

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.1

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT**

An Interconnection Agreement, including any and all Exhibits thereto ("Contract") having been made as of [insert date of Interconnection Agreement] (a copy of which is attached hereto), by and between **Northern States Power Company, a Minnesota corporation**, having its principal office and place of business located at 414 Nicollet Mall, Minneapolis, Minnesota, 55401, hereinafter referred to as the Company, and New Energy Equity, LLC ("Assignor") for a Generation System with a nameplate capacity of \_\_\_\_\_ kW (AC) located at \_\_\_\_\_; and

\_\_\_\_\_ Assignor intends to convey its interest in the above-referenced Generation System to \_\_\_\_\_ ("Assignee"); and

**WHEREAS**, the Assignor intends to assign the Contract to the Assignee; and

**NOW, THEREFORE**, upon the execution of this Assignment of Contract by Company, the Assignor, and the Assignee and the delivery of all signatures to Company, the attached Contract is hereby further amended as follows:

1. The Assignor hereby irrevocably assigns the attached Contract in all respects to the Assignee and the Assignee accepts the assignment thereof in all respects.
2. Company consents to this assignment and, as assigned, the attached Contract is hereby amended so that wherever the name of the Assignor is used therein it shall mean the Assignee.
3. Any and all payments made by Company under the Contract to either the Assignor or the Assignee shall be deemed to have been made to both and shall discharge Company from any further liability with regard to said payment.
4. Any and all financial liability, including but not limited to amounts due, from the Interconnection Customer to the Company, occurring or accruing under the Contract on or before the date of the Company's signature to this Assignment shall be deemed to be the obligation of both the Assignor and Assignee, and the Company may recover any such amounts jointly and severally from the Assignor and Assignee.

(Continued on Sheet No. 10-134.2)

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		President, Northern States Power Company, a Minnesota corporation		
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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.2

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT  
(Continued)**

5. The contact information, including name, primary contact, address, telephone number and email address for the Assignee is as follows, and this information amends the Notice provisions in Section XII.B.1.b of the Contract:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. It is further agreed that all terms and conditions of the Contract, as amended, shall remain in full force and effect.

Facsimile signatures, or signatures to the Assignment of Contract sent electronically, shall have the same effect as original signatures. Photocopies, or electronically stored versions of this Assignment of Contract, shall have the same validity as the original.

**IN WITNESS WHEREOF**, Company, the Assignor, and the Assignee have executed this Assignment of Solar\*Rewards Contract as of this 28 day of June, 2017.

\_\_\_\_\_  
**Assignor – New Energy Equity, LLC**

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

\_\_\_\_\_  
**Assignee –**

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

**Northern States Power Company  
d/b/a Xcel Energy**

By: Lee  
Name: Gabler  
Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director,  
Customer Strategy and Solutions,  
email=lee.e.gabler@xcelenergy.c  
om, c=US  
Date: 2017.06.28 15:15:33 -05'00'

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

(Continued on Sheet No. 10-135)

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 113

**APPENDIX E: Interconnection Agreement**

**State of Minnesota  
Proposed Interconnection Agreement**

For the Interconnection of Extended Parallel Distributed Generation Systems With Electric Utilities

This Generating System Interconnection Agreement is entered into by and between Xcel Energy,  
“Northern States Power Company, a Minnesota corporation” and the Interconnection Customer “New Energy Equity LLC”. The  
Interconnection Customer and Xcel Energy are sometimes also referred to in this Agreement jointly as “Parties” or  
individually as “Party”.

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties  
agree as follows:

**I. SCOPE AND PURPOSE**

- A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10MWs or less in parallel with Xcel Energy at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B. This Agreement governs the facilities required to and contains the terms and condition under which the Interconnection Customer may interconnect the Generation System to Xcel Energy. This Agreement does not authorize the Interconnection Customer to export power or constitute an agreement to purchase or wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from Xcel Energy, or others, may be covered under separate agreements.
- C. To facilitate the operation of the Generation System, this agreement also allows for the occasional and inadvertent export of energy to Xcel Energy. The amount, metering, billing and accounting of such inadvertent energy exporting shall be governed by Exhibit D (Operating Agreement). This Agreement does not constitute an agreement by Xcel Energy to purchase or pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).
- D. This agreement does not constitute a request for, nor the provision of any transmission delivery service or any local distribution delivery service.
- E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document know as, the “State of Minnesota Distributed Generation Interconnection Requirements”, a copy of which as been made available to the Interconnection Customer and incorporated and made part of this Agreement by this reference.

(Continued on Sheet No. 10-114)

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President and CEO of Northern States Power Company  
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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 114

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS**

- A. "Area EPS" is an electric power system (EPS) that serves Local EPS's. For the purpose of this agreement, the Xcel Energy system is the Area EPS. Note: Typically, Xcel Energy has primary access to public rights-of-way, priority crossing of property boundaries, etc.
- B. "Area EPS Operator" is the entity that operates the electric power system. For purpose of this agreement, Xcel Energy is the Are EPS Operator.
- C. "Dedicated Facilities" is the equipment that is installed due to the interconnection of the Generation System and not required to serve other Xcel Energy customers.
- D. "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: This may include generation units.
- E. "Extended Parallel" means the Generation System is designed to remain connected with Xcel Energy for an extended period of time.
- F. "Generation" is any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.
- G. "Generation Interconnection Coordinator" is the person or persons designated by Xcel Energy to provide a single point of coordination with the Applicant for the generation interconnection process.
- H. "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.
- I. "Interconnection Customer" is the party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
- J. "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
- K. "Nameplate Capacity" is the total nameplate capacity rating of all the Generation included in the Generation System. For this definition the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

(Continued on Sheet No. 10-115)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 115

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS (Continued)**

- L. "Point of Common Coupling" is the point where the Local EPS is connected to Xcel Energy
- M. "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
- N. "Technical Requirements" are the State of Minnesota Requirements for Interconnection of Distributed Generation

**III. DESCRIPTION OF INTERCONNECTION CUSTOMER'S GENERATION SYSTEM**

- A) A description of the Generation System, including a single-line diagram showing the general arrangement of how the Interconnection Customer's Generation System is interconnected with Xcel Energy's distribution system, is attached to and made part of this Agreement as Exhibit A. The single-line diagram shows the following:
  - 1) Point of Delivery (if applicable)
  - 2) Point of Common Coupling
  - 3) Location of Meter(s)
  - 4) Ownership of the equipment
  - 5) Generation System total Nameplate Capacity [REDACTED] kW
  - 6) Scheduled operational (on-line) date for the Generation System.

**IV. RESPONSIBILITIES OF THE PARTIES**

- A) The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, operating requirements and good utility practices.
- B) Interconnection Customer shall construct, operate and maintain the Generation System in accordance with the applicable manufacturer's recommended maintenance schedule, the Technical Requirements and in accordance with this Agreement.

(Continued on Sheet No. 10-116)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 116

**APPENDIX E: Interconnection Agreement (Continued)**

**IV. RESPONSIBILITIES OF THE PARTIES (Continued)**

- C) Xcel Energy shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner, and in accordance with standard design and engineering practices.

**V. CONSTRUCTION**

The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Minnesota and to meet or exceed applicable codes and standards provided by the NESC (National Electrical Safety Code), ANSI (American National Standards Institute), IEEE (Institute of Electrical and Electronic Engineers), NEC (National Electrical Code), UL (Underwriter's Laboratory), Technical Requirements and local building codes and other applicable ordinances in effect at the time of the installation of the Generation System.

A) Charges and payments

The Interconnection Customer is responsible for the actual costs to interconnect the Generation System with Xcel Energy, including, but not limited to any Dedicated Facilities attributable to the addition of the Generation System, Xcel Energy labor for installation coordination, installation testing and engineering review of the Generation System and interconnection design. Estimates of these costs are outlined in Exhibit B. While estimates, for budgeting purposes, have been provided in Exhibit B, the actual costs are still the responsibility of the Interconnection Customer, even if they exceed the estimated amount(s). All costs, for which the Interconnection Customer is responsible for, must be reasonable under the circumstances of the design and construction.

1) Dedicated Facilities

- a) During the term of this Agreement, Xcel Energy shall design, construct and install the Dedicated Facilities outlined in Exhibit B. The Interconnection Customer shall be responsible for paying the actual costs of the Dedicated Facilities attributable to the addition of the Generation System.
- b) Once installed, the Dedicated Facilities shall be owned and operated by Xcel Energy, and all costs associated with the operating and maintenance of the Dedicated Facilities, after the Generation System is operational, shall be the responsibility of Xcel Energy, unless otherwise agreed.
- c) By executing this Agreement, the Interconnection Customer grants permission for Xcel Energy to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities, as outlined in Exhibit B. If for any reason, the Generation System project is canceled or modified, so that any or all of the Dedicated Facilities are not required, the Interconnection Customer shall be responsible for all costs incurred by Xcel Energy,

(Continued on Sheet No. 10-117)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 117

**APPENDIX E: Interconnection Agreement (Continued)**

**V. CONSTRUCTION (Continued)**

including, but not limited to the additional costs to remove and/or complete the installation of the Dedicated Facilities. The Interconnection Customer may, for any reason, cancel the Generation System project, so that any or all of the Dedicated Facilities are not required to be installed. The Interconnection Customer shall provide written notice to Xcel Energy of cancellation. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.

2) Payments

- a) The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown in Exhibit B.
- b) The payment for the costs outlined in Exhibit B, shall be as follows:
  - i. 1/3 of estimated costs, outlined in Exhibit B, shall be due upon execution of this agreement.
  - ii. 1/3 of estimated costs, outlined in Exhibit B, shall be due prior to initial energization of the Generation System, with Xcel Energy.
  - iii. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT**

- A) This agreement includes the following exhibits, which are specifically incorporated herein and made part of this Agreement by this reference: *(if any of these Exhibits are deemed not applicable for this Generation System installation, they may be omitted from the final Agreement by Xcel Energy.)*
- 1) Exhibit A – Description of Generation System and single-line diagram. This diagram shows all major equipment, 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. 10-118)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

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Section No. 10  
Original Sheet No. 118

**APPENDIX E: Interconnection Agreement (Continued)**

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT (Continued)**

- 2) Exhibit B – Estimated installation and testing costs payable by the Interconnection Customer. Included in this listing shall be the description and estimated costs for the required Dedicated Facilities being installed by Xcel Energy for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by Xcel Energy.
- 3) Exhibit C – Engineering Data Submittal – A standard form that provides the engineering and operating information about the Generation System.
- 4) Exhibit D – Operating Agreement – This provides specific operating information and requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.
- 5) Exhibit E – Maintenance Agreement – This provides specific maintenance requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

**VII. TERMS AND TERMINATION**

- A) This Agreement shall become effective as of the date when both the Interconnection Customer and Xcel Energy have both signed this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
  - 1) The Parties agree in writing to terminate the Agreement; or
  - 2) The Interconnection Customer may terminate this agreement at any time, by written notice to Xcel Energy, prior to the completion of the final acceptance testing of the Generation System by Xcel Energy. Once the Generation System is operational, then VII.A.3 applies. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.
  - 3) Once the Generation System is operational, the Interconnection Customer may terminate this agreement after 30 days written notice to Xcel Energy, unless otherwise agreed to within the Exhibit D, Operating Agreement; or

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(Continued on Sheet No.10-119)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF  
(Continued)**

Section No. 10  
1st Revised Sheet No. 119

**APPENDIX E: Interconnection Agreement (Continued)**

**VII. TERMS AND TERMINATION**

- 4) Xcel Energy may terminate this agreement after 30 days written notice to the Interconnection Customer if:
- a) The Interconnection Customer fails to interconnect and operate the Generation System per the terms of this Agreement; or
  - b) The Interconnection Customer fails to take all corrective actions specified in Xcel Energy's written notice that the Generation System is out of compliance with the terms of this Agreement, within the time frame set forth in such notice, or
  - c) If the Interconnection Customer fails to complete Xcel Energy's final acceptance testing of the generation system within 24 months of the date proposed under section III.A.6.
- B) Upon termination of this Agreement the Generation System shall be disconnected from Xcel Energy. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing, at the time of the termination.

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**VIII. OPERATIONAL ISSUES**

Each Party will, at its own cost and expense, operate, maintain, repair and inspect, and shall be fully responsible for, the facilities that it now or hereafter may own, unless otherwise specified.

- A) Technical Standards: The Generation System shall be installed and operated by the Interconnection Customer consistent with the requirements of this Agreement; the Technical Requirements; the applicable requirements located in the National Electrical Code (NEC); the applicable standards published by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE); and local building and other applicable ordinances in effect at the time of the installation of the Generation System.
- B) Right of Access: At all times, Xcel Energy's personnel shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the electric power system safely and to provide service to its customers. If necessary for the purposes of this Agreement, the Interconnection Customer shall allow Xcel Energy access to Xcel Energy's equipment and facilities located on the premises.

(Continued on Sheet No. 10-120)

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 120

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

- C) Electric Service Supplied: will supply the electrical requirements of the Local EPS that are not supplied by the Generation System. Such electric service shall be supplied, to the Interconnection Customer's Local EPS, under the rate schedules applicable to the Customer's class of service as revised from time to time by Xcel Energy.
- D) Operation and Maintenance: The Generation System shall be operated and maintained, by the Interconnection Customer in accordance with the Technical Standards and any additional requirements of Exhibit D and Exhibit E, attached to this document, as amended, in writing, from time to time.
- E) Cooperation and Coordination: Both Xcel Energy and the Interconnection Customer shall communicate and coordinate their operations, so that the normal operation of the electric power system does not unduly effect or interfere with the normal operation of the Generation System and the Generation System does not unduly effect or interfere with the normal operation of the electric power system. Under abnormal operations of either the Generation System or the Xcel Energy system, the responsible Party shall provide reasonably timely communication to the other Party to allow mitigation of any potentially negative effects of the abnormal operation of their system.
- F) Disconnection of Unit: Xcel Energy may disconnect the Generation System as reasonably necessary, for termination of this Agreement; non-compliance with this Agreement; system emergency, imminent danger to the public or Xcel Energy personnel; routine maintenance, repairs and modifications to the electric power system. When reasonably possible, Xcel Energy shall provide prior notice to the Interconnection Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, Xcel Energy shall after the fact, provide information to the Interconnection Customer as to why the disconnection was required. It is agreed that Xcel Energy shall have no liability for any loss of sales or other damages, including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable, for the disconnection of the Generation System per this Agreement. Xcel Energy shall expend reasonable effort to reconnect the Generation System in a timely manner and to work towards mitigating damages and losses to the Interconnection Customer where reasonably possible.
- G) Modifications to the Generation System: When reasonably possible the Interconnection Customer shall notify Xcel Energy, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by Xcel Energy as part of the review described in this paragraph, at least twenty (20) business days prior to undertaking such modification(s). Modifications to any of the interconnection equipment, including, all interconnection required protective systems, the generation control systems, the transfer switches/breakers, interconnection protection VT's & CT's, and Generation System capacity, shall be included in the notification to Xcel Energy. When reasonably possible the

(Continued on Sheet No. 10-121)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
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**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing, which approval shall not be unreasonably withheld. Xcel Energy shall have a minimum of five (5) business days to review and respond to the planned modification. Xcel Energy shall not take longer than a maximum of ten (10) business days, to review and respond to the modification after the receipt of the information required to review the modifications. When it is not reasonably possible for the Interconnection Customer to provide prior written notice, the Interconnection Customer shall provide written notice to Xcel Energy as soon as reasonably possible, after the completion of the modification(s).

- H) Permits and Approvals: The Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction of the Generation System. The Interconnection Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

**IX. LIMITATION OF LIABILITY**

- A) Each Party shall at all times indemnify, defend, and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the Party's performance of its obligations under this agreement, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the other Party.
- B) Each Party's liability to the other Party for failure to perform its obligations under this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any punitive, incidental, indirect, special, or consequential damages of any kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.
- C) Notwithstanding any other provision in this Agreement, with respect to Xcel Energy's provision of electric service to any customer including the Interconnection Customer, the Xcel Energy's liability to such customer shall be limited as set forth in Xcel Energy's tariffs and terms and conditions for electric service, and shall not be affected by the terms of this Agreement.

**X. DISPUTE RESOLUTION**

- A) Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

(Continued on Sheet No. 10-122)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

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Section No. 10  
Original Sheet No. 122

**APPENDIX E: Interconnection Agreement (Continued)**

**X. DISPUTE RESOLUTION (Continued)**

- B) In the event a dispute arises under this Agreement, and if it cannot be resolved by the Parties within thirty (30) days after written notice of the dispute to the other Party, the Parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in the State of Minnesota. The Parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the Parties may refer the dispute for resolution to the Minnesota Public Utilities Commission (MPUC), which shall maintain continuing jurisdiction over this Agreement.

**XI. INSURANCE**

- A) At a minimum, In connection with the Interconnection Customer's performance of its duties and obligations under this Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:
- 1) Two million dollars (\$2,000,000) for each occurrence, if the Gross Nameplate Rating of the Generation System is greater than 250kW.
  - 2) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40kW and 250kW.
  - 3) Three hundred thousand (\$300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 40kW.
  - 4) Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the Interconnection Customer's ownership and/or operating of the Generation System under this agreement.
- B) The general liability insurance required shall, by endorsement to the policy or policies, (a) include Xcel Energy as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Xcel Energy shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to Xcel Energy prior to cancellation, termination, alteration, or material change of such insurance.

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(Continued on Sheet No. 10-123)

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
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**APPENDIX E: Interconnection Agreement (Continued)**

**XI. INSURANCE (Continued)**

- C) If the Generation System is connected to an account receiving residential service from Xcel Energy and its total generating capacity is smaller than 40kW, then the endorsements required in Section XI.B shall not apply.
- D) The Interconnection Customer shall furnish the required insurance certificates and endorsements to Xcel Energy prior to the initial operation of the Generation System. Thereafter, Xcel Energy shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance
- E) Evidence of the insurance required in Section XI.A. shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by Xcel Energy.
- F) If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section XI.A – E:
  - 1) Interconnection Customer shall provide to Xcel Energy, at least thirty (30) days prior to the date of initial operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under section XI.A.
  - 2) If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of it's ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section XI.A.
- G) Failure of the Interconnection Customer or Xcel Energy to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.
- H) All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the Generation Interconnection Coordinator assigned.

**XII. MISCELLANEOUS**

**A) FORCE MAJEURE**

- 1) An event of Force Majeure means any act of God, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order,

(Continued on Sheet No. 10-124)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 124

**APPENDIX E: Interconnection Agreement (Continued)**

**XII. MISCELLANEOUS (Continued)**

regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

- 2) Neither Party will be considered in default of any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

**B) NOTICES**

- 1) Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

- a) Generation Interconnection Coordinator assigned Solar Rewards Community  
825 Rice Street  
Saint Paul, MN 55117  
SRCMN@xcelenergy.com
- b) If to Interconnection Customer:  
New Energy Equity



- 2) A Party may change its address for notices at any time by providing the other Party written notice of the change, in accordance with this Section.
- 3) The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's notice to the other Party.

(Continued on Sheet No. 10-125)

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 125

**APPENDIX E: Interconnection Agreement (Continued)**

**C) ASSIGNMENT**

The Interconnection Customer shall not assign its rights nor delegate its duties under this Agreement without Xcel Energy's written consent. Any assignment or delegation the Interconnection Customer makes without Xcel Energy's written consent shall not be valid. Xcel Energy shall not unreasonably withhold its consent to the Generating Entities assignment of this Agreement.

**D) NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**E) GOVERNING LAW AND INCLUSION OF XCEL ENERGY'S TARIFFS AND RULES.**

- 1) This Agreement shall be interpreted, governed and construed under the laws of the State of Minnesota as if executed and to be performed wholly within the State of Minnesota without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 2) The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules applicable to the electric service provided by Xcel Energy, which tariff schedules and rules are hereby incorporated into this Agreement by this reference.
- 3) Notwithstanding any other provisions of this Agreement, Xcel Energy shall have the right to unilaterally file with the MPUC, pursuant to the MPUC's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**F) AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**G) ENTIRE AGREEMENT**

This Agreement, including all attachments, exhibits, and appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the Generation System of the Parties at the Point(s) of Common Coupling expressly provided for in this Agreement and supersedes all prior agreements.

(Continued on Sheet No. 10-126)

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD**

Section No. 10

**INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

1st Revised Sheet No. 126

**APPENDIX E: Interconnection Agreement (Continued)**

**G) ENTIRE AGREEMENT (Continued)**

or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement. Each party also represents that in entering into this Agreement, it has not relied on the promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated attachments, exhibits and appendices. Notwithstanding this paragraph, if the Interconnection Agreement is in connection with a Solar\*Rewards Community application, then the provisions in the Section 9 tariff applicable to the Solar\*Rewards Community Program also apply.

N  
N  
N

**H) CONFIDENTIAL INFORMATION**

Except as otherwise agreed or provided herein, each Party shall hold in confidence and shall not disclose confidential information, to any person (except employees, officers, representatives and agents, who agree to be bound by this section). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any confidential information so furnished.

**I) NON-WARRANTY**

Neither by inspection, if any, or non-rejection, nor in any other way, does Xcel Energy give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Generation System and any structures, equipment, wires, appliances or devices appurtenant thereto.

