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Xcel Energy

Docket No.: EL16-037

Response To: SD Public Utilities Information Request No. 7-6  
Commission

Requestor: Kristen N. Edwards

Date Received: August 9, 2017

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Question:

Refer to the Company's response to Staff Data Request 5-8.

- a. Explain the Net Metering policy and requirements in Minnesota.
- b. Provide a list of Net Meter projects by fuel type in Minnesota.
- c. Provide the cost per MWh for the Net Meter projects in Minnesota.
- d. Are any costs associated with Minnesota's Net Meter projects being recovered from South Dakota customers through the FCR or base rates? If yes, explain.
- e. Explain the Made In Minnesota policy and requirements.
- f. Provide the cost per MWh for the Made In Minnesota projects.
- g. Are any costs associated with Made In Minnesota projects being recovered from South Dakota customers through the FCR or base rates? If yes, explain.

Response:

- a. This response provides a high level overview. Please let us know if you have follow-up questions. The small power production, cogeneration and net metering policies for NSP-Minnesota are specified in Section 9, Sheets 1-49 of our Electric Rate Book. Please see Attachment A.

In brief, Minnesota Stat. § 216B.164 pertaining to cogeneration and small power production was first enacted in 1981 (Laws of Minnesota for 1981, Chapter 237) pursuant to the Public Utility Regulatory Policy Act of 1978 (Pub. L. 95-617, 92 Stat. 3117, and the Federal Energy Regulatory Commission regulations thereunder, 18 C.F.R. The purpose of the statute was to give the maximum possible encouragement to cogeneration and small power production consistent with the protection of ratepayers and the public. This resulted in a rulemaking in Minnesota that in turn lead to the introduction of Section 9 in our Electric Rate Book.

The statute has been amended several times since first enacted, and in 2013y it was further modified by the Minnesota legislature through an omnibus energy bill. Among the significant changes in the 2013 legislation was a provision that expands net metering eligibility to system less than 1,000 kW. The Minnesota Commission subsequently initiated a rulemaking proceeding to implement the legislative changes (Docket No. E999/R-13-729) and the final rules were adopted by the Minnesota Commission in an Order dated July 17, 2015. This in turn lead to further changes to Section 9 of our Electric Rate Book (Docket No. E002/M-16-222). Some of the key revisions to Section 9 included:

- Added net metered facility and qualifying facility (QF) provisions to the Uniform Statewide Contract for Cogeneration and Small Power Production Facilities, which now covers systems from 40 kW to less than 1,000 kW,
- Added new rate codes (A55 and A56) to correspond to a kWh banking option for facilities between 40 kW and less than 1,000 kW, and
- Added provisions for meter aggregation consistent with state rules.

b. Please see table below:

End Use	Section 9 Rate	Number of installations	kW	MW
<b>Non-Solar</b>				
Bio-Gas	A50	2	550	0.55
Natural Gas	A50	3	3,007	3.01
Wind	A50	41	728	0.73
<b>Total</b>		<b>46</b>	<b>4,285</b>	<b>4.29</b>
<b>Solar</b>				
Made in Minnesota	A50	695	8,219	8.22
Made in Minnesota	A52	16	342	0.34
Solar*Rewards	A50	1,248	14,531	14.53
Solar*Rewards	A52	28	555	0.56
Net Metered Only	A50	219	2,384	2.38
Net Metered Only	A52	3	722	0.72
<b>Total</b>		<b>2,209</b>	<b>26,752</b>	<b>26.75</b>
<b>Not Net Metered</b>				
Bio-gas		4	565	0.57
Hydro		2	25,176	25.18
Solar (incentive)		26	669	0.67
Solar (non-incentive)		52	6,858	6.86
Biomass		2	9,800	9.80
Natural Gas		25	25,557	25.56
<b>Total</b>		<b>111</b>	<b>68,625</b>	<b>68.63</b>

- c. The rates paid per kWh for net energy in Minnesota are specified in Section 9 of our Electric Rate Book. Please see Attachment A, Section 9, Sheets 2 – 4.3.
  - d. Yes. Based on net-metering data updated as of August, 2017, we estimate that the total amount paid by the Company for about 2,211,600 kWh of excess generation from Minnesota net-metered customers in 2016 was about \$218,000. These costs are recovered through each state’s respective fuel clause adjustment. Of the amount paid in 2016, about \$11,400 was recovered through the South Dakota fuel cost rider.
  - e. Please see Attachment B.
  - f. The rates paid per kWh for Made in Minnesota solar projects are specified in Section 9 of our Electric Rate Book. Please see Attachment A, Section 9, Sheets 2 – 4.3.
  - g. Please see our response above to part d.
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Date: August 16, 2017

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK – MPUC NO. 2**

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Minneapolis, Minnesota 55401  
**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**TECHNICAL AND SPECIAL TERMS FOR  
COGENERATION AND SMALL POWER PRODUCTION**

Section No. 9  
1st Revised Sheet No. 1

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**CAPACITY.** The capability to produce, transmit, or deliver electric energy, which is measured by the number of megawatts alternating current at the point of common coupling between a QF or NMF and a utility's electric system.

**FIRM POWER.** Firm power is energy delivered by a QF or NMF to the utility with at least 65% on peak capacity factor in the billing period. The capacity factor is based upon a QF's or NMF's maximum on peak metered capacity delivered to the utility during the billing period.

**GENERATION SYSTEM.** The generation system is the interconnected generator(s), controls, relays, switches, breakers, transformers, inverters and associated wiring and cables, up to the Point of Common Coupling.

**INDIVIDUAL SYSTEM CAPACITY LIMITS.**

1. Customers with a facility of 40-kilowatt AC capacity or more and participating in net metering and net billing may be required to limit the total generation capacity of individual distributed generation systems by either:
  - a. for wind generation systems, limiting the total generation system capacity kilowatt alternating current to 120 percent of the customer's on-site maximum electric demand; or
  - b. for solar photovoltaic and other distributed generation, limiting the total generation system annual energy production kilowatt hours alternating current to 120 percent of the customer's on-site annual electric energy consumption.
2. Limits under paragraph 1.(a) applicable to measuring on-site maximum electric demand must be based on standard 15-minute intervals, measured during the previous 12 calendar months. If a facility subject to the demand limits under paragraph 1.(a) has either less than 12 calendar months of actual electric usage or has no demand metering available, then the means of estimating annual demand or usage for purposes of applying these limits will be based on looking at information for similarly situated customers.
3. The total generation capacity of individual distributed generation systems is determined by the total capacity of all of the customer's systems which are on the same set of aggregated meters. On-site maximum electric demand and on-site annual electric energy consumption are determined by total demand or electric energy consumption associated with the same set of aggregated meters.
4. For wind generation systems, the Company will estimate customer demand use for purposes of calculating the 120 percent rule by determining a demand-billed customer's highest billed on-site kW demand in all bills issued during the most recent calendar year. For non-demand customers, the Company shall impute the equivalent peak demand level by first determining the customer's most recent on-site annual (12-month) billed kWh sales. Those kWh sales shall be divided by the product of an assumed 30% annual load factor and the number of actual hours in that year (either 8,760 hours in a standard year or 8,784 hours in a leap year). The resulting quotient will serve as the customer's estimated on site maximum electric demand.
5. For solar photovoltaic and other distributed generation systems, where 12 months of usage data is not available, the Company will estimate customer energy use for purposes of calculating the 120 percent rule by averaging four months of usage. If four months of usage is not available, the Company will apply the limits under paragraph 1.(a) based on looking at information for similarly situated customers.

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(Continued on Sheet No. 9-1.1)

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**TECHNICAL AND SPECIAL TERMS FOR  
COGENERATION AND SMALL POWER PRODUCTION  
(Continued)**

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Section No. 9  
Original Sheet No. 1.1

**INTERCONNECTION COSTS.** The reasonable costs of connection, switching, metering, transmission, distribution, safety provisions, and administrative costs incurred by the Company that are directly related to installing and maintaining the physical facilities necessary to permit interconnected operations with a qualifying facility. Costs are considered interconnection costs only to the extent that they exceed the corresponding costs which the Company would have incurred if it had not engaged in interconnected operations, but instead generated from its own facilities or purchased from other sources an equivalent amount of electric energy or capacity. Costs are considered interconnection costs only to the extent that they exceed the costs the utility would incur in selling electricity to the qualifying facility as a nongenerating customer.

**METERING CHARGE.** The monthly metering charge recovers the cost and installation of the additional meter and the associated billing, operating, and maintenance expenses.

**NET INTERCONNECTION CHARGE.** The net interconnection charge will be assessed on a non-refundable basis to recover the Company's reasonable costs of connection, switching, transmission, distribution, safety provisions, and administrative costs that are directly related to installing and maintaining the physical facilities necessary to permit interconnected operations with a QF or NMF in excess of the facilities and expenses recovered in the monthly metering charge.

**NET METERED FACILITY (NMF).** An electric generation facility constructed for the purpose of offsetting energy use through the use of renewable energy or high-efficiency distributed generation sources.

**OFF PEAK PERIOD.** The off peak period contains all other hours not included in the on peak period. Definition of on peak and off peak period is subject to change with change in Company's system operating characteristics.

**ON PEAK PERIOD.** The on peak period contains all hours between 9:00 a.m. and 9:00 p.m., Monday through Friday, except the following holidays: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. When a designated holiday occurs on Saturday, the preceding Friday will be designated a holiday. When a designated holiday occurs on Sunday, the following Monday will be designated a holiday.

**QUALIFYING FACILITY (QF).** A qualifying facility is a cogeneration or small power production facility which satisfies the conditions in 18 Code of Federal Regulations Part 292.

**SMALL QUALIFYING FACILITY (SQF).** A small qualifying facility is a qualifying facility with certified capacity of 100 kW AC or less.

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**EXCESS GENERATION-AVERAGE RETAIL UTILITY ENERGY  
SERVICE  
RATE CODE A50**

Section No. 9  
21st Revised Sheet No. 2

**AVAILABILITY**

This service corresponds to Minn. R. 7835.4012 and Minn. R. 7835.4013 (Average Retail Energy Rate) and to Paragraph 3.a of the Uniform Statewide Contract for Cogeneration and Small Power Production. Available to any qualifying facility (QF) of less than 40 kW AC capacity who receives non-time of day retail electric service from Company and offsets energy delivered by Company. The A50 Rate Code applies to the extent the energy delivered by the customer exceeds that supplied by the Company during the monthly billing period, and the rates below are for that net excess generation.

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**RATE**

	Production Meter	No Production	
Metering Charge per Month	Installed	Meter Installed	
Single Phase	\$3.15	\$1.68	N
Three Phase	\$6.40	\$2.58	N
Payment per kWh for Energy Delivered to Company in Excess of Energy Used	<u>Oct-May</u>	<u>Jun-Sep</u>	
With Retail Non-Demand Metered Service	\$0.10947	\$0.11529	
With Retail Demand Metered Service	\$0.06368	\$0.06498	

N  
N  
N  
N

**TERMS AND CONDITIONS OF SERVICE**

1. Energy used by customer in excess of energy delivered by the QF at the same site during the same billing period shall be billed in accordance with the appropriate non-time of day retail electric rate. C
  
2. For demand metered General Service customers, the entire kW demand supplied by the Company at the same site during the same billing period shall be billed to the customer according to the appropriate general service demand charge rate. T
  
3. Interconnection charges will be assessed by the Company on an individual basis for all costs associated with addition to or modification of Company facilities to accommodate the QF. The net interconnection charge is the responsibility of the QF. T  
C  
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4. The voltage and phase of customer's generator must be consistent with existing service and approved by the Company. T
  
5. The customer must maintain a power factor as close to unity as possible or as specified in the "Power Factor" provision of the "*Distributed Generation Interconnection Requirements*" section of the Section 10 tariff. TC  
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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**SALE TO COMPANY AFTER CUSTOMER SELF-USE**  
**RATE CODE A51, A52**

Section No. 9  
21st Revised Sheet No. 3

**AVAILABILITY**

This service corresponds to Minn. R. 7835.4012, .4014 (Simultaneous Purchase and Sale Billing Rate) and .4015 (Time-of-Day Purchase Rates) and to Paragraphs 3.b., 3.c., 4.a and 4.b of the Uniform Statewide Contract for Cogeneration and Small Power Production. Available to any qualifying facility (QF) customer of less than 1,000 kW AC capacity. The energy payment rates below apply to the energy which the customer exports to the Company after any self-use by the customer.

<b>RATE</b>	Production Meter	No Production
Metering Charge per Month	Installed	Meter Installed
Single Phase	\$5.50	\$2.58
Three Phase	\$8.00	\$6.76

Where the customer receives non-time of day retail electric service, the following Rate Code applies.

Payment Schedule for Energy Delivered to Company (A51)	<u>Oct-May</u>	<u>Jun-Sep</u>
Energy Payment per kWh	\$0.02553	\$0.02648
Capacity Payment for Firm Power per kWh	\$0.00220	\$0.01418

Where the customer receives time of day retail electric service, the following Rate Code applies.

Payment Schedule for Energy Delivered to Company (A52)	<u>Oct-May</u>	<u>Jun-Sep</u>
On Peak Energy Payment per kWh	\$0.03107	\$0.03883
Off Peak Energy Payment per kWh	\$0.02263	\$0.01981
Capacity Payment for Firm Power per On Peak kWh	\$0.00635	\$0.04064

**DETERMINATION OF FIRM POWER**

The customer will have supplied firm power if during the billing period an on peak capacity factor of at least 65% was achieved. The calculation of the on peak capacity factor will be as follows: the average on peak period metered capacity delivered to the Company for the on peak period of the billing period divided by the greatest 15 minute metered capacity delivered for the on peak period of the same billing period expressed in percent and rounded to the nearest whole percent. If the percent calculated is 65 or greater, capacity payment will be made. If the percent calculated is less than 65, capacity payment will not be made.

