTIONS BY FUTURE

Futures	Strategist Case Name	Resource Adequacy Season	CO₂ Regulation Penalty	Mid-Environmental Externality Values	Turn Energy Market Off	Excess Energy Sold Into Wholesale Market
Future 1	C1SR	Summer	No	No	No	Yes
Future 2	C2SR	Summer	No	No	No	No
Future 3	C3SR	Summer	Yes	No	No	Yes
Future 4	C4SR	Summer	Yes	No	No	No
Future 5	C1WR	Winter	No	No	No	Yes
Future 6	C2WR	Winter	No	No	No	No
Future 7	C3WR	Winter	Yes	No	No	Yes
Future 8	C4WR	Winter	Yes	No	No	No
Future 9	C5S	Summer	Yes	Yes	Yes	No
Future 10	C5W	Winter	Yes	Yes	Yes	No

Futures 1 through 8 were run – half with and half without – the Commission-approved CO₂ regulation cost of \$21.50 per ton in 2022, due to the uncertainty of the form of carbon regulation outcomes. Futures 9 and 10 included the Commission-approved CO₂ regulation cost and also included the Mid-Level Environmental Externality Values established by the Commission⁷ in 2017. All futures included in the base case an 11 GWh per year of incremental energy efficiency above the current State goal of 1.5 percent.⁸ Included in the sensitivity analysis for each future were the 15 GWh (61.5 GWh total) and 30 GWh (76.5 GWh total) incremental energy efficiency scenarios. The key assumptions included in each of the ten futures are compared above in Table 1.

The ten futures were used to compare two different scenarios. Scenario 1 (Baseline) contains all Minnesota Power existing thermal and renewable energy resources (except for the Project) included in the 2017 Energy**Forward** Resource Package. Scenario 2 incrementally adds the proposed Blanchard Project and associated project costs to the Scenario 1 (“Baseline”) scenario.

- Scenario 1 – Energy**Forward** Resource Package without Blanchard
- Scenario 2 – Energy**Forward** Resource Package with Blanchard

⁷ Docket No. E-999/CI-93-583 and E-999/CI-00-1636

⁸ The 11 GWh of savings is per the Company’s recent CIP (Conservation Improvement Program) triennial plan. This represents a total of 57.6 GWh of total annual savings.

The two scenarios are compared to each other to identify the power supply and cost impacts of adding the Project across the 10 futures to ensure a robust evaluation of the PPA was conducted for customers.

The 10 MW Blanchard Project is anticipated to increase the solar energy supply to Minnesota Power customers by approximately 18,000 MWh per year. As this energy is added to the Minnesota Power energy portfolio, existing market energy purchases and thermal generation that were projected to serve customer load are displaced. Figure 5 demonstrates the annual amount of market energy and thermal generation that is projected to be displaced over the first 15 years of the Project. Figure 5 identifies that on average, the Blanchard solar energy generated will displace a mix of approximately 5 GWh of market purchases and 8 GWh of existing thermal generation on average each year.

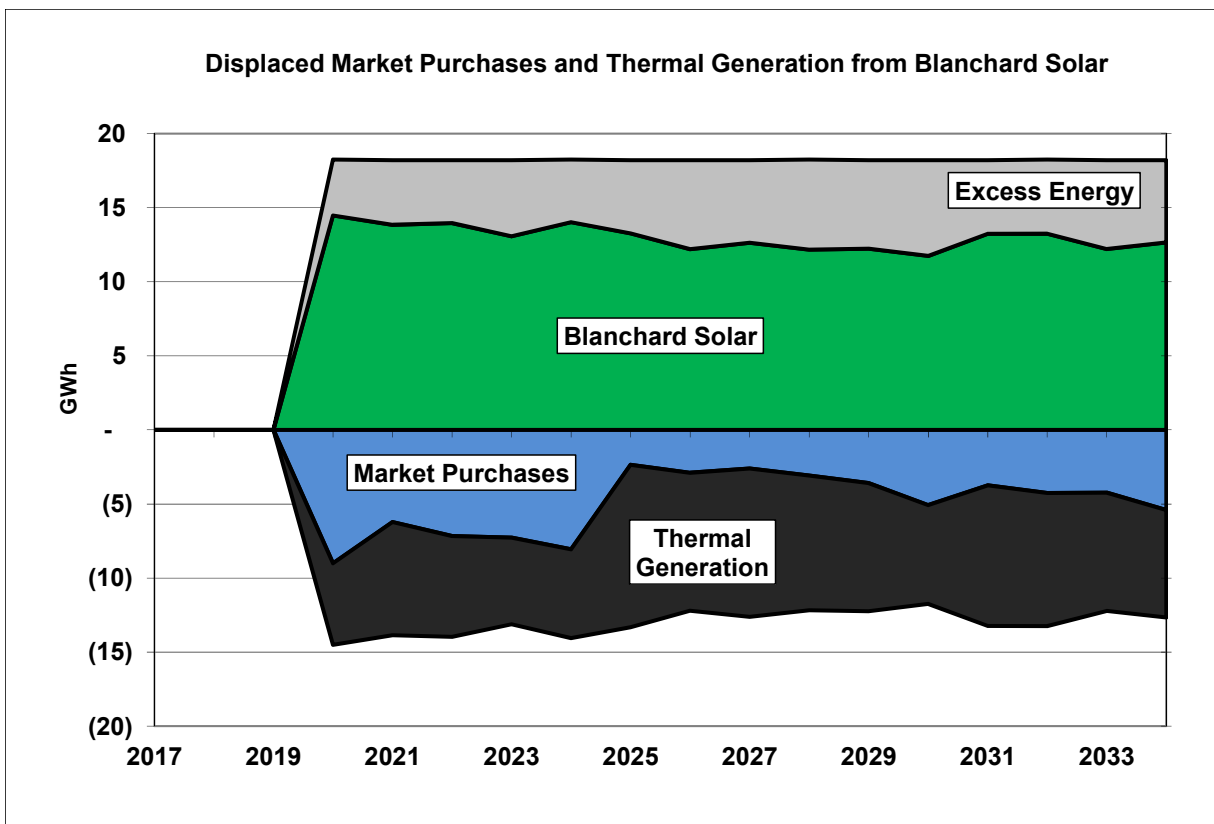


FIGURE 3: ENERGY DISPLACED BY THE BLANCHARD PROJECT

The reduction in market purchases and thermal generation from the addition of emission-free energy to the power supply from Blanchard results in an associated reduction in emissions for Minnesota Power customers over the life of the Project. Table 2 below summarizes the average emissions that are estimated to be avoided annually with the Blanchard Project for CO₂, sulfur dioxide (“SO₂”), nitrogen oxides (“NO_x”), and mercury (“Hg”), over the study period. Carbon dioxide is projected to see the greatest reduction with an average of 14,284 tons of CO₂ removed per year.

TABLE 2: AVERAGE ANNUAL AVOIDED EMISSIONS (2020-2034)

Effluent	Average Annual Reduction
CO ₂ (tons)	14,284
SO ₂ (tons)	< 1
NO _x (tons)	3
Hg (lbs.)	< 1

The resource planning evaluation conducted in Strategist identifies that adding the Blanchard Project will likely result in a small increase in power supply cost for solar-paying customers over the planning period evaluated (2017-2034). This is not an unexpected result, since the current cost of solar in Minnesota is higher than Minnesota Power’s current power supply and available regional market power costs. When the costs of the ten futures are compared with and without Blanchard (as shown in Table 3), the Blanchard Project causes an average increase in customer power supply costs of \$0.2 million over the study period. The results among the 10 futures range from an increase of \$1.8 million to a decrease of \$2.4 million over the study period, depending on the assumption for CO₂ regulation cost and externality costs. Overall, the addition of the Project increases power supply costs in six of the ten futures. Regardless of the number of futures causing an increase, the average \$0.2 million increase over the entire planning period represents a relatively minimal change in Minnesota Power’s power supply cost over a relatively long period of time.

TABLE 3: STRATEGIST POWER SUPPLY COST SUMMARY (\$2017, NPV 2017-2034)

Power Supply Cost Comparison	Power Supply Cost without Blanchard	Change in Cost with Blanchard
	(\$ in Millions, 2017 \$)	
Future 1	\$5,724.9	\$1.7
Future 2	\$5,738.6	\$1.8
Future 3	\$6,516.4	-\$0.1
Future 4	\$6,537.6	\$0.2
Future 5	\$5,726.2	\$1.7
Future 6	\$5,739.9	\$1.8
Future 7	\$6,517.7	-\$0.1
Future 8	\$6,538.9	\$0.2
Future 9	\$7,950.7	-\$2.4
Future 10	\$7,952.0	-\$2.4
Average Increase		\$0.2

Cost impacts of adding Blanchard to Minnesota Powers' energy portfolio across all the sensitivities and scenarios considered with the ten futures can be found in Appendix A included with this petition. Note that due to the exempt customers that do not participate in the SES requirements, the power supply increase noted here is not an estimate of rate impact for the solar-paying and non-solar paying customer classes.

The Blanchard Project will further Minnesota Power's initiative towards reshaping its generation portfolio and obtaining additional carbon emission reduction as detailed in Minnesota Power's Energy*Forward* strategy. This opportunity offers a well-positioned solar project located in Minnesota Power's service territory that will reduce emissions, advance compliance with the SES, and take advantage of the federal ITC with the potential for a small increase to power supply costs for solar-paying customers.

D. The Pricing in the Agreement

Under the PPA, Minnesota Power will be purchasing the energy and capacity from the Blanchard Solar Project. As set forth in Appendix B to the PPA, energy from the facility is priced at a fixed price of **[TRADE SECRET DATA EXCISED]** for the entire twenty-five-year term.

E. The Agreement Offers Favorable Terms

The PPA with Cypress Creek Renewables provides a new resource that supports Minnesota Power customer needs and the Company's compliance obligations with the SES, while at the same time providing protections on behalf of customers prior to the start of the PPA and through the contract term. Under the PPA, customers will receive the energy, capacity, and renewable energy attributes from the Blanchard Solar Project at a defined price over the term of the agreement.

F. The Agreement Meets SES Obligations

During the 2013 legislative session, Minn. Stat. § 216B.1691, the statute establishing Minnesota's RES, was amended to include an additional solar requirement - the SES. The SES requires 1.5 percent of a public utility's retail sales, net of customer exclusions, to be served by solar energy resources by 2020. As discussed above, in total, Minnesota Power is estimating 33 MW of solar resource additions are necessary to meet the SES long term. Minnesota Power intends to meet its SES compliance requirements in 2020 with banked solar renewable energy credits and approximately 23 MW of installed solar capacity. This 23 MW of installed capacity is expected to come from 20 MW of utility-scale solar and about 3 MW of

community and customer-sited solar projects. Nearly 12 MW of qualifying solar installations were in service at the end of 2017 including 10 MW of utility scale solar, 1.04 MW of community solar and .8 MW of customer-sited solar installations (reference Docket No. E999/M-18-205). The Blanchard Solar Project PPA will fulfill another 10 MW of utility-scale solar needed to meet the Company's SES obligations in 2020, and the Company expects the combination of banked SRECs and installed capacity will allow Minnesota Power to meet and exceed SREC requirements in 2021, 2022, and 2023.

V. Distribution Interconnection

The Blanchard Solar Project will be connected directly to Minnesota Power's 34.5 kV distribution system. Cypress Creek Renewables is required to apply for and use commercially-reasonable efforts to obtain interconnection services necessary to interconnect the project to Minnesota Power's distribution system. Because the project will be handled through Minnesota Power's interconnection procedures, the distribution interconnection carries less of a delay risk compared to a MISO transmission interconnection. Cypress Creek Renewables has applied for interconnection, and system upgrades and associated cost estimates, if any, will be identified when the interconnection studies are completed in July 2018.

VI. Execution and Delivery Risk Factors

A. Regulatory Approvals

The Blanchard Solar Project requires construction-related permitting approvals and a separate interconnection agreement to connect to the Minnesota Power distribution system.

B. Project Timing

Certain milestones have been established to ensure timely completion of the project. A significant delay in review and approval from the Commission of Minnesota Power's larger Energy**Forward** Resource Package⁹ request could delay construction of the project and potentially result in termination of the PPA.

C. Energy Curtailment

As specified under Section 7.6 of the PPA, Minnesota Power is only responsible for payment for energy delivered and is not responsible for payment in the event of **[TRADE SECRET DATA EXCISED]**.

⁹ The larger Energy**Forward** Resource Package includes approval by the Commission of (1) PPAs" for 250 MW of wind and 10 MW of solar energy; (2) affiliated interest agreements for approximately 250 MW of dispatchable natural gas capacity; and (3) associated tariff changes/variances.

VII. Communication and Filing

Minnesota Power recognizes the importance of on-going communication with the Commission, the Department of Commerce – Division of Energy Resources (“Department”), and other stakeholders during the period following approval of the Blanchard Solar Project PPA. Minnesota Power has identified three primary milestones where it would be important to communicate project updates to the Commission, Department, and other stakeholders. The first milestone is when the generation interconnection agreement for the Project is executed. The second milestone is when Cypress Creek Renewables issues the full Notice to Proceed to the contractor. The third milestone will occur when the project is operational. Minnesota Power commits to informing the Commission, the Department, and other stakeholders in a timely manner about the achievement of these milestones. The Company will also inform the Commission of any significant project schedule changes that arise during implementation of the Blanchard Solar Project.