L

(Continued on Sheet No. 10-127)

Date Filed: 12-18-15

By: Christopher B. Clark

Effective Date: 12-18-15

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-13-867

Order Date: 12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
1st Revised Sheet No. 127

**APPENDIX E: Interconnection Agreement (Continued)**


**J) NO PARTNERSHIP**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.


**XIII. SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By:   
Name: Ian Palmer  
Title: C.E.O.  
Date: April 20, 2017

Xcel Energy

By:   
Name: Lee Gabler  
Title: Sr. Dir. Customer Strategy and Solutions  
Date: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:08:21 -0500

(Continued on Sheet No. 10-128)

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 128

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**EXHIBIT A**

GENERATION SYSTEM DESCRIPTION  
AND SINGLE-LINE DIAGRAM

(Continued on Sheet No. 10-129)

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Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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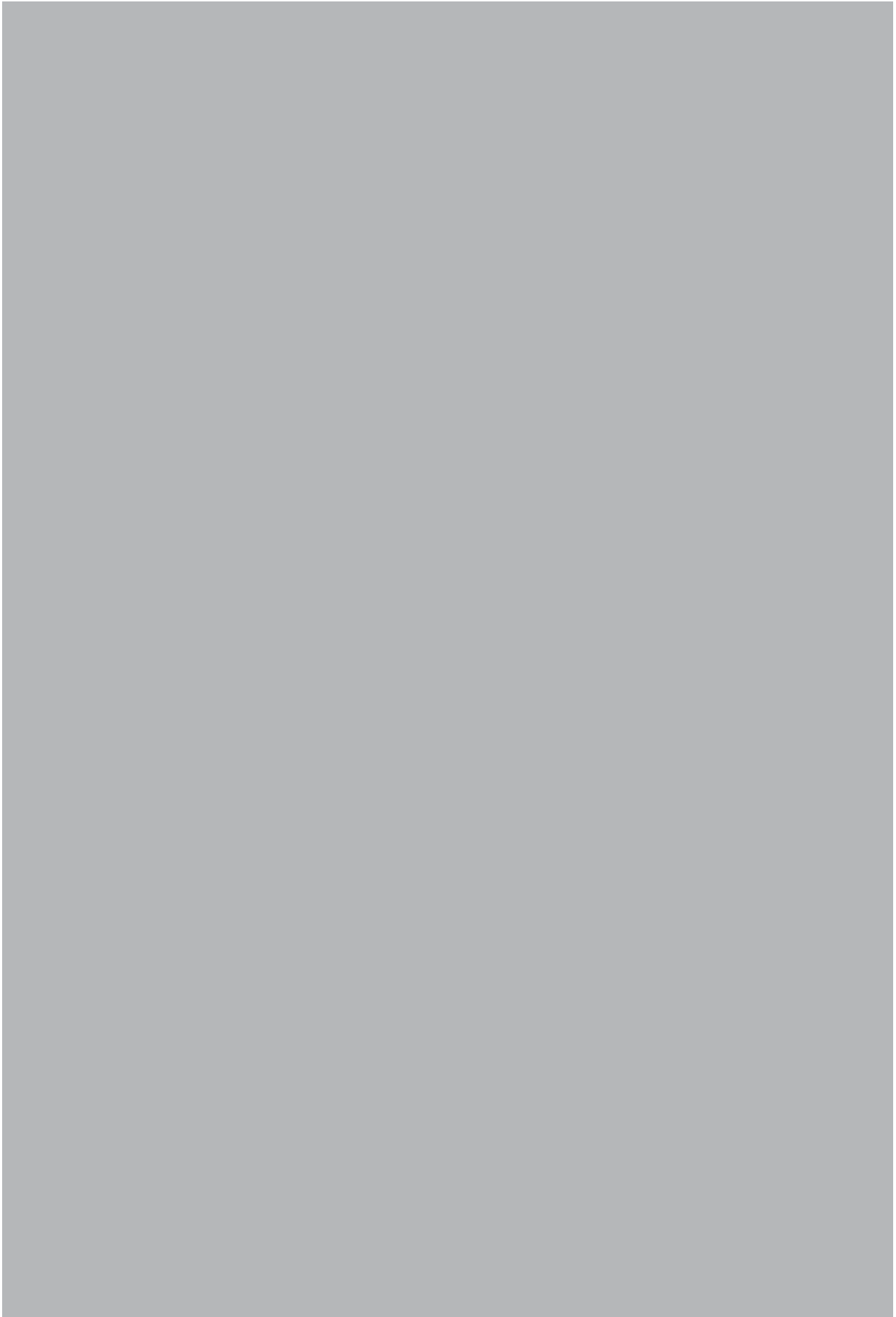




Exhibit B  
**Cost Estimate and Payment Schedule**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:**

**Project Description:**

Site	Garden Name	Legal Name (if different than the legal name noted above)	SRC #	Capacity (MW)
1				
2				0
3				0
4				0
5				0

The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown.

Each of the above legal entities is jointly and severally liable for all due amounts.

The payment for the costs contained shall be as follows:

1. 1/3 of estimated costs due upon execution of this agreement
2. 1/3 of estimated costs due prior to initial energization of the generation system
3. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

Separate SOWs will be issued for each of the Co-Located Community Solar Gardens, each needs to be signed and returned, but the amount reflected in the SOWs is the total among all of the Co-Located Community Solar Gardens.

Location	Distribution (Extension)	Distribution (Rebuild)	Substation	Meter	Total	1/3 Payment
Site 1						
Site 2						
Site 3						
Site 4						
Site 5						
Totals						
<b>Total Cost for all sites</b>						

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 105

**APPENDIX C: Engineering Data Submittal Form**

**WHO SHOULD FILE THIS SUBMITTAL:** Anyone in the final stages of interconnecting a Generation System with Xcel Energy. This submittal shall be completed and provided to the Generation Interconnection Coordinator during the design of the Generation System, as established in the "State of Minnesota Interconnection Process for Distributed Generation Systems".

**INFORMATION:** This submittal is used to document the interconnected Generation System. The Applicant shall complete as much of the form as applicable. The Applicant will be contacted if additional information is required.

<b>OWNER / APPLICANT</b>		
Company / Applicant: New Energy Equity, LLC		
Representative: Lindsey Gillis	Phone Number:	FAX Number:
Title:		
Mailing Address:		
Email Address:		

<b>PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION</b>
Street Address, Legal Description or GPS coordinates:

<b>PROJECT DESIGN / ENGINEERING (if applicable)</b>		
Company: New Energy Equity		
Representative: Rocky Shoemaker	Phone:	FAX Number:
Mailing Address:		
Email Address:		

<b>ELECTRICAL CONTRACTOR (if applicable)</b>		
Company:		
Representative:	Phone:	FAX Number:
Mailing Address:		
Email Address:		

(Continued on Sheet No. 10-106)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 106

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**TYPE OF INTERCONNECTED OPERATION**

Interconnection / Transfer method:

**GENERATION SYSTEM OPERATION / MAINTENANCE CONTACT INFORMATION**

Maintenance Provider:

Phone #:

Pager #:

Operator Name:

Phone #:

Pager #:

Person to Contact before remote starting of units

Contact Name:

Phone #:

Pager #:

24hr Phone #:

**GENERATION SYSTEM OPERATING INFORMATION**

Fuel Capacity (gals):

Full Fuel Run-time (hrs):

Engine Cool Down Duration (Minutes):

Start time Delay on Load Shed signal:

Start Time Delay on Outage (Seconds):

**ESTIMATED LOAD**

The following information will be used to help properly design the interconnection. This Information is not  
Intended as a commitment or contract for billing purposes.

Minimum anticipated load (generation not operating):

kW:

kVA:

Maximum anticipated load (generation not operating):

kW:

kVA:

(Continued on Sheet No. 10-107)

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By: Cynthia L. Leshner

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President and CEO of Northern States Power Company

Docket No. E002/GR-05-1428

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 107

**APPENDIX C: Engineering Data Submittal Form (Continued)**

REQUESTED CONSTRUCTION START/COMPLETION DATES	
Design Completion:	
Construction Start Date:	
Footings in place:	
Primary Wiring Completion:	
Control Wiring Completion:	
Start Acceptance Testing:	
Generation operational (In-service):	

(Complete all applicable items. Copy this page as required for additional generators.)

SYNCHRONOUS GENERATOR (if applicable)			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:	Type:	Phases: 1 or 3	
Serial Number (each)	Date of manufacture:	Speed (RPM):	Freq. (Hz);
Rated Output (each unit) kW Standby:	kW Prime:	kVA:	
Rated Power Factor (%):	Rated Voltage(Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance (Xd):	% on	kVA base	
Transient Reactance (X'd):	% on	kVA base	
Subtransient Reactance (X''d):	% on	kVA base	
Negative Sequence Reactance (Xs):	% on	kVA base	
Zero Sequence Reactance (Xo):	% on	kVA base	
Neutral Grounding Resistor (if applicable):			
$I^2 t$ or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			

(Continued on Sheet No. 10-108)

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2****DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**Section No. 10  
Original Sheet No. 108**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>INDUCTION GENERATOR (if applicable)</b>			
Rotor Resistance (Rr):	Ohms	Stator Resistance (Rs):	
Rotor Reactance (Xr):	Ohms	Ohms	
Magnetizing Reactance (Xm):	Ohms	Stator Reactance (Xs):	
		Ohms	
		Short Circuit Reactance (Xd):	
		Ohms	
Design Letter:		Frame Size:	
Exciting Current:		Temp Rise (deg C°):	
Rated Output (kW):			
Reactive Power Required:		kVars (no Load)	kVars (full load)
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.			
Additional Information:			
<b>PRIME MOVER (Complete all applicable items)</b>			
Unit Number:		Type:	
Manufacturer:			
Serial Number:		Date of Manufacture:	
H.P. Rated:		H.P. Max:	
		Inertia Constant:	lb.-ft. <sup>2</sup>
Energy Source (hydro, steam, wind, wind etc.):			

<b>INTERCONNECTION (STEP-UP) TRANSFORMER (If applicable)</b>			
Manufacturer: TBD after IA Scoping Study		kVA: 1000 kVa	
Date of Manufacture:		Serial Number:	
High Voltage: kV		Connection:	Neutral solidly grounded?
Low Voltage: kV		Connection:	Neutral solidly grounded?
Transformer Impedance (Z): TBD		% on	kVA base
Transformer Resistance (R): TBD		% on	kVA base
Transformer Reactance (X): TBD		% on	kVA base
Neutral Grounding Resistor (if applicable)			

(Continued on Sheet No. 10-109)

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Docket No. E002/GR-05-1428

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 109

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**TRANSFER SWITCH** (If applicable)

Model Number:	Type:
Manufacturer:	Rating (amps):

**INVERTER** (If applicable)

**NOTE:** Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.

**POWER CIRCUIT BREAKER** (if applicable)

Manufacturer:	Model:
Rated Voltage (kilovolts):	Rated Ampacity (Amperes):
Interrupting Rating (Amperes):	BIL Rating:
Interrupting Medium (vacuum, oil, gas, etc.)	Insulating Medium (vacuum, oil, gas, etc.)
Control Voltage (Closing): (Volts) AC DC	
Control Voltage (Tripping): (Volts) AC DC Battery Charged Capacitor	
Close Energy (circle one): Spring Motor Hydraulic Pneumatic Other	
Trip Energy (circle one): Spring Motor Hydraulic Pneumatic Other	
Bushing Current Transformers (Max. ratio):	Relay Accuracy Class:
CT'S Multi Ratio? (circle one); No / Yes: (Available taps):	

(Continued on Sheet No. 10-110)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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Minneapolis, Minnesota 55401

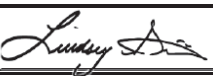
**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 110

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>MISCELLANEOUS</b> (Use this area and any additional sheets for applicable notes and comments)
This project is being applied for under the Solar Rewards Community Solar Garden program. All applicable
rules and guidelines governing that program will be adhered to.

<b>SIGN OFF AREA</b>	
This Engineering Data Submittal documents the equipment and design of the Generation System. We agree to supply Xcel Energy with an updated Engineering Data Submittal any time significant changes are made in the equipment used or the design of the proposed Generation System. The Applicant agrees to design, operate and maintain the Generation System within the requirements set forth by the "State of Minnesota Distributed Generation Interconnection Requirements".	
Applicant Name (print): Lindsey Gillis	
Applicant Signature: 	Date: 02/01/17
<b>SEND THIS COMPLETED &amp; SIGNED ENGINEERING DATA SUBMITTAL AND ANY ATTACHMENTS TO THE GENERATION INTERCONNECTION COORDINATOR</b>	

(Continued on Sheet No. 10-111)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
E002/GR-05-1428 09-01-06



Exhibit D

**Exhibit D**  
**Operating Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ kW

This Exhibit D – Operating Agreement (Exhibit D), is an Exhibit to the Generation System Interconnection Agreement between the Parties and provides the specific operating information and requirements for, and facilitates the operation of, the Generation System. The Interconnection Customer must operate the Generation System in accordance with the Technical Requirements, this Exhibit D as well as all provisions of Section 10 of the Xcel Energy Minnesota tariff. Unless otherwise defined in this Exhibit D, capitalized terms herein shall have the meaning provided such terms in the Generation System Interconnection Agreement.

Nothing in this Exhibit D is intended to or shall be construed as limiting Xcel Energy's rights under the Xcel Energy Minnesota tariff. In the event of a conflict between this Operating Agreement and any law, regulation and/or the Xcel Energy Minnesota tariff, the law regulation or Xcel Energy Minnesota tariff shall control, and the conflicting Operating Agreement provision shall have no effect. In the event of such a conflict, the remaining terms of this Operating Agreement shall remain in effect.

If the Generation System at Site identified above is part of a co-located Community Solar Garden site, the Generation Systems which are part of the same co-located Community Solar Garden site are:

Site	SRC #
1	_____
2	_____
3	_____
4	_____
5	_____

Pursuant to Minnesota Public Utilities Commission ruling the aggregated name plate capacity of the Generation Systems which are part of such a co-located Community Solar Garden site cannot exceed 5 MW (AC) if the application under the Solar\*Rewards Community program was submitted on or prior to September 25, 2015, and cannot exceed 1 MW (AC) on a co-located basis if the application was submitted after that date.

The Parties may, upon written agreement of the Parties, amend this Exhibit D pursuant to the terms of the Generating System Interconnection Agreement. In addition, upon written agreement of the Parties, this Operating Agreement may be reviewed and updated periodically, to allow the operation of the Generation System to change to meet the needs of both Xcel Energy and Interconnection Customer, provided that change does not negatively affect the other Party. In addition, the Parties may agree to amend this Operating Agreement to reflect operating changes required by regulatory authorities having jurisdiction over the matters governed by this Exhibit D, such as changes required by the Minnesota Public Utility Commission, the Federal Energy Regulatory Commission or the Midwest Independent System Operator.



## Exhibit D

This Exhibit D sets forth the technical terms pursuant to which Interconnection Customer may export energy to Xcel Energy from the Generation System. This Exhibit D does not provide for the amount, metering, billing and accounting for the export of energy from the Generation System, nor does it constitute Xcel Energy's agreement to purchase or pay for any such energy. Any such arrangements will be provided for in a separate written agreement.

Unless otherwise noted, capitalized terms shall have the meaning set forth in the Generating System Interconnection Agreement.

### 1.0 Definitions

- 1.1. "Engineering Study" means the Engineering Study Xcel Energy performed as part of the Interconnection Process conducted pursuant to its Distributed Generation Standard Interconnection and Power Purchase Tariff, Minnesota Electric Rate Book - MPUC No. 2, Section 10.
- 1.2. "Xcel Energy Control Center Contact" is as defined in Section 8.2.
- 1.3. "Interconnection Customer Control Center Contact" is as defined in Section 8.2.
- 1.4. Unless specifically defined otherwise, all measurements and performance requirements will be measured at the point of common coupling.

**2.0 Power Factor Requirements.** The power factor of the Generation System and connected load shall be as follows: (1) Inverter Based interconnections – shall at minimum be designed to operate at the full power factor range of 90% leading to 90% lagging at the inverter terminals, subject to any more specific power factor for this Generation System as specified in par. 2.1.1 below; (2) Limited Parallel Generation Systems, such as closed transfer or soft-loading transfer systems shall operate at a power factor of no less than 90%, during the period when the Generation System is parallel with Xcel Energy, as measured at the Point of Common Coupling; and, (3) Extended Parallel Generation Systems of rotating machine type shall be designed to be capable of operating between 95% lagging and 95% leading. These Generation Systems shall normally operate near unity power factor (+/- 98%) or as mutually agreed between Xcel Energy and the Interconnection Customer.

#### 2.1. Normal operation:

- 2.1.1. Interconnection Customer will operate the Generation System as an Inverter Based Generation system at a fixed power factor, as identified by the Engineering Study, within the power factor range as described in Section 2.0 above to mitigate voltage rise due to reverse power flow. Power production outside the specified power factor range is not allowed at any time without permission by Xcel Energy. It is the responsibility of Interconnection Customer and not Xcel Energy to assure that all equipment is sized properly so as to not curtail real power production if that is an objective of the Interconnection Customer.

Exhibit D

Interconnection Customer shall operate the Generation System at a fixed power factor of [REDACTED]. Note that a generator leading power factor means the machine is absorbing reactive power.

- 2.1.2. In the future, distribution system reconfigurations, capacity constraints, or other external factors may require that the Generation System be served from another system and/or may also require that the Generation System change power factors within the limits identified in section 2.0 in order to prevent voltage rise. Xcel Energy shall provide reasonable advance notice to Interconnection Customer pursuant Section XII(B) of the Generating System Interconnection Agreement in order to coordinate the implementation of such changes.

2.2. Contingency operation:

- 2.2.1. Temporary system conditions, such as overvoltage, may require Xcel Energy's Control Center Contact, in accordance with good utility practice and avoiding, to the extent reasonably possible, a reduction in the Generation System output (in the sole discretion of Xcel Energy), to direct the Interconnection Customer's Control Center Contact to disconnect or partially curtail the output of the Generation System. In some cases, and in its sole discretion, Xcel Energy may permit Interconnection Customer to partially operate or fully restore operation by temporarily applying different power factor settings.

3.0 Start-Up, Shut-Down, and Ramp Rates

- 3.1. Where the Generation System consists of one or more units (e.g., inverters in a solar PV context), Interconnection Customer shall stagger the planned start-up and shutdown of the units, with a minimum delay of 30 seconds between the starting and stopping of each unit, in order to mitigate voltage flicker. A controlled shutdown may be allowed if a sequence of operation, including estimated timeframes for actions, is submitted to and approved by Xcel Energy in advance.
- 3.2. Interconnection Customer shall have the ability to limit the up-ramp or skew rate of the Generation System.
- 3.3. In order to mitigate a voltage surge, Xcel Energy reserves the right, based upon the Engineering Study, to specify how many inverters may come online simultaneously. Interconnection Customer may also be required to ensure that the inverters for the Generation System allow random or preprogrammed time delays between the startup of multiple inverters. Ramp Rate Limitations (or inverter start up limitations in a solar PV context): [REDACTED]



Exhibit D

**4.0 Local and Remote Control**

- 4.1. The Interconnection Customer shall ensure that at all times Xcel Energy has access to a manually operated three-phase ganged lockable service-disconnect switch. If transfer trip has been installed, then Interconnection Customer shall also ensure that Xcel Energy has access to a breaker that can remotely control the Generation System from Xcel Energy's systems. To the extent allowed by law, Xcel Energy shall provide notice to the Interconnection Customer explaining the reason for the disconnection. If there is an emergency described in Section 4.1.1 or 4.1.2 below and prior notice is not reasonably possible, Xcel Energy shall after the fact, provide to the Interconnection Customer as to why the disconnection was required. Where reasonably possible Xcel Energy shall use commercially reasonable efforts to reconnect the Generation System in a timely manner. Interconnection Customer agrees and consents to Xcel Energy's remote tripping or manual disconnection, as reasonably necessary under good utility practice, of the breaker for the Generation System including, but not limited to, in the following circumstances, as system conditions exceed parameters defined in any IEEE, NESC or ANSI standards:
- 4.1.1. Electric Distribution or Generator System emergency
  - 4.1.2. Public emergency
  - 4.1.3. Abnormal feeder operation
  - 4.1.4. Planned switching
  - 4.1.5. Interconnection Customer's failure to promptly respond to and execute on Xcel Energy's request to curtail the output of, or disconnect, the Generation System.
- 4.2. If Xcel Energy remotely trips the breaker for the Generation System and Interconnection Customer desires that Xcel Energy close the breaker remotely, Interconnection Customer's Control Center Contact may make the request of Xcel Energy's Control Center Contact, and Xcel Energy will close the breaker remotely once the reason for the remote tripping has passed and it is safe and consistent with good utility practice to do so.
- 4.3. Local or Remote Close
- 4.3.1. If the Generation System has tripped offline due to an interruption on the Distribution System, Interconnection Customer shall contact Xcel Energy's Control Center Contact and, consistent with Section 5 below, verify that the Distribution System is in a normal operating configuration and the Generator System can be energized prior to energizing the Generator System.
  - 4.3.2. If Xcel Energy remotely trips the breaker for the Generation System, Xcel Energy's Control Center Contact will notify the Interconnection Customer's Control Center Contact when the Generation System can be returned to normal operation.
- 4.4. If Transfer Trip (TT)/Communication Channel is required as part of the engineering study results, then:
- 4.4.1. Upon loss of the TT communication channel, if any, the Interconnection Customer shall immediately disconnect the Generation System.