(Continued on Sheet No. 9-3.1)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**SALE TO COMPANY AFTER CUSTOMER SELF-USE**  
**RATE CODE A51, A52 (Continued)**

Section No. 9  
Original Sheet No. 3.1

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**TERMS AND CONDITIONS OF SERVICE**

- |  |               |
|--|---------------|
| 1. Electric service provided by Company to customer at the same site shall be billed in accordance with the retail rate applicable to the customer.  | N<br>N        |
| 2. Interconnection charges will be assessed by the Company on an individual basis for all costs associated with addition to or modification of Company facilities to accommodate the customer. The net interconnection charge is the responsibility of the customer. | T<br>C<br>C   |
| 3. The voltage and phase of customer's generator must be consistent with existing service and approved by the Company.   | T             |
| 4. The customer must maintain a power factor as close to unity as possible or as specified in the "Power Factor" provision of the " <i>Distributed Generation Interconnection Requirements</i> " section of the Section 10 tariff.                                   | C<br>C<br>C L |
| 5. Individual System Capacity Limits apply.  | N             |

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MONTHLY NET METERING**  
**RATE CODE A53, A54**

Section No. 9  
20th Revised Sheet No. 4

**AVAILABILITY**

This service corresponds to Minn. R. 7835.4012, .4014 (Simultaneous Purchase and Sale Billing Rate) and .4015 (Time-of-Day Purchase Rates) and to Paragraphs 3.b., 3.c., 4.a. and 4.b. of the Uniform Statewide Contract for Cogeneration and Small Power Production. Available to any qualifying facility (QF) customer of less than 1,000 kW AC capacity. The energy payment rates below apply to the extent the energy delivered by the customer exceeds that supplied by the Company during the monthly billing period, and the rates below are for that net excess generation.

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<b>RATE</b>	Production Meter	No Production
Metering Charge per Month	Installed	Meter Installed
Single Phase	\$5.50	\$2.58
Three Phase	\$8.00	\$6.76

N  
N  
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N

Where the customer receives non-time of day retail electric service, the following Rate Code applies.

N

Payment Schedule for Energy Delivered to Company in Excess of Energy Used (A53)	<u>Oct-May</u>	<u>Jun-Sep</u>
Energy Payment per kWh	\$0.02553	\$0.02648
Capacity Payment for Firm Power per kWh	\$0.00220	\$0.01418

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Where the customer receives time of day retail electric service, the following Rate Code applies.

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Payment Schedule for Energy Delivered to Company in Excess of Energy Used (A54)	Oct-May	Jun-Sep
On Peak Energy Payment per kWh	\$0.03107	\$0.03883
Off Peak Energy Payment per kWh	\$0.02263	\$0.01981
Capacity Payment for Firm Power per On Peak kWh	\$0.00635	\$0.04064

N  
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**DETERMINATION OF FIRM POWER**

The customer will have supplied firm power if during the billing period an on peak capacity factor of at least 65% was achieved. The calculation of the on peak capacity factor will be as follows: the average on peak period metered capacity delivered to the Company for the on peak period of the billing period divided by the greatest 15 minute metered capacity delivered for the on peak period of the same billing period expressed in percent and rounded to the nearest whole percent. If the percent calculated is 65 or greater, capacity payment will be made. If the percent calculated is less than 65, capacity payment will not be made.

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(Continued on Sheet No. 9-4.1)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**MONTHLY NET METERING**  
**RATE CODE A53, A54 (Continued)**

Section No. 9  
Original Sheet No. 4.1

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**TERMS AND CONDITIONS OF SERVICE**

1. Electric service provided by Company to customer in excess of energy delivered by the QF at the same site during the same billing period shall be billed in accordance with the retail rate applicable to customer. C C
2. For demand metered General Service customers, the entire kW demand supplied by the Company at the same site during the same billing period shall be billed to the customer according to the appropriate general service demand charge rate. N N N
3. Interconnection charges will be assessed by the Company on an individual basis for all costs associated with addition to or modification of Company facilities to accommodate the customer. The net interconnection charge is the responsibility of the customer. T C C
4. The voltage and phase of customer's generator must be consistent with existing service and approved by the Company. T
5. The customer must maintain a power factor as close to unity as possible or as specified in the "Power Factor" provision of the "*Distributed Generation Interconnection Requirements*" section of the Section 10 tariff. C C C
6. Individual System Capacity Limits apply. N

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**ANNUAL NET METERING (KWH BANKING OPTION)**  
**RATE CODE A55, A56**

Section No. 9  
Original Sheet No. 4.2

**Availability**

This service corresponds to Minn. R. 7835.4012, .4014 (Simultaneous Purchase and Sale Billing Rate), .4015 (Time-of-Day Purchase Rates), and .4017 (Net Metered Facility; Bill Credits), and to Paragraphs 5.a, 5.b, and 5.c of the Uniform Statewide Contract for Cogeneration and Small Power Production. Available to a qualifying facility (QF) or Net Metered Facility (NMF) customer who elects to be compensated for net input into the utility's system in the form of a kilowatt-hour credit on the customer's bill for that customer's account, subject to the following conditions:

- A. The customer is not receiving a value of solar rate under Minnesota Statutes, section 216B.164, subdivision 10;
- B. The customer is interconnected with the Company; and
- C. The customer has at least 40 kilowatt AC capacity but less than 1,000 kilowatt AC capacity.

Metering Charge per Month

Single Phase	\$5.50
Three Phase	\$8.00

The Company compensates the customer, in the form of an energy payment, for the bank balance for kWh credits annually at the rate set forth below.

	<u>Annual</u>
Energy Payment per kWh for Customers on non-time of day Service Tariffs (A55)	\$0.02588

	<u>Annual</u>
Time of Day Service Customers (A56)	
On Peak Energy Payment per kWh	\$0.03388
Off Peak Energy Payment per kWh	\$0.02161

Capacity Payment for Firm Power		
where customer receives	<u>Oct-May</u>	<u>Jun-Sep</u>
non-time of day retail electric service per kWh	\$0.00220	\$0.01418
time of day retail electric service per on-peak kWh	\$0.00635	\$0.04064

**Determination of Firm Power**

The customer will have supplied firm power if during the billing period an on peak capacity factor of at least 65% was achieved. The calculation of the on peak capacity factor will be as follows: the average on peak period metered capacity delivered to the Company for the on peak period of the billing period divided by the greatest 15 minute metered capacity delivered for the on peak period of the same billing period expressed in percent and rounded to the nearest whole percent. If the percent calculated is 65 or greater, capacity payment will be made. If the percent calculated is less than 65, capacity payment will not be made.

(Continued on Sheet No. 9-4.3)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**ANNUAL NET METERING (KWH BANKING OPTION)**  
**RATE CODE A55, A56 (Continued)**

Section No. 9  
Original Sheet No. 4.3

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**TERMS AND CONDITIONS OF SERVICE**

1. Electric service provided by Company to customer in excess of energy delivered by the QF or NMF including the depletion of any banked excess generation at the same site shall be billed in accordance with the retail rate applicable to customer.
2. For demand metered General Service customers, the entire kW demand supplied by the Company at the same site during the same billing period shall be billed to the customer according to the appropriate general service demand charge rate.
3. Interconnection charges will be assessed by the Company on an individual basis for all costs associated with addition to or modification of Company facilities to accommodate the customer. The net interconnection charge is the responsibility of the customer.
4. The voltage and phase of customer's generator must be consistent with existing service and approved by the Company.
5. The customer must maintain a power factor as close to unity as possible or as specified in the "Power Factor" provision of the "*Distributed Generation Interconnection Requirements*" section of the Section 10 tariff.
6. Individual System Capacity Limits apply.
7. The Company will credit customers electing to "bank" annually via an on-bill credit for that customer's account posted on the bill following the billing cycle that includes December 31 and reflects payment for the bank balance for kWh credits accumulated up through the closing date on that bill which includes December 31. The effect of netting customer generation against customer use occurs on a roughly annual basis, but for administrative purposes may be a few days off from a calendar year. The bank balance increases or decreases monthly, but at end of any given monthly billing cycle never goes below zero.
8. To choose Annual Net Metering, the customer should select Paragraphs 5.a. in the Uniform Statewide Contract for Cogeneration and Small Power Production, in addition to either Paragraph 5.b. or 5.c of that contract.

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**RULES AND REGULATIONS APPLICABLE TO  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES**

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Section No. 9  
2nd Revised Sheet No. 5

**FACILITY LOCATION AND COMPLIANCE**

Customer agrees to locate the qualifying facility (QF) or Net Metered Facility (NMF) so as to not cause a hazard to the Company distribution system. Wind generators may only be installed at Company approved locations that preclude any possibility of the generation system contacting any Company facilities if the system accidentally topples over. The total tower height, including the propeller when in the highest position, must be used in the determination. Customer agrees that the installation shall be in compliance with all applicable electric codes and the QF or NMF will be operated only after the installation has been inspected and approved by the appropriate authorities. Customer understands and agrees that Company approval of the proposed or installed QF or NMF does not preclude the necessity of customer obtaining all required permits, building and zoning variations, and applicable inspections.

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**TECHNICAL INTERCONNECTION REQUIREMENTS**

Customer's QF or NMF shall comply with the "Distributed Generation Interconnection Requirements," which are described in the "Distributed Generation Standard Interconnection and Power Purchase Tariff," Section 10, of this Rate Book. These interconnection requirements are the technical standards authorized by the Minnesota Public Utilities Commission and are consistent with the Commission's Rules, Chapter 7835 on Cogeneration and Small Power Production. Before a customer signs the Uniform Statewide Contract, the Company must distribute to that customer a copy of, or electronic link to, the commission's order establishing interconnection standards dated September 28, 2004, in docket number E-999/CI-01-1023, or to currently effective interconnection standards established by subsequent commission order such as the Company's Section 10 tariff. A signed Interconnection Agreement under the Section 10 tariff is required for all new interconnections. However, a customer may seek from the Company an exemption from having a signed Section 10 Interconnection Agreement where all of these characteristics have been met:

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- The Generation System is a certified equipment package;
- The Generation System has less than a 250 kW AC nameplate capacity;
- No Company medium voltage system modifications are required to accommodate the interconnection; and,
- The customer has signed the Section 9 Uniform Statewide Contract for the Generation System.

**CONNECTION AND SAFETY DISCONNECT SWITCH**

Company agrees to permit customer to connect the proposed QF or NMF to the Company distribution system on the load side of customer's meter. The connection must be made through a customer provided, customer installed, National Electrical Manufacturer's Association approved, manual safety disconnect switch of adequate ampere capacity. The switch shall not open the neutral when the switch is open. This switch shall have provisions for being padlocked in the open position with a standard Company padlock. Customer agrees to locate the switch in a position accessible to Company personnel, and further agrees that the switch may be operated by Company personnel at all times that such operation is deemed necessary by Company for safety and operating reasons. QFs or NMFs using line commutated synchronous inverters shall have the inverters connected on the load side (QF or NMF side) of the safety disconnect switch.

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(Continued on Sheet No. 9-5.1)

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Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**RULES AND REGULATIONS APPLICABLE TO COGENERATION  
AND SMALL POWER PRODUCTION FACILITIES (Continued)**

Section No. 9  
Original Sheet No. 5.1

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**DISTRIBUTION SYSTEM ADEQUACY**

The proposed QF or NMF installation will be reviewed by Company to determine adequacy of the associated Company distribution system components. The customer agrees to reimburse Company for the addition, modification, or replacement of any distribution system components made necessary by customer's QF or NMF installation.

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**INTERFERENCE**

Customer agrees to disconnect the QF or NMF from the Company distribution system or to reimburse Company for cost of necessary system modifications if operation of the QF or NMF causes radio, television, or electrical service interference to other customers, or interference with the operation of Company's system.

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**SPECIAL METERING**

Customer agrees to allow Company at Company's expense to install necessary special metering and measuring equipment at the above address to provide information on the effect of the QF or NMF.

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(Continued on Sheet No. 9-6)

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**RULES AND REGULATIONS APPLICABLE TO  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES (Continued)**

Section No. 9  
1st Revised Sheet No. 6

**MAIN SERVICE METERING SCENARIOS**

1. No Sale to Company

If customer does not intend to sell energy to Company, the billing of customer's electrical consumption provided by Company will be on the available retail rates and the electric meter measuring this consumption will be configured to allow measurement only of energy flow into the customer's premises. Customer will provide all meter socket replacement and rewiring required to accommodate this meter that measures energy flow in one direction only. Where the customer chooses no sale to the Company, the customer will need to sign the Section 10 Interconnection Agreement and does not need to sign the Section 9 Uniform Statewide Contract. Even if the no sale option is selected, for systems sized 40 kW AC or larger, the customer will still need a production meter for a new interconnection of a generating system, and the metering charge will correspond to the metering charge for comparably sized systems under the A50-A54 rate codes.

Or

2. Sale of All or Part of Customer Produced Energy

If customer intends to sell energy to Company under this Section 9 tariff, a meter will be installed by the Company that will record energy delivered. Customer will provide all meter socket replacement and rewiring required to install any applicable meter.

**REVENUE LOSS**

Company shall not be liable for revenue lost by customer due to Company's inability to purchase or wheel customer generated energy for any reason not within Company's reasonable control.

**LIGHTNING PROTECTION**

Customer agrees to effectively ground the QF or NMF installation and to provide and install adequate surge arrester protection to prevent lightning damage to any Company distribution system equipment.

**BACKFEED PREVENTION**

Customer agrees to supply Company a schematic diagram and associated equipment list for the QF or NMF control circuitry to enable Company to determine if the QF or NMF safety equipment provides a level of safety consistent with the safety level required by Company in its electrical equipment. If further analysis of the proposed QF by Company reveals that it is capable of backfeed into the Company lines during distribution outages, customer shall immediately disconnect the QF or NMF from Company distribution system and shall only reconnect the QF or NMF through a customer provided, Company approved, interconnect device that will prevent backfeed.

**ADDITIONAL SAFETY DEVICES**

Customer understands and agrees that as additional QFs or NMFs are connected to the Company distribution system, Company may require customer to install additional safety devices at customer expense.

(Continued on Sheet No. 9-7)

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Minneapolis, Minnesota 55401

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**RULES AND REGULATIONS APPLICABLE TO  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES (Continued)**

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Section No. 9  
1st Revised Sheet No. 7

**KIND OF CUSTOMER SERVICE SUPPLIED TO COMPANY**

Customer agrees to supply and Company agrees to accept electric service in the form of \_\_\_\_\_ phase,  
\_\_\_\_\_ wire, alternating current at a nominal frequency of 60 hertz, and at a nominal voltage of  
\_\_\_\_\_ located at \_\_\_\_\_.