Once commercially operational, Minnesota Power commits to file an annual compliance filing that provides the amount of actual delivered energy and actual accredited capacity for the Blanchard Solar Project.

VIII. Conclusion

The Blanchard Solar Project was selected through a robust RFP process as the least cost 10MW project to help meet Minnesota Power's SES requirements. As discussed above, Minnesota Power has negotiated commercially-reasonable contract terms with Cypress Creek Renewables to mitigate potential risks related to the Blanchard Solar Project to ensure customers are adequately protected. Minnesota Power respectfully requests that the Commission find that the Project is in the public interest, approve the 10 MW Blanchard Solar Project PPA as a reasonable and prudent way for the Company to continue to work towards meeting its obligations under Minn. Stat. § 216B.1691, and authorize Minnesota Power to recover the PPA costs through Commission-approved methods for solar expenditures.

Dated: June 18, 2018

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jenna Warmuth". The signature is fluid and cursive, with the first letter of each word being capitalized and prominent.

Jenna Warmuth
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COST IMPACTS

The intent of this section is to provide further details on the cost impacts of adding the Blanchard Solar Project to Minnesota Power’s energy portfolio. To quantify the change in power supply cost when adding the Blanchard Project in 2020, the Strategist production cost model was utilized by simulating a power supply dispatch. There were ten Strategist futures with up to 30 sensitivities each for a total of 241 cases used to simulate the addition of the Blanchard Project. More detailed information about the assumptions included in each Future can be found in Section IV of the main Petition.

The ten futures (see Table 1) from the 250 MW NTEC Petition were used to create two different scenarios. Scenario 1 (Baseline) contains all Minnesota Power existing thermal and renewable energy resources (except for the Project) included in the 2017 EnergyForward Resource Package. Scenario 2 incrementally adds the proposed Blanchard Solar Project and associated project costs to the Baseline scenario.

- Scenario 1 – *EnergyForward* Resource Package without Blanchard Solar
- Scenario 2 – *EnergyForward* Resource Package with Blanchard Solar

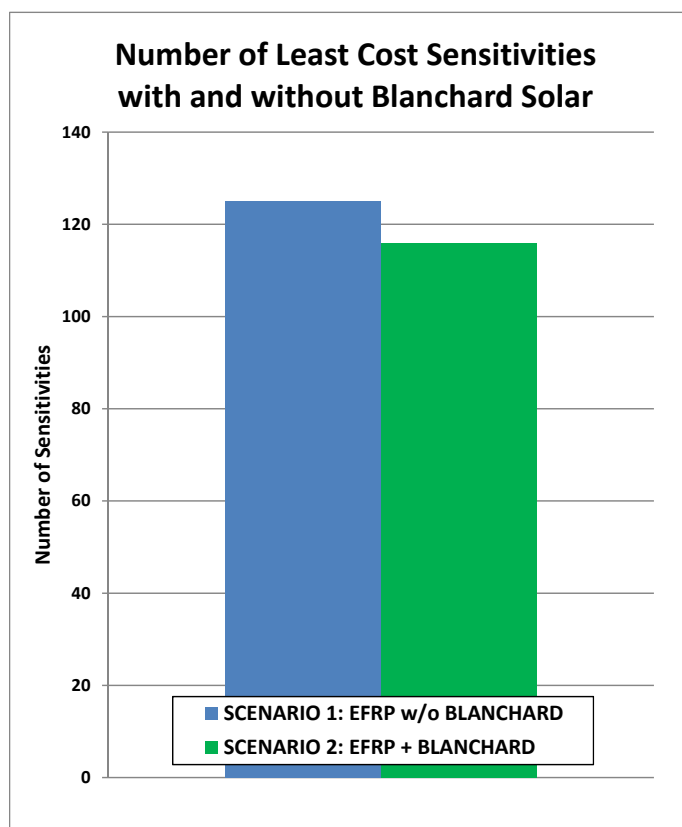
Table 1: Comparison of Key Assumptions by Future

Futures	Strategist Case Name	Resource Adequacy Season	CO ₂ Regulation Penalty	Mid-Environmental Externality Values	Turn Energy Market Off	Excess Energy Sold Into Wholesale Market
Future 1	C1SR	Summer	No	No	No	Yes
Future 2	C2SR	Summer	No	No	No	No
Future 3	C3SR	Summer	Yes	No	No	Yes
Future 4	C4SR	Summer	Yes	No	No	No
Future 5	C1WR	Winter	No	No	No	Yes
Future 6	C2WR	Winter	No	No	No	No
Future 7	C3WR	Winter	Yes	No	No	Yes
Future 8	C4WR	Winter	Yes	No	No	No
Future 9	C5S	Summer	Yes	Yes	Yes	No
Future 10	C5W	Winter	Yes	Yes	Yes	No

For each of the 241 unique cases, the cost impacts of Scenario 1 and Scenario 2 were compared to determine which Scenario had the lowest overall power supply cost. Figure 1 shows

the breakdown of the number of sensitivities that were lower cost for each Scenario. Scenario 1 (EFRP without Blanchard Solar) was least cost in 125 cases (52% of the total) and Scenario 2 (with Blanchard Solar) was least cost in 116 cases (48% of the total).

Figure 1. Number of Least Cost Sensitivities by Scenario



Tables 1 through 10 show the comparison of power supply costs for each Sensitivity in detail broken up by Future. In each table, the “gray” colored cell highlights the lower cost Scenario for each Sensitivity. The power supply costs presented are the net present value of the total power supply costs between 2017 and 2034.

Table 1: Scenario Comparative Analysis for Future 1 (C1SR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$5,725	\$5,727
1	\$9 CO2 2022	\$6,069	\$6,070
2	\$34 CO2 2022	\$6,982	\$6,981
3	LOW COAL -30%	\$5,340	\$5,342
4	HIGH COAL +30%	\$6,082	\$6,083
5	LOWER GAS -50%	\$5,573	\$5,575
6	LOW GAS -25%	\$5,653	\$5,655
7	HIGH GAS +25%	\$5,788	\$5,789
8	HIGHER GAS +50%	\$5,849	\$5,850
9	HIGHEST GAS +100%	\$5,983	\$5,984
10	LOW EXTERNALITY	\$6,957	\$6,956
11	HIGH EXTERNALITY	\$9,878	\$9,873
12	MID EXTERNALITY	\$8,442	\$8,439
13	LOWER WHOLESALE MARKET	\$5,523	\$5,526
14	LOW WHOLESALE MARKET	\$5,649	\$5,652
15	HIGH WHOLESALE MARKET	\$5,777	\$5,779
16	HIGHER WHOLESALE MARKET	\$5,811	\$5,812
17	NO WHOLESALE MARKET	\$6,040	\$6,040
18	50% TIE LIMIT	\$5,773	\$5,774
19	NO MARKET TIERS OR SALES	\$5,712	\$5,714
20	2017 PRICES	\$5,615	\$5,617
21	-30% CAPITAL	\$5,720	\$5,722
22	+30% CAPITAL	\$5,729	\$5,731
23	-20% WIND CAPACITY	\$5,726	\$5,727
24	AFR2017 HIGH	\$5,947	\$5,948
25	AFR2017 LOW	\$5,685	\$5,687
26	PRM +2%	\$5,727	\$5,728
27	MISO COINCIDENT -2%	\$5,723	\$5,725
28	MISO COINCIDENT +2%	\$5,729	\$5,731
29	EE +15GW	\$5,730	\$5,732
30	EE +30GW	\$5,763	\$5,765
Least Cost Count		26	5

Table 2: Scenario Comparative Analysis for Future 2 (C2SR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$5,739	\$5,740
1	\$9 CO2 2022	\$6,086	\$6,088
2	\$34 CO2 2022	\$7,007	\$7,006
3	LOW COAL -30%	\$5,361	\$5,363
4	HIGH COAL +30%	\$6,096	\$6,098
5	LOWER GAS -50%	\$5,603	\$5,605
6	LOW GAS -25%	\$5,676	\$5,678
7	HIGH GAS +25%	\$5,797	\$5,798
8	HIGHER GAS +50%	\$5,854	\$5,856
9	HIGHEST GAS +100%	\$5,981	\$5,982
10	LOW EXTERNALITY	\$6,957	\$6,956
11	HIGH EXTERNALITY	\$9,878	\$9,873
12	MID EXTERNALITY	\$8,442	\$8,439
13	LOWER WHOLESALE MARKET	\$5,526	\$5,528
14	LOW WHOLESALE MARKET	\$5,655	\$5,657
15	HIGH WHOLESALE MARKET	\$5,806	\$5,807
16	HIGHER WHOLESALE MARKET	\$5,858	\$5,860
17	NO WHOLESALE MARKET	\$6,040	\$6,040
18	50% TIE LIMIT	\$5,773	\$5,774
19	NO MARKET TIERS OR SALES	\$5,712	\$5,714
20	2017 PRICES	\$5,626	\$5,629
21	-30% CAPITAL	\$5,734	\$5,736
22	+30% CAPITAL	\$5,743	\$5,745
23	-20% WIND CAPACITY	\$5,739	\$5,741
24	AFR2017 HIGH	\$5,956	\$5,956
25	AFR2017 LOW	\$5,700	\$5,702
26	PRM +2%	\$5,740	\$5,742
27	MISO COINCIDENT -2%	\$5,737	\$5,739
28	MISO COINCIDENT +2%	\$5,743	\$5,744
29	EE +15GW	\$5,744	\$5,746
30	EE +30GW	\$5,778	\$5,780
Least Cost Count		26	5

Table 3: Scenario Comparative Analysis for Future 3 (C3SR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$6,516	\$6,516
1	LOW COAL -30%	\$6,164	\$6,164
2	HIGH COAL +30%	\$6,853	\$6,852
3	LOWER GAS -50%	\$6,338	\$6,339
4	LOW GAS -25%	\$6,430	\$6,430
5	HIGH GAS +25%	\$6,603	\$6,603
6	HIGHER GAS +50%	\$6,681	\$6,681
7	HIGHEST GAS +100%	\$6,806	\$6,805
8	LOW EXTERNALITY	\$7,286	\$7,285
9	HIGH EXTERNALITY	\$8,567	\$8,564
10	MID EXTERNALITY	\$7,951	\$7,948
11	LOWER WHOLESALE MARKET	\$6,206	\$6,208
12	LOW WHOLESALE MARKET	\$6,399	\$6,399
13	HIGH WHOLESALE MARKET	\$6,604	\$6,604
14	HIGHER WHOLESALE MARKET	\$6,664	\$6,663
15	NO WHOLESALE MARKET	\$6,824	\$6,822
16	50% TIE LIMIT	\$6,568	\$6,568
17	NO MARKET TIERS OR SALES	\$6,511	\$6,511
18	-30% CAPITAL	\$6,512	\$6,512
19	+30% CAPITAL	\$6,521	\$6,521
20	-20% WIND CAPACITY	\$6,517	\$6,517
21	AFR2017 HIGH	\$6,828	\$6,827
22	AFR2017 LOW	\$6,455	\$6,455
23	PRM +2%	\$6,518	\$6,518
24	MISO COINCIDENT -2%	\$6,515	\$6,515
25	MISO COINCIDENT +2%	\$6,521	\$6,520
26	EE +15GW	\$6,518	\$6,518
27	EE +30GW	\$6,536	\$6,536
Least Cost Count		9	19

Table 4: Scenario Comparative Analysis for Future 4 (C4SR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$6,538	\$6,538
1	LOW COAL -30%	\$6,189	\$6,189
2	HIGH COAL +30%	\$6,872	\$6,871
3	LOWER GAS -50%	\$6,371	\$6,371
4	LOW GAS -25%	\$6,458	\$6,459
5	HIGH GAS +25%	\$6,617	\$6,617
6	HIGHER GAS +50%	\$6,687	\$6,687
7	HIGHEST GAS +100%	\$6,809	\$6,808
8	LOW EXTERNALITY	\$7,286	\$7,285
9	HIGH EXTERNALITY	\$8,567	\$8,564
10	MID EXTERNALITY	\$7,951	\$7,948
11	LOWER WHOLESALE MARKET	\$6,210	\$6,211
12	LOW WHOLESALE MARKET	\$6,407	\$6,408
13	HIGH WHOLESALE MARKET	\$6,645	\$6,645
14	HIGHER WHOLESALE MARKET	\$6,726	\$6,726
15	NO WHOLESALE MARKET	\$6,824	\$6,822
16	50% TIE LIMIT	\$6,568	\$6,568
17	NO MARKET TIERS OR SALES	\$6,511	\$6,511
18	-30% CAPITAL	\$6,533	\$6,533
19	+30% CAPITAL	\$6,542	\$6,542
20	-20% WIND CAPACITY	\$6,538	\$6,539
21	AFR2017 HIGH	\$6,841	\$6,840
22	AFR2017 LOW	\$6,478	\$6,479
23	PRM +2%	\$6,539	\$6,539
24	MISO COINCIDENT -2%	\$6,536	\$6,536
25	MISO COINCIDENT +2%	\$6,542	\$6,542
26	EE +15GW	\$6,540	\$6,540
27	EE +30GW	\$6,559	\$6,560
Least Cost Count		16	12