Exhibit D

- 4.4.2. In general, the Generation System shall remain offline for the duration of the time the TT communication channel is lost. However, Xcel Energy may, in its sole discretion, allow limited operation of the Generation System in these circumstances.
- 4.4.3. The Generation System interconnection breaker shall trip with no intentional delay when receiving a transfer trip signal.

**5.0 Outages of the Distribution System**

- 5.1. Upon the occurrence of an emergency outage(s) (defined as any unplanned interruption of Xcel Energy's distribution system), Interconnection Customer shall do the following:
    - 5.1.1. Disconnect the Generation System from Xcel Energy's system when a TT signal is active, if applicable.
    - 5.1.2. Unless otherwise directed by Xcel Energy's Control Center Contact, wait five (5) minutes after the TT signal is removed, if applicable, from the interconnection breaker before implementing startup procedure for the Generation System.
    - 5.1.3. Obtain permission from the Xcel Energy Control Center Contact to startup the Generation System.
  - 5.2. If there is automation installed on the feeder, then the Generation System shall disconnect from Xcel Energy's electric distribution system when not served by the normal source.
  - 5.3. Xcel Energy shall use commercially reasonable efforts to promptly restore the Generation System to service, consistent with good utility practice.
  - 5.4. Unless otherwise directed by Xcel Energy's Control Center Contact, during a momentary distribution system interruption (defined as an interruption of electric service to a customer with disruption less than or equal to 5 minutes), the Interconnection Customer shall wait five (5) minutes after successful close of the feeder breaker or recloser before starting up the Generation System.
  - 5.5. During an extended distribution system interruption (defined as an interruption of electric service to a customer with a duration greater than 5 minutes), unless otherwise directed by Xcel Energy's Control Center Contact the Interconnection Customer shall wait 5 minutes after sensing normal voltage and frequency before starting up the Generation System.
- 6.0 Interference.** If the Generation System causes radio, television or electrical service interference to other customers, via the electric power system or interference with the operation of Xcel Energy, the Interconnection Customer shall disconnect the Generation System. The Interconnection Customer shall either effect repairs to the Generation System or reimburse Xcel Energy for the cost of any required Xcel Energy modifications due to the interference.



Exhibit D

**7.0 Electric Distribution System Modification:**

- 7.1. At its sole discretion Xcel Energy may modify its electric distribution system. Xcel Energy shall provide written notice to Interconnection Customer explaining the plans and schedule for any modifications to its electric distribution system that may impact operation or protection of Generation System. Xcel Energy shall provide such notice as soon as reasonably practicable prior to the time Xcel Energy intends to begin to modify its electric distribution system. Xcel Energy shall utilize good utility practice to minimize any curtailment of energy for the Generation System. Xcel Energy will make reasonable efforts to avoid planned system outages during the months of June, July and August.
- 7.2. Xcel Energy shall include the Generation System in its substation and feeder additions planning and distribution system reconfigurations and make all necessary and required accommodations to Interconnection Customer to insure that the Generation System retains its capability to deliver its power output to Xcel Energy per the Engineering Study, subject to the provisions of paragraph 7.1 above.
- 7.3. The Generation System must be designed and interconnected such that the reliability and the service quality for all customers of the electrical power system are not compromised. The Interconnection Customer is responsible for all costs associated with the installation, operation, and maintenance of the Generation System. The Interconnection Customer shall be responsible for any expenses, which may be incurred by Xcel Energy as a result of any changes or modifications of the Interconnection Customer's Generation System.

**8.0 Contingency Configurations**

- 8.1. During contingency operations, if the Interconnection Customer is unable to use power factor control to mitigate voltage or power quality issues created by the Generation System, whether the voltage or power quality issues are due to steady state voltage rise or in the event of voltage regulation issues due to reverse power flow, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection would facilitate maintaining compliance with ANSI Range B voltage limits.
- 8.2. During contingency operations, if the Generation System creates loading, overloading or protection issues, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection is consistent with good utility practice.
- 8.3. If the Generation System is taken offline during contingency operations, Xcel Energy's Control Center Contact may, in its sole discretion, direct the Interconnection Customer's Control Center Contact to keep the Generation System offline or operate it on a limited basis if field ties and alternate sources of power utilized during contingency configurations do not have the capability to accommodate operation of Generation System.

Exhibit D

9.1. Each Party shall contact each other's Control Center Contact for all operational issues related to the Generation System. In order to permit Xcel Energy and Interconnection Customer to take immediate action, Interconnection Customer and Xcel Energy shall at all times provide to each other the contact information of each other's Control Center Contact, who shall be available twenty-four (24) hours a day, seven (7) days a week and be able to take action with respect to the operation of the Generation System and the Distribution System, respectively.

9.2. The contact information for the Xcel Energy Control Center contact that is available to Interconnection Customer twenty (24) hours a day, seven (7) days a week is:

Oustate Control Center: \_\_\_\_\_  
\_\_\_\_\_

9.3. The contact information for Interconnection Customer's Control Center contact that is available to Xcel Energy twenty (24) hours a day, seven (7) days a week is:

Lindsey Gillis \_\_\_\_\_  
\_\_\_\_\_

9.4. Each Party shall keep the other informed of their Control Center contact information. Notice of changes to Control Center contact information shall be provided immediately pursuant to Section XII B of the Generating System Interconnection Agreement.

**10.0 Right of Access.**

10.1. At all times, Xcel Energy shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with: the performance of its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); to meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, to provide service to its customers.

10.2. At all times, the Interconnection Customer shall give Xcel Energy access to Xcel Energy's equipment and facilities located on the Interconnection Customer's premises, when necessary for Xcel Energy to: perform its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, provide service to its customers.

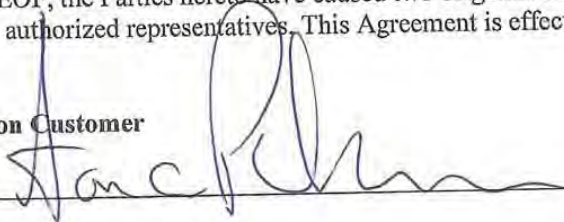


Exhibit D

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: 

Name: Ian Palmer

Title: CEO

Date: April 20, 2017

**Xcel Energy**

**Lee Gabler**

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, ou=Customer Solutions,  
ou=Sr Director, Customer Strategy and  
Solutions,  
email=lee.gabler@xcelenergy.com, c=US  
Date: 2017.07.05 15:08:37 -0500

By: \_\_\_\_\_

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

Exhibit E

**Exhibit E**

**Maintenance Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ kW

Each Generation System interconnection will be unique and will require a unique Maintenance Agreement. It is envisioned that this Exhibit will be tailored for each Generation System interconnection. It is also intended that this Maintenance Agreement Exhibit will be reviewed and updated periodically, to allow the maintenance of the Generation System be allowed to change to meet the needs of both Xcel Energy and the Interconnection Customer, provided that change does not negatively affect the other Party. There may also be changes required by outside issues; such as changes in FERC and MISO requirements and/or policies that will require this agreement to be modified.

**1.0 Routine Maintenance Requirements –**

- 1.1. Interconnection Customer shall maintain the system in good working order.
- 1.2. Interconnection Customer shall perform maintenance in accordance with manufacturer recommendations and intervals.

**2.0 Generation Metering, Monitoring, and Control**

- 2.1. When telemetry is required, the Interconnection customer is financially responsible for the communications channel associated with Xcel Energy's Remote Monitoring System. The communication channel shall comply with Xcel Energy requirements and standards. If the communications cabinet and/or communication channel is provided by Xcel Energy, the Interconnection Customer shall be responsible for operating and maintenance costs, and replace any failed parts or materials.
- 2.2. Interconnection customer shall be responsible for costs associated with emergency repairs, scheduled repairs, or replacement of parts for the telemetry system.
- 2.3. Interconnection Customer shall be responsible for replacement costs for advanced metering equipment, such as an ION meter.
- 2.4. Interconnection Customer is responsible for assuring network equipment functions properly to facilitate communications between the Xcel Energy communications cabinet and all meters on site. Any failure of Interconnection Customer provided equipment between the communication cabinet and meters shall be repaired or replaced by the Interconnection Customer within seven (7) calendar days of the first day of improper functioning of this equipment. This includes wiring, connectors, switches, panels, all other hardware, fiber or Ethernet, Remote Terminal Unit (RTU), 120 V power source, etc. To the extent this equipment is not working properly, there may be delayed payment for generation. Failure of the Interconnection Customer to repair the improperly working equipment within this seven (7) calendar day period may result in disconnection of the Generation System from Xcel Energy's electric distribution system and only be reconnected after the situation is corrected.

**3.0 Modifications to the Generation System –**

- 3.1. The Interconnection Customer shall notify Xcel Energy, in writing of plans for any



Exhibit E

modifications to the Generation System interconnection equipment at least twenty (20) business days prior to undertaking such modification.

- 3.2. Modifications to any of the interconnection equipment, including all required protective systems, the generation control systems, the transfer switches/breakers, VT's & CT's, generating capacity and associated wiring shall be included in the notification to Xcel Energy.
- 3.3. The Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing.
- 3.4. Xcel Energy shall have a minimum of five (5) business days and a maximum of ten (10) business days, to review and respond to the modification, after the receipt of the information required to review the modifications.

**4.0 Special Facilities**

- 4.1. Interconnection Customer may request underground facilities where Company standard construction is overhead facilities.
- 4.2. The Company will determine if the request will not adversely affect the reliability, operational integrity, or schedule of required work.
- 4.3. The Interconnection Customer shall be responsible for Operating, Maintenance and Replacement costs of the special facilities. In this context, the term "special facilities" means facilities which the Company builds or installs which differ from the Company's standard construction standards. For example, this would include the situation where the Interconnection Customer, for aesthetics, permitting, or any other reason, requests underground facilities even though from a technical perspective overhead facilities would be sufficient.
- 4.4. Perpetual easements will be granted Company at no cost to the Company whenever any portion of the underground distribution system is located on private land. Said easements also will allow the Company access for inspection, maintenance, and repair of Company facilities.

**5.0 Shared Facilities**

- 5.1. If the Generation System is designed as part of a co-located Community Solar Garden Site under the Company's Solar\*Rewards Community program and there are shared facilities between the Generation Systems comprising the co-located Community Solar Garden Site, then Interconnection Customer agrees to be jointly and severally liable with the Interconnection Customers associated with the co-located Community Solar Garden Site for all parts, installation, and maintenance costs and fees associated with the shared facilities.
- 5.2. Examples of shared facilities include, but are not limited to, switchgear or service entrance equipment, remote monitoring facilities, communication equipment, and communication channels.

Exhibit E

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: 

Name: Ian Palmer

Title: CEO

Date: April 20, 2017

**Xcel Energy**

Lee Gabler

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.e.gabler@xcelenergy.co  
m, c=US  
Date: 2017.07.05 15:08:48 -0500

By: \_\_\_\_\_

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

# MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.1

## ASSIGNMENT OF INTERCONNECTION AGREEMENT

An Interconnection Agreement, including any and all Exhibits thereto ("Contract") having been made as of [insert date of Interconnection Agreement] (a copy of which is attached hereto), by and between Northern States Power Company, a Minnesota corporation, having its principal office and place of business located at 414 Nicollet Mall, Minneapolis, Minnesota, 55401, hereinafter referred to as the Company, and New Energy Equity, LLC ("Assignor") for a Generation System with a nameplate capacity of \_\_\_\_\_ kW (AC) located at \_\_\_\_\_; and

**WHEREAS**, the Assignor intends to convey its interest in the above-referenced Generation System to \_\_\_\_\_ (“Assignee”); and

**WHEREAS**, the Assignor intends to assign the Contract to the Assignee; and

**NOW, THEREFORE,** upon the execution of this Assignment of Contract by Company, the Assignor, and the Assignee and the delivery of all signatures to Company, the attached Contract is hereby further amended as follows:

1. The Assignor hereby irrevocably assigns the attached Contract in all respects to the Assignee and the Assignee accepts the assignment thereof in all respects.
2. Company consents to this assignment and, as assigned, the attached Contract is hereby amended so that wherever the name of the Assignor is used therein it shall mean the Assignee.
3. Any and all payments made by Company under the Contract to either the Assignor or the Assignee shall be deemed to have been made to both and shall discharge Company from any further liability with regard to said payment.
4. Any and all financial liability, including but not limited to amounts due, from the Interconnection Customer to the Company, occurring or accruing under the Contract on or before the date of the Company's signature to this Assignment shall be deemed to be the obligation of both the Assignor and Assignee, and the Company may recover any such amounts jointly and severally from the Assignor and Assignee.

(Continued on Sheet No. 10-134.2)

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
		President, Northern States Power Company, a Minnesota corporation		
Docket No.	E002/M-13-867		Order Date:	12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.2

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT  
(Continued)**

5. The contact information, including name, primary contact, address, telephone number and email address for the Assignee is as follows, and this information amends the Notice provisions in Section XII.B.1.b of the Contract:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. It is further agreed that all terms and conditions of the Contract, as amended, shall remain in full force and effect.

Facsimile signatures, or signatures to the Assignment of Contract sent electronically, shall have the same effect as original signatures. Photocopies, or electronically stored versions of this Assignment of Contract, shall have the same validity as the original.

**IN WITNESS WHEREOF**, Company, the Assignor, and the Assignee have executed this Assignment of Solar\*Rewards Contract as of this 28 day of June, 2017.

\_\_\_\_\_  
**Assignor – New Energy Equity, LLC**

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

\_\_\_\_\_  
**Assignee –** \_\_\_\_\_

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

**Northern States Power Company  
d/b/a Xcel Energy**

By: \_\_\_\_\_

Name: Lee Gabler  
Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer Solutions,  
ou=SI Director, Customer Strategy and  
Solutions,  
email=lee.gabler@xcelenergy.com, c=US  
serial=20170628151733.101000

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

(Continued on Sheet No. 10-135)

Date Filed: 12-18-15 By: Christopher B. Clark Effective Date: 12-18-15  
President, Northern States Power Company, a Minnesota corporation  
Docket No. E002/M-13-867 Order Date: 12-15-15

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 113

**APPENDIX E: Interconnection Agreement**

**State of Minnesota**

**Proposed Interconnection Agreement**

For the Interconnection of Extended Parallel Distributed Generation Systems With Electric Utilities

This Generating System Interconnection Agreement is entered into by and between Xcel Energy,  
"Northern States Power Company, a Minnesota corporation" and the Interconnection Customer "[REDACTED]". The  
Interconnection Customer and Xcel Energy are sometimes also referred to in this Agreement jointly as "Parties" or  
individually as "Party".

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties  
agree as follows:

**I. SCOPE AND PURPOSE**

- A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10MWs or less in parallel with Xcel Energy at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B. This Agreement governs the facilities required to and contains the terms and condition under which the Interconnection Customer may interconnect the Generation System to Xcel Energy. This Agreement does not authorize the Interconnection Customer to export power or constitute an agreement to purchase or wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from Xcel Energy, or others, may be covered under separate agreements.
- C. To facilitate the operation of the Generation System, this agreement also allows for the occasional and inadvertent export of energy to Xcel Energy. The amount, metering, billing and accounting of such inadvertent energy exporting shall be governed by Exhibit D (Operating Agreement). This Agreement does not constitute an agreement by Xcel Energy to purchase or pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).
- D. This agreement does not constitute a request for, nor the provision of any transmission delivery service or any local distribution delivery service.
- E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document know as, the "State of Minnesota Distributed Generation Interconnection Requirements", a copy of which as been made available to the Interconnection Customer and incorporated and made part of this Agreement by this reference.

(Continued on Sheet No. 10-114)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



Northern States Power Company , a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 114

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS**

- A. "Area EPS" is an electric power system (EPS) that serves Local EPS's. For the purpose of this agreement, the Xcel Energy system is the Area EPS. Note: Typically, Xcel Energy has primary access to public rights-of-way, priority crossing of property boundaries, etc.
- B. "Area EPS Operator" is the entity that operates the electric power system. For purpose of this agreement, Xcel Energy is the Are EPS Operator.
- C. "Dedicated Facilities" is the equipment that is installed due to the interconnection of the Generation System and not required to serve other Xcel Energy customers.
- D. "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: This may include generation units.
- E. "Extended Parallel" means the Generation System is designed to remain connected with Xcel Energy for an extended period of time.
- F. "Generation" is any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.
- G. "Generation Interconnection Coordinator" is the person or persons designated by Xcel Energy to provide a single point of coordination with the Applicant for the generation interconnection process.
- H. "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.
- I. "Interconnection Customer" is the party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
- J. "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
- K. "Nameplate Capacity" is the total nameplate capacity rating of all the Generation included in the Generation System. For this definition the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

(Continued on Sheet No. 10-115)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**



Section No. 10  
Original Sheet No. 115

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS (Continued)**

- L. "Point of Common Coupling" is the point where the Local EPS is connected to Xcel Energy
- M. "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
- N. "Technical Requirements" are the State of Minnesota Requirements for Interconnection of Distributed Generation

**III. DESCRIPTION OF INTERCONNECTION CUSTOMER'S GENERATION SYSTEM**

- A) A description of the Generation System, including a single-line diagram showing the general arrangement of how the Interconnection Customer's Generation System is interconnected with Xcel Energy's distribution system, is attached to and made part of this Agreement as Exhibit A. The single-line diagram shows the following:
  - 1) Point of Delivery (if applicable)
  - 2) Point of Common Coupling
  - 3) Location of Meter(s)
  - 4) Ownership of the equipment 
  - 5) Generation System total Nameplate Capacity  kW
  - 6) Scheduled operational (on-line) date for the Generation System.

**IV. RESPONSIBILITIES OF THE PARTIES**

- A) The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, operating requirements and good utility practices.
- B) Interconnection Customer shall construct, operate and maintain the Generation System in accordance with the applicable manufacture's recommend maintenance schedule, the Technical Requirements and in accordance with this Agreement.

(Continued on Sheet No. 10-116)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 116

**APPENDIX E: Interconnection Agreement (Continued)**

**IV. RESPONSIBILITIES OF THE PARTIES (Continued)**

- C) Xcel Energy shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner, and in accordance with standard design and engineering practices.

**V. CONSTRUCTION**

The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Minnesota and to meet or exceed applicable codes and standards provided by the NESC (National Electrical Safety Code), ANSI (American National Standards Institute), IEEE (Institute of Electrical and Electronic Engineers), NEC (National Electrical Code), UL (Underwriter's Laboratory), Technical Requirements and local building codes and other applicable ordinances in effect at the time of the installation of the Generation System.

A) Charges and payments

The Interconnection Customer is responsible for the actual costs to interconnect the Generation System with Xcel Energy, including, but not limited to any Dedicated Facilities attributable to the addition of the Generation System, Xcel Energy labor for installation coordination, installation testing and engineering review of the Generation System and interconnection design. Estimates of these costs are outlined in Exhibit B. While estimates, for budgeting purposes, have been provided in Exhibit B, the actual costs are still the responsibility of the Interconnection Customer, even if they exceed the estimated amount(s). All costs, for which the Interconnection Customer is responsible for, must be reasonable under the circumstances of the design and construction.

1) Dedicated Facilities

- a) During the term of this Agreement, Xcel Energy shall design, construct and install the Dedicated Facilities outlined in Exhibit B. The Interconnection Customer shall be responsible for paying the actual costs of the Dedicated Facilities attributable to the addition of the Generation System.
- b) Once installed, the Dedicated Facilities shall be owned and operated by Xcel Energy, and all costs associated with the operating and maintenance of the Dedicated Facilities, after the Generation System is operational, shall be the responsibility of Xcel Energy, unless otherwise agreed.
- c) By executing this Agreement, the Interconnection Customer grants permission for Xcel Energy to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities, as outlined in Exhibit B. If for any reason, the Generation System project is canceled or modified, so that any or all of the Dedicated Facilities are not required, the Interconnection Customer shall be responsible for all costs incurred by Xcel Energy,

(Continued on Sheet No. 10-117)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 117

**APPENDIX E: Interconnection Agreement (Continued)**

**V. CONSTRUCTION (Continued)**

including, but not limited to the additional costs to remove and/or complete the installation of the Dedicated Facilities. The Interconnection Customer may, for any reason, cancel the Generation System project, so that any or all of the Dedicated Facilities are not required to be installed. The Interconnection Customer shall provide written notice to Xcel Energy of cancellation. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.