**PARALLEL OPERATION**

Customer shall provide the necessary equipment as approved by Company to operate the QF or NMF in parallel with Company's distribution system. The QF or NMF shall be equipped to instantaneously discontinue all output to and energization of Company's distribution system under the following conditions:

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1. Deenergized Company system,
2. Sustained line faults on Company system, and
3. Faults on customer's system.

Customer shall consult with Company regarding these minimum requirements, additional protection recommended, and proper operation of customer's generating system. Since the power factor and the voltage at which Company's system and customer's system are operated will vary, each party agrees to operate his system at a power factor as near unity as possible in such manner as to absorb his share of the reactive power, and voltage as conducive to the best operating standards.

**INSURANCE**

The customer shall maintain during the term of this agreement liability insurance which insures customer against all claims for property damage and for personal injury or death arising out of, resulting from, or in any manner connected with the installation, operation, and maintenance of the QF or NMF. The insurance requirements are as set forth in the Section 10 tariff.

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**SPECIAL LOSS FACTOR ADJUSTMENT**

If the QF or NMF is located at a site outside Company service territory and energy is delivered to Company through facilities owned by another utility, energy payments will be adjusted downward reflecting losses occurring between point of generation and point of receipt by Company.

(Continued on Sheet No. 9-8)

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**RULES AND REGULATIONS APPLICABLE TO COGENERATION  
AND SMALL POWER PRODUCTION FACILITIES (Continued)**

Section No. 9  
1st Revised Sheet No. 8

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**SPECIAL INTERCONNECTION FACILITIES**

The metering charge assumes common use of all Company facilities, up to the metering point, for both receipt and delivery of energy. Any additional facilities required by Company to accommodate the QF or NMF will require QF or NMF to pay a net interconnection charge in advance.

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**METERING REQUIREMENTS**

The QF or NMF shall make provision for on-site metering. On-site use of QF or NMF output shall be unmetered for purposes of compensation. QF or NMF shall cooperate with and allow Company to install and have access to on-site monitoring equipment for purposes of gathering QF or NMF performance data. A Company-owned bi-directional meter is required to be installed at each service location associated with each new Customer generation source subject to this tariff. A production meter may be required, in addition to the bi-directional meter, in certain circumstances. A production meter is not required for systems rated under 40 kW AC, unless that system is subject to an incentive or program rule requiring a production meter (e.g., Solar\*Rewards). A production meter is required for all systems rated 40 kW AC or above. Customer will provide all meter housing and socket replacement and rewiring to install the metering.

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**BI-DIRECTIONAL METER**

A bi-directional meter located at the main service will record energy delivered to the customer from the Company, and energy received by the Company from customer. Installation of a new bi-directional meter may not be required if the configuration of a customer's facilities allows and a previously installed bi-directional meter provides the information necessary for billing purposes.

**PRODUCTION METER**

The second (Production) meter will record energy generated by the QF or NMF system only. The Company shall install, or cause to be installed, own, operate and maintain the Production meter to measure the AC production of the QF or NMF system when a production meter is required. At customer's request, additional production meters, beyond Company-required production meters, may be installed if approved by the Company at the Customer's expense.

**METERING CHARGES**

Customer shall be charged a metering charge per month (see Rate Codes A50-A56). Any additional facilities required by Company to accommodate the QF or NMF system will require customer to pay a Net Interconnection Charge in advance, unless if customer signs a Section 10 interconnection agreement in which case that interconnection agreement will govern terms of payment.

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(Continued on Sheet No. 9-8.1)

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**RULES AND REGULATIONS APPLICABLE TO COGENERATION  
AND SMALL POWER PRODUCTION FACILITIES (Continued)**

Section No. 9  
Original Sheet No. 8.1

**AGGREGATION OF METERS**

The Company will aggregate meters at the request of a customer for services provided under Rate Codes A50, A51, A52, A53, A54, A55 or A56. The Company must aggregate for billing purposes a customer's designated distributed generation bi-directional meter with one or more aggregated retail meters if a customer requests that it do so. To qualify for aggregation:

- 1.) the meters must be located on contiguous property owned by the customer requesting the aggregation,
- 2.) the account(s) associated with the meters must be in the name of the same customer,
- 3.) the retail services associated with the aggregated meters of a customer must be either all time-of-day or all non-time-of-day,
- 4.) the total of all aggregated meters must be subject in the aggregate to the size limitation under the single Rate Code chosen by the customer applicable to all of the aggregated meters (i.e., Rate Code A50, A51, A52, A53, A54, A55 or A56), and
- 5.) if the customer has chosen the A53, A54, A55 or A56 rate code, the total of all aggregated meters is subject in the aggregate to the Individual System Capacity Limits,

As the term is used here, "contiguous property" means property owned or leased by the customer sharing a common border, without regard to interruptions in contiguity caused by easements, public thoroughfares, transportation rights-of-way, or Company rights-of-way. The Company must comply with a request by a customer-generator to aggregate additional meters within 90 days. The specific meters must be identified at the time of the request. In the event that more than one meter is identified, the customer must designate the rank order for the aggregated meters to which the net metered credits are to be applied. At least 60 days prior to the beginning of the next annual billing period, a customer may amend the rank order of the aggregated meters. The aggregation of meters applies only to charges that use kilowatt-hours as the billing determinant. All other charges applicable to each meter account shall be billed to the customer. The Company will first apply the kilowatt-hour credit to the charges for the designated meter and then to the charges for the aggregated meters in the rank order specified by the customer. If the Net Metered Facility supplies more electricity to the Company than the energy usage recorded by the customer-generator's designated and aggregated meters during a monthly billing period, the Company will apply, at the election of the customer, any excess production based on a monthly credit (Rate Codes A50, A51, A52, A53 or A54) or the Annual Net Metering (kWh Banking Option, Rate Codes A55 or A56). Where a monthly credit is chosen, Company shall apply monetary credits to the customer's next monthly bill for the excess kilowatt-hours. The fee to cover the administrative costs incurred in implementing meter aggregation requests is \$3.00 per month per retail meter for the meters that are aggregated.

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(Continued on Sheet No. 9-8.2)

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**RULES AND REGULATIONS APPLICABLE TO COGENERATION  
AND SMALL POWER PRODUCTION FACILITIES (Continued)**

Section No. 9  
Original Sheet No. 8.2

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**OWNERSHIP OF RENEWABLE ENERGY CREDITS**

Generators own all renewable energy credits unless:

- A. other ownership is expressly provided for by a contract between a generator and a utility;
- B. state law specifies a different outcome; or
- C. specific Commission orders or rules specify a different outcome.

**DISTRIBUTED GENERATION PPAs WHERE RATE CODES A51-A56 DO NOT APPLY**

If a qualifying facility (QF) has capacity of at least 40 kW AC but less than 1,000 kW AC and does not comply with the Individual System Capacity Limits, then the rate codes A51-A56 do not apply. These rate codes also do not apply, for example, where the QF or other distributed generation (DG) has a capacity of 1,000 kW AC or more. In circumstances where Rate Codes A51-A56 do not apply, then the Section 9 Uniform Statewide Contract also does not apply. Where the Section 9 Uniform Statewide Contract does not apply, the DG customer may apply for interconnection under the Company's Section 10 tariff. Whether the Company pays for energy or capacity delivered to it would depend on whether there is a power purchase agreement (PPA) and further depend on the rates, terms and conditions in the PPA. Nothing in this tariff shall be construed to obligate Company to enter into a PPA. The obligation to enter into such a PPA with a DG customer takes into consideration many factors, including whether there is a Legally Enforceable Obligation (LEO) of the Company to enter into such a PPA and the proposed rates, terms and conditions. The Company may also voluntarily enter into a PPA with a DG customer. Should a DG customer and Company enter into a PPA where the Section 9 Uniform Statewide Contract does not apply (and no other Section 9 tariffed contract applies, such as a Solar\*Rewards contract), then the following procedures will apply:

1. If the DG is over 10 MW AC nameplate capacity, then the PPA along with the associated Interconnection Agreement will need to be approved by the Commission.
2. If the DG has a nameplate capacity of 40 kW up to and including 10 MW AC, and is for a term of more than 5 years, the Company shall file the PPA with the Commission and the Company shall be permitted to proceed with the PPA beginning 32 days after filing if no objection or intent to object is filed within 30 days of filing. If there is an objection or intent to object filed in this 30-day time frame, then the Commission will need to issue an order approving the PPA before the PPA is approved.
3. If the DG has a nameplate capacity of 40 kW up to and including 10 MW AC, and is for a term of 5 years or less, the Company may proceed with the PPA, but the Commission can examine the prudence of rates in the PPA during any request for rate recovery.
4. Notwithstanding the above, if the Commission has otherwise directed that a Commission order is needed for the PPA to be approved then that Commission directive shall apply.

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**STANDARD CONTRACT AND AGREEMENT FORMS**

Section No. 9  
1st Revised Sheet No. 9

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Listed below are the titles of standard contract or service agreement forms Company requires of customers for cogeneration and small power production purchase services. Copies of the forms are shown on the following sheets in the order listed.

1. Uniform Statewide Contract for Cogeneration and Small Power Production Facilities

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The form for the Uniform Statewide Contract must be applied to all new and existing interconnections between the Company and cogeneration and small power production facilities having less than 1,000 kilowatts AC of capacity except that any existing interconnection contract executed between the Company and a QF with capacity of less than 40 kilowatts AC remains in force until terminated by mutual agreement of the parties or as otherwise specified in the contract.

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**UNIFORM STATEWIDE CONTRACT FOR  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES**

Section No. 9  
2nd Revised Sheet No. 10

**UNIFORM STATEWIDE CONTRACT FOR  
COGENERATION AND SMALL POWER PRODUCTION FACILITIES**

THIS CONTRACT is entered into \_\_\_\_\_, \_\_\_\_\_, by Northern States Power Company, a Minnesota corporation and wholly owned subsidiary of Xcel Energy Inc., (hereafter called "Utility") and \_\_\_\_\_ (hereafter called "QF").

**RECITALS**

The QF has installed electric generating facilities, consisting of \_\_\_\_\_ (Description of facilities), rated at \_\_\_\_\_ kilowatts of electricity, on property located at \_\_\_\_\_.

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The QF is prepared to generate electricity in parallel with the Utility.

The QF's electric generating facilities meet the requirements of the Minnesota Public Utilities Commission (hereafter called "Commission") rules on Cogeneration and Small Power Production and any technical standards for interconnection the Utility has established that are authorized by those rules.

The Utility is obligated under federal and Minnesota law to interconnect with the QF and to purchase electricity offered for sale by the QF.

A contract between the QF and the Utility is required by the Commission's rules.

**AGREEMENTS**

The QF and the Utility agree:

1. The Utility will sell electricity to the QF under the rate schedule in force for the class of customer to which the QF belongs.
2. The Cooperative Electric Association or Municipally Owned Electric Utility will buy electricity from the QF under the current rate schedule filed with the Commission. The QF elects the rate schedule category hereinafter indicated:
  - \_\_\_ a. Average retail utility energy rate under part 7835.3300.
  - \_\_\_ b. Simultaneous purchase and sale billing rate under part 7835.3400.
  - \_\_\_ c. Time-of-day purchase rates under part 7835.3500.

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A copy of the presently filed rate schedule is attached to this contract.

(Continued on Sheet No. 9-10.1)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**UNIFORM STATEWIDE CONTRACT FOR  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES (Continued)**

Section No. 9  
Original Sheet No. 10.1

3. The Utility will buy electricity from the QF under the current rate schedule filed with the Commission. If the QF has less than 40 kilowatts capacity, the QF elects the rate schedule category hereinafter indicated:

- \_\_\_\_\_ a. Average retail utility energy rate under part 7835.4013.
- \_\_\_\_\_ b. Simultaneous purchase and sale billing rate under part 7835.4014.
- \_\_\_\_\_ c. Time-of-day purchase rates under part 7835.4015.

A copy of the presently filed rate schedule is attached to this contract.

4. The Utility will buy electricity from the QF under the current rate schedule filed with the Commission. If the QF is not a net metered facility and has at least 40 kilowatts capacity but less than 1,000 kilowatt capacity, the QF elects the rate schedule category hereinafter indicated:

- \_\_\_\_\_ a. Simultaneous purchase and sale billing rate under part 7835.4014.
- \_\_\_\_\_ b. Time-of-day purchase rates under part 7835.4015.

A copy of the presently filed rate schedule is attached to this contract.

5. The Utility will buy electricity from a net metered facility under the current rate schedule filed with the Commission or will compensate the facility in the form of a kilowatt-hour credit on the facility's energy bill. If the net metered facility has at least 40 kilowatts capacity but less than 1,000 kilowatts capacity, the QF elects the rate schedule category hereinafter indicated (choose par. a, and then also choose either par. b or par. c):

- \_\_\_\_\_ a. Kilowatt-hour energy credit on the customer's energy bill, carried forward and applied to subsequent energy bills, with an annual true-up under part 7835.4017.
- \_\_\_\_\_ b. Simultaneous purchase and sale billing rate under part 7835.4014.
- \_\_\_\_\_ c. Time-of-day purchase rates under part 7835.4015.

A copy of the presently filed rate schedule is attached to this contract.

6. The rates for sales and purchases of electricity may change over the time this contract is in force, due to actions of the Utility or of the Commission, and the QF and the Utility agree that sales and purchases will be made under the rates in effect each month during the time this contract is in force.