Table 5: Scenario Comparative Analysis for Future 5 (C1WR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$5,726	\$5,728
1	\$9 CO2 2022	\$6,070	\$6,071
2	\$34 CO2 2022	\$6,983	\$6,982
3	LOW COAL -30%	\$5,341	\$5,344
4	HIGH COAL +30%	\$6,083	\$6,085
5	LOWER GAS -50%	\$5,574	\$5,577
6	LOW GAS -25%	\$5,654	\$5,656
7	HIGH GAS +25%	\$5,789	\$5,790
8	HIGHER GAS +50%	\$5,850	\$5,851
9	HIGHEST GAS +100%	\$5,984	\$5,986
10	LOW EXTERNALITY	\$6,958	\$6,957
11	HIGH EXTERNALITY	\$9,879	\$9,874
12	MID EXTERNALITY	\$8,444	\$8,441
13	LOWER WHOLESALE MARKET	\$5,525	\$5,527
14	LOW WHOLESALE MARKET	\$5,651	\$5,653
15	HIGH WHOLESALE MARKET	\$5,778	\$5,780
16	HIGHER WHOLESALE MARKET	\$5,812	\$5,813
17	NO WHOLESALE MARKET	\$6,042	\$6,042
18	50% TIE LIMIT	\$5,774	\$5,776
19	NO MARKET TIERS OR SALES	\$5,714	\$5,715
20	2017 PRICES	\$5,616	\$5,618
21	-30% CAPITAL	\$5,722	\$5,723
22	+30% CAPITAL	\$5,731	\$5,732
23	-20% WIND CAPACITY	\$5,727	\$5,729
24	AFR2017 HIGH	\$5,952	\$5,952
25	AFR2017 LOW	\$5,686	\$5,688
26	PRM +2%	\$5,729	\$5,731
27	MISO COINCIDENT -2%	\$5,723	\$5,725
28	MISO COINCIDENT +2%	\$5,732	\$5,733
29	EE +15GW	\$5,731	\$5,733
30	EE +30GW	\$5,763	\$5,765
Least Cost Count		26	5

Table 6: Scenario Comparative Analysis for Future 6 (C2WR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$5,740	\$5,742
1	\$9 CO2 2022	\$6,088	\$6,089
2	\$34 CO2 2022	\$7,008	\$7,007
3	LOW COAL -30%	\$5,362	\$5,364
4	HIGH COAL +30%	\$6,097	\$6,099
5	LOWER GAS -50%	\$5,604	\$5,607
6	LOW GAS -25%	\$5,677	\$5,679
7	HIGH GAS +25%	\$5,798	\$5,800
8	HIGHER GAS +50%	\$5,856	\$5,857
9	HIGHEST GAS +100%	\$5,982	\$5,983
10	LOW EXTERNALITY	\$6,958	\$6,957
11	HIGH EXTERNALITY	\$9,879	\$9,874
12	MID EXTERNALITY	\$8,444	\$8,441
13	LOWER WHOLESALE MARKET	\$5,527	\$5,529
14	LOW WHOLESALE MARKET	\$5,656	\$5,658
15	HIGH WHOLESALE MARKET	\$5,807	\$5,809
16	HIGHER WHOLESALE MARKET	\$5,860	\$5,861
17	NO WHOLESALE MARKET	\$6,042	\$6,042
18	50% TIE LIMIT	\$5,774	\$5,776
19	NO MARKET TIERS OR SALES	\$5,714	\$5,715
20	2017 PRICES	\$5,628	\$5,630
21	-30% CAPITAL	\$5,735	\$5,737
22	+30% CAPITAL	\$5,744	\$5,746
23	-20% WIND CAPACITY	\$5,741	\$5,743
24	AFR2017 HIGH	\$5,960	\$5,961
25	AFR2017 LOW	\$5,701	\$5,703
26	PRM +2%	\$5,743	\$5,744
27	MISO COINCIDENT -2%	\$5,737	\$5,739
28	MISO COINCIDENT +2%	\$5,745	\$5,747
29	EE +15GW	\$5,746	\$5,747
30	EE +30GW	\$5,779	\$5,781
Least Cost Count		26	5

Table 7: Scenario Comparative Analysis for Future 7 (C3WR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$6,518	\$6,518
1	LOW COAL -30%	\$6,165	\$6,165
2	HIGH COAL +30%	\$6,854	\$6,853
3	LOWER GAS -50%	\$6,340	\$6,340
4	LOW GAS -25%	\$6,431	\$6,431
5	HIGH GAS +25%	\$6,604	\$6,604
6	HIGHER GAS +50%	\$6,682	\$6,682
7	HIGHEST GAS +100%	\$6,807	\$6,806
8	LOW EXTERNALITY	\$7,288	\$7,286
9	HIGH EXTERNALITY	\$8,568	\$8,565
10	MID EXTERNALITY	\$7,952	\$7,950
11	LOWER WHOLESALE MARKET	\$6,207	\$6,209
12	LOW WHOLESALE MARKET	\$6,400	\$6,401
13	HIGH WHOLESALE MARKET	\$6,606	\$6,605
14	HIGHER WHOLESALE MARKET	\$6,665	\$6,664
15	NO WHOLESALE MARKET	\$6,825	\$6,823
16	50% TIE LIMIT	\$6,569	\$6,569
17	NO MARKET TIERS OR SALES	\$6,512	\$6,512
18	-30% CAPITAL	\$6,513	\$6,513
19	+30% CAPITAL	\$6,522	\$6,522
20	-20% WIND CAPACITY	\$6,519	\$6,519
21	AFR2017 HIGH	\$6,833	\$6,831
22	AFR2017 LOW	\$6,456	\$6,456
23	PRM +2%	\$6,521	\$6,520
24	MISO COINCIDENT -2%	\$6,515	\$6,515
25	MISO COINCIDENT +2%	\$6,523	\$6,523
26	EE +15GW	\$6,519	\$6,519
27	EE +30GW	\$6,537	\$6,537
Least Cost Count		8	20

Table 8: Scenario Comparative Analysis for Future 8 (C4WR)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$6,539	\$6,539
1	LOW COAL -30%	\$6,190	\$6,191
2	HIGH COAL +30%	\$6,873	\$6,873
3	LOWER GAS -50%	\$6,372	\$6,373
4	LOW GAS -25%	\$6,460	\$6,460
5	HIGH GAS +25%	\$6,619	\$6,619
6	HIGHER GAS +50%	\$6,689	\$6,688
7	HIGHEST GAS +100%	\$6,810	\$6,810
8	LOW EXTERNALITY	\$7,288	\$7,286
9	HIGH EXTERNALITY	\$8,568	\$8,565
10	MID EXTERNALITY	\$7,952	\$7,950
11	LOWER WHOLESALE MARKET	\$6,211	\$6,213
12	LOW WHOLESALE MARKET	\$6,408	\$6,409
13	HIGH WHOLESALE MARKET	\$6,646	\$6,646
14	HIGHER WHOLESALE MARKET	\$6,728	\$6,727
15	NO WHOLESALE MARKET	\$6,825	\$6,823
16	50% TIE LIMIT	\$6,569	\$6,569
17	NO MARKET TIERS OR SALES	\$6,512	\$6,512
18	-30% CAPITAL	\$6,534	\$6,534
19	+30% CAPITAL	\$6,543	\$6,544
20	-20% WIND CAPACITY	\$6,540	\$6,540
21	AFR2017 HIGH	\$6,845	\$6,844
22	AFR2017 LOW	\$6,479	\$6,480
23	PRM +2%	\$6,542	\$6,542
24	MISO COINCIDENT -2%	\$6,536	\$6,536
25	MISO COINCIDENT +2%	\$6,544	\$6,544
26	EE +15GW	\$6,541	\$6,541
27	EE +30GW	\$6,560	\$6,560
Least Cost Count		14	14

Table 9: Scenario Comparative Analysis for Future 9 (C5S)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$7,951	\$7,948
1	LOW COAL -30%	\$7,577	\$7,576
2	HIGH COAL +30%	\$8,317	\$8,315
3	LOWER GAS -50%	\$7,739	\$7,737
4	LOW GAS -25%	\$7,850	\$7,848
5	HIGH GAS +25%	\$8,048	\$8,045
6	HIGHER GAS +50%	\$8,153	\$8,150
7	HIGHEST GAS +100%	\$8,333	\$8,329
8	-30% CAPITAL	\$7,946	\$7,944
9	+30% CAPITAL	\$7,955	\$7,953
10	-20% WIND CAPACITY	\$7,951	\$7,949
11	AFR2017 HIGH	\$8,437	\$8,432
12	AFR2017 LOW	\$7,868	\$7,866
13	PRM +2%	\$7,952	\$7,950
14	MISO COINCIDENT -2%	\$7,949	\$7,947
15	MISO COINCIDENT +2%	\$7,955	\$7,952
16	EE +15GW	\$7,946	\$7,944
17	EE +30GW	\$7,942	\$7,941
Least Cost Count		0	18

Table 10: Scenario Comparative Analysis for Future 10 (C5W)

Number	Sensitivity	Power Supply Cost (\$millions)	
		SCENARIO 1: EFRP w/o BLANCHARD	SCENARIO 2: EFRP with BLANCHARD
0	BASE	\$7,952	\$7,950
1	LOW COAL -30%	\$7,579	\$7,577
2	HIGH COAL +30%	\$8,319	\$8,316
3	LOWER GAS -50%	\$7,740	\$7,738
4	LOW GAS -25%	\$7,851	\$7,849
5	HIGH GAS +25%	\$8,049	\$8,046
6	HIGHER GAS +50%	\$8,154	\$8,151
7	HIGHEST GAS +100%	\$8,334	\$8,331
8	-30% CAPITAL	\$7,947	\$7,945
9	+30% CAPITAL	\$7,957	\$7,954
10	-20% WIND CAPACITY	\$7,953	\$7,951
11	AFR2017 HIGH	\$8,442	\$8,437
12	AFR2017 LOW	\$7,869	\$7,867
13	PRM +2%	\$7,955	\$7,952
14	MISO COINCIDENT -2%	\$7,949	\$7,947
15	MISO COINCIDENT +2%	\$7,958	\$7,955
16	EE +15GW	\$7,947	\$7,945
17	EE +30GW	\$7,943	\$7,941
Least Cost Count		0	18

ASSUMPTIONS AND OUTLOOKS

The following section provides a summary of the key economic modeling assumptions and bases that Minnesota Power (or the “Company”) utilized in the Strategist Proview (“Strategist”) analysis completed for the Blanchard Solar Project recommendation. This Appendix, detailing the assumptions and outlooks, is organized in the following format:

- A) Base Case Economic Modeling Assumptions – a review of the base economic assumptions used in the analysis for the Blanchard Solar Project recommendation.
- B) New Asset Resources Included – a description of the new resource alternatives included in the Blanchard Solar Project recommendation.
- C) Assumptions Utilized in the Sensitivity Analysis.
- D) Long-term Planning and Wholesale Market Interaction – discussion on utilizing the wholesale market in resource planning.

A. Base Case Economic Modeling Assumptions

Study Period

The timeline of the Blanchard Solar Project analysis is 2017 through 2031. The power supply costs shown in the analysis are the net present value of cost from 2017 through 2034 and are reported in 2016 dollars, unless noted otherwise. The reporting of power supply cost was extended past the required planning period to capture the cost of generation over a longer period of time.

The expansion planning analysis conducted with Strategist considered 15 years of end effects after 2034 when selecting the lowest cost plan.

Regulations, Pricing, and Wholesale Market

1. The Base Case forecasts utilized for natural gas prices, market energy prices, and market capacity prices over the study period:¹
 - a. The SO₂ allowance price for Cross-State Air Pollution Rule (“CSAPR”) Group 2: \$3.52/ton in 2017 to \$0/ton in 2031.
 - b. Natural gas forecast assumptions utilized in the base forecast.
 - i. Natural Gas at Henry Hub: \$3.35/MMBtu in 2017 to \$5.29/MMBtu in 2031
 - ii. Natural gas supply prices reflect the projected spot market at Henry Hub. In addition, a delivery charge was applied on a resource-specific basis. The delivery charges were escalated at approximately 2 percent annually, on average, after 2017. The delivery charges applied were as follows:

¹ Values are in nominal dollars.