2) Payments

- a) The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown in Exhibit B.
- b) The payment for the costs outlined in Exhibit B, shall be as follows:
  - i. 1/3 of estimated costs, outlined in Exhibit B, shall be due upon execution of this agreement.
  - ii. 1/3 of estimated costs, outlined in Exhibit B, shall be due prior to initial energization of the Generation System, with Xcel Energy.
  - iii. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT**

- A) This agreement includes the following exhibits, which are specifically incorporated herein and made part of this Agreement by this reference: *(if any of these Exhibits are deemed not applicable for this Generation System installation, they may be omitted from the final Agreement by Xcel Energy.)*
  - 1) Exhibit A – Description of Generation System and single-line diagram. This diagram shows all major equipment, 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. 10-118)

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 118

**APPENDIX E: Interconnection Agreement (Continued)**

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT (Continued)**

- 2) Exhibit B – Estimated installation and testing costs payable by the Interconnection Customer. Included in this listing shall be the description and estimated costs for the required Dedicated Facilities being installed by Xcel Energy for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by Xcel Energy.
- 3) Exhibit C – Engineering Data Submittal – A standard form that provides the engineering and operating information about the Generation System.
- 4) Exhibit D – Operating Agreement – This provides specific operating information and requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.
- 5) Exhibit E – Maintenance Agreement – This provides specific maintenance requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

**VII. TERMS AND TERMINATION**

- A) This Agreement shall become effective as of the date when both the Interconnection Customer and Xcel Energy have both signed this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
  - 1) The Parties agree in writing to terminate the Agreement; or
  - 2) The Interconnection Customer may terminate this agreement at any time, by written notice to Xcel Energy, prior to the completion of the final acceptance testing of the Generation System by Xcel Energy. Once the Generation System is operational, then VII.A.3 applies. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.
  - 3) Once the Generation System is operational, the Interconnection Customer may terminate this agreement after 30 days written notice to Xcel Energy, unless otherwise agreed to within the Exhibit D, Operating Agreement; or

(Continued on Sheet No.10-119)

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President and CEO of Northern States Power Company  
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Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF  
(Continued)**

Section No. 10  
1st Revised Sheet No. 119

**APPENDIX E: Interconnection Agreement (Continued)**

**VII. TERMS AND TERMINATION**

- 4) Xcel Energy may terminate this agreement after 30 days written notice to the Interconnection Customer if:
- a) The Interconnection Customer fails to interconnect and operate the Generation System per the terms of this Agreement; or
  - b) The Interconnection Customer fails to take all corrective actions specified in Xcel Energy's written notice that the Generation System is out of compliance with the terms of this Agreement, within the time frame set forth in such notice, or
  - c) If the Interconnection Customer fails to complete Xcel Energy's final acceptance testing of the generation system within 24 months of the date proposed under section III.A.6.
- B) Upon termination of this Agreement the Generation System shall be disconnected from Xcel Energy. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing, at the time of the termination.

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**VIII. OPERATIONAL ISSUES**

Each Party will, at its own cost and expense, operate, maintain, repair and inspect, and shall be fully responsible for, the facilities that it now or hereafter may own, unless otherwise specified.

- A) Technical Standards: The Generation System shall be installed and operated by the Interconnection Customer consistent with the requirements of this Agreement; the Technical Requirements; the applicable requirements located in the National Electrical Code (NEC); the applicable standards published by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE); and local building and other applicable ordinances in effect at the time of the installation of the Generation System.
- B) Right of Access: At all times, Xcel Energy's personnel shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the electric power system safely and to provide service to its customers. If necessary for the purposes of this Agreement, the Interconnection Customer shall allow Xcel Energy access to Xcel Energy's equipment and facilities located on the premises.

(Continued on Sheet No. 10-120)

Date Filed: 11-03-10 By: Judy M. Pofert Effective Date: 09-01-12  
President and CEO of Northern States Power Company, a Minnesota corporation  
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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 120

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

- C) Electric Service Supplied: will supply the electrical requirements of the Local EPS that are not supplied by the Generation System. Such electric service shall be supplied, to the Interconnection Customer's Local EPS, under the rate schedules applicable to the Customer's class of service as revised from time to time by Xcel Energy.
- D) Operation and Maintenance: The Generation System shall be operated and maintained, by the Interconnection Customer in accordance with the Technical Standards and any additional requirements of Exhibit D and Exhibit E, attached to this document, as amended, in writing, from time to time.
- E) Cooperation and Coordination: Both Xcel Energy and the Interconnection Customer shall communicate and coordinate their operations, so that the normal operation of the electric power system does not unduly effect or interfere with the normal operation of the Generation System and the Generation System does not unduly effect or interfere with the normal operation of the electric power system. Under abnormal operations of either the Generation System or the Xcel Energy system, the responsible Party shall provide reasonably timely communication to the other Party to allow mitigation of any potentially negative effects of the abnormal operation of their system.
- F) Disconnection of Unit: Xcel Energy may disconnect the Generation System as reasonably necessary, for termination of this Agreement; non-compliance with this Agreement; system emergency, imminent danger to the public or Xcel Energy personnel; routine maintenance, repairs and modifications to the electric power system. When reasonably possible, Xcel Energy shall provide prior notice to the Interconnection Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, Xcel Energy shall after the fact, provide information to the Interconnection Customer as to why the disconnection was required. It is agreed that Xcel Energy shall have no liability for any loss of sales or other damages, including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable, for the disconnection of the Generation System per this Agreement. Xcel Energy shall expend reasonable effort to reconnect the Generation System in a timely manner and to work towards mitigating damages and losses to the Interconnection Customer where reasonably possible.
- G) Modifications to the Generation System: When reasonably possible the Interconnection Customer shall notify Xcel Energy, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by Xcel Energy as part of the review described in this paragraph, at least twenty (20) business days prior to undertaking such modification(s). Modifications to any of the interconnection equipment, including, all interconnection required protective systems, the generation control systems, the transfer switches/breakers, interconnection protection VT's & CT's, and Generation System capacity, shall be included in the notification to Xcel Energy. When reasonably possible the

(Continued on Sheet No. 10-121)

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 121

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing, which approval shall not be unreasonably withheld. Xcel Energy shall have a minimum of five (5) business days to review and respond to the planned modification. Xcel Energy shall not take longer than a maximum of ten (10) business days, to review and respond to the modification after the receipt of the information required to review the modifications. When it is not reasonably possible for the Interconnection Customer to provide prior written notice, the Interconnection Customer shall provide written notice to Xcel Energy as soon as reasonably possible, after the completion of the modification(s).

- H) Permits and Approvals: The Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction of the Generation System. The Interconnection Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

**IX. LIMITATION OF LIABILITY**

- A) Each Party shall at all times indemnify, defend, and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the Party's performance of its obligations under this agreement, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the other Party.
- B) Each Party's liability to the other Party for failure to perform its obligations under this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any punitive, incidental, indirect, special, or consequential damages of any kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.
- C) Notwithstanding any other provision in this Agreement, with respect to Xcel Energy's provision of electric service to any customer including the Interconnection Customer, the Xcel Energy's liability to such customer shall be limited as set forth in Xcel Energy's tariffs and terms and conditions for electric service, and shall not be affected by the terms of this Agreement.

**X. DISPUTE RESOLUTION**

- A) Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

(Continued on Sheet No. 10-122)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 122

**APPENDIX E: Interconnection Agreement (Continued)**

**X. DISPUTE RESOLUTION (Continued)**

- B) In the event a dispute arises under this Agreement, and if it cannot be resolved by the Parties within thirty (30) days after written notice of the dispute to the other Party, the Parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in the State of Minnesota. The Parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the Parties may refer the dispute for resolution to the Minnesota Public Utilities Commission (MPUC), which shall maintain continuing jurisdiction over this Agreement.

**XI. INSURANCE**

- A) At a minimum, In connection with the Interconnection Customer's performance of its duties and obligations under this Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:
- 1) Two million dollars (\$2,000,000) for each occurrence, if the Gross Nameplate Rating of the Generation System is greater than 250kW.
  - 2) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40kW and 250kW.
  - 3) Three hundred thousand (\$300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 40kW.
  - 4) Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the Interconnection Customer's ownership and/or operating of the Generation System under this agreement.
- B) The general liability insurance required shall, by endorsement to the policy or policies, (a) include Xcel Energy as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Xcel Energy shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to Xcel Energy prior to cancellation, termination, alteration, or material change of such insurance.

(Continued on Sheet No. 10-123)

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 123

**APPENDIX E: Interconnection Agreement (Continued)**

**XI. INSURANCE (Continued)**

- C) If the Generation System is connected to an account receiving residential service from Xcel Energy and its total generating capacity is smaller than 40kW, then the endorsements required in Section XI.B shall not apply.
- D) The Interconnection Customer shall furnish the required insurance certificates and endorsements to Xcel Energy prior to the initial operation of the Generation System. Thereafter, Xcel Energy shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance
- E) Evidence of the insurance required in Section XI.A. shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by Xcel Energy.
- F) If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section XI.A – E:
  - 1) Interconnection Customer shall provide to Xcel Energy, at least thirty (30) days prior to the date of initial operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under section XI.A.
  - 2) If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of it's ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section XI.A.
- G) Failure of the Interconnection Customer or Xcel Energy to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.
- H) All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the Generation Interconnection Coordinator assigned.

**XII. MISCELLANEOUS**

**A) FORCE MAJEURE**

- 1) An event of Force Majeure means any act of God, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order,

(Continued on Sheet No. 10-124)

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 124

**APPENDIX E: Interconnection Agreement (Continued)**

**XII. MISCELLANEOUS (Continued)**

regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

- 2) Neither Party will be considered in default of any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

**B) NOTICES**

- 1) Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

- a) Generation Interconnection Coordinator assigned  
Solar\*Rewards Community  
825 Rice Street  
Saint Paul, MN 55117  
SRCMN@xcelenergy.com
- b) If to Interconnection Customer:



- 2) A Party may change its address for notices at any time by providing the other Party written notice of the change, in accordance with this Section.
- 3) The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's notice to the other Party.

(Continued on Sheet No. 10-125)

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 125

**APPENDIX E: Interconnection Agreement (Continued)**

**C) ASSIGNMENT**

The Interconnection Customer shall not assign its rights nor delegate its duties under this Agreement without Xcel Energy's written consent. Any assignment or delegation the Interconnection Customer makes without Xcel Energy's written consent shall not be valid. Xcel Energy shall not unreasonably withhold its consent to the Generating Entities assignment of this Agreement.

**D) NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**E) GOVERNING LAW AND INCLUSION OF XCEL ENERGY'S TARIFFS AND RULES.**

- 1) This Agreement shall be interpreted, governed and construed under the laws of the State of Minnesota as if executed and to be performed wholly within the State of Minnesota without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 2) The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules applicable to the electric service provided by Xcel Energy, which tariff schedules and rules are hereby incorporated into this Agreement by this reference.
- 3) Notwithstanding any other provisions of this Agreement, Xcel Energy shall have the right to unilaterally file with the MPUC, pursuant to the MPUC's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**F) AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**G) ENTIRE AGREEMENT**

This Agreement, including all attachments, exhibits, and appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the Generation System of the Parties at the Point(s) of Common Coupling expressly provided for in this Agreement and supersedes all prior agreements.

(Continued on Sheet No. 10-126)

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

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

**DISTRIBUTED GENERATION STANDARD**

Section No. 10

**INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

1st Revised Sheet No. 126

**APPENDIX E: Interconnection Agreement (Continued)**

**G) ENTIRE AGREEMENT (Continued)**

or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement. Each party also represents that in entering into this Agreement, it has not relied on the promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated attachments, exhibits and appendices. Notwithstanding this paragraph, if the Interconnection Agreement is in connection with a Solar\*Rewards Community application, then the provisions in the Section 9 tariff applicable to the Solar\*Rewards Community Program also apply.

N  
N  
N

**H) CONFIDENTIAL INFORMATION**

Except as otherwise agreed or provided herein, each Party shall hold in confidence and shall not disclose confidential information, to any person (except employees, officers, representatives and agents, who agree to be bound by this section). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any confidential information so furnished.

**I) NON-WARRANTY**

Neither by inspection, if any, or non-rejection, nor in any other way, does Xcel Energy give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Generation System and any structures, equipment, wires, appliances or devices appurtenant thereto.

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(Continued on Sheet No. 10-127)

Date Filed: 12-18-15

By: Christopher B. Clark

Effective Date: 12-18-15

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-13-867

Order Date: 12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD**

**INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
1st Revised Sheet No. 127

**APPENDIX E: Interconnection Agreement (Continued)**

**J) NO PARTNERSHIP**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**XIII. SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By: 

Name: MATTHEW B. HARKEY

Title: COO

Date: 6/30/17

Xcel Energy

Lee Gabler

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:25:44 -05'00'

By: \_\_\_\_\_

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

(Continued on Sheet No. 10-128)

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

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 128

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**EXHIBIT A**

GENERATION SYSTEM DESCRIPTION  
AND SINGLE-LINE DIAGRAM

(Continued on Sheet No. 10-129)

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Docket No.	E002/GR-05-1428		Order Date:	09-01-06

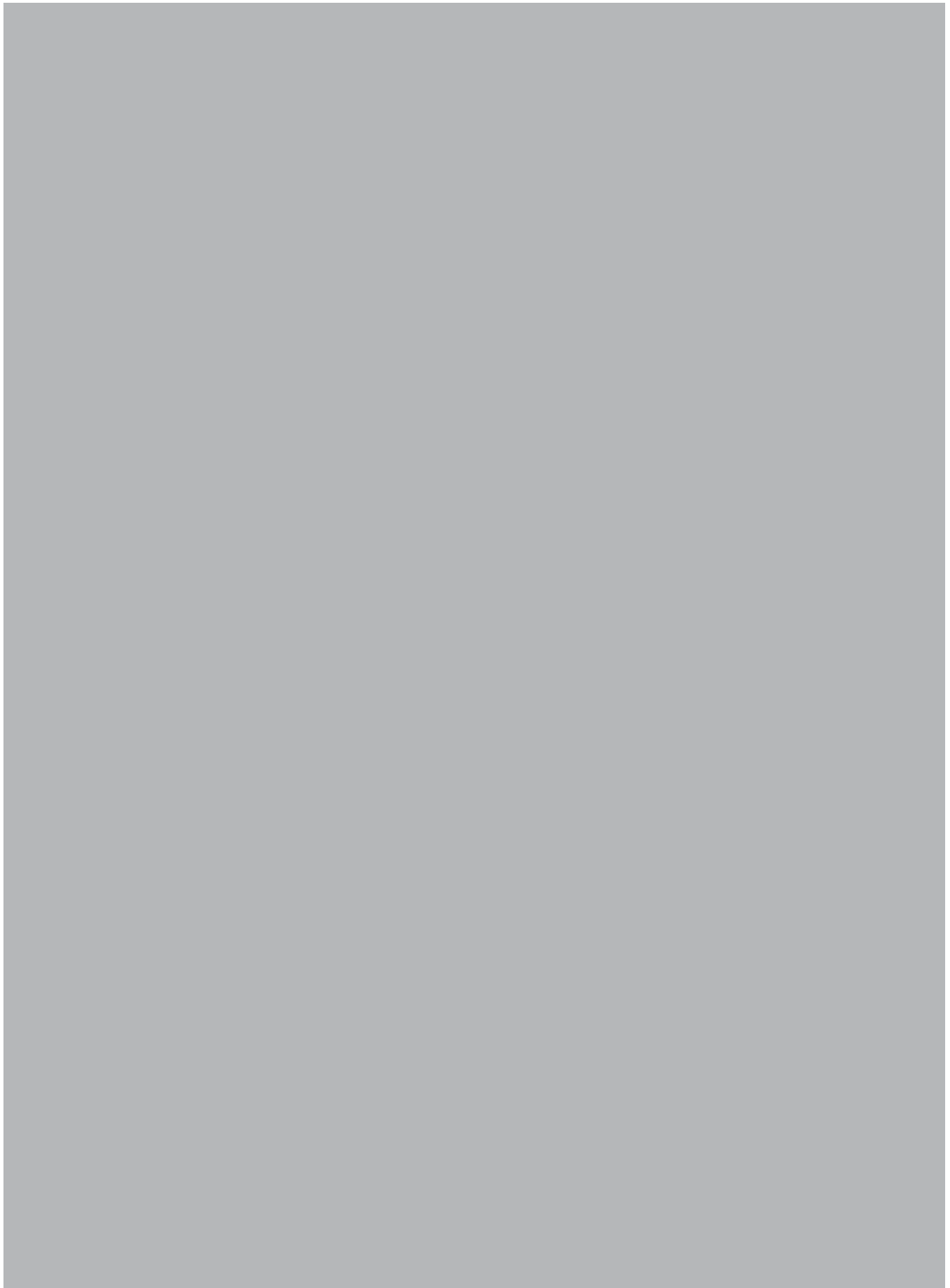




Exhibit B  
**Cost Estimate and Payment Schedule**

**Customer Legal Name:** [REDACTED]

**Service Address:** [REDACTED]

**Project Description:** [REDACTED]

Site	Garden Name	Legal Name (if different)	SRC #	Capacity (MW)
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown.

Each of the above legal entities is jointly and severally liable for all due amounts.

The payment for the costs contained shall be as follows:

1. 1/3 of estimated costs due upon execution of this agreement
2. 1/3 of estimated costs due prior to initial energization of the generation system
3. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

Separate SOWs will be issued for each of the Co-Located Community Solar Gardens, each needs to be signed and returned, but the amount reflected in the SOWs is the total among all of the Co-Located Community Solar Gardens.

Location	Distribution (Extension)	Distribution (Rebuild)	Substation	Meter	Total	1/3 Payment
Site 1	[REDACTED]					
Site 2						
Site 3						
Site 4						
Site 5						

**Total Cost  
for all sites**

[REDACTED]

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 105

**APPENDIX C: Engineering Data Submittal Form**

**WHO SHOULD FILE THIS SUBMITTAL:** Anyone in the final stages of interconnecting a Generation System with Xcel Energy. This submittal shall be completed and provided to the Generation Interconnection Coordinator during the design of the Generation System, as established in the "State of Minnesota Interconnection Process for Distributed Generation Systems".

**INFORMATION:** This submittal is used to document the interconnected Generation System. The Applicant shall complete as much of the form as applicable. The Applicant will be contacted if additional information is required.

**OWNER / APPLICANT**

**PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION**

Street Address, Legal Description or GPS coordinates:

**PROJECT DESIGN / ENGINEERING (if applicable)**

Company: Will Follow

Representative:

Phone:

FAX Number:

Mailing Address:

Email Address:

**ELECTRICAL CONTRACTOR (if applicable)**

Company: Will Follow

Representative:

Phone:

FAX Number:

Mailing Address:

Email Address:

(Continued on Sheet No. 10-106)

Date Filed: 11-02-05

By: Cynthia L. Leshner  
President and CEO of Northern States Power Company

Effective Date: 02-01-07

Docket No. E002/GR-05-1428

Order Date: 09-01-06

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 106

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**TYPE OF INTERCONNECTED OPERATION**

**GENERATION SYSTEM OPERATION / MAINTENANCE CONTACT INFORMATION**

Maintenance Provider: [REDACTED]	Phone #: [REDACTED]	Pager #:
Operator Name: [REDACTED]	Phone #: [REDACTED]	Pager #:
Person to Contact before remote starting of units		
Contact Name: [REDACTED]	Phone #: [REDACTED]	Pager #:
	24hr Phone #: [REDACTED]	

**GENERATION SYSTEM OPERATING INFORMATION** Not Applicable

Fuel Capacity (gals):	Full Fuel Run-time (hrs):
Engine Cool Down Duration (Minutes):	Start time Delay on Load Shed signal:
Start Time Delay on Outage (Seconds):	

**ESTIMATED LOAD**

The following information will be used to help properly design the interconnection. This Information is not Intended as a commitment or contract for billing purposes.		
Minimum anticipated load (generation not operating):	kW: [REDACTED]	kVA: [REDACTED]
Maximum anticipated load (generation not operating):	kW: [REDACTED]	kVA: [REDACTED]

(Continued on Sheet No. 10-107)

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 107

**APPENDIX C: Engineering Data Submittal Form (Continued)**

REQUESTED CONSTRUCTION START/COMPLETION DATES	
Design Completion:	
Construction Start Date:	
Footings in place:	
Primary Wiring Completion:	
Control Wiring Completion:	
Start Acceptance Testing:	
Generation operational (In-service):	

(Complete all applicable items. Copy this page as required for additional generators.)