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(Continued on Sheet No. 9-11)

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**UNIFORM STATEWIDE CONTRACT FOR  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES (Continued)**

Section No. 9  
1st Revised Sheet No. 11

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7. The Utility will compute the charges and payments for purchases and sales for each billing period. Any net credit to the QF, other than kilowatt-hour credits under clause 5, will be made under one of the following options as chosen by the QF. TL  
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- \_\_\_\_\_ a. Credit to the QF's account with the Utility.
- \_\_\_\_\_ b. Paid by check to the QF within 15 days of the billing date. L
8. Renewable energy credits associated with generation from the facility are owned by: N  
N
- \_\_\_\_\_
9. The QF must operate its electric generating facilities within any rules, regulations, and policies adopted by the Utility not prohibited by the Commission's rules on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for the QF (Northern States Power Company's Rules and Regulations Applicable to Cogeneration and Small Power Production Facilities are attached). This agreement does not waive the QF's right to bring a dispute before the Commission as authorized by Minnesota Rules, part 7835.4500, and any other provision of the Commission's rules on Cogeneration and Small Power Production authorizing Commission resolution of a dispute. T  
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10. The Utility's rules, regulations, and policies must conform to the Commission's rules on Cogeneration and Small Power Production. T
11. The QF will operate its electric generating facilities so that they conform to the national, state, and local electric and safety codes, and will be responsible for the costs of conformance. T
12. The QF is responsible for the actual, reasonable costs of interconnection which are estimated to be \$ \_\_\_\_\_. The QF will pay the Utility in this way: \_\_\_\_\_ T
- \_\_\_\_\_
13. The QF will give the Utility reasonable access to its property and electric generating facilities if the configuration of those facilities does not permit disconnection or testing from the Utility's side of the interconnection. If the Utility enters the QF's property, the Utility will remain responsible for its personnel. T
14. The Utility may stop providing electricity to the QF during a system emergency. The Utility will not discriminate against the QF when it stops providing electricity or when it resumes providing electricity. T

(Continued on Sheet No. 9-12)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**UNIFORM STATEWIDE CONTRACT FOR  
COGENERATION AND SMALL POWER PRODUCTION  
FACILITIES (Continued)**

Section No. 9  
1st Revised Sheet No. 12

- 15. The Utility may stop purchasing electricity from the QF when necessary for the Utility to construct, install, maintain, repair, replace, remove, investigate, or inspect any equipment or facilities within its electric system. The Utility will notify the QF before it stops purchasing electricity in this way: \_\_\_\_\_ T  
\_\_\_\_\_ T
- 16. The QF will keep in force liability insurance against personal or property damage due to the installation, interconnection, and operation of its electric generating facilities. The amount of insurance coverage will be \$ \_\_\_\_\_ (The amount must be consistent with the Commission's interconnection standards under Minnesota Rules, part 7835.4750). T  
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- 17. This contract becomes effective as soon as it is signed by the QF and the Utility. This contract will remain in force until either the QF or the Utility gives written notice to the other that the contract is canceled. This contract will be canceled 30 days after notice is given. T
- 18. This contract contains all the agreements made between the QF and the Utility except that this contract shall at all times be subject to all rules and orders issued by the Public Utilities Commission or other government agency having jurisdiction over the subject matter of this contract. The QF and the Utility are not responsible for any agreements other than those stated in this contract. T

THE QF AND THE UTILITY HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE WRITTEN AT THE BEGINNING OF THIS CONTRACT.

**QF**  
\_\_\_\_\_  
By \_\_\_\_\_  
\_\_\_\_\_  
(Title)

**NORTHERN STATES POWER COMPANY, a  
Minnesota corporation and wholly owned  
subsidiary of Xcel Energy Inc.**  
By \_\_\_\_\_  
\_\_\_\_\_  
(Title)

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)**

Section No. 9  
1st Revised Sheet No. 13

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Application ID: \_\_\_\_\_

## **SOLAR\*REWARDS**

### **CUSTOMER CONTRACT**

#### **Customer-Sited Photovoltaic (PV) Systems Greater than 0.5 kW and Less than 40 kW DC Nameplate Capacity**

This Contract is made and entered into by and between Northern States Power Company, a Minnesota corporation, having a mailing address of 414 Nicollet Mall, Minneapolis, Minnesota 55401 ("Company"), and \_\_\_\_\_ (whether one or more, "Customer"), whose mailing address for billing and notice purposes is: \_\_\_\_\_, concerning electric service at the following address: \_\_\_\_\_ (the "Service Address").

#### **1. Fact Background.**

- a. Customer will be installing the electric generating facilities described in Exhibit 1 (the "PV System") and meeting the requirements stated in this Contract, with a nameplate capacity rated at greater than 0.5 kilowatts and less than 40 kilowatts direct current ("DC"), on property located at the Service Address.
- b. Customer's PV System also meets the requirements of the Minnesota Public Utilities Commission (the "Commission") Rules Chapter 7835 on Cogeneration and Small Power Production and any technical standards for interconnection the Company has established that are authorized by those Rules.
- c. Customer is prepared to generate electricity in parallel with the Company using the PV System.
- d. Customer has submitted to Company an application and paid an application fee of \$250.00, to participate in Company's Solar\*Rewards program using the PV System.
- e. The Company is obligated under federal and Minnesota state law to interconnect with Customer and to purchase electricity generated by Customer through qualifying facilities and offered for sale to Company by Customer.
- f. Customer and Company enter into this Contract which sets out the terms and conditions for the purchase and sale of the electricity generated by the PV System ("Solar\*Rewards Program"), and related matters.

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

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**2. Purchases and Sales of Electricity.**

Customer and Company agree:

- a. Company will sell electricity to Customer under the rate schedule in force for the class of customer to which Customer belongs.
- b. Customer agrees to supply electricity generated by the PV System in the form of \_\_\_ phase, \_\_\_ wire, alternating current at the nominal frequency of 60 hertz, and at a nominal voltage of \_\_\_.
- c. Company will buy electricity generated by the PV System from Customer under the applicable Company rate schedule filed with the Commission. Customer elects to sell electricity generated by the PV System in excess of Customer's own use under the terms of the following Company tariff:

- Net Energy Billing Service, Rate Code A50
- Purchase and Sale Billing Service, Rate Code A51
- Time of Day Purchase Service, Rate Code A52

A copy of the currently filed elected tariff is attached as Exhibit 2. The rates, terms and conditions for sales and purchases of electricity may be changed over the time this Contract is in force, due to actions of the Company or of the Commission, and Customer and Company agree that sales and purchases will be made under the rates in effect each month during the time this Contract is in force.

- d. Customer will pay a monthly metering charge under the Company tariff elected by the Customer, provided in Exhibit 2, and according to meter installation requirements in Section 5b. The monthly metering charge pays for the cost and installation of a bi-directional meter at the Service Address which measures electricity delivered by the Company to the Customer and energy received by the Company from the Customer, and the associated billing, operating and maintenance expenses. The metering charge may be changed over the time this Contract is in force, due to actions of the Company or of the Commission, and Customer and Company agree that the metering charge will be under the rates in effect each month during the time this Contract is in force.

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
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(Continued)**

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**2. Purchases and Sales of Electricity. (Continued)**

- e. The Company will compute the charges and payments for purchases and sales of electricity for each billing period. If the payments for electricity generated by the PV System and sold to Company exceed the charges for electricity which the Company supplies and sells to Customer (i.e. net positive production by the PV System), the credit will accumulate on the Company's billing statement to Customer and will be paid by check to Customer within fifteen (15) days of the billing date once the accumulated credit exceeds \$25.00.
- f. Company may stop providing electricity to Customer during a system emergency, without notice. Company will give Customer prior notice by telephone or regular U.S. mail when Company is to stop providing electricity in non-emergency circumstances. The Company will not discriminate against Customer when it stops providing electricity or when it resumes providing electricity. Company may stop purchasing electricity from Customer when necessary to construct, install, maintain, repair, replace, remove, investigate or inspect any equipment or facilities within its electric system when this activity would be adversely affected if customer were supplying power to the system. Company will give Customer prior notice by telephone or regular U.S. mail letter when Company will stop purchasing electricity from Customer.

**3. Ownership of Renewable Energy Credits.**

Customer and Company agree:

- a. On the terms and subject to the conditions set forth in this Contract, the Customer agrees to convey to the Company and the Company will own all of the Renewable Energy Credits ("RECs"), defined in Section 5(l) below generated by the PV System at the Service Address for a term of twenty (20) years from the installation date set forth in the "Actual System Installation Information" attached to this Contract as Exhibit 1.
- b. In consideration for Customer's participation in Company's Solar\*Rewards Program, Company shall make a one (1) time payment to Customer of \$1.50 per watt DC capacity that is installed, to be paid by Company to Customer in the form of a check and not as a bill credit, within thirty (30) business days of Customer's delivery to Company of (i) completed Exhibit 1, certifying installation of the PV System at the Service Address, and (ii) a certified test report verifying successful completion of testing procedures on the PV System.

**4. Representations by Customer.**

Customer hereby makes the following representations and warranties to Company:

- a. Customer warrants that the person signing this Contract on behalf of Customer is authorized and competent to sign this Contract and to bind Customer to the terms of this Contract.
- b. Customer receives electric service from Company at the Service Address set forth above, is the person in whose name electric service is listed at the Service Address, and is the owner of the property at the Service Address.

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
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**4. Representations by Customer. (Continued)**

- c. Customer is an end-use electric consumer located within the electric service territory of Company in Minnesota whose primary business is not the generation of electricity for retail or wholesale sale from the same facility. Customer is not installing the PV System at the Service Address in connection with a business of developing or improving real estate for resale.
- d. Customer shall install a new PV System at the Service Address, which shall have at least a five (5) year warranty, and shall be installed as of the date set forth, and conform to the specifications, tilt and orientation described in Exhibit 1 as completed and delivered to Company by Customer.
- e. The PV System shall be located on the Customer's facilities at the Service Address at all times during the term of this Contract.
- f. The PV System has a minimum nameplate DC output capacity of 500 watts and a maximum capacity of less than 40 kilowatts.
- g. Customer represents that the PV System shall be sized to supply no more than one hundred twenty percent (120%) of the previous annual (12-month) consumption of electric energy by Customer at the Service Address. Customer acknowledges that Solar\*Rewards Program is only available to PV Systems where the estimated annual generation, as determined by the National Renewable Energy Laboratory's PVWatts™ calculator (Version 2), is not more than 120% of the previous annual (12-month) electric energy consumption at the Service Address. If historical electric energy consumption data is not available due to new construction, the Company will calculate the estimated annual electric energy consumption.
- h. PV equipment including, but not limited to modules, inverters, etc., as described in Customer's completed Exhibit 1 shall meet eligibility requirements when listed as qualified on the Company website: [www.xcelenergy.com/solar](http://www.xcelenergy.com/solar).
- i. The PV System is oriented and free of shade within the following parameters:
  - Array Azimuth (orientation) within 45 degrees of South (135-degrees to 225-degrees);
  - Panel tilt angle between 10 and 60 degrees; and
  - Array is 85 percent shade free year round or 80 percent shade free year round if the system utilized a compensating strategy.

**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Energy Audit.**

- a. Customer is required to conduct an Energy Audit for the building at the Service Address which hosts a PV system, at Customer's expense, in compliance with Company's Energy Audit program prior to Company's payment made as described in Section 3b, unless such audit has been completed within the past three years, or (for residential customers) the Customer's home was ENERGY STAR-certified under the Company's ENERGY STAR homes project, or (for business customers) the Customer participated in the Commercial Real Estate, Energy Design Assistance, Energy Efficient Buildings, or Recommissioning programs. Based on the results of Customer's Energy Audit and in order to participate in the Solar\*Rewards Program, Customer may be required by Company to implement certain Energy Efficiency Options that the Energy Audit identifies as an effective Energy Efficiency Solution.

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

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**5. Requirements for PV System Installation, Operation, and Maintenance. (Continued)**

**Metering.**

- b. Two meters are required to be installed at the Service Address. One meter is located at the main service and is a bi-directional meter that will record energy delivered to the Customer from the Company, and energy received by the Company from Customer. Installation of a bi-directional meter may not be required if the configuration of Customer's facilities allows and a previously installed bi-directional meter provides the information necessary for billing purposes. The second (Production) meter will record energy generated by the PV System only. The Company shall install, or cause to be installed, own, operate and maintain the Production meter to measure the AC production of the PV System, at the Company's expense and including the cost of the Production meter itself. Customer will provide all meter housing and socket replacement and rewiring to install both meters. Customer shall be charged monthly the metering charge described in Section 2(d) above for the bi-directional meter. The metering charge assumes common use of all Company facilities up to the metering point, for both receipt and delivery of energy. Any additional facilities required by Company to accommodate the PV System will require Customer to pay a net interconnection charge in advance.
- c. Company shall receive all net energy, if any, generated by the PV System at the Service Address and not consumed by the Customer. If the production of the PV System is more than the Customer's usage as measured by the Company's meter, the negative consumption (i.e. net energy delivered to the Company) as measured by the Company's meter shall be considered as net energy and Customer shall be compensated as provided in Sections 2(c) and (e) above. On-site use of energy generated by the PV System shall be unmetered for purposes of compensation.

**Interconnection to Company Distribution System.**

- d. Company will permit Customer to connect the PV System to Company's distribution system on the load side of Customer's meter. The connection must be made through a Customer provided, Customer installed National Electrical Manufacturer's Association-approved, manual disconnect switch of adequate ampere capacity. The switch shall not open the neutral when the switch is open. This switch shall have provisions for being padlocked in the open position with a standard Company padlock. Customer agrees to locate the switch in a position accessible to Company personnel on the building exterior within ten (10) feet of the main service meter, unless another location is identified and approved in advance by Company. Customer further agrees that the switch may be operated by Company personnel at all times that such operation is deemed necessary by Company for safety and operating reasons. If the PV System uses commuted synchronous inverters, the inverters shall be connected on the load side (PV System side) of the safety disconnect switch.
- e. Customer shall pay Company for the actual, reasonable costs of interconnection, which will be determined by Company and communicated to Customer upon Company's receipt of Customer's application to participate in Company's Solar\*Rewards Program. Customer must pay these costs to Company before Company will perform any work to its electric distribution system relating to Customer's PV System.

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System. (Continued)**

f. Customer shall provide the necessary equipment as approved by Company to operate the PV System in parallel with Company's distribution system. The PV System must be equipped to instantaneously discontinue all output to and energization of Company's distribution system under any of the following conditions:

1. De-energized Company system
2. Sustained line faults on Company's system
3. Faults on Customer's PV System

Customer shall consult with Company regarding these minimum requirements, additional protections recommended by Company, and proper operation of Customer's PV System. Since the power factor and the voltage at which Company's system and Customer's PV System are operated will vary, Customer and Company agree to operate their respective systems at a power factor as near unity as possible in such manner as to absorb its share of the reactive power, and voltage as conducive to the best operating standards.