1. [TRADE SECRET DATA EXCISED] for the fuel supply of new generic combustion turbine and combined cycle gas generation alternatives
 2. [TRADE SECRET DATA EXCISED] for the Nemadji Trail Energy Center (“NTEC”) combined cycle facility
 3. [TRADE SECRET DATA EXCISED] for the Laskin Energy Center (“LEC”)
 - iii. The firm delivery component of intermediate natural gas resources like the combined cycle was incorporated into the fixed cost revenue requirement for the asset.
 - c. Delivered coal price forecast assumptions utilized in the base forecast represent the attributes of each of Minnesota Power’s facilities and include:
 - i. [TRADE SECRET DATA EXCISED]
 - d. Delivered biomass price forecast assumptions utilized in the base forecast:
 - i. [TRADE SECRET DATA EXCISED]
 - e. Wholesale Market Capacity (approximate): \$1,277/MW-month in 2017 to \$9,678/MW-month in 2031. Wholesale market capacity was made available up to a maximum of 50 MW for the model during all study years.
 - f. Wholesale Market Energy without carbon (approximate): \$29/MWh in 2017 to \$48/MWh in 2031.
 - g. Wholesale Market Energy with carbon (approximate): \$29/MWh in 2017 to \$66/MWh in 2031.
2. The Base Case energy market interaction structure for Minnesota Power’s analysis assumed that the wholesale market was available throughout the study period. Further discussion regarding the Company’s position related to the interaction with, and utilization of the wholesale energy market in long-term planning is discussed further in Part D of this Appendix. The wholesale energy market structure in the modeling represents the day-ahead interaction with the Midcontinent Independent System Operator (“MISO”) regional market and helps utilities optimize power supply for customers. A sensitivity called ‘Without Market’ was developed that assumed the wholesale energy market was unavailable as a long-term power supply resource through the study period. This sensitivity was included to understand the impact to the planning analysis when the availability of the regional wholesale energy market is removed. A more detailed description of the structure of each market interaction is provided below.
- a. With Wholesale Energy Market (“With Market”) – A conservative approach was taken when creating the wholesale energy market that would be made available as a power supply resource during the study period. While the regional market is a valuable and useful piece of a utility’s power supply, it should not be considered an ‘endless’ resource. To help account for the increased risk and volatility that is present when purchasing incrementally larger amounts of energy from the short term market, an

increasing price adder was included based on the level of energy purchased. As the volume of energy purchased from the market increased, so did the price adder. This is referred to as a ‘Tiered Energy Market’ and includes the following pricing assumptions:

- i. 0 to 150 MW at base forecast price
 - ii. 151 to 300 MW at base forecast price plus \$15/MWh premium adder
 - iii. 301 to 600 MW at base forecast price plus \$40/MWh premium adder
 - iv. Greater than 600 MW at emergency energy price (\$112/MWh in 2017 and escalating at the same rate as wholesale energy prices thereafter)
- b. Without Wholesale Energy Market Sales (“No Market Sales”) – For this scenario, the ability to sell surplus energy in the wholesale market was removed. All assumptions related to wholesale energy purchases (including emergency energy) remained the same as explained previously in section A.2.a. This scenario allows for the consideration of portfolios and their ability to supply only customer energy requirements and not an over-reliance on revenues generated through wholesale energy market sales.
3. The estimated decommissioning cost for Minnesota Power’s small coal units which are retired at various points in the Blanchard Solar analysis are from a study completed by Burns & McDonnell called “Site Decommissioning Study 2015.”² Decommissioning costs at each facility are assumed to be recovered and depreciated for 10 years past the shutdown date. Remaining plant balances at each facility are assumed to be recovered and depreciated according to their current schedule.
4. Carbon regulation penalty costs³
- Minnesota Power included a base outlook that included the base regulation penalty for carbon dioxide (“CO₂”) for this planning evaluation. Minnesota Power continues to consider CO₂ regulation as unlikely to come into effect in the near term. Per Minnesota state requirements, it is including an evaluation of the mid-CO₂ regulation cost as listed below. The CO₂ regulation value for the mid-CO₂ regulation penalty are from the 2014 Order Establishing 2014 and 2015 Estimate of Future Carbon Dioxide Regulation Costs, pursuant to Minn. Stat. §216H.06, in Docket No. E999/CI-07-1199.
- a. Mid CO₂ regulation value ranging from \$21.50/ton starting in 2022 to \$26/ton in 2031.

Minnesota Power Resources and Bilateral Power Transactions

Another important component of a utility’s power supply is the contracted purchases and sales conducted within the industry. These transactions optimize the power surpluses and deficits

² Included in the 2015 Remaining Life Depreciation Petition (Docket No. E015/D-15-711).

³ All carbon regulation penalty costs reflect dollars per ton.

that occur due to industry load and supply changes. Also called bilateral transactions, these contracts allow the Company to work with other entities to procure energy and capacity.

A bilateral transaction is functionally different than the day-ahead regional energy and capacity markets represented by the MISO tariff construct. Bilateral transactions are typically forward, medium to longer-term contracts with defined pricing terms. Minnesota Power monitors the bilateral power markets to identify opportunities to contract with other entities when it is in the best interest of Minnesota Power's customers. For this analysis, the Company has the following bilateral transaction alternative made available based on its most recent industry and peer interactions:

5. An unidentified 50 MW bilateral purchase, referred to as a "bridge purchase" in the analysis write-up, was modeled in Strategist as a new resource alternative. The "bridge purchase" was made available in 2024 for one year in the summer and winter resource adequacy planning cases. The deferred bridge purchase energy pricing is based on the equivalent of purchasing energy from a natural gas combined cycle unit and was modeled as an intermediate type energy resource.

In the scenarios where the Minnesota Public Utilities Commission's approved carbon regulation value is modeled, the bilateral purchase had a carbon penalty added to the energy price based on the emission rate for a combined cycle natural gas unit. **[[TRADE SECRET DATA EXCISED]].**

6. The emission rates for the thermal generation units included in Strategist are modeled as tons or pounds per MMBtu of fuel consumed for energy production. The level of effluents emitted per MWh generated will vary depending on the output level of a generation facility. As a generator is dispatched to a lower output level because of economic conditions, the effluents emitted per MWh will increase due to the generator operating at a less efficient level when compared to running at full output. The effluents modeled with emission rates in Strategist are:
 - a. Carbon Monoxide (CO)
 - b. Carbon Dioxide (CO₂)
 - c. Lead (Pb)
 - d. Mercury
 - e. Nitrogen Oxide (NO_x)
 - f. Particulate Matter 2.5 (PM_{2.5})
 - g. Sulfur Dioxide (SO₂)

There were two approaches taken to modeling emission rates for CO₂ in the Strategist model:

- a. A CO₂ rate was set-up to calculate the cost of a CO₂ regulation penalty; this is referred to as "CO₂" in the Strategist model. These CO₂ rates were applied to the generation resources that would be subject to a CO₂ regulation penalty in a CO₂ constrained scenario.
- b. A CO₂ rate was set up to calculate the externality cost of CO₂ and to measure the progress on meeting the State Green House Gas Goal (Minn. Stat. § 216H.02); this is referred to as "CO₂-E" in the Strategist model. This CO₂ rate was assigned to all power supply resources, including bilateral market purchases, generation and

energy sales. The accompanying CO₂ with an energy sale is removed from the power supply. The “CO₂-E” rate modeled in Strategist was pounds per MWh. Note that the CO₂ emissions from MISO market energy purchases and sales were calculated outside of the Strategist model.

Minnesota Power Load and General Economic Assumptions

For the Blanchard Solar analysis, Minnesota Power considered portfolio development under both a summer and winter peak seasonal resource adequacy requirement. Minnesota Power’s planning reserve margin requirement assumptions are driven by load forecast and MISO resource adequacy requirements.

7. Customer energy and demand requirements are based on the Moderate Growth Scenario (AFR Expected Case) in Minnesota Power’s AFR2017, which includes an adjustment for change in the demand at Blandin. The energy and demand forecast is based on the AFR2017 econometric modeling results plus customer adjustments for increased energy sales to new customers and transmission losses.

The transmission losses of 6 percent are added to the Annual Energies to capture the power supply requirements for serving Minnesota Power’s customers.

8. Capacity accreditation values for Minnesota Power’s existing fleet of generators are the unforced capacity (“UCAP”) and are based on MISO’s Planning Year 2017-2018 generation performance test results and historical XEFORd⁴ per the Module E Resource Adequacy program.
9. Planning reserve margin is based on MISO’s required reserve margin of 7.8 percent based on its Planning Year 2017-2018 Loss of Load Expectation Study and UCAP generating capability and projected energy demand in the MISO Region. These values are used in both the summer and winter season resource adequacy requirement planning models.
10. The utility discount rate is the weighted average cost of capital (“WACC”) for Minnesota Power based on capital structure and allowed return on equity from the 2010 Rate Case. The utilized discount rate is 8.18 percent.
11. A general escalation rate of 2.0 percent was utilized, except for capital cost for new generation, which is escalated at 3.0 percent per year.

Minnesota Power Energy Efficiency Assumptions

Minnesota Power has evaluated past Conservation Improvement Program (“CIP”) program performance, related success factors, and potential future opportunities to determine scenarios that would help meet the Company’s resource planning goals, while continuing to comply with the State’s CIP specific requirements related to the 1.5 percent energy-savings policy goal.

The Company’s approach to developing scenarios for increased levels of planned energy efficiency included analysis and research, which provided insight into historical performance, future opportunities, and the changing energy efficiency environment in which the Company

⁴ Equivalent Forced Outage Rate Demand (“XEFORd”) is a measure of the probability that a generating unit will not be available due to forced outages or forced de-ratings when there is demand on the unit to generate.

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operates. Three scenarios of incremental energy and capacity savings were developed for modeling in the Strategist model: 11 GWh, 15 GWh or 30 GWh per year, resulting in aggregate capacity savings by 2025 of approximately 20 MW, 25 MW and 50 MW, respectively. These are the same three scenarios included in the 2015 Resource Plan (Docket No. E015/RP-15-690)

A high-level summary of the modeled scenarios is shown in Table 1, below. The “Scenarios” section titled “Plan” represents the additional GWh the associated plan includes in terms of first-year savings as compared to the existing plan which is included in the base energy forecast for the Blanchard analysis. The remaining columns represent the costs and energy savings for the options. Note the energy and demand savings shown here are first-year savings and the associated costs are estimates for the plan year 2017.

Table 1: Summary of Alternative CIP Scenarios

Scenario	Annual Program Costs (million \$)		*Annual Savings at the Generator		
	Plan	Total	Total Incremental Costs	Incremental Energy (GWh)	Summer Peak (GW)
Existing		\$7.1	\$0.0	0	0.0071
+ 11 GWh		\$9.7	\$2.7	10.8	0.0087
+ 15 GWh		\$11.1	\$4.1	14.7	0.0093
+ 30 GWh		\$17.6	\$10.5	30	0.0116

B. New Asset Resources Included

The new resources that were included in the Blanchard analysis are detailed below. The capital costs were based on Minnesota Power’s most current planning estimates for such resources and the results of Minnesota Power’s most recent RFPs. The estimates for non-RFP resources are high level engineering projections and typically have a +/- 30 percent range of accuracy.

1. 228 MW (approximate) natural gas combustion turbine unit
 - a. Estimated capital build costs in 2017 dollars is [TRADE SECRET DATA EXCISED].

The combined-cycle proposal that was evaluated as a possible new generation alternative is provided below. The costs are based on the proposals provided as a part of Minnesota Power’s recent Request for Proposals (“RFP”).

2. 250 MW partial ownership/share of 525 MW (approximate) natural gas 1x1 combined cycle facility (NTEC)
 - a. Expected first year capacity payment in 2025 is [TRADE SECRET DATA EXCISED].

The solar and wind proposals from the recent RFP that are included in the analysis and are part of the EnergyForward Resource Package are provided below. The costs are based on the prices defined in the contracts.

3. 10 MW (approximate) solar farm located in central Minnesota (Blanchard Solar)
 - a. Expected energy cost is [TRADE SECRET DATA EXCISED]. The 10 MW RFP solar facility is expected to start operations by 2020.
4. 250 MW (approximate) wind farm provided through Tenaska's Nobles project located in southwestern Minnesota.
 - a. Expected energy cost is [TRADE SECRET DATA EXCISED]. This RFP wind product is expected to start operations by 2020.

C. Assumptions Utilized in the Sensitivity Analysis

The following variables were stressed low and high in the single variable sensitivity analysis.

1. Wholesale market energy without carbon
 - a. A lower sensitivity representing a decrease of 50 percent from base: [TRADE SECRET DATA EXCISED].
 - b. A low sensitivity representing a decrease of 25 percent from base: [TRADE SECRET DATA EXCISED].
 - c. A high sensitivity representing an increase of 25 percent from base: [TRADE SECRET DATA EXCISED].
 - d. A higher sensitivity representing an increase of 50 percent from base: [TRADE SECRET DATA EXCISED].
2. Wholesale market energy with carbon regulation penalty
 - a. A lower sensitivity representing a decrease of 50 percent from base: [TRADE SECRET DATA EXCISED].
 - b. A low sensitivity representing a decrease of 25 percent from base: [TRADE SECRET DATA EXCISED].
 - c. A high sensitivity representing an increase of 25 percent from base: [TRADE SECRET DATA EXCISED].
 - d. A higher sensitivity representing an increase of 50 percent from base: [TRADE SECRET DATA EXCISED].
3. Natural gas price forecast at Henry Hub
 - a. A lower sensitivity representing a decrease of 50 percent from base: [TRADE SECRET DATA EXCISED].

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- b. A low sensitivity representing a decrease of 25 percent from base: [TRADE SECRET DATA EXCISED].
- c. A high sensitivity representing an increase of 25 percent from base: [TRADE SECRET DATA EXCISED].
- d. A higher sensitivity representing an increase of 50 percent from base: [TRADE SECRET DATA EXCISED].
- e. The highest sensitivity representing an increase of 100 percent from base: [TRADE SECRET DATA EXCISED].