SYNCHRONOUS GENERATOR (if applicable) Not Applicable			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:	Type:	Phases: 1 or 3	
Serial Number (each)	Date of manufacture:	Speed (RPM):	Freq. (Hz);
Rated Output (each unit) kW Standby:	kW Prime:	kVA:	
Rated Power Factor (%):	Rated Voltage(Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance (Xd):	% on	kVA base	
Transient Reactance (X'd):	% on	kVA base	
Subtransient Reactance (X'd):	% on	kVA base	
Negative Sequence Reactance (Xs):	% on	kVA base	
Zero Sequence Reactance (Xo):	% on	kVA base	
Neutral Grounding Resistor (if applicable):			
$I^2_t$ or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			

(Continued on Sheet No. 10-108)

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 108

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>INDUCTION GENERATOR</b> (if applicable) Not Applicable		
Rotor Resistance (Rr):	Ohms	Stator Resistance (Rs):
Rotor Reactance (Xr):	Ohms	Ohms
Magnetizing Reactance (Xm):	Ohms	Stator Reactance (Xs):
		Ohms
		Short Circuit Reactance (Xd):
		Ohms
Design Letter:		Frame Size:
Exciting Current:		Temp Rise (deg C°):
Rated Output (kW):		
Reactive Power Required:	kVars (no Load)	kVars (full load)
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.		
Additional Information:		
<b>PRIME MOVER</b> (Complete all applicable items) Not Applicable		
Unit Number:	Type:	
Manufacturer:		
Serial Number:	Date of Manufacture:	
H.P. Rated:	H.P. Max:	Inertia Constant: lb.-ft. <sup>2</sup>
Energy Source (hydro, steam, wind, wind etc.):		

<b>INTERCONNECTION (STEP-UP) TRANSFORMER</b> (If applicable)			
Manufacturer: <input type="text"/>		kVA: <input type="text"/>	
Date of Manufacture: <input type="text"/>		Serial Number: <input type="text"/>	
High Voltage: <input type="text"/> kV	Connection: delta wye	Neutral solidly grounded? <input type="checkbox"/>	
Low Voltage: <input type="text"/> kV	Connection: delta wye	Neutral solidly grounded? <input type="checkbox"/>	
Transformer Impedance (Z):	<input type="text"/> % on	<input type="text"/> kVA base	
Transformer Resistance (R):	<input type="text"/> % on	<input type="text"/> kVA base	
Transformer Reactance (X):	<input type="text"/> % on	<input type="text"/> kVA base	
Neutral Grounding Resistor (if applicable) <input type="text"/>			

(Continued on Sheet No. 10-109)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 109

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>TRANSFER SWITCH</b> (If applicable) Not Applicable	
Model Number:	Type:
Manufacturer:	Rating (amps):

<b>INVERTER</b> (If applicable)
---------------------------------

**NOTE:** Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.

<b>POWER CIRCUIT BREAKER</b> (if applicable) Not Applicable					
Manufacturer:			Model:		
Rated Voltage (kilovolts):			Rated Ampacity (Amperes):		
Interrupting Rating (Amperes):			BIL Rating:		
Interrupting Medium (vacuum, oil, gas, etc.)			Insulating Medium (vacuum, oil, gas, etc.)		
Control Voltage (Closing):		(Volts)	AC	DC	
Control Voltage (Tripping):		(Volts)	AC	DC	Battery Charged Capacitor
Close Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Trip Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Bushing Current Transformers (Max. ratio):				Relay Accuracy Class:	
CT'S Multi Ratio? (circle one); No / Yes: (Available taps):					

(Continued on Sheet No. 10-110)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

Section No. 10  
Original Sheet No. 110

**MISCELLANEOUS** (Use this area and any additional sheets for applicable notes and comments)

**MISCELLANEOUS** (Use this area and any additional sheets for applicable notes and comments)

**SEND THIS COMPLETED & SIGNED ENGINEERING DATA SUBMITTAL AND ANY ATTACHMENTS TO THE  
GENERATION INTERCONNECTION COORDINATOR**

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## Exhibit D Operating Agreement

Customer Legal Name: \_\_\_\_\_  
Service Address: \_\_\_\_\_  
SRC #: \_\_\_\_\_  
Generator Size: \_\_\_\_\_ kW

This Exhibit D – Operating Agreement (Exhibit D), is an Exhibit to the Generation System Interconnection Agreement between the Parties and provides the specific operating information and requirements for, and facilitates the operation of, the Generation System. The Interconnection Customer must operate the Generation System in accordance with the Technical Requirements, this Exhibit D as well as all provisions of Section 10 of the Xcel Energy Minnesota tariff. Unless otherwise defined in this Exhibit D, capitalized terms herein shall have the meaning provided such terms in the Generation System Interconnection Agreement.

Nothing in this Exhibit D is intended to or shall be construed as limiting Xcel Energy's rights under the Xcel Energy Minnesota tariff. In the event of a conflict between this Operating Agreement and any law, regulation and/or the Xcel Energy Minnesota tariff, the law regulation or Xcel Energy Minnesota tariff shall control, and the conflicting Operating Agreement provision shall have no effect. In the event of such a conflict, the remaining terms of this Operating Agreement shall remain in effect.

If the Generation System at Site identified above is part of a co-located Community Solar Garden site, the Generation Systems which are part of the same co-located Community Solar Garden site are:

1. SRC # \_\_\_\_\_
2. SRC # \_\_\_\_\_
3. SRC # \_\_\_\_\_
4. SRC # \_\_\_\_\_
5. SRC # \_\_\_\_\_

Pursuant to Minnesota Public Utilities Commission ruling the aggregated name plate capacity of the Generation Systems which are part of such a co-located Community Solar Garden site cannot exceed 5 MW (AC) if the application under the Solar\*Rewards Community program was submitted on or prior to September 25, 2015, and cannot exceed 1 MW (AC) on a co-located basis if the application was submitted after that date.

The Parties may, upon written agreement of the Parties, amend this Exhibit D pursuant to the terms of the Generating System Interconnection Agreement. In addition, upon written agreement of the Parties, this Operating Agreement may be reviewed and updated periodically, to allow the operation of the Generation System to change to meet the needs of both Xcel Energy and Interconnection Customer, provided that change does not negatively affect the other Party. In addition, the Parties may agree to amend this Operating Agreement to reflect operating changes required by regulatory authorities having jurisdiction over the matters governed by this Exhibit D, such as changes required by the Minnesota Public Utility Commission, the Federal Energy Regulatory Commission or the Midwest Independent System Operator.

## Exhibit D

This Exhibit D sets forth the technical terms pursuant to which Interconnection Customer may export energy to Xcel Energy from the Generation System. This Exhibit D does not provide for the amount, metering, billing and accounting for the export of energy from the Generation System, nor does it constitute Xcel Energy's agreement to purchase or pay for any such energy. Any such arrangements will be provided for in a separate written agreement.

Unless otherwise noted, capitalized terms shall have the meaning set forth in the Generating System Interconnection Agreement.

### 1.0 Definitions

- 1.1. "Engineering Study" means the Engineering Study Xcel Energy performed as part of the Interconnection Process conducted pursuant to its Distributed Generation Standard Interconnection and Power Purchase Tariff, Minnesota Electric Rate Book - MPUC No. 2, Section 10.
- 1.2. "Xcel Energy Control Center Contact" is as defined in Section 8.2.
- 1.3. "Interconnection Customer Control Center Contact" is as defined in Section 8.2.
- 1.4. Unless specifically defined otherwise, all measurements and performance requirements will be measured at the point of common coupling.

**2.0 Power Factor Requirements.** The power factor of the Generation System and connected load shall be as follows: (1) Inverter Based interconnections – shall be designed within reasonable limits to operate at a power factor of no less than 90% at the inverter terminals; (2) Limited Parallel Generation Systems, such as closed transfer or soft-loading transfer systems shall operate at a power factor of no less than 90%, during the period when the Generation System is parallel with Xcel Energy, as measured at the Point of Common Coupling; and, (3) Extended Parallel Generation Systems shall be designed to be capable of operating between 90% lagging and 95% leading. These Generation Systems shall normally operate near unity power factor (+/-98%) or as mutually agreed between Xcel Energy and the Interconnection Customer.

#### 2.1. Normal operation:

- 2.1.1. Interconnection Customer will operate the Generation System as an Inverter Based Generation system at a fixed power factor, as identified by the Engineering Study, within the power factor range as described in Section 2.0 above to mitigate voltage rise due to reverse power flow. Power production outside the specified power factor range is not allowed at any time without permission by Xcel Energy. It is the responsibility of Interconnection Customer and not Xcel Energy to assure that all equipment is sized properly so as to not curtail real power production if that is an objective of the Interconnection Customer.

## Exhibit D

Interconnection Customer shall operate the Generation System at a fixed power factor of \_\_\_\_\_. Note that a generator leading power factor means the machine is absorbing reactive power.

- 2.1.2.** In the future, distribution system reconfigurations, capacity constraints, or other external factors may require that the Generation System be served from another system and/or may also require that the Generation System change power factors in order to prevent voltage rise. Xcel Energy shall provide reasonable advance notice to Interconnection Customer pursuant Section XII(B) of the Generating System Interconnection Agreement in order to coordinate the implementation of such changes.

### **2.2. Contingency operation:**

- 2.2.1.** Temporary system conditions, such as overvoltage, may require Xcel Energy's Control Center Contact, in accordance with good utility practice and avoiding, to the extent reasonably possible, a reduction in the Generation System output (in the sole discretion of Xcel Energy), to direct the Interconnection Customer's Control Center Contact to disconnect or partially curtail the output of the Generation System. In some cases, and in its sole discretion, Xcel Energy may permit Interconnection Customer to partially operate or fully restore operation by temporarily applying different power factor settings.

## **3.0 Start-Up, Shut-Down, and Ramp Rates**

- 3.1.** Where the Generation System consists of one or more units, Interconnection Customer shall stagger the planned start-up and shutdown of the units, with a minimum delay of 30 seconds between the starting and stopping of each unit, in order to mitigate voltage flicker. A controlled shutdown may be allowed if a sequence of operation, including estimated timeframes for actions, is submitted to and approved by Xcel Energy in advance.
- 3.2.** Interconnection Customer shall have the ability to limit the up-ramp or skew rate of the Generation System.
- 3.3.** In order to mitigate a voltage surge, Xcel Energy reserves the right, based upon the Engineering Study, to specify how many inverters may come online simultaneously. Interconnection Customer may also be required to ensure that the inverters for the Generation System allow random or preprogrammed time delays between the startup of multiple inverters. Ramp Rate Limitations: \_\_\_\_\_.

## **4.0 Local and Remote Control**

- 4.1.** The Interconnection Customer shall ensure that at all times Xcel Energy has access to a breaker that can remotely control the Generation System from Xcel Energy's systems. To the extent allowed by law, Xcel Energy shall provide notice to the Interconnection Customer explaining the reason for the disconnection. If there is an emergency described in Section 4.1.1 or 4.1.2 below and prior notice is not reasonably possible, Xcel Energy shall after the fact, provide to the Interconnection Customer as to why the disconnection was required. Where reasonably possible



## Exhibit D

Xcel Energy shall use commercially reasonable efforts to reconnect the Generation System in a timely manner. Interconnection Customer agrees and consents to Xcel Energy's remote tripping, as reasonably necessary under good utility practice, of the breaker for the Generation System including, but not limited to, in the following circumstances, as system conditions exceed parameters defined in any IEEE, NESC or ANSI standards:

- 4.1.1. Electric Distribution or Generator System emergency
- 4.1.2. Public emergency
- 4.1.3. Abnormal feeder operation
- 4.1.4. Planned switching
- 4.1.5. Interconnection Customer's failure to promptly respond to and execute on Xcel Energy's request to curtail the output of, or disconnect, the Generation System.

4.2. If Xcel Energy remotely trips the breaker for the Generation System and Interconnection Customer desires that Xcel Energy close the breaker remotely, Interconnection Customer's Control Center Contact may make the request of Xcel Energy's Control Center Contact, and Xcel Energy will close the breaker remotely once the reason for the remote tripping has passed and it is safe and consistent with good utility practice to do so.

### 4.3. Local or Remote Close

- 4.3.1. If the Generation System has tripped offline due to an interruption on the Distribution System, Interconnection Customer shall contact Xcel Energy's Control Center Contact and, consistent with Section 5 below, verify that the Distribution System is in a normal operating configuration and the Generator System can be energized prior to energizing the Generator System.
- 4.3.2. If Xcel Energy remotely trips the breaker for the Generation System, Xcel Energy's Control Center Contact will notify the Interconnection Customer's Control Center Contact when the Generation System can be returned to normal operation.

### 4.4. Transfer Trip (TT)/Communication Channel

- 4.4.1. Upon loss of the TT communication channel, if any, the Interconnection Customer shall immediately disconnect the Generation System.
- 4.4.2. In general, the Generation System shall remain offline for the duration of the time the TT communication channel is lost. However, Xcel Energy may, in its sole discretion, allow limited operation of the Generation System in these circumstances.
- 4.4.3. The Generation System interconnection breaker shall trip with no intentional delay when receiving a transfer trip signal.

## 5.0 Outages of the Distribution System

5.1. Upon the occurrence of an emergency outage(s) to Xcel Energy's distribution system, Interconnection Customer shall do the following:

## Exhibit D

**5.1.1.** Disconnect the Generation System from Xcel Energy's system when a TT signal is active, if applicable.

**5.1.2.** Unless otherwise directed by Xcel Energy's Control Center Contact, wait five (5) minutes after the TT signal is removed, if applicable, from the interconnection breaker before implementing startup procedure for the Generation System.

**5.1.3.** Obtain permission from the Xcel Energy Control Center Contact to startup the Generation System.

**5.2.** Xcel Energy shall use commercially reasonable efforts to promptly restore the Generation System to service, consistent with good utility practice.

**5.3.** Unless otherwise directed by Xcel Energy's Control Center Contact, during a momentary distribution system interruption the Interconnection Customer shall wait five (5) minutes after successful close of the feeder breaker or recloser before starting up the Generation System.

**5.4.** During an extended distribution system interruption, unless otherwise directed by Xcel Energy's Control Center Contact the Interconnection Customer shall wait 5 minutes after sensing normal voltage and frequency before starting up the Generation System.

**6.0 Interference.** If the Generation System causes radio, television or electrical service interference to other customers, via the electric power system or interference with the operation of Xcel Energy, the Interconnection Customer shall disconnect the Generation System. The Interconnection Customer shall either effect repairs to the Generation System or reimburse Xcel Energy for the cost of any required Xcel Energy modifications due to the interference.

## **7.0 Electric Distribution System Modification:**

**7.1.** At its sole discretion Xcel Energy may modify its electric distribution system. Xcel Energy shall provide written notice to Interconnection Customer explaining the plans and schedule for any modifications to its electric distribution system that may impact operation or protection of Generation System. Xcel Energy shall provide such notice as soon as reasonably practicable prior to the time Xcel Energy intends to begin to modify its electric distribution system. Xcel Energy shall utilize good utility practice to minimize any curtailment of energy for the Generation System. Xcel Energy will make reasonable efforts to avoid planned system outages during the months of June, July and August.

**7.2.** Xcel Energy shall include the Generation System in its substation and feeder additions planning and distribution system reconfigurations and make all necessary and required accommodations to Interconnection Customer to insure that the Generation System retains its capability to deliver its power output to Xcel Energy per the Engineering Study, subject to the provisions of paragraph 7.1 above.

## Exhibit D

- 7.3.** The Generation System must be designed and interconnected such that the reliability and the service quality for all customers of the electrical power system are not compromised. The Interconnection Customer is responsible for all costs associated with the installation, operation, and maintenance of the Generation System. The Interconnection Customer shall be responsible for any expenses, which may be incurred by Xcel Energy as a result of any changes or modifications of the Interconnection Customer's Generation System.

### **8.0 Contingency Configurations**

- 8.1.** During contingency operations, if the Interconnection Customer is unable to use power factor control to mitigate voltage or power quality issues created by the Generation System, whether the voltage or power quality issues are due to steady state voltage rise or in the event of voltage regulation issues due to reverse power flow, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection would facilitate maintaining compliance with ANSI Range B voltage limits.
- 8.2.** During contingency operations, if the Generation System creates loading, overloading or protection issues, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection is consistent with good utility practice .
- 8.3.** If the Generation System is taken offline during contingency operations, Xcel Energy's Control Center Contact may, in its sole discretion, direct the Interconnection Customer's Control Center Contact to keep the Generation System offline or operate it on a limited basis if field ties and alternate sources of power utilized during contingency configurations do not have the capability to accommodate operation of Generation System.
- 8.4.** Generation System shall cease operation for loss of Generator System ground referencing equipment, if applicable, or loss of any other required Generator System component.

Exhibit D

**9.0 Control Center Contacts**

9.1. Each Party shall contact each other's Control Center Contact for all operational issues related to the Generation System. In order to permit Xcel Energy and Interconnection Customer to take immediate action, Interconnection Customer and Xcel Energy shall at all times provide to each other the contact information of each other's Control Center Contact, who shall be available twenty-four (24) hours a day, seven (7) days a week and be able to take action with respect to the operation of the Generation System and the Distribution System, respectively.

9.2. The contact information for the Xcel Energy Control Center contact that is available to Interconnection Customer twenty (24) hours a day, seven (7) days a week is:

Outstate Control Center: \_\_\_\_\_  
\_\_\_\_\_

9.3. The contact information for Interconnection Customer's Control Center contact that is available to Xcel Energy twenty (24) hours a day, seven (7) days a week is:

Lindsey Gillis \_\_\_\_\_  
\_\_\_\_\_

9.4. Each Party shall keep the other informed of their Control Center contact information. Notice of changes to Control Center contact information shall be provided immediately pursuant to Section XII B of the Generating System Interconnection Agreement.

**10.0 Right of Access.**

10.1. At all times, Xcel Energy shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with: the performance of its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); to meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, to provide service to its customers.

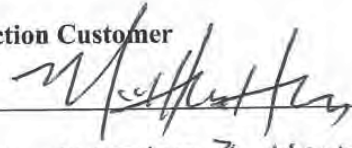
10.2. At all times, the Interconnection Customer shall give Xcel Energy access to Xcel Energy's equipment and facilities located on the Interconnection Customer's premises. when necessary for Xcel Energy to: perform its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, provide service to its customers.

Exhibit D

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By:   
Name: MATTHEW B. HANSEN  
Title: CHIEF OPERATING OFFICER  
Date: 6/22/17

**Xcel Energy**

By: Lee Gabler  
Name: Lee Gabler  
Title: Sr. Dir. Customer Strategy and Solutions  
Date: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:26:00 -05'00'



## **Exhibit E**

### **Maintenance Agreement**

Customer Legal Name: \_\_\_\_\_  
Service Address: \_\_\_\_\_  
SRC #: \_\_\_\_\_  
Generator Size: \_\_\_\_\_ kW

Each Generation System interconnection will be unique and will require a unique Maintenance Agreement. It is envisioned that this Exhibit will be tailored for each Generation System interconnection. It is also intended that this Maintenance Agreement Exhibit will be reviewed and updated periodically, to allow the maintenance of the Generation System be allowed to change to meet the needs of both Xcel Energy and the Interconnection Customer, provided that change does not negatively affect the other Party. There may also be changes required by outside issues; such as changes in FERC and MISO requirements and/or policies that will require this agreement to be modified.

#### **1.0 Routine Maintenance Requirements –**

- 1.1. Interconnection Customer shall maintain the system in good working order.
- 1.2. Interconnection Customer shall perform maintenance in accordance with manufacturer recommendations and intervals.

#### **2.0 Generation Metering, Monitoring, and Control**

- 2.1. When telemetry is required, the Interconnection customer is financially responsible for the communications channel to Xcel Energy's Control Center. The communication channel shall comply with Xcel Energy requirements and standards. If the remote terminal unit (RTU) and/or communication channel is provided by Xcel Energy, the Interconnection Customer shall be responsible for operating and maintenance costs, and replace of any failed parts or materials.
- 2.2. Interconnection customer shall be responsible for costs associated with emergency repairs, scheduled repairs, or replacement of parts for the telemetry system.
- 2.3. Interconnection Customer shall be responsible for replacement costs for advanced metering equipment, such as an ION meter.

#### **3.0 Modifications to the Generation System –**

- 3.1. The Interconnection Customer shall notify Xcel Energy, in writing of plans for any modifications to the Generation System interconnection equipment at least twenty (20) business days prior to undertaking such modification.
- 3.2. Modifications to any of the interconnection equipment, including all required protective systems, the generation control systems, the transfer switches/breakers, VT's & CT's, generating capacity and associated wiring shall be included in the notification to Xcel Energy.
- 3.3. The Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing.
- 3.4. Xcel Energy shall have a minimum of five (5) business days and a maximum of ten (10) business days, to review and respond to the modification, after the receipt of the information required to review the modifications.

Exhibit E

**4.0 Special Facilities**

- 4.1. Interconnection Customer may request underground facilities where Company standard construction is overhead facilities.
- 4.2. The Company will determine if the request will not adversely affect the reliability, operational integrity, or schedule of required work.
- 4.3. The Interconnection Customer shall be responsible for Operating, Maintenance and Replacement costs of the special facilities.
- 4.4. Perpetual easements will be granted Company at no cost to the Company whenever any portion of the underground distribution system is located on private land. Said easements also will allow the Company access for inspection, maintenance, and repair of Company facilities.

**5.0 Shared Facilities**

- 5.1. If the Generation System is designed as part of a co-located Community Solar Garden Site under the Company's Solar\*Rewards Community program and there are shared facilities between the Generation Systems comprising the co-located Community Solar Garden Site, then Interconnection Customer agrees to be jointly and severally liable with the Interconnection Customers associated with the co-located Community Solar Garden Site for all parts, installation, and maintenance costs and fees associated with the shared facilities.
- 5.2. Examples of shared facilities include, but are not limited to, remote monitoring facilities, communication equipment, and communication channels.

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: [Signature]  
Name: MATTHEW D. HANSEN  
Title: CHIEF OPERATING OFFICER  
Date: 02/22/17

**Xcel Energy**

By: Lee Gabler  
Name: Lee Gabler  
Title: Sr. Dir. Customer Strategy and Solutions  
Date: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director,  
Customer Strategy and Solutions,  
email=lee.gabler@xcelenergy.co  
m, c=US  
Date: 2017.07.05 15:26:12 -05'00'

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.1

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT**

An Interconnection Agreement, including any and all Exhibits thereto ("Contract") having been made as of [insert date of Interconnection Agreement] (a copy of which is attached hereto), by and between **Northern States Power Company, a Minnesota corporation**, having its principal office and place of business located at 414 Nicollet Mall, Minneapolis, Minnesota, 55401, hereinafter referred to as the Company, and **New Energy Equity, LLC** of [REDACTED] kW (AC) located at [REDACTED]; and

[REDACTED] the Assignor intends to convey its interest in the above-referenced Generation System to [REDACTED] ("Assignee"); and

**WHEREAS**, the Assignor intends to assign the Contract to the Assignee; and

**NOW, THEREFORE**, upon the execution of this Assignment of Contract by Company, the Assignor, and the Assignee and the delivery of all signatures to Company, the attached Contract is hereby further amended as follows:

1. The Assignor hereby irrevocably assigns the attached Contract in all respects to the Assignee and the Assignee accepts the assignment thereof in all respects.
2. Company consents to this assignment and, as assigned, the attached Contract is hereby amended so that wherever the name of the Assignor is used therein it shall mean the Assignee.
3. Any and all payments made by Company under the Contract to either the Assignor or the Assignee shall be deemed to have been made to both and shall discharge Company from any further liability with regard to said payment.
4. Any and all financial liability, including but not limited to amounts due, from the Interconnection Customer to the Company, occurring or accruing under the Contract on or before the date of the Company's signature to this Assignment shall be deemed to be the obligation of both the Assignor and Assignee, and the Company may recover any such amounts jointly and severally from the Assignor and Assignee.