- g. Customer shall supply to Company a single-line diagram and associated equipment list for the PV System control circuitry to enable Company to determine if the PV System safety equipment provides a level of safety consistent with the safety level required by the Company. The single-line diagram shall show all major equipment of the PV System, including visual isolation equipment, Point of Common Coupling, Point of Delivery for Generation Systems that intentionally export, ownership of equipment and the location of metering.
- h. Customer understands and agrees that the Grid Inter-Tie Inverter System used in conjunction with its PV System must be certified as meeting the requirements of UL 1741.
- i. Customer understands and agrees that as additional cogeneration facilities are connected to the Company distribution system, Company may require Customer to install additional safety devices at Customer's expense.
- j. Customer shall provide to Company for approval a copy of the test procedure that will be used to verify the protection and operation of the PV System. The PV system cannot backfeed the Company system upon loss of the utility source. If analysis of the proposed PV System by Company reveals that it is capable of backfeed into the Company lines during distribution outages, Customer shall immediately disconnect the PV from the Company distribution system and shall only reconnect the PV System through a Customer-provided, Company approved, interconnect device that will prevent backfeed. Customer shall notify Company at least two (2) weeks in advance of the testing of the PV System and Company reserves the right to witness the testing. Customer shall provide to Company a copy of the certified test report verifying that the test procedure was successful.

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
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(Continued)**

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1st Revised Sheet No. 19

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System. (Continued)**

- k. Customer agrees to disconnect the PV System from the Company distribution system or to reimburse Company for cost of necessary system modifications if operation of the PV System causes radio, television or electrical service interference to other customers, or interference with the operation of Company's system.
- l. For purposes of this Contract, these terms have the following meanings:
  - "Area EPS" is an electric power system (EPS) that serves Local EPSs. Note: typically an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc. The Company is an Area EPS.
  - "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: this may include generation units.
  - "Generation" is any device producing electrical energy, for example, rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.
  - "Generation System" is the interconnected generator(s), controls, relays, switches, breakers, transformers, inverters and associated wiring and cables, up to the Point of Common Coupling.
  - "Grid Inter-Tie Inverter" is a device that converts DC electricity to AC electricity. A Grid Inter-Tie Inverter also has been specifically designed and constructed to safely interconnect with an Area EPS. For purposes of this Contract, a Grid Inter-Tie Inverter is also designed and tested to meet the requirements of IEEE 1547 and ANSI 929 standards. If the Grid Inter-Tie Inverter is tested under UL 1741, it meets these aforementioned requirements.
  - "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
  - "Point of Common Coupling" is the point where the Local EPS is connected to the Company.
  - "Point of Delivery" is the point where the energy changes possession from one party to the other. Typically this will be where the metering is installed but it is not required that the Point of Delivery is the same as where the energy is metered.

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**(Continued)**

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1st Revised Sheet No. 20

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System.**

- i. For purposes of this Contract, these terms have the following meanings: (Continued)

“Renewable Energy Credits” or “RECs” are all attributes of an environmental or other nature that are created or otherwise arise from the PV System’s generation of energy using solar energy as a fuel, including, but not limited to, tags, certificates or similar products or rights associated with solar energy as a “green” or “renewable” electric generation resource, including any and all environmental air quality credits, emission reductions, off-sets, allowances or other benefits related to the generation of energy from the PV System that reduces, displaces or off-sets emissions resulting from fuel combustion at another location pursuant to any existing or future international, federal, state or local legislation or regulation or voluntary agreement, and the aggregate amount of credits, offsets or other benefits including any rights, attributes or credits arising from or eligible for consideration in the M-RETS program or any similar program pursuant to any international, federal, state or local legislation or regulation or voluntary agreement and any renewable energy certificates issued pursuant to any program, information system or tracking system associated with the renewable energy generated from the PV System. RECs do not include any federal, state or local tax credits, cash grants, production incentives or similar tax or cash benefits for which Customer or the PV System are eligible or which either receives, or any depreciation, expenses, credits, benefits or other federal, state or local tax treatment for which Customer or the PV System is eligible or that either receives

**Installation, Operation and Maintenance of PV System.**

- m. Customer agrees that its installation of the PV System will be in compliance with all applicable electric codes and the PV System will be operated only after the installation has been inspected and approved by the appropriate authorities. Customer shall be solely responsible for ensuring that the PV System equipment as installed and operated meets all applicable codes, standards, and regulatory requirements. Customer understands and agrees that Company’s approval of the proposed or installed PV System does not preclude the necessity of Customer obtaining all required permits, building and zoning variations and applicable inspections.
- n. The proposed installation of the PV System will be reviewed by Company to determine adequacy of the associated Company distribution system components. Customer agrees to reimburse Company for the addition, modification, or replacement of any distribution system components made necessary by Customer’s PV system installation.
- o. Customer shall effectively ground the PV System installation and to provide and install adequate surge arrester protection to prevent lightning damage to any Company distribution system equipment.

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Installation, Operation and Maintenance of PV System. (Continued)**

- p. Customer shall maintain the PV System and the individual components of the system in good working order at all times during the term of this Contract. The Company shall have no responsibility for the maintenance or repair of the PV System, or for its installation or removal. If during the term of this Contract the PV System or any of the individual components of the system should be damaged or destroyed, Customer shall promptly repair or replace the equipment to its original specifications, tilt and orientation as set forth in Exhibit 1 at Customer's sole expense. Damages for breach of this provision of the Contract include no further payment of any amounts otherwise owed by the Company to the Customer under this Contract shall be paid.
- q. Customer will give the Company reasonable access to Customer's property and PV System if the configuration of those facilities does not permit disconnection or testing from the Company's side of the interconnection. If the Company enters Customer's property, the Company will remain responsible for its personnel.
- r. Customer must operate its PV System within any rules, regulations, and policies adopted by the Company not prohibited by the Commission's rules on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for Customer (Company's Rules and Regulations Applicable to Cogeneration and Small Power Production Facilities are attached as Exhibit 3).
- s. Customer will operate its PV System so that it conforms to the national, state, and local electric and safety codes, and Customer will be responsible for the costs of conformance.

**Additional Requirements.**

- t. This Contract shall apply to new PV solar equipment only. Used equipment does not qualify for the payment described in Section 3b.
- u. Customer shall comply with all of the rules stated in Company's applicable electric tariff related to photovoltaic systems, as the same may be revised from time to time. The Company's rules, regulations, and policies must conform to the Commission's rules on Cogeneration and Small Power Production. In the event of any conflict between the terms of this Contract and Company's electric tariff, the provisions of the tariff shall control.
- v. Customer will obtain and keep in force liability insurance against personal or property damage due to the installation, interconnection, and operation of its PV System. The amount of insurance coverage will be \$300,000. Customer shall provide proof of this insurance prior to interconnection of the PV System to the Company's distribution system.
- w. Customers who are exempt from the Solar Energy Standard (SES) under Minn. Stat. §216B.1691, subd. 2(f)d, shall not participate in the Solar\*Rewards program.

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**6. Limitations and Liabilities.**

- a. Qualification for the one-time payment from Company does not imply any representation or warranty by Company of the design, installation, or operation of the PV equipment, and Company expressly disclaims any and all warranties of the equipment as to workmanship, quality, or performance, including the fitness of the equipment for the purpose intended.
- b. Company shall not be responsible or liable for any personal injury or property damage caused by the PV System or any individual component equipment of the system. Company shall not be liable for failure or fault in the delivery of electrical energy to Customer or for total or partial interruption of service caused by accidents, breakdown of equipment, acts of God, floods, storms, fires, strikes, riots, war, terrorist attacks, sabotage, labor disputes, shortage of materials, the forces or nature, the authority and orders of government, and other causes or contingencies of whatever nature beyond the reasonable control of the Company, or which reasonably could not have been anticipated and avoided by the Company.
- c. Nothing in this Contract shall be construed as any representation or warranty by Company of the design, installation or operation of the PV System or any component thereof, and Company expressly disclaims any and all warranties of the equipment as to workmanship, quality, or performance, including the fitness of the equipment for the purpose intended.
- d. Company shall not be liable for revenue lost by Customer due to Company's inability to purchase or wheel energy generated by the PV System.
- e. Customer shall indemnify, defend, and hold Company, its employees, agents, successors, assigns, subsidiaries and affiliates harmless against any and all claims, demands, liens, lawsuits, judgments or actions of whatsoever nature that may be brought on account of the installation, maintenance, operation, repair, or replacement of the PV System or any component equipment of the system. Company shall not be liable to the Customer for any punitive, special, exemplary or consequential damages, including but not limited to, lost profits, loss of use, and costs of replacement, whether based in contract, tort, upon any theory of indemnity, or otherwise. Company makes no warranty or representation concerning the taxable consequences, if any, to Customer with respect to its one-time payment to Customer for participation in the Solar\*Rewards Program, or compensation for electric service sold to Company from the operation of Customer's PV System (if any), and Customer is urged to seek professional advice regarding this issue.

**7. Commencement and Term; Assignment; Enforceability.**

- a. This Contract becomes effective as soon as it is signed by the Customer and the Company and shall continue for a term of twenty (20) years.
- b. This Contract is assignable by Customer to any subsequent purchaser of Customer's premises at the Service Address. Company shall have ownership of all RECs produced by the PV System during the twenty (20) year term of this Contract. In order for an assignment to be effective, Customer is required to provide to assignee the following documents: Assignment Agreement, a copy of this Contract, and any remaining warranty information for the PV System. Customer is released from any and all future liability under this Contract upon its effective assignment.

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**7. Commencement and Term; Assignment; Enforceability. (Continued)**

- c. This Contract and the terms contained in the Contract shall be binding and enforceable against the parties, their successors and assigns for as long as the Contract remains in effect.
- d. This Contract does not waive Customer's right to bring a dispute before the Commission as authorized by Minnesota Rules, parts 7835.4800, 7835.5800, and 7835.4500, and any other provision of the Commission's rules on Cogeneration and Small Power Production authorizing Commission resolution of a dispute.
- e. If a Party defaults in performing its obligations under this Contract, the non-defaulting Party may give written notice to the defaulting Party identifying the nature of the default and stating that the non-defaulting Party may terminate this Contract if the defaulting Party does not cure the identified default within thirty (30) days of the date the non-defaulting Party mailed or delivered the written notice to the defaulting Party. If the defaulting Party does not cure the default identified in the written notice within that thirty (30) day period, then the non-defaulting Party may, at its sole option, terminate this Contract upon written notice of termination mailed or delivered to the defaulting Party. Any notices given under this Section shall be addressed to the Parties (or their successors in interest) at their respective mailing addresses identified in the first paragraph of this Contract.
- f. Each Party hereby irrevocably and unconditionally waives any right to a trial by jury for the resolution of any dispute arising under this Contract. Failure of either party to enforce any term or condition of this Contract shall not constitute a waiver of that term or condition or of any other term or condition of this Contract.

**8. Miscellaneous.**

- a. This Contract contains all the agreements made between Customer and the Company except that this Contract shall at all times be subject to all rules and orders issued by the Commission or other government agency having jurisdiction over the subject matter of this Contract. The terms of this Contract shall be modified and amended if required to comply with any order or regulation of the Commission, applicable state or federal laws or regulations, or other government agency having jurisdiction over the subject matter of this Contract. Company shall post all such modifications and amendments at its website at: [www.xcelenergy.com/solar](http://www.xcelenergy.com/solar), and Customer and Company shall be bound by these posted modifications and amendments. Other than these exceptions, Customer and Company are not responsible for any agreements other than those stated in this Contract.
- b. This Contract shall be governed by and interpreted in accordance with the laws of the State of Minnesota.
- c. This Contract may be executed in two or more counterparts, each of which is deemed original but all constitute one and the same instrument. The Parties agree that a facsimile copy of a signature will be deemed original and binding.

(Continued on Sheet No. 9-24)

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Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

Section No. 9  
2nd Revised Sheet No. 24

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**8. Miscellaneous. (Continued)**

- d. Except as otherwise specifically provided herein, this Contract is not intended to, and shall not, create rights, remedies, or any benefits of any character whatsoever, in favor of any person, corporation or other entity other than the Parties hereto, and the obligations herein assumed are for the use and benefit of the Parties, their successors in interest, and permitted assigns.
- e. This Contract and the rights and obligations of the parties hereunder shall be subject to all valid applicable state, local and federal laws, rules, regulations, ordinances, orders and decisions issued or promulgated for or by any court or regulatory agency having or asserting jurisdiction over this Contract, the services to be performed hereunder or either of the parties hereto.
- f. By executing this Contract, Customer grants to Company permission to share information concerning the location of the PV System and other information concerning the RECs owned by Company under this Contract to other Minnesota public utilities, municipalities, cooperatives and other entities that may be involved in REC transactions for the limited purpose of ensuring that the RECs associated with the Customer's PV System have not been sold to another entity.
- g. By executing this Contract, Customer grants to Company permission to share with Installer selected by Customer any Customer information necessary to Installer to complete installation of the PV system on Customer's behalf.
- h. No portion of any other Customer contract is intended to conflict with this Contract. In the case of a conflict between any such Customer contract and this Contract, the terms and conditions of this Contract shall control. Nothing in any other Customer contract shall prevent the Company from fully enforcing the terms and conditions of this Contract.
- i. CUSTOMER AND THE COMPANY HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE WRITTEN AT THE BEGINNING OF THIS CONTRACT.

**As a qualified Company customer, I have read, understand, and agree to the terms of the Contract set forth above and accept the one-time payment described in Section 3(b).**

**Customer Name (printed):** \_\_\_\_\_

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

(Continued on Sheet No. 9-25)

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

Section No. 9  
1st Revised Sheet No. 25

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**Based on the actual equipment information provided, Company extends the following one-time payment to Customer:**

\$ \_\_\_\_\_

**Northern States Power Company, a Minnesota corporation**

**By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
as authorized agent for Northern States Power Company

**Title:** \_\_\_\_\_

**Please mail the signed Solar\*Rewards Contract to the Solar\*Rewards program manager at the address shown below. The Contract will be signed by Company and a copy of the Contract will be mailed back to you.**

**Solar\*Rewards Company 414 Nicollet Mall – 6th Floor Minneapolis, MN 55401 Fax: 800-252-4371  
Solar\*Rewards Program Manager: \_\_\_\_\_**

(Continued on Sheet No. 9-26)

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Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

Section No. 9  
1st Revised Sheet No. 26

**EXHIBIT 1: ACTUAL SYSTEM INSTALLATION INFORMATION**  
Installer completes the following AFTER project completion and installation.