4. Carbon regulation penalty costs⁵

A base outlook was evaluated that included the base externality value for CO₂ in the base forecast. A base outlook that included the base regulation value for CO₂ was also evaluated for the Blanchard Solar analysis. Due to Minnesota state requirements, an evaluation of several levels of carbon regulation costs are included, and listed below.

The evaluation of several carbon regulation levels provides insight into what the customer impact of potential carbon regulation prices is likely to be. However, these costs should not directly impact long-term resource decisions until regulation has been defined and approved for implementation. The carbon regulation values for the sensitivities are from the 2014 Order Establishing 2014 and 2015 Estimate of Future Carbon Dioxide Regulation Costs, pursuant to Minn. Stat. §216H.06, in Docket No. E999/CI-07-1199. Minnesota Power delayed the start of the carbon regulation value to 2022 to align with the start of the EPA's now withdrawn Clean Power Plan.

- a. A sensitivity based on the low carbon regulation value ranging from \$9/ton starting in 2022 to \$11/ton in 2031.
- b. A sensitivity based on the high carbon regulation value ranging from \$34/ton starting in 2022 to \$41/ton in 2031.

5. Externality costs

The values for SO₂, PM_{2.5}, CO, NO_x, Pb, and CO₂ were stressed to low, mid-point, and high levels established for each effluent. The values used for CO and PB were the values indicated for the Metropolitan Fringe established in the State Externality Docket, Docket Nos. E999/CI-93-583 and E999/CI-00-1636. The values used for SO₂, PM_{2.5}, NO_x, and CO₂ were the most recent values established by the Commission in Docket 14-643.

- a. The externality value for SO₂ in 2017 was \$4,757/ton in the low sensitivity case and \$11,849/ton in the high sensitivity case.
- b. The externality value for PM_{2.5} in 2017 was \$6,753/ton in the low sensitivity case and \$16,834/ton in the high sensitivity case.

⁵ All carbon regulation penalty costs reflect dollars per ton.

- c. The externality value for CO in 2017 was \$1/ton in the low sensitivity case and \$2/ton in the high sensitivity case.
 - d. The externality value for NO_x in 2017 was \$2,583/ton in the low sensitivity case and \$7,681/ton in the high sensitivity case.
 - e. The externality value for Pb in 2017 was \$2,523/lb in the low sensitivity case and \$3,047/lb in the high sensitivity case.
 - f. The externality value for CO₂ in 2017 was \$9/ton in the low sensitivity case and \$41/ton in the high sensitivity case.
6. Coal fuel prices
- g. The low sensitivity reduced coal prices by approximately 30 percent from base.
 - h. The high sensitivity increased coal prices by approximately 30 percent from base.
7. Capital costs
- a. The low sensitivity reduced base project costs by 30 percent from base.
 - b. The high sensitivity increased project costs by 30 percent from base.
8. Incremental energy efficiency
- a. An increase of 15 GWh above base.
 - b. An increase of 30 GWh above base.
9. Wind Capacity Accreditation
- a. The capacity credit of existing wind farms was reduced by 20 percent from base.
10. Planning Reserve Margin (“PRM”) requirement
- a. The PRM established by MISO in its 2017 Loss of Load Expectation (“LOLE”) Report was increased by 2 percent from base.
11. MISO Coincidence Factor
- a. A low sensitivity to the MISO coincidence factor of 2 percent below base, which resulted in a MISO coincident peak demand higher than base.
 - b. A high sensitivity to the MISO coincidence factor of 2 percent above base, which resulted in a MISO coincident peak demand lower than base.
12. Customer sales forecast
- a. The low sensitivity is based on a Potential Downside Scenario.
 - b. The high sensitivity is based on a Potential Upside Scenario.
13. Sustained low market prices

- a. Wholesale energy market and natural gas prices kept constant from 2017 levels.

14. Purchases and sales tiers

- a. The lowered market sensitivity reduced interchange tie limits by 50 percent from base.
- b. The no wholesale market sensitivity removed the tiered energy market, allowing only purchases of emergency energy.
- c. The no market tiers or sales removed the tiered energy prices for market purchases and removed the capability to sell economic or surplus energy into the market.

D. Long-term Planning and Wholesale Market Interaction

This discussion is included to demonstrate why it is reasonable for the Company to assume a specific level or range of market purchases throughout the planning period within a resource plan or the Blanchard Solar analysis.

It should be noted that the term “market” consists of two segments, capacity and energy. Minnesota Power recognizes that exposure to either a capacity or energy market for a majority of power supply requirements is not in the best interest of customers. However, its utilization in moderation in long-term planning can, and does, bring benefits and efficiencies to its customers.

From a long-term planning perspective, the Company limits utilization of market capacity to no more than 50 MW through the planning period. The inclusion of a small amount of market capacity brings benefit to the customer by bridging short-term capacity needs. These purchases come at a lower cost than building a new resource, and bridge the Company’s need until the capacity need grows to a large enough magnitude to justify a resource build. In the absence of market capacity, production cost models like Strategist would be forced to suggest that a utility build a new resource. A facility of up to hundreds of megawatt in size, depending on technology, would be recommended when a single megawatt purchase could satisfy the need. This is not prudent resource planning for capacity and can lead to an expedited overbuild of generation if the results of expansion planning models without market capacity were implemented as prescribed.

The availability of a small amount of market capacity must be present in the long-term. The foundation of resource planning, the regional reserve margin requirements, ensure that participating utilities are moving towards integrating new resources as demand rises on the power system. When demand is stagnant or falling, as the industry has seen recently, there can be generation surpluses on the system. Or as utilities build new resources that are in excess of their direct needs, due to the size of a particular generation technology, there can be temporary surpluses. The Company has utilized the bilateral market for decades to buy and sell capacity from existing generation sources on both a long and short-term basis. These transactions have benefited customers by keeping power supply additions paced with system load growth, and by allowing Minnesota Power to sell excess generation during load decline. The presence of a market capacity transaction in expansion planning outlooks identifies that a utility can optimize the timing of its next resource by reaching out to the industry marketplace, and looking for a transaction to help bridge their customers to the next resource.

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Similarly, the presence of an energy market in resource planning allows for the optimization of power supply needs on a more granular level. The onset of regional markets like MISO allows day to day energy needs to be pooled together such that each utility is continuously working for the larger energy needs of the region. It is prudent planning practice to include some wholesale market interaction in base planning assumptions, as utilities transition into new generating resources and power purchase transactions for customers. When considering the integration of intermittent generation into the supply portfolio, as many utilities have embarked on with the onset of the Minnesota Renewable Energy Standard and declining cost of solar and wind, it is appropriate to have a wholesale market available.

Energy market purchases are in the best interest of customers to plan and assist with the variability of intermittent resources. Wind, hydro, and solar all rely on the availability of other generation to “fill in the gaps” when the resource is not available. Not having the regional market available during long-term expansion planning to help with the intermittency of renewable generation would promote overbuilding of a single utility’s system and not account for existing regional support. Excluding the presence of the market would not only result in increased customer cost, but also would minimize the value proposition of regional markets like MISO.

Minnesota Power has a long-term planning strategy of avoiding expansion plans that would rely on more than [TRADE SECRET DATA EXCISED] percent of energy supplied for load requirements to be solely supplied from the wholesale market. The Company will procure resources, either generation assets or bilateral power purchase transactions sourced from these assets to ensure its customers are not exposed to significant wholesale market fluctuations. Market energy purchases are limited through both a capacity limit and a tiered cost structure which increases as energy purchases increase (as described in item A.2). Both regional capacity and energy prices are projected through the independent scenario forecasts that Minnesota Power subscribes to, and are updated on a biannual basis. The uncertainty of market prices and level of capacity interaction is tested through sensitivity analyses. These sensitivities illustrate potential operational and cost risks for customers, and help identify if a different resource strategy is needed. Item C.1-2 above identifies the ranges utilized. The wholesale market is included in this analysis; the regional reserve margin and bilateral support of the region will continue to be part of the Company’s power supply in the future.

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MINNESOTA POWER

AND

BLANCHARD SOLAR, LLC

SOLAR POWER PURCHASE AGREEMENT
FOR 10 MW OF RENEWABLE GENERATION

DATED: JUNE 7, 2017

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Exhibit I Financier Consent Provisions

POWER PURCHASE AGREEMENT
BETWEEN

Blanchard Solar, LLC

AND

MINNESOTA POWER

THIS POWER PURCHASE AGREEMENT (the “PPA” or the “Agreement”) is made as of the 7th day of June, 2017 (the “Effective Date”), by and between Minnesota Power (“MP”), a division of ALLETE, Inc., a Minnesota corporation with headquarters at 30 West Superior Street, Duluth, Minnesota 55802 and Blanchard Solar, 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 Minn. Stat. § 216B.1691, subd. 1(b); and

WHEREAS, Seller will plan, design, finance, construct, own, operate and maintain a project consisting of a photovoltaic solar generation facility with an Installed Capacity of 10 MW-AC to provide Accreditable Capacity and associated Contract Energy to MP, and which is further defined below as the “Facility;” and

WHEREAS, Seller intends to locate the Facility near Nature Road in Royalton, Minnesota_ and will interconnect the Facility at the Electric Interconnection Point and will generate, sell and deliver the Accreditable Capacity, Contract Energy and any associated Green Tags to MP at the Point of Delivery, and MP will receive and purchase the same all in accordance with the terms of this Agreement; and

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-five (25) years from the Commercial Operation Date with the 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 MP shall submit this Agreement along with combined resource additions 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 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.

1.2.2 If, as outlined in **Section 1.2.1**, on or before the MPUC Approval Deadline Date, the MPUC declines to approve the PPA in conjunction with the IRP Compliance Filing or approves the PPA in conjunction with the IRP Compliance Filing subject to material conditions that are unacceptable to MP or Seller, each in its sole discretion, then the Parties agree to negotiate in good faith for a period of sixty (60) days from the MPUC Approval Deadline Date or the date of the MPUC’s written order to amend the PPA, as applicable, in a manner that will satisfactorily address the MPUC’s reason for disapproval of, or conditions to, the Agreement in conjunction with the IRP Compliance Filing. Any amendment agreed to by the Parties shall be subject to MPUC approval and the Parties shall seek approval of the PPA, as amended, in accordance with the procedure set forth in this **Section**.

If 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, then either Party shall have the right to terminate the PPA upon written Notice to the other Party with no further obligations under this Agreement. Failure of either Party to provide timely Notice of termination shall be deemed a waiver of this condition and either Party shall not thereafter have the right to terminate this Agreement on the basis of this condition.

1.3 Seller Contingencies. Seller shall have the right to terminate this PPA, with no further obligations under this Agreement, by Notice to MP if as of December 31, 2018 (the “**Seller CP Date**”):

1.3.1 Seller cannot obtain any Permit which it is responsible to receive and which is 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.

1.3.2 Seller fails to obtain approval from MP to interconnect the Facility upon reasonable terms and conditions as set forth in the proposed Interconnection Agreement.

Failure of Seller to provide timely Notice of termination on or before the fifteenth (15th) day after the Seller CP Date shall be deemed a waiver of any of these conditions and Seller shall not thereafter have the right to terminate this Agreement on the basis of these conditions.

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, deliver to the Point of Delivery, and sell to MP the Accreditable Capacity and Contract Energy from the Facility. Beginning on the Commercial Operation Date, MP shall accept and purchase at the prices set forth in this Agreement, the Accreditable Capacity and

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Contract Energy generated from the Facility and delivered by Seller to the Point of Delivery during the Term.

2.1.2 If the Facility generates Test Energy prior to the Commercial Operation Date. MP agrees to accept and purchase all Test Energy generated by the Facility and delivered to the Point of Delivery at a rate equal to **[TRADE SECRET DATA EXCISED]**/MWh. Seller shall coordinate the production and delivery of Test Energy with MP, and MP agrees to cooperate to facilitate the delivery and acceptance by MP of Test Energy of the Facility. 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 the Installed Capacity.

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 from 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 associated with the Contract Energy and Accreditable Capacity 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 or regulations, 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 Contract Energy Source. The Installed Capacity of the Facility shall be approximately 10.0 MW (AC), with exact capacity to be agreed upon in the Interconnection Agreement, consisting of the equipment described in **Exhibit A**.

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3.2 [TRADE SECRET DATA EXCISED]

3.3 Pricing for Accreditable Capacity and Contract Energy. Seller shall be entitled to payment for Accreditable Capacity including any associated Zonal Resource Credits, Contract Energy and any associated Green Tags in accordance with this **Section**. MP's payment under this PPA includes Accreditable Capacity, Zonal Resource Credits, Contract Energy, any associated Green Tags and any other product derived from the Facility not specifically excluded by this PPA.

3.3.1 MP shall pay Seller for Contract Energy delivered to MP at the Point of Delivery in accordance with the schedule set forth in **Exhibit B**.

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 ("House Power"). 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 **Section** 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. **Exhibit A** contains a scaled map that identifies the Site, the location of the Facility at the Site, the equipment and components which make up the Facility, a one-line diagram, the location of the Electric Interconnection Point, the location of Electric Metering Devices, and the Point of Delivery. **Exhibit A** shall be amended to reflect any material changes in siting of the generating facilities or related facilities during permitting and construction.