(Continued on Sheet No. 10-134.2)

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
		President, Northern States Power Company, a Minnesota corporation		
Docket No.	E002/M-13-867		Order Date:	12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.2

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT  
(Continued)**

5. The contact information, including name, primary contact, address, telephone number and email address for the Assignee is as follows, and this information amends the Notice provisions in Section XII.B.1.b of the Contract:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. It is further agreed that all terms and conditions of the Contract, as amended, shall remain in full force and effect.

Facsimile signatures, or signatures to the Assignment of Contract sent electronically, shall have the same effect as original signatures. Photocopies, or electronically stored versions of this Assignment of Contract, shall have the same validity as the original.

**IN WITNESS WHEREOF**, Company, the Assignor, and the Assignee have executed this Assignment of Solar\*Rewards Contract as of this 28 day of June, 2017.

Assignor – New Energy Equity, LLC

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

Assignee – \_\_\_\_\_

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

**Northern States Power Company  
d/b/a Xcel Energy**

By: Lee  
Name: Gabler  
Title: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, ou=Customer  
Solutions, ou=Sr Director,  
Customer Strategy and Solutions,  
email=lee.gabler@xcelenergy.c  
om, c=US  
Date: 2017.06.28 15:34:07 -05'00'

(Continued on Sheet No. 10-135)

Date Filed: 12-18-15 By: Christopher B. Clark Effective Date: 12-18-15  
President, Northern States Power Company, a Minnesota corporation  
Docket No. E002/M-13-867 Order Date: 12-15-15

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 113

**APPENDIX E: Interconnection Agreement**

**State of Minnesota**

**Proposed Interconnection Agreement**

For the Interconnection of Extended Parallel Distributed Generation Systems With Electric Utilities

This Generating System Interconnection Agreement is entered into by and between Xcel Energy,  
"Northern States Power Company, a Minnesota corporation" and the Interconnection Customer "New Energy Equity LLC". The  
Interconnection Customer and Xcel Energy are sometimes also referred to in this Agreement jointly as "Parties" or  
individually as "Party".

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties  
agree as follows:

**I. SCOPE AND PURPOSE**

- A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10MWs or less in parallel with Xcel Energy at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B. This Agreement governs the facilities required to and contains the terms and condition under which the Interconnection Customer may interconnect the Generation System to Xcel Energy. This Agreement does not authorize the Interconnection Customer to export power or constitute an agreement to purchase or wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from Xcel Energy, or others, may be covered under separate agreements.
- C. To facilitate the operation of the Generation System, this agreement also allows for the occasional and inadvertent export of energy to Xcel Energy. The amount, metering, billing and accounting of such inadvertent energy exporting shall be governed by Exhibit D (Operating Agreement). This Agreement does not constitute an agreement by Xcel Energy to purchase or pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).
- D. This agreement does not constitute a request for, nor the provision of any transmission delivery service or any local distribution delivery service.
- E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document know as, the "State of Minnesota Distributed Generation Interconnection Requirements", a copy of which as been made available to the Interconnection Customer and incorporated and made part of this Agreement by this reference.

(Continued on Sheet No. 10-114)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



Northern States Power Company , a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 114

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS**

- A. "Area EPS" is an electric power system (EPS) that serves Local EPS's. For the purpose of this agreement, the Xcel Energy system is the Area EPS. Note: Typically, Xcel Energy has primary access to public rights-of-way, priority crossing of property boundaries, etc.
- B. "Area EPS Operator" is the entity that operates the electric power system. For purpose of this agreement, Xcel Energy is the Are EPS Operator.
- C. "Dedicated Facilities" is the equipment that is installed due to the interconnection of the Generation System and not required to serve other Xcel Energy customers.
- D. "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: This may include generation units.
- E. "Extended Parallel" means the Generation System is designed to remain connected with Xcel Energy for an extended period of time.
- F. "Generation" is any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.
- G. "Generation Interconnection Coordinator" is the person or persons designated by Xcel Energy to provide a single point of coordination with the Applicant for the generation interconnection process.
- H. "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.
- I. "Interconnection Customer" is the party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
- J. "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
- K. "Nameplate Capacity" is the total nameplate capacity rating of all the Generation included in the Generation System. For this definition the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

(Continued on Sheet No. 10-115)

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President and CEO of Northern States Power Company  
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Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**


Section No. 10  
Original Sheet No. 115

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS (Continued)**

- L. "Point of Common Coupling" is the point where the Local EPS is connected to Xcel Energy
- M. "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
- N. "Technical Requirements" are the State of Minnesota Requirements for Interconnection of Distributed Generation

**III. DESCRIPTION OF INTERCONNECTION CUSTOMER'S GENERATION SYSTEM**

- A) A description of the Generation System, including a single-line diagram showing the general arrangement of how the Interconnection Customer's Generation System is interconnected with Xcel Energy's distribution system, is attached to and made part of this Agreement as Exhibit A. The single-line diagram shows the following:
  - 1) Point of Delivery (if applicable)
  - 2) Point of Common Coupling
  - 3) Location of Meter(s)
  - 4) Ownership of the equipment
  - 5) Generation System total Nameplate Capacity  kW
  - 6) Scheduled operational (on-line) date for the Generation System.

**IV. RESPONSIBILITIES OF THE PARTIES**

- A) The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, operating requirements and good utility practices.
- B) Interconnection Customer shall construct, operate and maintain the Generation System in accordance with the applicable manufacture's recommend maintenance schedule, the Technical Requirements and in accordance with this Agreement.

(Continued on Sheet No. 10-116)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 116

**APPENDIX E: Interconnection Agreement (Continued)**

**IV. RESPONSIBILITIES OF THE PARTIES (Continued)**

- C) Xcel Energy shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner, and in accordance with standard design and engineering practices.

**V. CONSTRUCTION**

The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Minnesota and to meet or exceed applicable codes and standards provided by the NESC (National Electrical Safety Code), ANSI (American National Standards Institute), IEEE (Institute of Electrical and Electronic Engineers), NEC (National Electrical Code), UL (Underwriter's Laboratory), Technical Requirements and local building codes and other applicable ordinances in effect at the time of the installation of the Generation System.

A) Charges and payments

The Interconnection Customer is responsible for the actual costs to interconnect the Generation System with Xcel Energy, including, but not limited to any Dedicated Facilities attributable to the addition of the Generation System, Xcel Energy labor for installation coordination, installation testing and engineering review of the Generation System and interconnection design. Estimates of these costs are outlined in Exhibit B. While estimates, for budgeting purposes, have been provided in Exhibit B, the actual costs are still the responsibility of the Interconnection Customer, even if they exceed the estimated amount(s). All costs, for which the Interconnection Customer is responsible for, must be reasonable under the circumstances of the design and construction.

1) Dedicated Facilities

- a) During the term of this Agreement, Xcel Energy shall design, construct and install the Dedicated Facilities outlined in Exhibit B. The Interconnection Customer shall be responsible for paying the actual costs of the Dedicated Facilities attributable to the addition of the Generation System.
- b) Once installed, the Dedicated Facilities shall be owned and operated by Xcel Energy, and all costs associated with the operating and maintenance of the Dedicated Facilities, after the Generation System is operational, shall be the responsibility of Xcel Energy, unless otherwise agreed.
- c) By executing this Agreement, the Interconnection Customer grants permission for Xcel Energy to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities, as outlined in Exhibit B. If for any reason, the Generation System project is canceled or modified, so that any or all of the Dedicated Facilities are not required, the Interconnection Customer shall be responsible for all costs incurred by Xcel Energy,

(Continued on Sheet No. 10-117)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 117

**APPENDIX E: Interconnection Agreement (Continued)**

**V. CONSTRUCTION (Continued)**

including, but not limited to the additional costs to remove and/or complete the installation of the Dedicated Facilities. The Interconnection Customer may, for any reason, cancel the Generation System project, so that any or all of the Dedicated Facilities are not required to be installed. The Interconnection Customer shall provide written notice to Xcel Energy of cancellation. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.

2) Payments

- a) The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown in Exhibit B.
- b) The payment for the costs outlined in Exhibit B, shall be as follows:
  - i. 1/3 of estimated costs, outlined in Exhibit B, shall be due upon execution of this agreement.
  - ii. 1/3 of estimated costs, outlined in Exhibit B, shall be due prior to initial energization of the Generation System, with Xcel Energy.
  - iii. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT**

- A) This agreement includes the following exhibits, which are specifically incorporated herein and made part of this Agreement by this reference: *(if any of these Exhibits are deemed not applicable for this Generation System installation, they may be omitted from the final Agreement by Xcel Energy.)*
  - 1) Exhibit A – Description of Generation System and single-line diagram. This diagram shows all major equipment, 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. 10-118)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 118

**APPENDIX E: Interconnection Agreement (Continued)**

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT (Continued)**

- 2) Exhibit B – Estimated installation and testing costs payable by the Interconnection Customer. Included in this listing shall be the description and estimated costs for the required Dedicated Facilities being installed by Xcel Energy for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by Xcel Energy.
- 3) Exhibit C – Engineering Data Submittal – A standard form that provides the engineering and operating information about the Generation System.
- 4) Exhibit D – Operating Agreement – This provides specific operating information and requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.
- 5) Exhibit E – Maintenance Agreement – This provides specific maintenance requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

**VII. TERMS AND TERMINATION**

- A) This Agreement shall become effective as of the date when both the Interconnection Customer and Xcel Energy have both signed this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
  - 1) The Parties agree in writing to terminate the Agreement; or
  - 2) The Interconnection Customer may terminate this agreement at any time, by written notice to Xcel Energy, prior to the completion of the final acceptance testing of the Generation System by Xcel Energy. Once the Generation System is operational, then VII.A.3 applies. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.
  - 3) Once the Generation System is operational, the Interconnection Customer may terminate this agreement after 30 days written notice to Xcel Energy, unless otherwise agreed to within the Exhibit D, Operating Agreement; or

(Continued on Sheet No.10-119)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF  
(Continued)**

Section No. 10  
1st Revised Sheet No. 119

**APPENDIX E: Interconnection Agreement (Continued)**

**VII. TERMS AND TERMINATION**

- 4) Xcel Energy may terminate this agreement after 30 days written notice to the Interconnection Customer if:
- a) The Interconnection Customer fails to interconnect and operate the Generation System per the terms of this Agreement; or
  - b) The Interconnection Customer fails to take all corrective actions specified in Xcel Energy's written notice that the Generation System is out of compliance with the terms of this Agreement, within the time frame set forth in such notice, or
  - c) If the Interconnection Customer fails to complete Xcel Energy's final acceptance testing of the generation system within 24 months of the date proposed under section III.A.6.
- B) Upon termination of this Agreement the Generation System shall be disconnected from Xcel Energy. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing, at the time of the termination.

T

**VIII. OPERATIONAL ISSUES**

Each Party will, at its own cost and expense, operate, maintain, repair and inspect, and shall be fully responsible for, the facilities that it now or hereafter may own, unless otherwise specified.

- A) Technical Standards: The Generation System shall be installed and operated by the Interconnection Customer consistent with the requirements of this Agreement; the Technical Requirements; the applicable requirements located in the National Electrical Code (NEC); the applicable standards published by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE); and local building and other applicable ordinances in effect at the time of the installation of the Generation System.
- B) Right of Access: At all times, Xcel Energy's personnel shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the electric power system safely and to provide service to its customers. If necessary for the purposes of this Agreement, the Interconnection Customer shall allow Xcel Energy access to Xcel Energy's equipment and facilities located on the premises.

(Continued on Sheet No. 10-120)

Date Filed: 11-03-10 By: Judy M. Pofert Effective Date: 09-01-12  
President and CEO of Northern States Power Company, a Minnesota corporation  
Docket No. E002/GR-10-971 Order Date: 05-14-12

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 120

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

- C) Electric Service Supplied: will supply the electrical requirements of the Local EPS that are not supplied by the Generation System. Such electric service shall be supplied, to the Interconnection Customer's Local EPS, under the rate schedules applicable to the Customer's class of service as revised from time to time by Xcel Energy.
- D) Operation and Maintenance: The Generation System shall be operated and maintained, by the Interconnection Customer in accordance with the Technical Standards and any additional requirements of Exhibit D and Exhibit E, attached to this document, as amended, in writing, from time to time.
- E) Cooperation and Coordination: Both Xcel Energy and the Interconnection Customer shall communicate and coordinate their operations, so that the normal operation of the electric power system does not unduly effect or interfere with the normal operation of the Generation System and the Generation System does not unduly effect or interfere with the normal operation of the electric power system. Under abnormal operations of either the Generation System or the Xcel Energy system, the responsible Party shall provide reasonably timely communication to the other Party to allow mitigation of any potentially negative effects of the abnormal operation of their system.
- F) Disconnection of Unit: Xcel Energy may disconnect the Generation System as reasonably necessary, for termination of this Agreement; non-compliance with this Agreement; system emergency, imminent danger to the public or Xcel Energy personnel; routine maintenance, repairs and modifications to the electric power system. When reasonably possible, Xcel Energy shall provide prior notice to the Interconnection Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, Xcel Energy shall after the fact, provide information to the Interconnection Customer as to why the disconnection was required. It is agreed that Xcel Energy shall have no liability for any loss of sales or other damages, including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable, for the disconnection of the Generation System per this Agreement. Xcel Energy shall expend reasonable effort to reconnect the Generation System in a timely manner and to work towards mitigating damages and losses to the Interconnection Customer where reasonably possible.
- G) Modifications to the Generation System: When reasonably possible the Interconnection Customer shall notify Xcel Energy, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by Xcel Energy as part of the review described in this paragraph, at least twenty (20) business days prior to undertaking such modification(s). Modifications to any of the interconnection equipment, including, all interconnection required protective systems, the generation control systems, the transfer switches/breakers, interconnection protection VT's & CT's, and Generation System capacity, shall be included in the notification to Xcel Energy. When reasonably possible the

(Continued on Sheet No. 10-121)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 121

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing, which approval shall not be unreasonably withheld. Xcel Energy shall have a minimum of five (5) business days to review and respond to the planned modification. Xcel Energy shall not take longer than a maximum of ten (10) business days, to review and respond to the modification after the receipt of the information required to review the modifications. When it is not reasonably possible for the Interconnection Customer to provide prior written notice, the Interconnection Customer shall provide written notice to Xcel Energy as soon as reasonably possible, after the completion of the modification(s).

- H) Permits and Approvals: The Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction of the Generation System. The Interconnection Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

**IX. LIMITATION OF LIABILITY**

- A) Each Party shall at all times indemnify, defend, and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the Party's performance of its obligations under this agreement, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the other Party.
- B) Each Party's liability to the other Party for failure to perform its obligations under this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any punitive, incidental, indirect, special, or consequential damages of any kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.
- C) Notwithstanding any other provision in this Agreement, with respect to Xcel Energy's provision of electric service to any customer including the Interconnection Customer, the Xcel Energy's liability to such customer shall be limited as set forth in Xcel Energy's tariffs and terms and conditions for electric service, and shall not be affected by the terms of this Agreement.

**X. DISPUTE RESOLUTION**

- A) Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

(Continued on Sheet No. 10-122)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 122

**APPENDIX E: Interconnection Agreement (Continued)**

**X. DISPUTE RESOLUTION (Continued)**

- B) In the event a dispute arises under this Agreement, and if it cannot be resolved by the Parties within thirty (30) days after written notice of the dispute to the other Party, the Parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in the State of Minnesota. The Parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the Parties may refer the dispute for resolution to the Minnesota Public Utilities Commission (MPUC), which shall maintain continuing jurisdiction over this Agreement.

**XI. INSURANCE**

- A) At a minimum, In connection with the Interconnection Customer's performance of its duties and obligations under this Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:
- 1) Two million dollars (\$2,000,000) for each occurrence, if the Gross Nameplate Rating of the Generation System is greater than 250kW.
  - 2) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40kW and 250kW.
  - 3) Three hundred thousand (\$300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 40kW.
  - 4) Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the Interconnection Customer's ownership and/or operating of the Generation System under this agreement.
- B) The general liability insurance required shall, by endorsement to the policy or policies, (a) include Xcel Energy as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Xcel Energy shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to Xcel Energy prior to cancellation, termination, alteration, or material change of such insurance.

(Continued on Sheet No. 10-123)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 123

**APPENDIX E: Interconnection Agreement (Continued)**

**XI. INSURANCE (Continued)**

- C) If the Generation System is connected to an account receiving residential service from Xcel Energy and its total generating capacity is smaller than 40kW, then the endorsements required in Section XI.B shall not apply.
- D) The Interconnection Customer shall furnish the required insurance certificates and endorsements to Xcel Energy prior to the initial operation of the Generation System. Thereafter, Xcel Energy shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance
- E) Evidence of the insurance required in Section XI.A. shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by Xcel Energy.
- F) If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section XI.A – E:
  - 1) Interconnection Customer shall provide to Xcel Energy, at least thirty (30) days prior to the date of initial operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under section XI.A.
  - 2) If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of it's ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section XI.A.
- G) Failure of the Interconnection Customer or Xcel Energy to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.
- H) All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the Generation Interconnection Coordinator assigned.

**XII. MISCELLANEOUS**

**A) FORCE MAJEURE**

- 1) An event of Force Majeure means any act of God, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order,

(Continued on Sheet No. 10-124)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
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Minneapolis, Minnesota 55401

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 124

**APPENDIX E: Interconnection Agreement (Continued)**

**XII. MISCELLANEOUS (Continued)**

regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

- 2) Neither Party will be considered in default of any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

**B) NOTICES**

- 1) Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

- a) Generation Interconnection Coordinator assigned Solar\*Rewards Community  
825 Rice Street  
Saint Paul, MN 55117  
SRGMN@xcelenergy.com
- b) If to Interconnection Customer:  
New Energy Equity



- 2) A Party may change its address for notices at any time by providing the other Party written notice of the change, in accordance with this Section.
- 3) The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's notice to the other Party.

(Continued on Sheet No. 10-125)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 125

**APPENDIX E: Interconnection Agreement (Continued)**

**C) ASSIGNMENT**

The Interconnection Customer shall not assign its rights nor delegate its duties under this Agreement without Xcel Energy's written consent. Any assignment or delegation the Interconnection Customer makes without Xcel Energy's written consent shall not be valid. Xcel Energy shall not unreasonably withhold its consent to the Generating Entities assignment of this Agreement.

**D) NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**E) GOVERNING LAW AND INCLUSION OF XCEL ENERGY'S TARIFFS AND RULES.**

- 1) This Agreement shall be interpreted, governed and construed under the laws of the State of Minnesota as if executed and to be performed wholly within the State of Minnesota without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 2) The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules applicable to the electric service provided by Xcel Energy, which tariff schedules and rules are hereby incorporated into this Agreement by this reference.
- 3) Notwithstanding any other provisions of this Agreement, Xcel Energy shall have the right to unilaterally file with the MPUC, pursuant to the MPUC's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**F) AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**G) ENTIRE AGREEMENT**

This Agreement, including all attachments, exhibits, and appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the Generation System of the Parties at the Point(s) of Common Coupling expressly provided for in this Agreement and supersedes all prior agreements.

(Continued on Sheet No. 10-126)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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

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

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**DISTRIBUTED GENERATION STANDARD**

Section No. 10

**INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

1st Revised Sheet No. 126

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**APPENDIX E: Interconnection Agreement (Continued)**

**G) ENTIRE AGREEMENT (Continued)**

or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement. Each party also represents that in entering into this Agreement, it has not relied on the promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated attachments, exhibits and appendices. Notwithstanding this paragraph, if the Interconnection Agreement is in connection with a Solar\*Rewards Community application, then the provisions in the Section 9 tariff applicable to the Solar\*Rewards Community Program also apply.

N  
N  
N

**H) CONFIDENTIAL INFORMATION**

Except as otherwise agreed or provided herein, each Party shall hold in confidence and shall not disclose confidential information, to any person (except employees, officers, representatives and agents, who agree to be bound by this section). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any confidential information so furnished.

**I) NON-WARRANTY**

Neither by inspection, if any, or non-rejection, nor in any other way, does Xcel Energy give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Generation System and any structures, equipment, wires, appliances or devices appurtenant thereto.