Customer name:

Service Address:

Installer company:

Actual price for PV installation without batteries (attach PV invoice):

Company Account Number:

Date of PV installation:

Town / municipality / county:

Amount of Solar\*Rewards Program payment (\$):

Please check the appropriate box(es) if this is the same as the application for each item:

Please check the appropriate box(es) if this is the same as the application for each item:

- Tilt: \_\_\_\_° (90° is vertical, 0° is flat)
- Orientation: \_\_\_\_° (180° is south, 90° is east, 270° is west)
- Manufacturer of PV panels installed:
- Model number of PV panels installed:
- STC rating (kW DC):
- Manufacturer of PV inverter installed:
- Model number of PV inverter installed:
- Inverter Quantity:
- Power rating: \_\_\_\_W
- PV Watts estimate of annual kWh generated:
- Efficiency %:
- Battery backup:

**As the installer for this project, I certify that the above-referenced PV equipment was installed at the Service Address listed above.**

\_\_\_\_\_  
Installer's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Installer's Name Printed

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

Section No. 9  
1st Revised Sheet No. 27

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**EXHIBIT 2: Attach a copy of current Company tariff elected by Customer**

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Docket No.	E002/M-13-1015		Order Date:	07-23-14



Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(CLOSED TO NEW APPLICANTS)  
(Continued)**

Section No. 9  
1st Revised Sheet No. 28

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**EXHIBIT 3: Attach a copy of current Rules and Regulations Applicable to Cogeneration and Small Power  
Production Facilities**

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Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
ADDENDUM ADDRESSING MINNESOTA BONUS REBATE  
(CLOSED TO NEW APPLICANTS)**

Section No. 9  
1st Revised Sheet No. 29

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**Addendum to Solar\*Rewards Contract  
Addressing Minnesota Bonus Rebate**

This Addendum modifies the Minnesota Solar\*Rewards Customer Contract (Application ID: \_\_\_\_\_). This Addendum is only applicable where the Customer qualifies for participation in the Minnesota Bonus Rebate Program as authorized by Minn. Stat. §116C.7791 for a rebate to an owner of a qualified property for installing solar photovoltaic modules manufactured in Minnesota after December 31, 2009, and both the Customer and Company have signed this Addendum.

**1. Definitions.** For the purpose of this Addendum, the following terms have the meanings given.

(a) "Installation" means an array of solar photovoltaic modules attached to a building that will use the electricity generated by the solar photovoltaic modules or placed on a facility or property proximate to that building.

(b) "Manufactured" means:

(1) the material production of solar photovoltaic modules, including the tabbing, stringing, and lamination processes; or

(2) the production of interconnections of low-voltage photoactive elements that produce the final useful photovoltaic output by a manufacturer operating in this state on May 18, 2010.

(c) "Qualified owner" means an owner of a qualified property, but does not include an entity engaged in the business of generating or selling electricity at retail, or an unregulated subsidiary of such an entity.

(d) "Qualified property" means a residence, multifamily residence, business, or publicly owned building located in the assigned service area of the utility subject to Minn. Stat. §116C.779.

(e) "Solar photovoltaic module" means the smallest, nondivisible, self-contained physical structure housing interconnected photovoltaic cells and providing a single direct current of electrical output.

(Continued on Sheet No. 9-30)

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
ADDENDUM ADDRESSING MINNESOTA BONUS REBATE  
(CLOSED TO NEW APPLICANTS) (Continued)**

Section No. 9  
2nd Revised Sheet No. 30

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**2. Rebate eligibility.**

(a) To be eligible for a rebate under this section, a solar photovoltaic module:

- (1) must be manufactured in Minnesota after December 31, 2009;
- (2) must be installed on a qualified property as part of a system whose generating capacity does not exceed 40 kilowatts;
- (3) must be certified by Underwriters Laboratory, must have received the ETL listed mark from Intertek, or must have an equivalent certification from an independent testing agency;
- (4) must be installed, or reviewed and approved, by a person certified as a solar photovoltaic installer by the North American Board of Certified Energy Practitioners; and
- (5) may not be used to sell, transmit, or distribute the electrical energy at retail, nor to provide end-use electricity to an offsite facility of the electrical energy generator. On-site generation is allowed to the extent provided for in Minn. Stat. §216B.1611.

(b) To be eligible for a rebate under this section, an applicant must have applied for and been awarded a rebate under the Customer's Solar\*Rewards Customer Contract with the Company. However, an applicant who is otherwise ineligible for a rebate under this paragraph is eligible if the applicant's failure to secure a rebate or other form of financial assistance is due solely to a lack of available funds on the part of the Company or the state.

**3. Rebate amount and payment.**

(a) The amount of a rebate under this Addendum is the difference between the sum of all rebates described in the Customer's Solar\*Rewards Customer Contract with the Company and \$5 per watt of installed generating capacity.

(b) Notwithstanding paragraph (a), the amount of all rebates or other forms of financial assistance awarded to an applicant by a utility and the state, including any rebate paid under this section, net of applicable federal income taxes applied at the highest applicable income tax rates, must not exceed sixty percent (60%) of the total installed cost of the solar photovoltaic modules.

(c) The rebate must be paid out proportionately in five (5) consecutive annual installments.

(Continued on Sheet No. 9-31)

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Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**SOLAR\*REWARDS CUSTOMER CONTRACT  
ADDENDUM ADDRESSING MINNESOTA BONUS REBATE  
(CLOSED TO NEW APPLICANTS) (Continued)**

Section No. 9  
1st Revised Sheet No. 31

**4. Calculation of payment.**

Upon compliance with, and verification of, the above requirements, the payment to the Customer under the Minnesota Bonus Rebate is \$ \_\_\_\_\_ to be paid out proportionately in five consecutive annual installments of \$ \_\_\_\_\_. The Company reserves the right to recalculate these payments if any project details differ from the original application, or if adjustments to the payments are retroactively authorized by any Order issued by the Minnesota Public Utilities Commission in response to legislation or otherwise. The calculation of the payment is based on the provisions in Minn. Stat. §116C.7791, including depreciation as applicable and on the following assumptions:

Total Qualified Project Costs: \$ \_\_\_\_\_ ;  
Taxable Status of Incentives:  Taxable  Non-Taxable;  
Highest applicable Federal Income Tax rate of the system's owner or an entity benefitting from the project's Federal tax depreciation: \_\_\_\_%;  
Total of all other rebates or other forms of financial assistance from the utility or state \$ \_\_\_\_\_.

<b>System</b>	<b>PV Panels</b>	<b>Inverters</b>
PV system size: ____ kW direct current	Manufacturer:	Manufacturer:
PVWatts.com annual energy production estimate: ____ kWh	Model number:	Model number:
	Count:	Count:
	Tilt: _____ (0° = flat)	Power Rating:
	Orientation: ____ (180° = S)	Efficiency:

**Customer Name (printed):** \_\_\_\_\_

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Northern States Power Company, a Minnesota corporation**

**By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
as authorized agent for Northern States Power Company

**Title:** \_\_\_\_\_

**Please mail this Addendum to Solar\*Rewards Contract Addressing Minnesota Bonus Rebate to the Solar\*Rewards program manager at the address shown below. The Contract will be signed by Company and a copy of this Addendum will be mailed back to you.**

**Solar\*Rewards Company 414 Nicollet Mall – 6th Floor Minneapolis, MN 55401 Fax: 612-318-4785**  
**Solar\*Rewards Program Manager:** \_\_\_\_\_

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT**

Section No. 9

**ADDENDUM ADDRESSING WAIVER OF BI-DIRECTIONAL METERING  
(CLOSED TO NEW APPLICANTS)**

1st Revised Sheet No. 32

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**Addendum to Solar\*Rewards Contract  
Addressing Customer Waiver of Bi-Directional Metering**

This Addendum modifies the Minnesota Solar\*Rewards Customer Contract (Application ID: \_\_\_\_\_). This Addendum addresses the situation when the Customer determines that it will not install a bi-directional meter as otherwise required by the Minnesota Solar\*Rewards Customer Contract.

Notwithstanding any other provisions in the Minnesota Solar\*Rewards Customer Contract to the contrary, the following provisions apply:

1. The Customer will not install, or cause to have installed, a bi-directional meter.
2. The Customer will not be compensated for any electricity received by the Company from the Customer.

**Customer Name (printed):** \_\_\_\_\_

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Northern States Power Company, a Minnesota corporation**

**By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

as authorized agent for Northern States Power Company

**Title:** \_\_\_\_\_

**Please mail this Addendum to Solar\*Rewards Contract Addressing Customer Waiver of Bi-Directional Metering to the Solar\*Rewards program manager at the address shown below. The Contract will be signed by Company and a copy of this Addendum will be mailed back to you.**

**Solar\*Rewards Company 414 Nicollet Mall – 6th Floor Minneapolis, MN 55401 Fax: 612-318-4785**

**Solar\*Rewards Program Manager:** \_\_\_\_\_

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**SOLAR\*REWARDS CUSTOMER CONTRACT**

Section No. 9  
Original Sheet No. 33

Application ID: \_\_\_\_\_

**SOLAR\*REWARDS**

**CUSTOMER CONTRACT**

**Customer-Sited Photovoltaic (PV) Systems Greater than 0.5 kW and Less than 20 kW DC Nameplate Capacity**

This Contract is made and entered into by and between Northern States Power Company, a Minnesota corporation, having a mailing address of 414 Nicollet Mall, Minneapolis, Minnesota 55401 ("Company"), and \_\_\_\_\_ (whether one or more, "Customer"), whose mailing address for billing and notice purposes is: \_\_\_\_\_, concerning electric service at the following address: \_\_\_\_\_ (the "Service Address").

**1. Fact Background.**

- a. Customer will be installing the electric generating facilities described in Exhibit 1 (the "PV System") and meeting the requirements stated in this Contract, with a nameplate capacity rated at greater than 0.5 kilowatts and less than 20 kilowatts direct current ("DC"), on property located at the Service Address.
- b. Customer's PV System also meets the requirements of the Minnesota Public Utilities Commission (the "Commission") Rules Chapter 7835 on Cogeneration and Small Power Production and any technical standards for interconnection the Company has established that are authorized by those Rules.
- c. Customer is prepared to generate electricity in parallel with the Company using the PV System.
- d. Customer has submitted to Company and paid an engineering review fee of \$250.00. Unfunded applicants for whom engineering review has not been completed will receive a full refund for this fee.
- e. The Company is obligated under federal and Minnesota state law to interconnect with Customer and to purchase electricity generated by Customer through qualifying facilities and offered for sale to Company by Customer.
- f. A Customer who receives approval for, or is a participant in, the Made in Minnesota program for the PV System covered by this Contract shall not receive any benefits under this Contract and shall return to the Company all monies paid or credited under this Contract.
- g. Customer and Company enter into this Contract which sets out the terms and conditions for the purchase and sale of the electricity generated by the PV System ("Solar\*Rewards Program"), and related matters.

(Continued on Sheet No. 9-34)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 34

**2. Purchases and Sales of Electricity.**

Customer and Company agree:

- a. Company will sell electricity to Customer under the rate schedule in force for the class of customer to which Customer belongs.
- b. Customer agrees to supply electricity generated by the PV System in the form of \_\_\_ phase, \_\_\_ wire, alternating current at the nominal frequency of 60 hertz, and at a nominal voltage of \_\_\_.
- c. Company will buy electricity generated by the PV System from Customer under the applicable Company rate schedule filed with the Commission. Customer elects to sell electricity generated by the PV System in excess of Customer's own use under the terms of the following Company tariff:

- Net Energy Billing Service, Rate Code A50
- Purchase and Sale Billing Service, Rate Code A51
- Time of Day Purchase Service, Rate Code A52

A copy of the currently filed elected tariff is attached as Exhibit 2. The rates, terms and conditions for sales and purchases of electricity, as referenced in the above tariffs, may be changed over the time this Contract is in force, due to actions of the Company or of the Commission, and Customer and Company agree that sales and purchases will be made under the rates in effect each month during the time this Contract is in force. However, the incentive payment discussed in Section 3(b) below shall remain the same for 10 years.

- d. Customer will pay a monthly metering charge under the Company tariff elected by the Customer, provided in Exhibit 2, and according to meter installation requirements in Section 5b. The monthly metering charge pays for the cost and installation of a bi-directional meter at the Service Address which measures electricity delivered by the Company to the Customer and energy received by the Company from the Customer, and the associated billing, operating and maintenance expenses. The metering charge may be changed over the time this Contract is in force, due to actions of the Company or of the Commission, and Customer and Company agree that the metering charge will be under the rates in effect each month during the time this Contract is in force.

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(Continued on Sheet No. 9-35)

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 35

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**2. Purchases and Sales of Electricity. (Continued)**

- e. The Company will compute the charges and payments for purchases and sales of electricity for each billing period. If the payments for electricity generated by the PV System and sold to Company exceed the charges for electricity which the Company supplies and sells to Customer (i.e. net positive production by the PV System), the credit will accumulate on the Company's billing statement to Customer and will be paid by check to Customer within fifteen (15) days of the billing date once the accumulated credit exceeds \$25.00.
- f. Company may stop providing electricity to Customer during a system emergency, without notice. Company will give Customer prior notice by telephone or regular U.S. mail when Company is to stop providing electricity in non-emergency circumstances. The Company will not discriminate against Customer when it stops providing electricity or when it resumes providing electricity. Company may stop purchasing electricity from Customer when necessary to construct, install, maintain, repair, replace, remove, investigate or inspect any equipment or facilities within its electric system when this activity would be adversely affected if customer were supplying power to the system. Company will give Customer prior notice by telephone or regular U.S. mail letter when Company will stop purchasing electricity from Customer.