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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; provided that Seller's failure to achieve any individual Major Milestones set forth in **Exhibit C** on or prior to the applicable date set forth for such Major Milestone shall not entitle MP to terminate this PPA unless and until Seller fails to achieve the Commercial Operation Date in accordance with **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 one hundred eighty (180) Days in the aggregate; provided, further, that if Seller shall fail to achieve the Commercial Operation Date within one hundred eighty (180) 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. If Seller shall fail to achieve the Commercial Operation Date prior to July 1, 2020, for any reason whatsoever, excluding Force Majeure and any default under this Agreement by MP, then Seller shall pay MP Delay Damages at the rate of **[TRADE SECRET DATA EXCISED]** per day until Seller achieves the Commercial Operation Date or this PPA is otherwise terminated. Failure to achieve Commercial Operation by December 31, 2020 shall entitle either Party to terminate this PPA subject to any damages or remedies available under this PPA.

4.5 Conditions to Commercial Operation. Commercial Operation shall not occur before June 1, 2019 and all Contract Energy delivered prior to that date shall be Test Energy. After June 1, 2019, Commercial Operation of the Facility shall commence the Day following MP's acceptance (which shall not be unreasonably withheld) of Seller's Notice that all conditions set forth in this **Section** 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** have been satisfied. Thereafter, MP shall have ten (10) business Days to challenge the satisfaction of any condition set forth in this **Section** and in the event MP raises any such challenge, Seller shall provide MP with additional information establishing satisfaction of the condition. In the event 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:

4.5.1 that the Facility is substantially complete in all material respects, that Seller is in full compliance with the terms of this Agreement, that Seller is in material compliance with the Interconnection Agreement, and that the Facility can be safely operated in conformance with this Agreement;

4.5.2 that Seller has successfully completed testing of the Facility which is required by the Facility's Permits and the Interconnection Agreement, and the generating facility

has been commissioned by the manufacturer in accordance with Good Utility Practice and any applicable agreements;

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

4.5.6 that 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.

ARTICLE 5

INTERCONNECTION, DELIVERY AND METERING

5.1 Interconnection Service.

5.1.1 Connection will be to MP's electrical distribution system, and the scope of Seller's interconnection ends at the AC connection point designated in the Interconnection Agreement. Seller is responsible for negotiating, entering into, and performing its obligations under the Interconnection Agreement.

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 and nothing in the Interconnection Agreement shall alter or modify Seller's or MP's rights or obligations under this Agreement and 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 Electric Metering Devices. The Facility shall be designed to accommodate metering, generator telemetering equipment, and communications equipment that meet the requirements of this **Section**. 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 devices 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.

5.3.1 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 Energy and 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**. MP shall specify the number, type, and location of such Electric Metering Devices.

5.3.2 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. Testing shall include both compensated and uncompensated values (if applicable) to verify proper compensation and meter accuracy. 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**, 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**, 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.

5.3.3 If any Electric Metering Devices or Back-Up Metering, is found to be inaccurate or defective, they 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.

5.4 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:

5.4.1 In the event that the Electric Metering Device is found to be inaccurate or defective, and that Back-Up Metering has been tested and maintained in accordance with the provisions of this **Section**, 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 the Facility for the period of inaccuracy, adjusted as agreed by the Parties. 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.

5.4.2 In the event that 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.

5.4.3 MP shall use the corrected measurements as determined in accordance with this **Section** 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** below. Personnel capable of disconnecting the Facility shall be available 24 hours per day, 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 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).

6.2.2 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 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.

6.2.3 Seller shall avoid any Scheduled Outages/Deratings for the Facility, excluding outages associated with Emergencies and Forced Outages, during any On-Peak Period without the prior written consent of MP. Seller also agrees to cooperate with MP as a part of the Operating Committee functions in **Section 8.3** to use commercially reasonable efforts in establishing the timing of Scheduled Outages/Deratings during times of MP's scheduled outages to conduct maintenance of MP-owned distribution and transmission facilities used for delivery of Contract Energy.

6.2.4 Not less than forty-eight (48) 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 and seek to reschedule such deferred maintenance to a subsequent date mutually agreed upon between the Parties. 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.

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 On-Peak Period, Seller shall use all commercially reasonable efforts to avoid or overcome any Forced Outages at the Facility.

6.4 Outage Reporting. Seller shall operate the Facility in a manner that complies with all national and regional reliability standards, and Good Utility Practice.

6.5 Capacity Accreditation. MP has certain planning, operating and reporting requirements to MISO. As between the Parties, MP is responsible for seeking MISO accreditation of the Installed Capacity as Resource Adequacy Capacity, and Seller agrees to provide reasonable cooperation to MP, including the provision of data necessary for MP to calculate Accreditable Capacity. Currently, MP believes no generator tests are required by MISO for accreditation of renewable energy conversion facilities; to the extent such testing is required in the future, MP shall be responsible for the costs associated with such testing. Seller makes no representations with respect to MISO accreditation of the Installed Capacity as Resource Adequacy Capacity.

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 ten (10) Business Days after the close of the billing month, Seller shall provide to MP, by first-class

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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.

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 check transmitted by first-class mail or by electronic funds transfer in accordance with **Section 7.5**, as designated by the owed Party, on or before the twentieth (20th) Business 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 (2) percent 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.

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 if requested in writing to do so by Seller, at Seller's expense, and if the request contains adequate payment information. 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**, 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 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]**

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

7.6.4 **[TRADE SECRET DATA EXCISED]**.

ARTICLE 8

INFORMATION AND IMPLEMENTATION

8.1 Pre-COD Reporting Obligations.

8.1.1 If it is required by any Financier or 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 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 Commissioning 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 (including the status of the permits set forth in **Exhibit D**), 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, and any unusual conditions found during inspections. The operating log shall be made available to MP upon reasonable request. 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.

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 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;

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- (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 Solar Data and Capacity.

8.4.1 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 irradiance measuring device around the Site to provide the capability of measuring and recording representative solar data twenty four (24) hours per day, which solar data shall be used to calculate any amounts due Seller under this PPA for curtailed or lost production. The irradiance measuring device required by this PPA must be provided at the facility and shall be at a location agreed to by the Operating Committee. After the Commercial Operation Date, MP shall have the right on a real-time basis to access all weather data from the meteorological equipment 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. 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 TEMT 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. Not later than thirty (30) Days after the Effective Date, Seller shall provide MP security in the amount of **[TRADE SECRET DATA EXCISED]** multiplied by the anticipated Installed Capacity of either or a combination of a letter of credit 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 the Agreement, MP shall promptly return the Initial Development Security to Seller.

9.1.1 Not later than thirty (30) Days after the date on which all MP's Contingencies under **Section 1.2.1** have been satisfied or waived as provided under those

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sections, Seller shall provide MP security in the amount of **[TRADE SECRET DATA EXCISED]** multiplied by the anticipated Installed Capacity (“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 the Agreement, MP shall promptly return the Stepped Up Development Security to Seller.

9.1.2 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, to **[TRADE SECRET DATA EXCISED]**, 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 anticipated 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 Security shall be comprised of either a letter of credit or a cash escrow, at Seller’s option, or a combination of these options as long as the total amount of Security is no less than required.

9.2.2 After the Commercial Operation Date, to the extent Seller does not have Security funded in cash, it shall have the amount of Security required, less any cash escrow actually in place, provided by letter of credit. As Seller makes additional payments into the cash escrow, it may reduce the face amount of any letter of credit comprising Security a corresponding amount.

9.2.3 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 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**. The escrow agreement shall require the escrow agent to notify MP if the balance in the escrow account is, together with the amount of any letter of credit, at any time, below the minimum amount required by this Agreement. 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

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of the account; (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.

9.2.4 In conjunction with or instead of cash security as provided in **Section 9.2.3**, 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** (the “LOC”). **[TRADE SECRET DATA EXCISED]** The LOC must provide the following: (i) it must 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 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** 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. If the Issuer notifies Seller and MP that it will not renew the LOC, MP may 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 9.2.3** above, until and unless Seller provides a substitute form of such security meeting the requirements of this **Section**. 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.

9.2.5 MP shall have the right to monitor the financial condition of Seller 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 the Issuer does not have an Investment Grade Credit Rating. In addition, Seller shall provide to MP, at the beginning of each calendar quarter after the Commercial Operation Date, evidence satisfactory to MP sufficient to establish that Seller is in compliance with the security requirements set forth in this **Section**, including such evidence sufficient to establish that the current Issuer has a credit rating or assets as required by **Section 9.2.4**. In the event that the financial condition of the current Issuer has deteriorated to a level below that required, Seller shall provide alternative Security as soon as practicable that complies with this **Section** and, in no event, later than thirty (30) Days after becoming aware of the Issuer’s failure to meet the requirements of this **Article**.

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 Replacement Power Costs, if any, or any indemnification obligations) which Seller has not otherwise paid or performed when due, after any required notice and opportunity to cure. In the event 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** 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.

10.3.1 Economic hardship and changes in market conditions shall not constitute Force Majeure.

10.3.2 Suspension or curtailment in the electric output of the Facility that is caused by or arises from the acts or omissions of any third party, including, without limitation, any vendor, materialman, customer, or supplier of any Party, shall not constitute Force Majeure, unless such acts or omissions are themselves excused by reason of Force Majeure.

10.3.3 Mechanical or equipment breakdown or other mishap or events or conditions attributable to normal wear and tear or flaws to equipment shall not constitute Force Majeure, unless such breakdown, mishap or event is itself caused by Force Majeure.

10.3.4 In the event that 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 a 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 ninety (90) Days after such Milestone for reasons other than Force Majeure or a delay or Event of Default by MP, provided that if during such ninety (90) 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 one hundred eighty (180) 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 any direct or indirect change of control of Seller, 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 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.

11.2 Financier's Right to Cure Default of Seller. Seller shall provide MP with a Notice identifying each Financier and providing appropriate contact information for each Financier. Following receipt of such Notice, MP shall provide Notice of any default of Seller to each Financier, and MP will accept a cure to a default of Seller performed by the Financier, so long as the cure is accomplished within the applicable cure period set forth in this PPA, if any. If Financier needs to foreclose on the Facility or otherwise take legal action to gain possession of the Facility in order to cure the applicable Event of Default, the applicable cure period shall be extended by the amount of time necessary for the Financier, using all reasonable due diligence, to obtain possession of the Facility. If Financier, or its designee, obtains possession of the Facility and assumes all the obligations of the Seller under this Agreement, and cures any Events of Default, MP agrees to recognize the Financier, or its designee, as the successor to Seller under the terms of the PPA and to perform its obligations to Financier or its designee.

11.3 Events of Default of MP. Any of the following shall constitute a default of MP:

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

11.3.2 MP's dissolution or liquidation, provided that division of MP into multiple entities, or other corporate reorganization, shall not constitute dissolution or liquidation;

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

11.3.4 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;

11.3.5 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; and/or

11.3.6 MP's failure or refusal to accept delivery of Contract Energy at the Point of Delivery for reasons other than an Excused Curtailment, or a Compensated Curtailment where the applicable payment is made to Seller with respect to such curtailment pursuant to the terms of the PPA.

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

11.4 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 **11.3.1** 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:

11.4.1 Terminate this Agreement to the extent permitted by **Section 11.5**;

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

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

11.4.4 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**;

11.4.5 In the case of a default by Seller, MP may exercise its Step-In Rights in the manner and to the extent set forth in **Section 11.8**.

11.5 Termination. Upon the occurrence 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 nondefaulting Party without further obligation to the defaulting Party except for obligations arising or accruing prior to the date of termination.

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11.5.1 Upon the termination of this PPA under this **Section**, the non-defaulting Party shall be entitled to receive from the defaulting Party all of the actual damages incurred by the non-defaulting Party to the extent allowed by law including, if Seller is the defaulting Party, Replacement Power Costs as and when allowed by this Agreement, up to the Aggregate Damage Limitation set forth in **Section 11.6**, and subject to the limitations of **Section 11.11** and other provisions of this PPA.

11.5.2 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.

11.5.3 In the event 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.

11.6 Aggregate Damage Limitation. Except as otherwise provided in this **Section**, Seller's aggregate financial liability to MP for damages shall not exceed **[TRADE SECRET DATA EXCISED]** prior to the Commercial Operation Date and **[TRADE SECRET DATA EXCISED]** after the Commercial Operation Date. 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 **11.5**. 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:

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

11.6.2 the sale or diversion by Seller to another Person of Accreditable Capacity or Contract Energy to which MP is entitled under this PPA;

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

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

11.6.5 Any Environmental Contamination caused by Seller.

11.7 Seller's Right to Mitigate Damages. If MP fails to accept delivery of any Contract Energy, except for curtailment as permitted by **Section 7.6** of this Agreement, for a period of ten (10) or more continuous days, 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.