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(Continued on Sheet No. 10-127)

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Date Filed: 12-18-15

By: Christopher B. Clark

Effective Date: 12-18-15

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-13-867

Order Date: 12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
1st Revised Sheet No. 127

**APPENDIX E: Interconnection Agreement (Continued)**

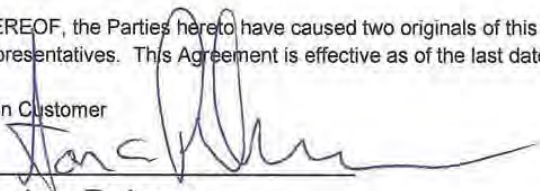
**J) NO PARTNERSHIP**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**XIII. SIGNATURES**

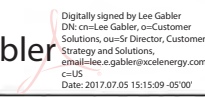
IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By:   
Name: Ian Palmer  
Title: CEO  
Date: May 1, 2017

Xcel Energy

Lee Gabler

By:   
Name: Lee Gabler  
Title: Sr. Dir. Customer Strategy and Solutions  
Date: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, ou=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:15:09 -05'00'

(Continued on Sheet No. 10-128)

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
		President, Northern States Power Company, a Minnesota Corporation		
Docket No.	E002/M-13-867		Order Date:	12-15-15

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Minneapolis, Minnesota 55401

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

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 128

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**EXHIBIT A**

GENERATION SYSTEM DESCRIPTION  
AND SINGLE-LINE DIAGRAM

(Continued on Sheet No. 10-129)

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Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06







Exhibit B  
**Cost Estimate and Payment Schedule**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**Project Description:** \_\_\_\_\_

Site	Garden Name	Legal Name (if different than the legal name noted above)	SRC #	Capacity (MW)
1				

The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown.

Each of the above legal entities is jointly and severally liable for all due amounts.

The payment for the costs contained shall be as follows:

1. 1/3 of estimated costs due upon execution of this agreement
2. 1/3 of estimated costs due prior to initial energization of the generation system
3. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

Separate SOWs will be issued for each of the Co-Located Community Solar Gardens, each needs to be signed and returned, but the amount reflected in the SOWs is the total among all of the Co-Located Community Solar Gardens.

Location	Distribution (Extension)	Distribution (Rebuild)	Substation	Meter	Total	1/3 Payment
Site 1						

**Total Cost  
for all sites** \_\_\_\_\_

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 105

**APPENDIX C: Engineering Data Submittal Form**

**WHO SHOULD FILE THIS SUBMITTAL:** Anyone in the final stages of interconnecting a Generation System with Xcel Energy. This submittal shall be completed and provided to the Generation Interconnection Coordinator during the design of the Generation System, as established in the "State of Minnesota Interconnection Process for Distributed Generation Systems".

**INFORMATION:** This submittal is used to document the interconnected Generation System. The Applicant shall complete as much of the form as applicable. The Applicant will be contacted if additional information is required.

**OWNER / APPLICANT**

Company / Applicant: New Energy Equity, LLC

Representative: Lindsey Gillis

Phone Number:

FAX Number:

Title:

Mailing Address:

Email Address:

**PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION**

Street Address, Legal Description or GPS coordinates:

**PROJECT DESIGN / ENGINEERING (if applicable)**

Company: New Energy Equity

Representative: Rocky Shoemaker

Phone:

FAX Number:

Mailing Address:

Email Address:

**ELECTRICAL CONTRACTOR (if applicable)**

Company:

Representative:

Phone:

FAX Number:

Mailing Address:

Email Address:

(Continued on Sheet No. 10-106)

Date Filed: 11-02-05

By: Cynthia L. Leshner

Effective Date: 02-01-07

President and CEO of Northern States Power Company

Docket No. E002/GR-05-1428

Order Date: 09-01-06

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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 106

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>TYPE OF INTERCONNECTED OPERATION</b>
Interconnection / Transfer method:

<b>GENERATION SYSTEM OPERATION / MAINTENANCE CONTACT INFORMATION</b>		
Maintenance Provider:	Phone #:	Pager #:
Operator Name:	Phone #:	Pager #:
Person to Contact before remote starting of units		
Contact Name:	Phone #:	Pager #:
	24hr Phone #:	

<b>GENERATION SYSTEM OPERATING INFORMATION</b>	
Fuel Capacity (gals):	Full Fuel Run-time (hrs):
Engine Cool Down Duration (Minutes):	Start time Delay on Load Shed signal:
Start Time Delay on Outage (Seconds):	

<b>ESTIMATED LOAD</b>			
The following information will be used to help properly design the interconnection. This Information is not Intended as a commitment or contract for billing purposes.			
Minimum anticipated load (generation not operating):	kW:		kVA:
Maximum anticipated load (generation not operating):	kW:		kVA:

(Continued on Sheet No. 10-107)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



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Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 107

**APPENDIX C: Engineering Data Submittal Form (Continued)**

REQUESTED CONSTRUCTION START/COMPLETION DATES	
Design Completion:	
Construction Start Date:	
Footings in place:	
Primary Wiring Completion:	
Control Wiring Completion:	
Start Acceptance Testing:	
Generation operational (In-service):	

(Complete all applicable items. Copy this page as required for additional generators.)

SYNCHRONOUS GENERATOR (if applicable)			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:	Type:	Phases: 1 or 3	
Serial Number (each)	Date of manufacture:	Speed (RPM):	Freq. (Hz);
Rated Output (each unit) kW Standby:	kW Prime:	kVA:	
Rated Power Factor (%):	Rated Voltage(Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance (Xd):	% on	kVA base	
Transient Reactance (X'd):	% on	kVA base	
Subtransient Reactance (X'd):	% on	kVA base	
Negative Sequence Reactance (Xs):	% on	kVA base	
Zero Sequence Reactance (Xo):	% on	kVA base	
Neutral Grounding Resistor (if applicable):			
$I^2_t$ or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			

(Continued on Sheet No. 10-108)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 108

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>INDUCTION GENERATOR</b> (if applicable)			
Rotor Resistance (Rr):	Ohms	Stator Resistance (Rs):	Ohms
Rotor Reactance (Xr):	Ohms	Stator Reactance (Xs):	Ohms
Magnetizing Reactance (Xm):	Ohms	Short Circuit Reactance (Xd):	Ohms
Design Letter:		Frame Size:	
Exciting Current:		Temp Rise (deg C°):	
Rated Output (kW):			
Reactive Power Required:		kVars (no Load)	kVars (full load)
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.			
Additional Information:			
<b>PRIME MOVER</b> (Complete all applicable items)			
Unit Number:	Type:		
Manufacturer:			
Serial Number:	Date of Manufacture:		
H.P. Rated:	H.P. Max:	Inertia Constant:	lb.-ft. <sup>2</sup>
Energy Source (hydro, steam, wind, wind etc.):			

<b>INTERCONNECTION (STEP-UP) TRANSFORMER</b> (If applicable)			
Manufacturer: TBD after IA Scoping Study		kVA: 1000 kVa	
Date of Manufacture:	Serial Number:		
High Voltage: kV	Connection:		Neutral solidly grounded?
Low Voltage: kV	Connection:		Neutral solidly grounded?
Transformer Impedance (Z): TBD		% on	kVA base
Transformer Resistance (R): TBD		% on	kVA base
Transformer Reactance (X): TBD		% on	kVA base
Neutral Grounding Resistor (if applicable)			

(Continued on Sheet No. 10-109)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 109

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>TRANSFER SWITCH</b> (If applicable)	
Model Number:	Type:
Manufacturer:	Rating (amps):

<b>INVERTER</b> (If applicable)
---------------------------------

**NOTE:** Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.

<b>POWER CIRCUIT BREAKER</b> (if applicable)					
Manufacturer:			Model:		
Rated Voltage (kilovolts):			Rated Ampacity (Amperes):		
Interrupting Rating (Amperes):			BIL Rating:		
Interrupting Medium (vacuum, oil, gas, etc.)			Insulating Medium (vacuum, oil, gas, etc.)		
Control Voltage (Closing):		(Volts)	AC	DC	
Control Voltage (Tripping):		(Volts)	AC	DC	Battery Charged Capacitor
Close Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Trip Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Bushing Current Transformers (Max. ratio):				Relay Accuracy Class:	
CT'S Multi Ratio? (circle one); No / Yes: (Available taps):					

(Continued on Sheet No. 10-110)

Date Filed: 11-02-05 By: Cynthia L. Leshar Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 110

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**MISCELLANEOUS** (Use this area and any additional sheets for applicable notes and comments)

This project is being applied for under the Solar Rewards Community Solar Garden program. All applicable  
rules and guidelines governing that program will be adhered to.

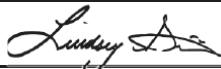
**SIGN OFF AREA**

This Engineering Data Submittal documents the equipment and design of the Generation System. We agree to supply Xcel Energy with an updated Engineering Data Submittal any time significant changes are made in the equipment used or the design of the proposed Generation System. The Applicant agrees to design, operate and maintain the Generation System within the requirements set forth by the "State of Minnesota Distributed Generation Interconnection Requirements".

**Applicant Name (print):**

Lindsey Gillis

**Applicant Signature:**



**Date:**

02/01/17

**SEND THIS COMPLETED & SIGNED ENGINEERING DATA SUBMITTAL AND ANY ATTACHMENTS TO THE  
GENERATION INTERCONNECTION COORDINATOR**

(Continued on Sheet No. 10-111)

Date Filed: 11-02-05

By: Cynthia L. Leshner

Effective Date: 02-01-07

President and CEO of Northern States Power Company

E002/GR-05-1428

09-01-06

Exhibit D

**Exhibit D**  
**Operating Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ **kW**

This Exhibit D – Operating Agreement (Exhibit D), is an Exhibit to the Generation System Interconnection Agreement between the Parties and provides the specific operating information and requirements for, and facilitates the operation of, the Generation System. The Interconnection Customer must operate the Generation System in accordance with the Technical Requirements, this Exhibit D as well as all provisions of Section 10 of the Xcel Energy Minnesota tariff. Unless otherwise defined in this Exhibit D, capitalized terms herein shall have the meaning provided such terms in the Generation System Interconnection Agreement.

Nothing in this Exhibit D is intended to or shall be construed as limiting Xcel Energy's rights under the Xcel Energy Minnesota tariff. In the event of a conflict between this Operating Agreement and any law, regulation and/or the Xcel Energy Minnesota tariff, the law regulation or Xcel Energy Minnesota tariff shall control, and the conflicting Operating Agreement provision shall have no effect. In the event of such a conflict, the remaining terms of this Operating Agreement shall remain in effect.

If the Generation System at Site identified above is part of a co-located Community Solar Garden site, the Generation Systems which are part of the same co-located Community Solar Garden site are:

Site	SRC #
1	_____

Pursuant to Minnesota Public Utilities Commission ruling the aggregated name plate capacity of the Generation Systems which are part of such a co-located Community Solar Garden site cannot exceed 5 MW (AC) if the application under the Solar\*Rewards Community program was submitted on or prior to September 25, 2015, and cannot exceed 1 MW (AC) on a co-located basis if the application was submitted after that date.

The Parties may, upon written agreement of the Parties, amend this Exhibit D pursuant to the terms of the Generating System Interconnection Agreement. In addition, upon written agreement of the Parties, this Operating Agreement may be reviewed and updated periodically, to allow the operation of the Generation System to change to meet the needs of both Xcel Energy and Interconnection Customer, provided that change does not negatively affect the other Party. In addition, the Parties may agree to amend this Operating Agreement to reflect operating changes required by regulatory authorities having jurisdiction over the matters governed by this Exhibit D, such as changes required by the Minnesota Public Utility Commission, the Federal Energy Regulatory Commission or the Midwest Independent System Operator.

This Exhibit D sets forth the technical terms pursuant to which Interconnection Customer may export energy to Xcel Energy from the Generation System. This Exhibit D does not provide for the amount, metering, billing and accounting for the export of energy from the Generation System, nor does it



Exhibit D

constitute Xcel Energy's agreement to purchase or pay for any such energy. Any such arrangements will be provided for in a separate written agreement.

Unless otherwise noted, capitalized terms shall have the meaning set forth in the Generating System Interconnection Agreement.

**1.0 Definitions**

- 1.1. "Engineering Study" means the Engineering Study Xcel Energy performed as part of the Interconnection Process conducted pursuant to its Distributed Generation Standard Interconnection and Power Purchase Tariff, Minnesota Electric Rate Book - MPUC No. 2, Section 10.
- 1.2. "Xcel Energy Control Center Contact" is as defined in Section 8.2.
- 1.3. "Interconnection Customer Control Center Contact" is as defined in Section 8.2.
- 1.4. Unless specifically defined otherwise, all measurements and performance requirements will be measured at the point of common coupling.

**2.0 Power Factor Requirements.** The power factor of the Generation System and connected load shall be as follows: (1) Inverter Based interconnections – shall at minimum be designed to operate at the full power factor range of 90% leading to 90% lagging at the inverter terminals, subject to any more specific power factor for this Generation System as specified in par. 2.1.1 below; (2) Limited Parallel Generation Systems, such as closed transfer or soft-loading transfer systems shall operate at a power factor of no less than 90%, during the period when the Generation System is parallel with Xcel Energy, as measured at the Point of Common Coupling; and, (3) Extended Parallel Generation Systems of rotating machine type shall be designed to be capable of operating between 95% lagging and 95% leading. These Generation Systems shall normally operate near unity power factor (+/- 98%) or as mutually agreed between Xcel Energy and the Interconnection Customer.

**2.1. Normal operation:**

- 2.1.1. Interconnection Customer will operate the Generation System as an Inverter Based Generation system at a fixed power factor, as identified by the Engineering Study, within the power factor range as described in Section 2.0 above to mitigate voltage rise due to reverse power flow. Power production outside the specified power factor range is not allowed at any time without permission by Xcel Energy. It is the responsibility of Interconnection Customer and not Xcel Energy to assure that all equipment is sized properly so as to not curtail real power production if that is an objective of the Interconnection Customer.

Interconnection Customer shall operate the Generation System at a fixed power factor of [REDACTED] Note that a generator leading power factor means the machine is absorbing reactive power.



## Exhibit D

**2.1.2.** In the future, distribution system reconfigurations, capacity constraints, or other external factors may require that the Generation System be served from another system and/or may also require that the Generation System change power factors within the limits identified in section 2.0 in order to prevent voltage rise. Xcel Energy shall provide reasonable advance notice to Interconnection Customer pursuant Section XII(B) of the Generating System Interconnection Agreement in order to coordinate the implementation of such changes.

### **2.2. Contingency operation:**

**2.2.1.** Temporary system conditions, such as overvoltage, may require Xcel Energy's Control Center Contact, in accordance with good utility practice and avoiding, to the extent reasonably possible, a reduction in the Generation System output (in the sole discretion of Xcel Energy), to direct the Interconnection Customer's Control Center Contact to disconnect or partially curtail the output of the Generation System. In some cases, and in its sole discretion, Xcel Energy may permit Interconnection Customer to partially operate or fully restore operation by temporarily applying different power factor settings.

### **3.0 Start-Up, Shut-Down, and Ramp Rates**

**3.1.** Where the Generation System consists of one or more units (e.g., inverters in a solar PV context), Interconnection Customer shall stagger the planned start-up and shutdown of the units, with a minimum delay of 30 seconds between the starting and stopping of each unit, in order to mitigate voltage flicker. A controlled shutdown may be allowed if a sequence of operation, including estimated timeframes for actions, is submitted to and approved by Xcel Energy in advance.

**3.2.** Interconnection Customer shall have the ability to limit the up-ramp or skew rate of the Generation System.

**3.3.** In order to mitigate a voltage surge, Xcel Energy reserves the right, based upon the Engineering Study, to specify how many inverters may come online simultaneously. Interconnection Customer may also be required to ensure that the inverters for the Generation System allow random or preprogrammed time delays between the startup of multiple inverters. Ramp Rate Limitations (or inverter start up limitations in a solar PV context); [REDACTED]  
[REDACTED]

### **4.0 Local and Remote Control**

**4.1.** The Interconnection Customer shall ensure that at all times Xcel Energy has access to a manually operated three-phase ganged lockable service-disconnect switch. If transfer trip has been installed, then Interconnection Customer shall also ensure that Xcel Energy has access to a breaker that can remotely control the Generation System from Xcel Energy's systems. To the extent allowed by law, Xcel Energy shall provide notice to the Interconnection Customer explaining the reason for the disconnection. If there is an emergency described in Section 4.1.1



Exhibit D

or 4.1.2 below and prior notice is not reasonably possible, Xcel Energy shall after the fact, provide to the Interconnection Customer as to why the disconnection was required. Where reasonably possible Xcel Energy shall use commercially reasonable efforts to reconnect the Generation System in a timely manner. Interconnection Customer agrees and consents to Xcel Energy's remote tripping or manual disconnection, as reasonably necessary under good utility practice, of the breaker for the Generation System including, but not limited to, in the following circumstances, as system conditions exceed parameters defined in any IEEE, NESC or ANSI standards:

- 4.1.1. Electric Distribution or Generator System emergency
  - 4.1.2. Public emergency
  - 4.1.3. Abnormal feeder operation
  - 4.1.4. Planned switching
  - 4.1.5. Interconnection Customer's failure to promptly respond to and execute on Xcel Energy's request to curtail the output of, or disconnect, the Generation System.
- 4.2. If Xcel Energy remotely trips the breaker for the Generation System and Interconnection Customer desires that Xcel Energy close the breaker remotely, Interconnection Customer's Control Center Contact may make the request of Xcel Energy's Control Center Contact, and Xcel Energy will close the breaker remotely once the reason for the remote tripping has passed and it is safe and consistent with good utility practice to do so.
- 4.3. Local or Remote Close
- 4.3.1. If the Generation System has tripped offline due to an interruption on the Distribution System, Interconnection Customer shall contact Xcel Energy's Control Center Contact and, consistent with Section 5 below, verify that the Distribution System is in a normal operating configuration and the Generator System can be energized prior to energizing the Generator System.
  - 4.3.2. If Xcel Energy remotely trips the breaker for the Generation System, Xcel Energy's Control Center Contact will notify the Interconnection Customer's Control Center Contact when the Generation System can be returned to normal operation.
- 4.4. If Transfer Trip (TT)/Communication Channel is required as part of the engineering study results, then:
- 4.4.1. Upon loss of the TT communication channel, if any, the Interconnection Customer shall immediately disconnect the Generation System.
  - 4.4.2. In general, the Generation System shall remain offline for the duration of the time the TT communication channel is lost. However, Xcel Energy may, in its sole discretion, allow limited operation of the Generation System in these circumstances.
  - 4.4.3. The Generation System interconnection breaker shall trip with no intentional delay when receiving a transfer trip signal.



Exhibit D

**5.0 Outages of the Distribution System**

5.1. Upon the occurrence of an emergency outage(s) (defined as any unplanned interruption of Xcel Energy's distribution system), Interconnection Customer shall do the following:

5.1.1. Disconnect the Generation System from Xcel Energy's system when a TT signal is active, if applicable.

5.1.2. Unless otherwise directed by Xcel Energy's Control Center Contact, wait five (5) minutes after the TT signal is removed, if applicable, from the interconnection breaker before implementing startup procedure for the Generation System.

5.1.3. Obtain permission from the Xcel Energy Control Center Contact to startup the Generation System.

5.2. If there is automation installed on the feeder, then the Generation System shall disconnect from Xcel Energy's electric distribution system when not served by the normal source.

5.3. Xcel Energy shall use commercially reasonable efforts to promptly restore the Generation System to service, consistent with good utility practice.

5.4. Unless otherwise directed by Xcel Energy's Control Center Contact, during a momentary distribution system interruption (defined as an interruption of electric service to a customer with disruption less than or equal to 5 minutes), the Interconnection Customer shall wait five (5) minutes after successful close of the feeder breaker or recloser before starting up the Generation System.

5.5. During an extended distribution system interruption (defined as an interruption of electric service to a customer with a duration greater than 5 minutes), unless otherwise directed by Xcel Energy's Control Center Contact the Interconnection Customer shall wait 5 minutes after sensing normal voltage and frequency before starting up the Generation System.

**6.0 Interference.** If the Generation System causes radio, television or electrical service interference to other customers, via the electric power system or interference with the operation of Xcel Energy, the Interconnection Customer shall disconnect the Generation System. The Interconnection Customer shall either effect repairs to the Generation System or reimburse Xcel Energy for the cost of any required Xcel Energy modifications due to the interference.

**7.0 Electric Distribution System Modification:**

7.1. At its sole discretion Xcel Energy may modify its electric distribution system. Xcel Energy shall provide written notice to Interconnection Customer explaining the plans and schedule for any modifications to its electric distribution system that may impact operation or protection of Generation System. Xcel Energy shall provide such notice as soon as reasonably practicable prior to the time Xcel Energy intends to begin to modify its electric distribution system. Xcel Energy shall utilize good utility practice to minimize any curtailment of energy for the



#### Exhibit D

Generation System. Xcel Energy will make reasonable efforts to avoid planned system outages during the months of June, July and August.

- 7.2. Xcel Energy shall include the Generation System in its substation and feeder additions planning and distribution system reconfigurations and make all necessary and required accommodations to Interconnection Customer to insure that the Generation System retains its capability to deliver its power output to Xcel Energy per the Engineering Study, subject to the provisions of paragraph 7.1 above.
- 7.3. The Generation System must be designed and interconnected such that the reliability and the service quality for all customers of the electrical power system are not compromised. The Interconnection Customer is responsible for all costs associated with the installation, operation, and maintenance of the Generation System. The Interconnection Customer shall be responsible for any expenses, which may be incurred by Xcel Energy as a result of any changes or modifications of the Interconnection Customer's Generation System.