**3. Ownership of Renewable Energy Credits and Incentive Payment.**

Customer and Company agree:

- a. On the terms and subject to the conditions set forth in this Contract, the Customer agrees to convey to the Company and the Company will own all of the Renewable Energy Credits ("RECs"), defined in Section 5(l) below generated by the PV System at the Service Address for a term of ten (10) years from the installation date set forth in the "Actual System Installation Information" attached to this Contract as Exhibit 1.
- b. In consideration for Customer's participation in Company's Solar\*Rewards Program, Company shall pay a predetermined per kWh financial incentive for the PV System production prior to any net metering adjustments for ten (10) years beginning with final commissioning. The incentive will remain set for the 10-year payment period and will not vary from year to year. PV System production will accumulate for each year. Within ninety (90) days after the end of each year, the Customer will receive an incentive check equal to the year's PV production, as measured by the billing statement that includes December 31, times the \$/kWh incentive. No incentive shall accrue after ten (10) years from the commissioning of the PV System, and the final incentive calculation will be at the end of that year, with the billing statement that includes December 31.
- c. The \$/kWh incentive is as follows: The Company shall pay \$0.08/kWh for the PV System production. This \$/kWh incentive amount may be changed by a tariff amendment to this Contract prior to both parties signing this Contract.
- d. The \$/kWh incentive may be assigned by the Customer to a third party.

(Continued on Sheet No. 9-36)

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 36

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**4. Representations by Customer.**

Customer hereby makes the following representations and warranties to Company:

- a. Customer warrants that the person signing this Contract on behalf of Customer is authorized and competent to sign this Contract and to bind Customer to the terms of this Contract.
- b. Customer receives electric service from Company at the Service Address set forth above, is the person in whose name electric service is listed at the Service Address, and is the owner of the property at the Service Address.
- c. Customer is an end-use electric consumer located within the electric service territory of Company in Minnesota whose primary business is not the generation of electricity for retail or wholesale sale from the same facility. Customer is not installing the PV System at the Service Address in connection with a business of developing or improving real estate for resale.
- d. Customer shall install a new PV System at the Service Address, which shall have at least a five (5) year warranty, and shall be installed as of the date set forth in Exhibit 1.
- e. The PV System shall be located on the Customer's facilities at the Service Address at all times during the term of this Contract.
- f. The PV System has a minimum nameplate DC output capacity of 500 watts and a maximum capacity of less than 20 kilowatts.
- g. Customer represents that the PV System shall be sized, when combined with other distributed generation resources serving the Service Address, to supply no more than one hundred twenty percent (120%) of the previous annual (12-month) consumption of electric energy by Customer at the Service Address. Customer acknowledges that Solar\*Rewards Program is only available to PV Systems where the estimated annual generation, as determined by the National Renewable Energy Laboratory's PVWatts™ calculator is not more than 120% of the previous annual (12-month) electric energy consumption at the Service Address. If historical electric energy consumption data is not available due to new construction, the Company will calculate the estimated annual electric energy consumption.
- h. PV equipment including, but not limited to modules, inverters, etc., as described in Customer's completed Exhibit 1 shall meet eligibility requirements when listed as qualified on the Company website: [www.xcelenergy.com](http://www.xcelenergy.com).
- i. [Intentionally left blank].
- j. The Customer is not a participant in the Made in Minnesota program for the PV System covered by this Contract.
- k. The Customer has not received an incentive under the Solar\*Rewards program for another PV System installed at this Service Address, and is not a party to any other signed contract with the Company pertaining to the PV System. Customer shall not collect incentives from other state or utility programs for the PV system covered under this Contract.

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(Continued on Sheet No. 9-37)

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 37

**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Energy Audit.**

- a. Customer is required to conduct an Online Energy Assessment for the building at the Service Address which hosts a PV system, in compliance with Company's Energy Assessment program prior to Company's payment made as described in Section 3(b), unless such Assessment or an on-site Energy Audit has been completed within the past three years, or (for residential customers) the Customer's home was ENERGY STAR-certified under the Company's ENERGY STAR homes project, or (for business customers) the Customer participated in the Commercial Real Estate, Energy Design Assistance, Energy Efficient Buildings, Recommissioning, or ENERGY STAR Benchmark programs.

**Metering.**

- b. Two meters are required to be installed at the Service Address. One meter is located at the main service and is a bi-directional meter that will record energy delivered to the Customer from the Company, and energy received by the Company from Customer. Installation of a bi-directional meter may not be required if the configuration of Customer's facilities allows and a previously installed bi-directional meter provides the information necessary for billing purposes. The second (Production) meter will record energy generated by the PV System only. The Company shall install, or cause to be installed, own, operate and maintain the Production meter to measure the AC production of the PV System, at the Company's expense and including the cost of the Production meter itself. Customer will provide all meter housing and socket replacement and rewiring to install both meters. Customer shall be charged monthly the metering charge described in Section 2(d) above for the bi-directional meter. The metering charge assumes common use of all Company facilities up to the metering point, for both receipt and delivery of energy. Any additional facilities required by Company to accommodate the PV System will require Customer to pay a net interconnection charge in advance.
- c. Company shall receive all net energy, if any, generated by the PV System at the Service Address and not consumed by the Customer. If the production of the PV System is more than the Customer's usage as measured by the Company's meter, the negative consumption (i.e. net energy delivered to the Company) as measured by the Company's meter shall be considered as net energy and Customer shall be compensated as provided in Sections 2(c) and (e) above. On-site use of energy generated by the PV System shall be unmetered for purposes of compensation, except for as provided in Section 3(b).

N  
N

(Continued on Sheet No. 9-38)

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President and CEO of Northern States Power Company, a Minnesota corporation  
Docket No. E002/M-13-1015 Order Date: 07-23-14

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 38

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System.**

- d. Company will permit Customer to connect the PV System to Company's distribution system on the load side of Customer's meter. The connection must be made through a Customer provided, Customer installed National Electrical Manufacturer's Association-approved, manual disconnect switch of adequate ampere capacity. The switch shall not open the neutral when the switch is open. This switch shall have provisions for being padlocked in the open position with a standard Company padlock. Customer agrees to locate the switch in a position accessible to Company personnel on the building exterior within ten (10) feet of the main service meter, unless another location is identified and approved in advance by Company. Customer further agrees that the switch may be operated by Company personnel at all times that such operation is deemed necessary by Company for safety and operating reasons. If the PV System uses commuted synchronous inverters, the inverters shall be connected on the load side (PV System side) of the safety disconnect switch.
- e. Customer shall pay Company for the actual, reasonable costs of interconnection, which will be determined by Company and communicated to Customer upon Company's receipt of Customer's application to participate in Company's Solar\*Rewards Program. Customer must pay these costs to Company before Company will perform any work to its electric distribution system relating to Customer's PV System.
- f. Customer shall provide the necessary equipment as approved by Company to operate the PV System in parallel with Company's distribution system. The PV System must be equipped to instantaneously discontinue all output to and energization of Company's distribution system under any of the following conditions:
  - 1. De-energized Company system
  - 2. Sustained line faults on Company's system
  - 3. Faults on Customer's PV System

Customer shall consult with Company regarding these minimum requirements, additional protections recommended by Company, and proper operation of Customer's PV System. Since the power factor and the voltage at which Company's system and Customer's PV System are operated will vary, Customer and Company agree to operate their respective systems at a power factor as near unity as possible in such manner as to absorb its share of the reactive power, and voltage as conducive to the best operating standards.

- g. Customer shall supply to Company a single-line diagram and associated equipment list for the PV System control circuitry to enable Company to determine if the PV System safety equipment provides a level of safety consistent with the safety level required by the Company. The single-line diagram shall show all major equipment of the PV System, including visual isolation equipment, Point of Common Coupling, Point of Delivery for Generation Systems that intentionally export, ownership of equipment and the location of metering.

(Continued on Sheet No. 9-39)

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Minneapolis, Minnesota 55401  
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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 39

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System. (Continued)**

- h. Customer understands and agrees that the Grid Inter-Tie Inverter System used in conjunction with its PV System must be certified as meeting the requirements of UL 1741.
- i. [Intentionally left blank.]
- j. Customer shall provide to Company for approval a copy of the test procedure that will be used to verify the protection and operation of the PV System. The PV system cannot backfeed the Company system upon loss of the utility source. If analysis of the proposed PV System by Company reveals that it is capable of backfeed into the Company lines during distribution outages, Customer shall immediately disconnect the PV from the Company distribution system and shall only reconnect the PV System through a Customer-provided, Company approved, interconnect device that will prevent backfeed. Customer shall notify Company at least two (2) weeks in advance of the testing of the PV System and Company reserves the right to witness the testing. Customer shall provide to Company a copy of the certified test report verifying that the test procedure was successful.
- k. Customer agrees to disconnect the PV System from the Company distribution system (until remedied) or to reimburse Company for cost of necessary system modifications if a malfunction of the PV System causes radio or television interference. Notice of cost impacts will be given to customer before the Company makes upgrades to the distribution system and charges upgrade costs to the customer. The Company will not provide prior notice if upgrades are required to safeguard health and safety in an emergency.
- l. For purposes of this Contract, these terms have the following meanings:
  - “Area EPS” is an electric power system (EPS) that serves Local EPSs. Note: typically an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc. The Company is an Area EPS.
  - “EPS” (Electric Power System) are facilities that deliver electric power to a load. Note: this may include generation units.
  - “Generation” is any device producing electrical energy, for example, rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, or any other electric producing device, including energy storage technologies.
  - “Generation System” is the interconnected generator(s), controls, relays, switches, breakers, transformers, inverters and associated wiring and cables, up to the Point of Common Coupling.
  - “Grid Inter-Tie Inverter” is a device that converts DC electricity to AC electricity. A Grid Inter-Tie Inverter also has been specifically designed and constructed to safely interconnect with an Area EPS. For purposes of this Contract, a Grid Inter-Tie Inverter is also designed and tested to meet the requirements of IEEE 1547 and ANSI 929 standards. If the Grid Inter-Tie Inverter is tested under UL 1741, it meets these aforementioned requirements.

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(Continued on Sheet No. 9-40)

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 40

**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Interconnection to Company Distribution System.**

i. For purposes of this Contract, these terms have the following meanings: (Continued)

“Local EPS” is an electric power system (EPS) contained entirely within a single premises or group of premises.

“Point of Common Coupling” is the point where the Local EPS is connected to the Company.

“Point of Delivery” is the point where the energy changes possession from one party to the other. Typically this will be where the metering is installed but it is not required that the Point of Delivery is the same as where the energy is metered.

“Renewable Energy Credits” or “RECs” are all attributes of an environmental or other nature that are created or otherwise arise from the PV System’s generation of energy using solar energy as a fuel, including, but not limited to, tags, certificates or similar products or rights associated with solar energy as a "green" or "renewable" electric generation resource, including any and all environmental air quality credits, emission reductions, off-sets, allowances or other benefits related to the generation of energy from the PV System that reduces, displaces or off-sets emissions resulting from fuel combustion at another location pursuant to any existing or future international, federal, state or local legislation or regulation or voluntary agreement, and the aggregate amount of credits, offsets or other benefits including any rights, attributes or credits arising from or eligible for consideration in the M-RETS program or any similar program pursuant to any international, federal, state or local legislation or regulation or voluntary agreement and any renewable energy certificates issued pursuant to any program, information system or tracking system associated with the renewable energy generated from the PV System. RECs do not include any federal, state or local tax credits, cash grants, production incentives or similar tax or cash benefits for which Customer or the PV System are eligible or which either receives, or any depreciation, expenses, credits, benefits or other federal, state or local tax treatment for which Customer or the PV System is eligible or that either receives.

**Installation, Operation and Maintenance of PV System.**

- m. Customer agrees that its installation of the PV System will be in compliance with all applicable electric codes and the PV System will be operated only after the installation has been inspected and approved by the appropriate authorities. Customer shall be solely responsible for ensuring that the PV System equipment as installed and operated meets all applicable codes, standards, and regulatory requirements. Customer understands and agrees that Company’s approval of the proposed or installed PV System does not preclude the necessity of Customer obtaining all required permits, building and zoning variations and applicable inspections.
- n. The proposed installation of the PV System will be reviewed by Company to determine adequacy of the associated Company distribution system components. Customer agrees to reimburse Company for the addition, modification, or replacement of any distribution system components made necessary by Customer’s PV system installation. Notice of cost impacts will be given to customer before the Company makes upgrades to the distribution system and charges upgrade costs to the customer prior to interconnection. The Company will not provide prior notice if upgrades are required to safeguard health and safety in an emergency.
- o. Customer shall effectively ground the PV System installation and to provide and install adequate surge arrester protection to prevent lightning damage to any Company distribution system equipment.

(Continued on Sheet No. 9-41)

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
1st Revised Sheet No. 41

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**5. Requirements for PV System Installation, Operation, and Maintenance.**

**Installation, Operation and Maintenance of PV System. (Continued)**

- p. Customer shall maintain the PV System and the individual components of the system in good working order at all times during the term of this Contract. The Company shall have no responsibility for the maintenance or repair of the PV System, or for its installation or removal. If during the term of this Contract the PV System or any of the individual components of the system should be damaged or destroyed, Customer shall promptly repair or replace the equipment to its original specifications as set forth in Exhibit 1 at Customer's sole expense. Damages for breach of this provision of the Contract include no further payment of any amounts otherwise owed by the Company to the Customer under this Contract shall be paid.
- q. Customer will give the Company reasonable access to Customer's property and PV System if the configuration of those facilities does not permit disconnection or testing from the Company's side of the interconnection. If the Company enters Customer's property, the Company will remain responsible for its personnel.
- r. Customer must operate its PV System within any rules, regulations, and policies adopted by the Company not prohibited by the Commission's rules on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for Customer (Company's Rules and Regulations Applicable to Cogeneration and Small Power Production Facilities are attached as Exhibit 3).
- s. Customer will operate its PV System so that it conforms to the national, state, and local electric and safety codes, and Customer will be responsible for the costs of conformance.