11.8 MP Step-In Rights.

11.8.1 Upon the occurrence of an uncured Event of Default by Seller under **Sections 11.1.1, 11.1.3, 11.1.5, and 11.1.8** after the Commercial Operation Date, and after the expiration of any cure period of Seller or any Financier and prior to and in lieu of termination of this PPA due to any default of Seller, MP shall have the right, but not the obligation, to possess, assume control of, and operate the Facility as agent for Seller (in accordance with Seller's rights, obligations, and interests under this PPA) during the period provided for herein ("Step-In Rights"). Seller shall not grant any person, other than any Financier or provider of operations and maintenance services, a right to possess, assume control of, and operate the Facility that is equal to or superior to MP's right under this **Section**. MP's rights under this **Section** shall be expressly subordinate to the rights of any Financier, except to the extent the Financier expressly waives such rights in a signed writing.

11.8.2 MP shall give Seller and Financier at least ten (10) Business Days' prior written notice prior to the exercise of MP's rights under this **Section**. Upon such notice, Seller shall diligently and promptly collect and have available at a convenient location all documents, contracts, books, manuals, reports, and records associated with operation and maintenance of the Facility in accordance with Good Utility Practice and all contractual obligations of Seller and third parties with respect to the Facility. Upon such notice, MP, its employees, contractors, or designated third parties shall be given the unrestricted right to enter the Site and the Facility for the purpose of operating the Facility subject to the terms and conditions of any applicable leases, easements, Permits and other contracts and agreements with respect to use of the Site and operation of the Facility, including, but not limited to, photovoltaic solar generator supply agreements, operation and maintenance agreements, and any agreements with or obligations to Financiers. Seller hereby irrevocably appoints MP as Seller's attorney-in-fact for the exclusive purpose of executing such documents and taking such other actions as MP may reasonably deem necessary or appropriate to exercise MP's Step-In Rights under this **Section**.

11.8.3 MP shall be entitled to immediately draw upon the Security to cover any actual and reasonable expenses incurred by MP in exercising its rights under this **Section** and as necessary or appropriate to operate the Facility.

11.8.4 During any period that MP is in possession of the Facility, MP shall perform and comply with all of the obligations of Seller under this PPA, Permits, and any contractual and legal obligations of Seller with respect to the Site and Facility and shall use the proceeds from the sale of electricity generated by the Facility to, first, reimburse MP for any and all expenses reasonably and actually incurred by MP in taking possession of and operating the Facility (and which are not otherwise reimbursed by draws upon the Security), and to, second,

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pay any operating and contractual expenses due and owing with respect to the Facility, and, third, remit remaining proceeds, if any, to Seller.

11.8.5 During any period that MP is in possession of and operating the Facility, Seller shall retain legal title to and ownership of the Facility and MP shall assume possession, operation, and control solely as agent for Seller, except that MP's agency shall not include the right to create or cause any new obligations or liabilities for Seller.

11.8.6 In the event that MP has exercised its Step-In Rights, Seller may resume operation and MP shall relinquish its right to operate at such time as Seller demonstrates to MP's reasonable satisfaction that Seller has or will promptly remove those grounds that originally gave rise to MP's exercise of its Step-In Rights, and that Seller (i) will resume operation of the Facility in accordance with the provisions of this PPA, and (ii) has cured any defaults of Seller which allowed MP to exercise its rights under this **Section**.

11.8.7 MP's exercise of its rights hereunder to possess and operate the Facility shall not be deemed an assumption by MP of any preexisting liability attributable to Seller. If at any time after exercising its rights to take possession of and operate the Facility MP elects to return such possession and operation to Seller, MP shall provide Seller with at least fifteen (15) Days advance Notice of the date MP intends to return such possession and operation, and upon receipt of such Notice Seller shall take all measures necessary to resume possession and operation of the Facility on such date.

11.8.8 In the event that a Financier, or a nominee or transferee, becomes entitled to assume possession and control of the Facility pursuant to any security or collateral instrument or applicable law, MP agrees to relinquish the Step-In Rights and possession and control of the Facility in accordance with the request of the Financier or its nominee or transferee, if applicable.

11.8.9 In the event MP assumes operation of the Facility under this **Section**, MP shall operate the Facility in conformance with Good Utility Practice and all contractual obligations of Seller with respect to the Facility, including the agreements listed in **Section 11.8.2** and the Interconnection Agreement.

11.9 **[TRADE SECRET DATA EXCISED]**

11.10 Remedies Cumulative. Subject to the Aggregate Damage Limitation, and provisions of **Section 11.11** below, 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 of 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.

11.11 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 ITC Benefits by Seller shall be considered direct and actual damages incurred by Seller and not consequential damages.

11.12 Payment of Amounts Due to MP. Without limiting any other provisions of this **Section** 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.

11.13 Duty to Mitigate. Each Party agrees that it has a duty to mitigate damages and covenants that it will use commercially reasonable efforts to minimize any damages it may incur as a result of the other Party's performance or non-performance of the PPA.

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, violation of any applicable environmental laws, or by the negligent or intentional tortious acts, errors, or omissions of the Indemnifying Party, its directors, officers, employees, or agents. Nothing in this **Section** 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**, 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**, in the event that a Party is obligated to indemnify and hold the an Indemnified Party harmless under this **Article**, 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. Seller shall, on or before June 1 of each Commercial Operation Year provide MP with two 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**. Such certificates shall (a) name MP as an additional insured (except worker's compensation); (b) provide that MP shall receive thirty (30) Days prior written Notice of non-renewal, cancellation of, or significant modification to 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, its affiliated entities and their officers, directors, agents, subcontractors, and employees; and (d) indicate that the Commercial General 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**. 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 Insurance. Commercial General Liability (CGL) and Commercial Umbrella Insurance shall be procured at a minimum limit of coverage of Ten Million Dollars (\$10,000,000.00) combined single limit each occurrence and the aggregate, where applicable. If CGL insurance contains a general aggregate limit, it shall apply separately to the Facility.

13.2.1 CGL insurance 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, failure to supply power and liability assumed under an insured contract (including the tort liability of another assumed in a business contract), all with limits as specified above. CGL insurance shall include ISO endorsement CG 24 17 (or its updated equivalent endorsement) which modifies the definition of "Insured contract" to eliminate the exclusion of easement or license agreements in connection with construction or demolition operations on or within fifty (50) feet of a railroad. 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.

13.2.2 MP shall be included as an 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 commercial umbrella insurance shall provide coverage in excess of the CGL insurance, the Business Automobile Liability insurance, and the Employers Liability insurance. The

commercial umbrella insurance, in addition to the underlying coverages, will provide a minimum of Ten Million Dollars (\$10,000,000.00) in limits.

13.2.3 The CGL and commercial umbrella 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 (\$1,000,000.00) 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 (\$1,000,000.00) each accident for bodily injury by accident, or One Million Dollars (\$1,000,000.00) per employee for bodily injury by disease.

13.6 Builder's Risk Insurance. If applicable, Builder's Risk insurance shall be procured at the Replacement value of the Facility. Builder's Risk insurance, or an installation floater, shall include coverage for earthquake and flood, faulty workmanship, collapse, materials and design, freezing or changes in temperature, testing of machinery or equipment, and debris removal. There shall be no limitation of coverage for occupancy prior to full completion and acceptance.

13.7 Environmental Impairment Liability. Environmental Impairment Liability shall be procured at a level of Ten Million Dollars (\$10,000,000.00) each occurrence with deductibles that are no less than Five Hundred Thousand Dollars (\$500,000).

13.8 "Special Form" Property Insurance. "Special Form" or 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. "Special Form" 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 (\$25,000,000.00) each for flood and earthquake.

13.9 Business Interruption Insurance. Business Interruption insurance shall be procured at the amount required to cover Seller's continuing or increased expenses, resulting

from full interruption for a period of no less than twelve (12) calendar months. Business Interruption insurance shall cover loss of revenues and the increased expense associated with the cost of replacement power attributable to the Facility by reason of total or partial suspension or delay of, or interruption in, the operation of the Facility as a result of an insured peril covered under Property and/or Boiler & Machinery insurance as set forth above to the extent available on commercially reasonable terms, subject to a reasonable deductible which shall be the responsibility of Seller. Notwithstanding any other provision of this Agreement, Seller shall not be required to have Business Interruption insurance until the Commercial Operation Date.

13.10 Term and Modification of Insurance.

13.10.1 All liability insurance(s) required under this PPA shall cover occurrences during the Term and for a period of two (2) years after the Term. In the event that 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 and such insurance shall be maintained by Seller, with a retroactive date not later than the retroactive date required above, for a minimum of five (5) years after the Term.

13.10.2 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 In the event that 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, 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 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, consents, approvals, licenses and authorizations identified in **Exhibit D**, which Seller anticipates will be obtained by Seller in the ordinary course of business, all permits, consents, approvals, licenses, authorizations, or other action 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**, 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 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. In the event that the assignee has or obtains an investment grade unsecured bond rating equivalent to or better than the unsecured bond rating of MP (but in no event worse than the equivalent of BBB-), 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 make reasonable efforts to 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 consistent with the terms set forth in **Exhibit I** (generally, a "Financier Consent"); 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**.

16.3 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**, a change of control shall mean a transfer of at least fifty percent (50%) of the voting rights of Seller. Seller and any of its members may sell or transfer any of their respective membership interests to any Person in accordance with the member control or operating agreement of Seller and applicable law without MP's consent. MP's consent shall not be required for any change of control which occurs 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**. Seller shall provide Notice and updates with revised exhibits within 30 days of any known changes to the following exhibits: Exhibits A, C, and D, which upon Notice shall supersede the existing applicable exhibit.

17.1.1 Each Party shall maintain a designated representative to receive Notices as listed on **Exhibit E**. Such representative may, at the option of each Party, be the same person as that Party's representative or alternate representative on the Operating Committee, or a different person.

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 distribution and 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. § 48, as amended, and 26 U.S.C. §45, as amended, and any other investment or 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, 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 the Federal Energy Regulatory Commission 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”) as interpreted in *Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1*, 554 U.S. 527 (2008).

17.5 Relationship of the Parties.

17.5.1 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.

17.5.2 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 a MP agent.

17.5.3 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.

17.5.4 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.

17.6 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.

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

17.8 Equal Employment Opportunity Compliance Certification. Seller acknowledges that as a government contractor MP is subject to various federal laws, executive orders, and regulations regarding equal employment opportunity and affirmative action. These laws may also be applicable to Seller as a contractor to MP. All applicable equal opportunity and affirmative action clauses shall be deemed to be incorporated herein as required by federal laws, executive orders, and regulations, including but not limited to 41 C.F.R. § 60-1.4(a)(1-7).

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, 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, ordinances, rules, and regulations 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, licenses, and inspections 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** 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). In the event that 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** 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**” – prior to the Commercial Operation Date, complete cessation of construction of the Facility for sixty (60) 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, if any, for which capacity credit may be obtained under MISO rules. Initially, such requirements are set forth in Module E of the MISO Tariff, the MISO Resource Adequacy Construct, and the 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.

“**Agreement**” – shall have the meaning set forth in the preamble.

“**Aggregate Damage Limitation**” – shall have the meaning as set forth in **Section 11.6**.

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

“**Back-Up Metering**” shall have the meaning set forth in **Section 5.3.2**.

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

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“**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.

“**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 or any anniversary thereof.

“**Commissioning Date**” – the date on which the developer issues a commissioning certificated for the Facility indicating that the Facility has satisfied all commissioning procedures.

“**Compensated Curtailment**” – shall have the meaning set forth in **Section 7.6.3** hereof.

“**Contract Energy**” – Energy generated by the Facility and delivered to MP at the Point of Delivery, including Zonal Resource Credits.

“**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 photovoltaic solar generator supply and installation contract and a balance of plant contract), in which case such series of contracts shall collectively constitute the Construction Contract.

“**Day**” – a calendar day.

“**Delivery Arrangements**” – any or a combination of: (1) firm or non-firm transmission reservation across a third party’s systems in the form of a transmission service agreement for firm transmission service or otherwise, or (2) firm point-to-point or network (or equivalent) transmission service, or non-firm point-to-point transmission service on or off the Interconnection Provider’s System, granted by MISO, an RTO or other New Joint Transmission Authority.

“**Dispute Notice**” – shall have the meaning set forth in **Section 14.1.2**.

“**Effective Date**” – shall have the meaning set forth in the preamble.

“**Electric Interconnection Point**” – the physical point at which electrical interconnection is made between the Facility and the Interconnection Provider’s System as further 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**” means any resource that qualifies as a renewable eligible energy technology under Minnesota Statute Section 216B.1691, subdivision 1.

“**Emergency**” – any condition or situation which in the judgment of MP, Interconnection Provider, MISO, or any other entity with operational control or authority over the interconnected transmission system (as communicated to MP or the Interconnection Provider), (i) endangers or might endanger life or property or (ii) adversely affects or might adversely affect MP’s ability, or the ability of any other entity associated with the interconnected transmission system, to maintain safe and reliable electric service, including, but not limited to, an “Emergency” as defined in the Interconnection Agreement.

“**Energy**” – the amount of electricity either used or generated over a period of time, expressed in terms of megawatt-hours (“MWh”).

“**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.

“**Expected Energy**” – the amount of Contract Energy expected to be generated by the Facility in the relevant Calendar Year as set forth in **Exhibit F**.

“Event of Default” – shall mean, as applicable, a default of Seller pursuant to **Section 11.1** or a default of MP pursuant to **Section 11.3**.

“Excused Curtailment” – shall have the meaning set forth in **Section 7.6.2** hereof.