**Additional Requirements.**

- t. This Contract shall apply to new PV solar equipment only. Used equipment does not qualify for the payment described in Section 3(b).
- u. Customer shall comply with all of the rules stated in Company's applicable electric tariff related to photovoltaic systems, as the same may be revised from time to time. The Company's rules, regulations, and policies must conform to the Commission's rules on Cogeneration and Small Power Production. The Customer and Company shall comply with all the rules stated in the Company's applicable electric tariff and the tariffed version of this Contract, as the same may be changed from time to time. In the event of any conflict between the terms of this Contract and Company's electric tariff, the provisions of the tariff shall control.
- v. Customer will obtain and keep in force liability insurance against personal or property damage due to the installation, interconnection, and operation of its PV System. The amount of insurance coverage will be \$300,000 at minimum. Customer shall provide proof of this insurance prior to interconnection of the PV System to the Company's distribution system.
- w. Customers who are exempt from the Solar Energy Standard (SES) under Minn. Stat. §216B.1691, subd. 2(f)d, shall not participate in the Solar\*Rewards program.

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(Continued on Sheet No. 42)

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Docket No.	E999/CI-13-542 & E002/M-13-1015		Order Date:	06-01-16



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Minneapolis, Minnesota 55401  
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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 42

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**6. Limitations and Liabilities.**

- a. Company does not imply any representation or warranty by Company of the design, installation, or operation of the PV equipment, and Company expressly disclaims any and all warranties of the equipment as to workmanship, quality, or performance, including the fitness of the equipment for the purpose intended.
- b. Company shall not be responsible or liable for any personal injury or property damage caused by the PV System or any individual component equipment of the system. Company shall not be liable for failure or fault in the delivery of electrical energy to Customer or for total or partial interruption of service caused by accidents, breakdown of equipment, acts of God, floods, storms, fires, strikes, riots, war, terrorist attacks, sabotage, labor disputes, shortage of materials, the forces or nature, the authority and orders of government, and other causes or contingencies of whatever nature beyond the reasonable control of the Company, or which reasonably could not have been anticipated and avoided by the Company.
- c. Nothing in this Contract shall be construed as any representation or warranty by Company of the design, installation or operation of the PV System or any component thereof, and Company expressly disclaims any and all warranties of the equipment as to workmanship, quality, or performance, including the fitness of the equipment for the purpose intended.
- d. Company shall not be liable for revenue lost by Customer due to Company's inability to purchase or wheel energy generated by the PV System.
- e. Customer shall indemnify, defend, and hold Company, its employees, agents, successors, assigns, subsidiaries and affiliates harmless against any and all claims, demands, liens, lawsuits, judgments or actions of whatsoever nature that may be brought on account of the installation, maintenance, operation, repair, or replacement of the PV System or any component equipment of the system. Company shall not be liable to the Customer for any punitive, special, exemplary or consequential damages, including but not limited to, lost profits, loss of use, and costs of replacement, whether based in contract, tort, upon any theory of indemnity, or otherwise. Company makes no warranty or representation concerning the taxable consequences, if any, to Customer with respect to its payments to Customer for participation in the Solar\*Rewards Program, or compensation for electric service sold to Company from the operation of Customer's PV System (if any), and Customer is urged to seek professional advice regarding this issue.

**7. Commencement and Term; Assignment; Enforceability.**

- a. This Contract becomes effective as soon as it is signed by the Customer and the Company and shall continue for a term of ten (10) years. At the end of the term of this Contract, the Customer's energy production and the REC ownership will be subject to the applicable tariff approved by the Commission.
- b. This Contract is assignable by Customer to any subsequent purchaser of Customer's premises at the Service Address. Company shall have ownership of all RECs produced by the PV System during the ten (10) year term of this Contract. In order for an assignment to be effective, Customer is required to provide to assignee the following documents: Assignment Agreement, a copy of this Contract, and any remaining warranty information for the PV System. Customer is released from any and all future liability under this Contract upon its effective assignment.

(Continued on Sheet No. 9-43)

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 43

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**7. Commencement and Term; Assignment; Enforceability. (Continued)**

- c. This Contract and the terms contained in the Contract shall be binding and enforceable against the parties, their successors and assigns for as long as the Contract remains in effect.
- d. This Contract does not waive Customer's right to bring a dispute before the Commission as authorized by Minnesota Rules, parts 7835.4800, 7835.5800, and 7835.4500, and any other provision of the Commission's rules authorizing Commission resolution of a dispute.
- e. If a Party defaults in performing its obligations under this Contract, the non-defaulting Party may give written notice, mailed or delivered, to the defaulting Party: (a) identifying the nature of the default; and (b) stating that the non-defaulting Party may terminate this Contract if the defaulting Party does not cure the identified default within ninety (90) days for PV system operational issues and within thirty (30) days for non-operational issues, unless the failure to cure is due to factors beyond the defaulting Party's control, in which case the defaulting Party shall be given an additional period of time to cure that is reasonable under the circumstances. If the defaulting Party does not cure the default identified in the written notice within the identified time period, then the non-defaulting Party may, at its sole option, terminate this Contract upon written notice of termination mailed or delivered to the defaulting Party. Any notices given under this Section shall be addressed to the Parties (or their successors in interest) at their respective mailing addresses identified in the first paragraph of this Contract.
- f. Each Party hereby irrevocably and unconditionally waives any right to a trial by jury for the resolution of any dispute arising under this Contract. Failure of either party to enforce any term or condition of this Contract shall not constitute a waiver of that term or condition or of any other term or condition of this Contract.

**8. Miscellaneous.**

- a. This Contract contains all the agreements made between Customer and the Company except that this Contract shall at all times be subject to all rules and orders issued by the Commission or other government agency having jurisdiction over the subject matter of this Contract. The terms of this Contract shall be modified and amended if required to comply with any order or regulation of the Commission, applicable state or federal laws or regulations, or other government agency having jurisdiction over the subject matter of this Contract. Company shall post all such modifications and amendments at its website at: [www.xcelenergy.com](http://www.xcelenergy.com), and Customer and Company shall be bound by these posted modifications and amendments. Other than these exceptions, Customer and Company are not responsible for any agreements other than those stated in this Contract.
- b. This Contract shall be governed by and interpreted in accordance with the laws of the State of Minnesota.
- c. This Contract may be executed in two or more counterparts, each of which is deemed original but all constitute one and the same instrument. The Parties agree that a facsimile copy of a signature will be deemed original and binding.

(Continued on Sheet No. 9-44)

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 44

**8. Miscellaneous. (Continued)**

- d. Except as otherwise specifically provided herein, this Contract is not intended to, and shall not, create rights, remedies, or any benefits of any character whatsoever, in favor of any person, corporation or other entity other than the Parties hereto, and the obligations herein assumed are for the use and benefit of the Parties, their successors in interest, and permitted assigns.
- e. This Contract and the rights and obligations of the parties hereunder shall be subject to all valid applicable state, local and federal laws, rules, regulations, ordinances, orders and decisions issued or promulgated for or by any court or regulatory agency having or asserting jurisdiction over this Contract, the services to be performed hereunder or either of the parties hereto.
- f. By executing this Contract, Customer grants to Company permission to share information concerning the location of the PV System and other information concerning the RECs owned by Company under this Contract to other Minnesota public utilities, municipalities, cooperatives and other entities that may be involved in REC transactions for the limited purpose of ensuring that the RECs associated with the Customer's PV System have not been sold to another entity.
- g. By executing this Contract, Customer grants to Company permission to share with Installer selected by Customer any Customer information necessary to Installer to complete installation of the PV system on Customer's behalf.
- h. No portion of any other Customer contract is intended to conflict with this Contract. In the case of a conflict between any such Customer contract and this Contract, the terms and conditions of this Contract shall control. Nothing in any other Customer contract shall prevent the Company from fully enforcing the terms and conditions of this Contract.
- i. CUSTOMER AND THE COMPANY HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE WRITTEN AT THE BEGINNING OF THIS CONTRACT.

**As a qualified Company customer, I have read, understand, and agree to the terms of the Contract set forth above and accept the 10-year payments described in Section 3(b).**

**Customer Name (printed):** \_\_\_\_\_

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

(Continued on Sheet No. 9-45)

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 45

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**Company provides the per kWh payment referenced in Section 3(b) for production over the 10-year period following commissioning to Customer.**

**Northern States Power Company, a Minnesota corporation**

**By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
as authorized agent for Northern States Power Company

**Title:** \_\_\_\_\_

**Please mail the signed Solar\*Rewards Contract to the Solar\*Rewards program manager at the address shown below. The Contract will be signed by Company and a copy of the Contract will be mailed back to you.**

**Solar\*Rewards Company 414 Nicollet Mall – 6th Floor Minneapolis, MN 55401 Fax: 800-252-4371**  
**Solar\*Rewards Program Manager:** \_\_\_\_\_

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(Continued on Sheet No. 9-46)

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Minneapolis, Minnesota 55401

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**SOLAR\*REWARDS CUSTOMER CONTRACT  
(Continued)**

Section No. 9  
Original Sheet No. 46

**EXHIBIT 1: ACTUAL SYSTEM INSTALLATION INFORMATION**

Installer completes the following AFTER project completion and installation.

Customer name:

Service Address:

Installer company:

Actual price for PV installation without batteries (attach PV invoice):

Company Account Number:

Date of PV installation:

Town / municipality / county:

Please check the appropriate box(es) if this is the same as the application for each item:

Please check the appropriate box(es) if this is the same as the application for each item:

- Manufacturer of PV panels installed:
- Model number of PV panels installed:
- STC rating (kW DC):
- Manufacturer of PV inverter installed:
- Model number of PV inverter installed:
- Inverter Quantity:
- Power rating: \_\_\_\_W
- PV Watts estimate of annual kWh generated:
- Efficiency %:
- Battery backup:

**As the installer for this project, I certify that the above-referenced PV equipment was installed at the Service Address listed above.**

\_\_\_\_\_  
Installer's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Installer's Name Printed

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 47

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**EXHIBIT 2: Attach a copy of current Company tariff elected by Customer**

N

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**SOLAR\*REWARDS CUSTOMER CONTRACT**  
**(Continued)**

Section No. 9  
Original Sheet No. 48

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**EXHIBIT 3: Attach a copy of current Rules and Regulations Applicable to Cogeneration and Small Power  
Production Facilities**

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**RESERVED FOR FUTURE USE**

Section No. 9  
Original Sheet No. 49

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**RESERVED FOR FUTURE USE**

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## **SOLAR\*REWARDS PROGRAM AND MADE IN MINNESOTA**

In 2014, the Minnesota Legislature established a financial incentive for Minnesota customers who installed rooftop solar panels manufactured in Minnesota under the Company's existing Solar\*Rewards program. A brief history of the Solar\*Rewards program and Made In Minnesota incentive follows:

### **A. First Generation Solar\*Rewards**

The Solar\*Rewards program was proposed by the Company in our 2010-2012 Conservation Improvement Program (CIP) Triennial Plan on June 1, 2009, and subsequently approved on November 23, 2009<sup>1</sup>. Two specific Minnesota statutes allowed for the inclusion of the program within our CIP plan:

1. Minn. Stat. § 216B.2411, Subd. 1 allows public utilities to use up to ten percent of the total amount to be spent on energy conservation improvements on renewable energy projects, including qualifying solar energy projects, with Minnesota Commission approval; and
2. Minn. Stat. § 216B.2411, Subd. 2 defines qualifying solar energy projects. The Solar\*Rewards program was limited to qualifying solar electric projects within this statute.

To implement the program, the Company filed a Solar\*Rewards contract tariff with the Minnesota Commission approved on February 16, 2010.<sup>2</sup> The metering requirements for Solar\*Rewards projects and applicable rate codes are governed by Section 9 of the Company's Minnesota Electric Rate Book. See Attachment A. The majority of customers are currently under rate A50, our net energy billing service.

On December 20, 2010, the Company submitted revisions to the contract tariff to accommodate the Minnesota Bonus rebate program allowing the Company to administer the program in partnership with the Minnesota Department of Commerce<sup>3</sup>. The Minnesota Bonus rebate program, established by Minn. Stat. §116C.7791, distributed rebates from the Company's Renewable Development Fund (RDF) for projects using panels manufactured in Minnesota. The Minnesota Commission approved revisions to the contact tariff on June 30, 2011.

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<sup>1</sup> MPUC Docket No. E,G002/CIP-09-198.

<sup>2</sup> MPUC Docket No. E002/M-09-1167

<sup>3</sup> MPUC Docket No. E002/M-10-1278

## **B. Second Generation Solar\*Rewards**

In 2013, the Minnesota Legislature passed omnibus energy legislation that set forth the Solar Energy Standard directing the Company to file a solar energy incentive program utilizing production incentives to help grow rooftop solar installations<sup>4</sup>. The Company therefore made plans to transition from the first generation of the Solar\*Rewards program to the second generation of the Solar\*Rewards program, shifting to a production incentive consistent with this new legislation. The program was allocated \$5 million for a five-year period under the RDF.

The Company filed a program proposal for approval of the Company's second generation Solar\*Rewards program and the closure of the first generation Solar\*Rewards program to new applicants<sup>5</sup>. On March 28, 2014, the Minnesota Department of Commerce approved the proposal. On July 23, 2014, the Minnesota Commission issued its Order accepting tariff changes based on the Commissioner's program approval. The Company launched the new Solar\*Rewards program on August 4, 2014.

The omnibus bill also allocated \$15 million annually for a period of 10 years from RDF and CIP funds for projects using photovoltaic devices certified as manufactured in Minnesota. The resulting program, known as Made in Minnesota, is administered by the Minnesota Department of Commerce.

## **C. 2017 Minnesota Legislation (S.F. 1456)**

New Minnesota legislation was signed into law on May 31, 2017. The program incentives were increased and will now be taken from funds withheld from transfer to the renewable development account. The Solar\*Rewards program was also extended through 2021. Table 1 below reflects the updated and current funding levels for the Solar\*Rewards program.

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<sup>4</sup> Minn. Stat. §116C.779 & Minn. Stat. §216B.164

<sup>5</sup> MPUC Docket E,G002/CIP-12-447



**Table 1**  
**Solar\*Rewards Allocations**

<b>Year</b>	<b>Funding Level</b>
2017	\$5,000,000
2018	\$15,000,000
2019	\$10,000,000
2020	\$10,000,000
2021	\$5,000,000

In addition, the Made in Minnesota program was eliminated by S.F. 1456. Production payment incentives under the Made in Minnesota program to an owner whose application was approved by the Minnesota Commissioner of Commerce by May 1, 2017 will be honored; however, no additional incentive payments will be made thereafter for new projects under the program.