“Facility” – Seller’s electric generating facility and all of Seller’s 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.

“Fair Market Value” – shall have the meaning set forth in **Section 11.9**.

“FERC” – the Federal Energy Regulatory Commission and any successor agency.

“Financier” – Any individual or entity providing money or extending credit (including any capital lease) to Seller for (i) the construction, term, or permanent financing of the Facility whether in the form of debt, 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.

“Financier Consent” – shall have the meaning set forth in **Section 16.2**.

“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 and/or the permanent financing 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” – means 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 photovoltaic solar generators 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 photovoltaic solar generator 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; and (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), but only if such requirements, actions, or failures to act prevent or delay performance; and (vii) inability, despite due diligence, to obtain any licenses, permits, or approvals required by any Governmental Authority.

Notwithstanding the foregoing, the term Force Majeure does not include (i) inability by Seller to procure photovoltaic solar generators 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 (distribution and 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 RECs; 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" – shall mean 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

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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 including Solar or similar rights arising out of or eligible for consideration in the M-RETS Program. For the avoidance of doubt, Green Tags excludes (i) any local, state or federal depreciation deductions or other tax credits providing a tax benefit to Seller based on ownership of, or energy production from, any portion of the Facility, including the investment tax credit, Production Tax Credit and United States Treasury Cash Grant that may be available to Seller with respect to the Facility under Applicable Laws, and (ii) 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.

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“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).

“House Power” – shall have the meaning set forth in **Section 3.4**.

“Indemnified Party” – shall have the meaning set forth in **Section 12.1**.

“Indemnifying Party” – shall have 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** hereof.

“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.

“Interconnection Provider” – the Person that owns and operates the distribution and transmission lines, 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 distribution and transmission 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 long-term unsecured, general obligation bond rating of BBB or above from Standard & Poor’s Corporation (“S&P”) or Baa2 or above from Moody’s Investors Services (“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.

“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.

“ITCs” – federal investment tax credits arising from electricity produced from certain renewable resources pursuant to 26 U.S.C. § 48 as amended.

“ITC Value” – the value of ITCs derived.

“kWh”- kilowatt-hour.

“kVarh” – kilovar-hour.

“Letter of Credit” or “LOC” – shall have the meaning set forth in **Section 9.2.4.**

“Maintenance Schedule” – shall have the meaning set forth in **Section 6.2.2.**

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“**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.

“**MISO**” – the Midcontinent Independent Service Operator, Inc., and any successor organization.

“**MP**” – shall have the meaning set forth in the preamble.

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

“**MPUC Approval**” – receipt of a written final order from the MPUC approving this PPA and the IRP Compliance Filing or which otherwise approves the PPA and the IRP Compliance Filing as reasonable and in the public interest, subject only to the MPUC’s ongoing jurisdiction to review the prudence of MP’s purchases of Contract Energy, Accreditable Capacity and Green Tags pursuant to the PPA.

“**MPUC Approval Deadline Date**” – shall have the meaning set forth in **Section 1.2.1**.

“**MWh**”- megawatt-hour

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

“**NERC**” – the North American Electric Reliability Council and any successor organization.

“**Net Output**” - means all energy produced by the Facility and delivered at the Point of Delivery.

“**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 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 Period**” – day light hours as applicable for the time of year.

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

“**Operating Procedures**” – those procedures implemented by the Operating Committee.

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“Output Shortfall” – has the meaning set forth in **Section 3.2.2**.

“Parties” – MP and Seller, and their respective successors and permitted assignees.

“Party” – MP or Seller, and their respective successors and permitted assignees.

“Party Representatives” – shall have the meaning set forth in **Section 14.1.2**.

“Performance Security” - has the meaning set forth in Section 9.1.3.

“Permits” – all state, federal, and local 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 point on the electric system at which Seller makes available to MP and delivers to MP the Contract Energy being sold by Seller to MP under this PPA, and shall for the purposes of this PPA be the same physical location as the Electric Interconnection Point, which is described in **Exhibit A**.

“PPA” – shall have the meaning set forth in the preamble.

“Proprietary Data” – shall have the meaning set forth in **Section 17.19**.

“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.

“Replacement Power Costs” --- in the event Seller fails to satisfy its obligation set forth in **Section 3.2**, the difference between (i) the costs actually and reasonably incurred by MP, at MP’s sole discretion, to purchase or produce Energy and Capacity plus a corresponding amount of Green Tags, any and all direct and indirect incidental charges incurred by MP minus (ii) the costs MP would have paid under this Agreement for such Energy, Capacity, and Green Tags.

“Resource Adequacy Capacity” – the amount of Contract Capacity that MP is permitted to claim annually under MISO’s Resource Adequacy Construct to meet capacity, installed reserve, resource adequacy or other similar requirements as established by MISO.

“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 security that Seller is required to establish and maintain, pursuant to **Article 9**, as security for Seller’s performance under this PPA.

“**Seller Interconnection Facilities**” – the equipment on Seller’s side of the Electric Interconnection Point, including all related relaying protection and physical structures as well as all distribution and transmission facilities required to access the Interconnection Provider’s System at the Electric Interconnection Point, including Seller’s metering, relays, and load control equipment as provided for in the Interconnection Agreement.

“**Seller**” – shall mean Blanchard Solar, LLC, a Minnesota limited liability company and its successors and permitted assignees.

“**Seller CP Date**” – has the meaning set forth in **Section 1.3**.

“**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.

“**Step-In Rights**” – shall have the meaning set forth in **Section 11.8**.

“**Stepped Up Development Security**” has the meaning given thereto in **Section 9.1.2**.

“**Substitute Owner**” has the meaning given thereto in **Exhibit I**.

“**TEMT**” – the MISO Transmission and Energy Markets Tariff (“TEMT”) in effect and as amended from time to time in accordance with applicable FERC regulations.

“**Term**” – Has the meaning ascribed to it in Section 1.1.

“**Test Energy**” – that Energy which is produced by the Facility and delivered to MP at the Point of Delivery in order to perform testing of the Facility prior to Commercial Operation.

“**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 this **Section** 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 The masculine shall include the feminine and neuter.

18.2.2 References to "**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.

Blanchard Solar, LLC:

By: _____

Its: _____

Minnesota Power:

By: _____

Its: _____

EXHIBIT A

FACILITY DESCRIPTION, ONE-LINE DIAGRAM, AND SITE MAP

The Facility will consist of four SMA inverters, rated at 2.5 MW each, for a total Installed Capacity of 10.0 MW and associated solar panels manufactured by Canadian Solar, Inc.

If necessary, 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 in Bellevue, Morrison County, Minnesota and interconnect with Minnesota Power.

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

Single-Line Diagram

[TRADE SECRET DATA EXCISED]

Site Plan



PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

EXHIBIT B

CONTRACT ENERGY PRICE SCHEDULE

Commercial Operation Year	Contract Energy Price (\$/MWh) [TRADE SECRET DATA EXCISED]	Commercial Operation Year	Contract Energy Price (\$/MWh) [TRADE SECRET DATA EXCISED]
1		19	
2		20	
3		21	
4		21	
5		22	
6		23	
7		24	
8		25	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

EXHIBIT C
MAJOR MILESTONES

Page 1 of 1

Major Milestone	Results Seller Must Achieve
6/30/2017	Site Control Agreement Executed
6/30/2019	Conditional Use Permit / Interim Use Permit Received
6/30/2019	Interconnection Agreement Executed
12/15/2019	Issuance of Full Notice to Proceed to Contractor
5/15/2020	Mechanical Completion
6/30/2020	Commercial Operation Date

EXHIBIT D

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

Permit/ Approval	Issuing Agency
Conditional Use Permit / Interim Use Permit	County
Tree Removal Permit (if required)	County
Jurisdictional Determination (if required) or Wetlands Concurrence (if required)	U.S. Army Corps of Engineers
Wetlands Concurrence (if required)	Local Government Unit (LGU)
Federal Endangered Species Concurrence (if required)	U.S. Fish and Wildlife Service
State Endangered Species Concurrence (if required)	Minnesota Department of Natural Resources
Cultural Resource Concurrence (if required)	Minnesota State Historical Preservation Office
National Pollutant Discharge Elimination System (NPDES) / State Disposal System (SDS)	Minnesota Pollution Control Agency
Stormwater Control and Erosion Permit	County
Building Permit	County
Electrical Permit	County
Driveway Permit	Minnesota Department of Transportation

EXHIBIT E
NOTICE ADDRESSES

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MP	SELLER
<p>Notices: Vice President Strategy & Planning Minnesota Power 30 W. Superior Street Duluth, MN 55802 Phone: (800) 228-4966 Fax: (218) 723-3915</p> <p>With a copy to:</p> <p>Chief Legal Officer Minnesota Power 30 W. Superior Street Duluth, MN 55802 Phone: (800) 228-4966 Fax: (218) 723-3955</p>	<p>Notices: Cypress Creek Renewables Attn: Asset Management 325 Ocean Park Blvd Suite 355 Santa Monica, CA 90405</p> <p>Phone: (310) 581-6299 Fax: (310) 684-5875</p> <p>With a copy to:</p> <p>Cypress Creek Renewables Attn: Legal 325 Ocean Park Blvd Suite 355 Santa Monica, CA 90405</p> <p>Phone: (310) 581-6299 Fax: (310) 684-5875</p>
<p>Operating Committee Representative:</p> <p>To be specified in accordance with Section 8.3</p> <p>Alternate: To be specified in accordance with Section 8.3.</p>	<p>Operating Committee Representative:</p> <p>To be specified in accordance with Section 8.3.</p> <p>Alternate: To be specified in accordance with Section 8.3.</p>

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

EXHIBIT F

[TRADE SECRET DATA EXCISED]

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

EXHIBIT G

Generation Profile and Pricing (Attachment A of Proposal)
[TRADE SECRET DATA EXCISED]

PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED

EXHIBIT H

[TRADE SECRET DATA EXCISED]

EXHIBIT I

Financier Consent Provisions

In the event Seller collaterally assigns its rights hereunder to a Financier as security, any related Financier Consent will contain provisions substantially as follows:

1. Seller and MP will neither modify nor terminate the PPA other than as provided therein, without the prior written consent of the Financier.
2. The Financier shall have the right, but not the obligation, to do any act required to be performed by Seller under the PPA, and any such act performed by the Financier shall be as effective to prevent or cure a default as if done by Seller itself.
3. If MP becomes entitled to terminate the PPA due to an uncured Event of Default by Seller, MP shall not terminate the PPA unless it has first given notice of such uncured Event of Default to the Financier and has given the Financier the same cure period afforded to Seller under Section 11.1 of the PPA, plus an additional thirty (30) Days beyond Seller's cure period to cure any monetary Event of Default and an additional sixty (60) Days beyond Seller's cure period to cure any non-monetary Event of Default; *provided, however*, that if the Financier requires possession of the Facility in order to cure the Event of Default, and if the Financier diligently seeks possession, the Financier's additional thirty (30)-Day or sixty (60) Day cure period, as applicable shall not begin until foreclosure is completed, a receiver is appointed or possession is otherwise obtained by or on behalf of the Financier.
4. Neither the Financier nor any agent or trustee acting on behalf of Financier under the Financing Documents shall be obligated to perform or be liable for any obligation of Seller under the PPA until and unless any of them assumes possession of the Facility through the exercise of the Financier's rights and remedies.
5. Any party taking possession of the Facility through the exercise of the Financier's rights and remedies shall remain subject to the terms of the PPA and shall assume all of Seller's obligations under the PPA, both prospective and accrued, including the obligation to cure any then-existing defaults capable of cure by performance or the payment of money damages. In the event that the Financier or its successor assumes the PPA in accordance with this paragraph 5, MP shall continue the PPA with the Financier or its successor, as the case may be, substituted wholly in the place of Seller.
6. Within ninety (90) Days of any termination of the PPA in connection with any bankruptcy or insolvency Event of Default of Seller, the Financier (or its successor) and MP shall enter into a new power purchase agreement on the same terms and conditions as the PPA and for the period that would have been remaining under the PPA but for such termination.
7. MP shall deliver to Financier, concurrently with the delivery thereof to the Seller, a copy of each notice of breach or default of Seller given by MP pursuant to the PPA.

8. Subject to the provisions of Article 16, MP agrees that, if the Financier notifies MP that an event of default under the Financing Documents has occurred and is continuing and that the Financier has exercised its rights (i) to have itself or its designee substituted for the Seller under the PPA, (ii) to acquire or have its designee or assignee acquire the Seller or (iii) to sell, assign, transfer or otherwise dispose of the PPA to a third party, then the Financier, the Financier's designee or such third party (each, a "Substitute Owner") shall be substituted for the Seller under the PPA and, in such event, MP shall continue to perform its obligations under the PPA in favor of the Substitute Owner, subject to the terms and conditions thereof; provided, however, that the Substitute Owner shall be required to cure any then-existing defaults capable of cure by performance or the payment of money damages.

Sedway Consulting, Inc.

INDEPENDENT EVALUATION REPORT
FOR MINNESOTA POWER COMPANY'S
2016 SOLAR RESOURCE SOLICITATION

Submitted by:

Alan S. Taylor
Sedway Consulting, Inc.
Boulder, Colorado

July 10, 2017