#### 8.0 Contingency Configurations

- 8.1. During contingency operations, if the Interconnection Customer is unable to use power factor control to mitigate voltage or power quality issues created by the Generation System, whether the voltage or power quality issues are due to steady state voltage rise or in the event of voltage regulation issues due to reverse power flow, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection would facilitate maintaining compliance with ANSI Range B voltage limits.
- 8.2. During contingency operations, if the Generation System creates loading, overloading or protection issues, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection is consistent with good utility practice.
- 8.3. If the Generation System is taken offline during contingency operations, Xcel Energy's Control Center Contact may, in its sole discretion, direct the Interconnection Customer's Control Center Contact to keep the Generation System offline or operate it on a limited basis if field ties and alternate sources of power utilized during contingency configurations do not have the capability to accommodate operation of Generation System.
- 8.4. Generation System shall cease operation for loss of Generator System ground referencing equipment, if applicable, or loss of any other required Generator System component related to the safe and reliable operation of the Generation System.

#### 9.0 Control Center Contacts

- 9.1. Each Party shall contact each other's Control Center Contact for all operational issues related to the Generation System. In order to permit Xcel Energy and Interconnection Customer to take

Exhibit D

immediate action, Interconnection Customer and Xcel Energy shall at all times provide to each other the contact information of each other's Control Center Contact, who shall be available twenty-four (24) hours a day, seven (7) days a week and be able to take action with respect to the operation of the Generation System and the Distribution System, respectively.

- 9.2. The contact information for the Xcel Energy Control Center contact that is available to Interconnection Customer twenty (24) hours a day, seven (7) days a week is:

Outstate Control Center: \_\_\_\_\_  
\_\_\_\_\_

- 9.3. The contact information for Interconnection Customer's Control Center contact that is available to Xcel Energy twenty (24) hours a day, seven (7) days a week is:

Lindsey Gillis \_\_\_\_\_  
\_\_\_\_\_

- 9.4. Each Party shall keep the other informed of their Control Center contact information. Notice of changes to Control Center contact information shall be provided immediately pursuant to Section XII B of the Generating System Interconnection Agreement.

**10.0 Right of Access.**

- 10.1. At all times, Xcel Energy shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with: the performance of its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); to meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, to provide service to its customers.

- 10.2. At all times, the Interconnection Customer shall give Xcel Energy access to Xcel Energy's equipment and facilities located on the Interconnection Customer's premises, when necessary for Xcel Energy to: perform its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, provide service to its customers.

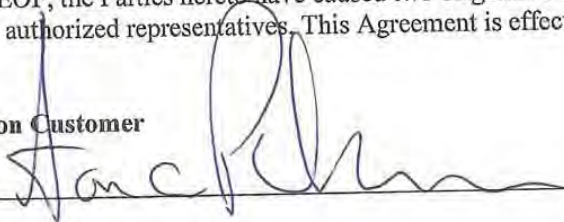


Exhibit D

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: 

Name: Ian C. Palmer

Title: CEO

Date: 4/20/17

**Xcel Energy**

Lee Gabler

By: 

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:15:22 -0500

Exhibit E

**Exhibit E**

**Maintenance Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ kW

Each Generation System interconnection will be unique and will require a unique Maintenance Agreement. It is envisioned that this Exhibit will be tailored for each Generation System interconnection. It is also intended that this Maintenance Agreement Exhibit will be reviewed and updated periodically, to allow the maintenance of the Generation System be allowed to change to meet the needs of both Xcel Energy and the Interconnection Customer, provided that change does not negatively affect the other Party. There may also be changes required by outside issues; such as changes in FERC and MISO requirements and/or policies that will require this agreement to be modified.

**1.0 Routine Maintenance Requirements –**

- 1.1. Interconnection Customer shall maintain the system in good working order.
- 1.2. Interconnection Customer shall perform maintenance in accordance with manufacturer recommendations and intervals.

**2.0 Generation Metering, Monitoring, and Control**

- 2.1. When telemetry is required, the Interconnection customer is financially responsible for the communications channel associated with Xcel Energy's Remote Monitoring System. The communication channel shall comply with Xcel Energy requirements and standards. If the communications cabinet and/or communication channel is provided by Xcel Energy, the Interconnection Customer shall be responsible for operating and maintenance costs, and replace any failed parts or materials.
- 2.2. Interconnection customer shall be responsible for costs associated with emergency repairs, scheduled repairs, or replacement of parts for the telemetry system.
- 2.3. Interconnection Customer shall be responsible for replacement costs for advanced metering equipment, such as an ION meter.
- 2.4. Interconnection Customer is responsible for assuring network equipment functions properly to facilitate communications between the Xcel Energy communications cabinet and all meters on site. Any failure of Interconnection Customer provided equipment between the communication cabinet and meters shall be repaired or replaced by the Interconnection Customer within seven (7) calendar days of the first day of improper functioning of this equipment. This includes wiring, connectors, switches, panels, all other hardware, fiber or Ethernet, Remote Terminal Unit (RTU), 120 V power source, etc. To the extent this equipment is not working properly, there may be delayed payment for generation. Failure of the Interconnection Customer to repair the improperly working equipment within this seven (7) calendar day period may result in disconnection of the Generation System from Xcel Energy's electric distribution system and only be reconnected after the situation is corrected.

**3.0 Modifications to the Generation System –**

- 3.1. The Interconnection Customer shall notify Xcel Energy, in writing of plans for any



Exhibit E

modifications to the Generation System interconnection equipment at least twenty (20) business days prior to undertaking such modification.

- 3.2. Modifications to any of the interconnection equipment, including all required protective systems, the generation control systems, the transfer switches/breakers, VT's & CT's, generating capacity and associated wiring shall be included in the notification to Xcel Energy.
- 3.3. The Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing.
- 3.4. Xcel Energy shall have a minimum of five (5) business days and a maximum of ten (10) business days, to review and respond to the modification, after the receipt of the information required to review the modifications.

**4.0 Special Facilities**

- 4.1. Interconnection Customer may request underground facilities where Company standard construction is overhead facilities.
- 4.2. The Company will determine if the request will not adversely affect the reliability, operational integrity, or schedule of required work.
- 4.3. The Interconnection Customer shall be responsible for Operating, Maintenance and Replacement costs of the special facilities. In this context, the term "special facilities" means facilities which the Company builds or installs which differ from the Company's standard construction standards. For example, this would include the situation where the Interconnection Customer, for aesthetics, permitting, or any other reason, requests underground facilities even though from a technical perspective overhead facilities would be sufficient.
- 4.4. Perpetual easements will be granted Company at no cost to the Company whenever any portion of the underground distribution system is located on private land. Said easements also will allow the Company access for inspection, maintenance, and repair of Company facilities.

**5.0 Shared Facilities**

- 5.1. If the Generation System is designed as part of a co-located Community Solar Garden Site under the Company's Solar\*Rewards Community program and there are shared facilities between the Generation Systems comprising the co-located Community Solar Garden Site, then Interconnection Customer agrees to be jointly and severally liable with the Interconnection Customers associated with the co-located Community Solar Garden Site for all parts, installation, and maintenance costs and fees associated with the shared facilities.
- 5.2. Examples of shared facilities include, but are not limited to, switchgear or service entrance equipment, remote monitoring facilities, communication equipment, and communication channels.

Exhibit E

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: 

Name: Ian C. Palmer

Title: CEO

Date: 4/20/17

**Xcel Energy**

By: Lee Gabler 

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

# MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2

Section No. 10  
Original Sheet No. 134.1

N

N

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
		President, Northern States Power Company, a Minnesota corporation		
Docket No.	E002/M-13-867		Order Date:	12-15-15



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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.2

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT  
(Continued)**

5. The contact information, including name, primary contact, address, telephone number and email address for the Assignee is as follows, and this information amends the Notice provisions in Section XII.B.1.b of the Contract:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. It is further agreed that all terms and conditions of the Contract, as amended, shall remain in full force and effect.

Facsimile signatures, or signatures to the Assignment of Contract sent electronically, shall have the same effect as original signatures. Photocopies, or electronically stored versions of this Assignment of Contract, shall have the same validity as the original.

**IN WITNESS WHEREOF**, Company, the Assignor, and the Assignee have executed this Assignment of Solar\*Rewards Contract as of this 28 day of June, 2017.

Assignor – New Energy Equity, LLC

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

Assignee – \_\_\_\_\_

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

**Northern States Power Company  
d/b/a Xcel Energy**

By: \_\_\_\_\_

Name: Lee Gabler  
Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director,  
Customer Strategy and Solutions,  
email=lee.gabler@xcelenergy.co  
m, c=US  
Date: 2017.06.28 15:19:24 -05'00'

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

(Continued on Sheet No. 10-135)

Date Filed: 12-18-15 By: Christopher B. Clark Effective Date: 12-18-15  
President, Northern States Power Company, a Minnesota corporation  
Docket No. E002/M-13-867 Order Date: 12-15-15

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 113

**APPENDIX E: Interconnection Agreement**

**State of Minnesota  
Proposed Interconnection Agreement**

For the Interconnection of Extended Parallel Distributed Generation Systems With Electric Utilities

This Generating System Interconnection Agreement is entered into by and between Xcel Energy,  
“Northern States Power Company, a Minnesota corporation” and the Interconnection Customer “New Energy Equity LLC”. The  
Interconnection Customer and Xcel Energy are sometimes also referred to in this Agreement jointly as “Parties” or  
individually as “Party”.

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties  
agree as follows:

**I. SCOPE AND PURPOSE**

- A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10MWs or less in parallel with Xcel Energy at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B. This Agreement governs the facilities required to and contains the terms and condition under which the Interconnection Customer may interconnect the Generation System to Xcel Energy. This Agreement does not authorize the Interconnection Customer to export power or constitute an agreement to purchase or wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from Xcel Energy, or others, may be covered under separate agreements.
- C. To facilitate the operation of the Generation System, this agreement also allows for the occasional and inadvertent export of energy to Xcel Energy. The amount, metering, billing and accounting of such inadvertent energy exporting shall be governed by Exhibit D (Operating Agreement). This Agreement does not constitute an agreement by Xcel Energy to purchase or pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).
- D. This agreement does not constitute a request for, nor the provision of any transmission delivery service or any local distribution delivery service.
- E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document know as, the “State of Minnesota Distributed Generation Interconnection Requirements”, a copy of which as been made available to the Interconnection Customer and incorporated and made part of this Agreement by this reference.

(Continued on Sheet No. 10-114)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company , a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 114

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS**

- A. "Area EPS" is an electric power system (EPS) that serves Local EPS's. For the purpose of this agreement, the Xcel Energy system is the Area EPS. Note: Typically, Xcel Energy has primary access to public rights-of-way, priority crossing of property boundaries, etc.
- B. "Area EPS Operator" is the entity that operates the electric power system. For purpose of this agreement, Xcel Energy is the Are EPS Operator.
- C. "Dedicated Facilities" is the equipment that is installed due to the interconnection of the Generation System and not required to serve other Xcel Energy customers.
- D. "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: This may include generation units.
- E. "Extended Parallel" means the Generation System is designed to remain connected with Xcel Energy for an extended period of time.
- F. "Generation" is any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.
- G. "Generation Interconnection Coordinator" is the person or persons designated by Xcel Energy to provide a single point of coordination with the Applicant for the generation interconnection process.
- H. "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.
- I. "Interconnection Customer" is the party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
- J. "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
- K. "Nameplate Capacity" is the total nameplate capacity rating of all the Generation included in the Generation System. For this definition the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

(Continued on Sheet No. 10-115)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**


Section No. 10  
Original Sheet No. 115

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS (Continued)**

- L. "Point of Common Coupling" is the point where the Local EPS is connected to Xcel Energy
- M. "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
- N. "Technical Requirements" are the State of Minnesota Requirements for Interconnection of Distributed Generation

**III. DESCRIPTION OF INTERCONNECTION CUSTOMER'S GENERATION SYSTEM**

- A) A description of the Generation System, including a single-line diagram showing the general arrangement of how the Interconnection Customer's Generation System is interconnected with Xcel Energy's distribution system, is attached to and made part of this Agreement as Exhibit A. The single-line diagram shows the following:
  - 1) Point of Delivery (if applicable)
  - 2) Point of Common Coupling
  - 3) Location of Meter(s)
  - 4) Ownership of the equipment
  - 5) Generation System total Nameplate Capacity  kW
  - 6) Scheduled operational (on-line) date for the Generation System.

**IV. RESPONSIBILITIES OF THE PARTIES**

- A) The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, operating requirements and good utility practices.
- B) Interconnection Customer shall construct, operate and maintain the Generation System in accordance with the applicable manufacture's recommend maintenance schedule, the Technical Requirements and in accordance with this Agreement.

(Continued on Sheet No. 10-116)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 116

**APPENDIX E: Interconnection Agreement (Continued)**

**IV. RESPONSIBILITIES OF THE PARTIES (Continued)**

- C) Xcel Energy shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner, and in accordance with standard design and engineering practices.

**V. CONSTRUCTION**

The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Minnesota and to meet or exceed applicable codes and standards provided by the NESC (National Electrical Safety Code), ANSI (American National Standards Institute), IEEE (Institute of Electrical and Electronic Engineers), NEC (National Electrical Code), UL (Underwriter's Laboratory), Technical Requirements and local building codes and other applicable ordinances in effect at the time of the installation of the Generation System.

A) Charges and payments

The Interconnection Customer is responsible for the actual costs to interconnect the Generation System with Xcel Energy, including, but not limited to any Dedicated Facilities attributable to the addition of the Generation System, Xcel Energy labor for installation coordination, installation testing and engineering review of the Generation System and interconnection design. Estimates of these costs are outlined in Exhibit B. While estimates, for budgeting purposes, have been provided in Exhibit B, the actual costs are still the responsibility of the Interconnection Customer, even if they exceed the estimated amount(s). All costs, for which the Interconnection Customer is responsible for, must be reasonable under the circumstances of the design and construction.

1) Dedicated Facilities

- a) During the term of this Agreement, Xcel Energy shall design, construct and install the Dedicated Facilities outlined in Exhibit B. The Interconnection Customer shall be responsible for paying the actual costs of the Dedicated Facilities attributable to the addition of the Generation System.
- b) Once installed, the Dedicated Facilities shall be owned and operated by Xcel Energy, and all costs associated with the operating and maintenance of the Dedicated Facilities, after the Generation System is operational, shall be the responsibility of Xcel Energy, unless otherwise agreed.
- c) By executing this Agreement, the Interconnection Customer grants permission for Xcel Energy to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities, as outlined in Exhibit B. If for any reason, the Generation System project is canceled or modified, so that any or all of the Dedicated Facilities are not required, the Interconnection Customer shall be responsible for all costs incurred by Xcel Energy,

(Continued on Sheet No. 10-117)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06



Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 117

**APPENDIX E: Interconnection Agreement (Continued)**

**V. CONSTRUCTION (Continued)**

including, but not limited to the additional costs to remove and/or complete the installation of the Dedicated Facilities. The Interconnection Customer may, for any reason, cancel the Generation System project, so that any or all of the Dedicated Facilities are not required to be installed. The Interconnection Customer shall provide written notice to Xcel Energy of cancellation. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.

**2) Payments**

- a) The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown in Exhibit B.
- b) The payment for the costs outlined in Exhibit B, shall be as follows:
  - i. 1/3 of estimated costs, outlined in Exhibit B, shall be due upon execution of this agreement.
  - ii. 1/3 of estimated costs, outlined in Exhibit B, shall be due prior to initial energization of the Generation System, with Xcel Energy.
  - iii. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT**

- A) This agreement includes the following exhibits, which are specifically incorporated herein and made part of this Agreement by this reference: *(if any of these Exhibits are deemed not applicable for this Generation System installation, they may be omitted from the final Agreement by Xcel Energy.)*
  - 1) Exhibit A – Description of Generation System and single-line diagram. This diagram shows all major equipment, 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. 10-118)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 118

**APPENDIX E: Interconnection Agreement (Continued)**

**VI. DOCUMENTS INCLUDED WITH THIS AGREEMENT (Continued)**

- 2) Exhibit B – Estimated installation and testing costs payable by the Interconnection Customer. Included in this listing shall be the description and estimated costs for the required Dedicated Facilities being installed by Xcel Energy for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by Xcel Energy.
- 3) Exhibit C – Engineering Data Submittal – A standard form that provides the engineering and operating information about the Generation System.
- 4) Exhibit D – Operating Agreement – This provides specific operating information and requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.
- 5) Exhibit E – Maintenance Agreement – This provides specific maintenance requirements for this Generation System interconnection. This Exhibit has a separate signature section and may be modified, in writing, from time to time with the agreement of both parties.

**VII. TERMS AND TERMINATION**

- A) This Agreement shall become effective as of the date when both the Interconnection Customer and Xcel Energy have both signed this Agreement. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:
  - 1) The Parties agree in writing to terminate the Agreement; or
  - 2) The Interconnection Customer may terminate this agreement at any time, by written notice to Xcel Energy, prior to the completion of the final acceptance testing of the Generation System by Xcel Energy. Once the Generation System is operational, then VII.A.3 applies. Upon receipt of a cancellation notice, Xcel Energy shall take reasonable steps to minimize additional costs to the Interconnection Customer, where reasonably possible.
  - 3) Once the Generation System is operational, the Interconnection Customer may terminate this agreement after 30 days written notice to Xcel Energy, unless otherwise agreed to within the Exhibit D, Operating Agreement; or

(Continued on Sheet No.10-119)

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President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401  
**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF  
(Continued)**

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Section No. 10  
1st Revised Sheet No. 119

**APPENDIX E: Interconnection Agreement (Continued)**

**VII. TERMS AND TERMINATION**

- 4) Xcel Energy may terminate this agreement after 30 days written notice to the Interconnection Customer if:
- a) The Interconnection Customer fails to interconnect and operate the Generation System per the terms of this Agreement; or
  - b) The Interconnection Customer fails to take all corrective actions specified in Xcel Energy's written notice that the Generation System is out of compliance with the terms of this Agreement, within the time frame set forth in such notice, or
  - c) If the Interconnection Customer fails to complete Xcel Energy's final acceptance testing of the generation system within 24 months of the date proposed under section III.A.6.

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- B) Upon termination of this Agreement the Generation System shall be disconnected from Xcel Energy. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing, at the time of the termination.

**VIII. OPERATIONAL ISSUES**

Each Party will, at its own cost and expense, operate, maintain, repair and inspect, and shall be fully responsible for, the facilities that it now or hereafter may own, unless otherwise specified.

- A) Technical Standards: The Generation System shall be installed and operated by the Interconnection Customer consistent with the requirements of this Agreement; the Technical Requirements; the applicable requirements located in the National Electrical Code (NEC); the applicable standards published by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE); and local building and other applicable ordinances in effect at the time of the installation of the Generation System.
- B) Right of Access: At all times, Xcel Energy's personnel shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement, to meet its obligation to operate the electric power system safely and to provide service to its customers. If necessary for the purposes of this Agreement, the Interconnection Customer shall allow Xcel Energy access to Xcel Energy's equipment and facilities located on the premises.

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(Continued on Sheet No. 10-120)

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Date Filed: 11-03-10 By: Judy M. Pofert Effective Date: 09-01-12  
President and CEO of Northern States Power Company, a Minnesota corporation  
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Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 120

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

- C) Electric Service Supplied: will supply the electrical requirements of the Local EPS that are not supplied by the Generation System. Such electric service shall be supplied, to the Interconnection Customer's Local EPS, under the rate schedules applicable to the Customer's class of service as revised from time to time by Xcel Energy.
- D) Operation and Maintenance: The Generation System shall be operated and maintained, by the Interconnection Customer in accordance with the Technical Standards and any additional requirements of Exhibit D and Exhibit E, attached to this document, as amended, in writing, from time to time.
- E) Cooperation and Coordination: Both Xcel Energy and the Interconnection Customer shall communicate and coordinate their operations, so that the normal operation of the electric power system does not unduly effect or interfere with the normal operation of the Generation System and the Generation System does not unduly effect or interfere with the normal operation of the electric power system. Under abnormal operations of either the Generation System or the Xcel Energy system, the responsible Party shall provide reasonably timely communication to the other Party to allow mitigation of any potentially negative effects of the abnormal operation of their system.
- F) Disconnection of Unit: Xcel Energy may disconnect the Generation System as reasonably necessary, for termination of this Agreement; non-compliance with this Agreement; system emergency, imminent danger to the public or Xcel Energy personnel; routine maintenance, repairs and modifications to the electric power system. When reasonably possible, Xcel Energy shall provide prior notice to the Interconnection Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, Xcel Energy shall after the fact, provide information to the Interconnection Customer as to why the disconnection was required. It is agreed that Xcel Energy shall have no liability for any loss of sales or other damages, including all consequential damages for the loss of business opportunity, profits or other losses, regardless of whether such damages were foreseeable, for the disconnection of the Generation System per this Agreement. Xcel Energy shall expend reasonable effort to reconnect the Generation System in a timely manner and to work towards mitigating damages and losses to the Interconnection Customer where reasonably possible.
- G) Modifications to the Generation System: When reasonably possible the Interconnection Customer shall notify Xcel Energy, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by Xcel Energy as part of the review described in this paragraph, at least twenty (20) business days prior to undertaking such modification(s). Modifications to any of the interconnection equipment, including, all interconnection required protective systems, the generation control systems, the transfer switches/breakers, interconnection protection VT's & CT's, and Generation System capacity, shall be included in the notification to Xcel Energy. When reasonably possible the

(Continued on Sheet No. 10-121)

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President and CEO of Northern States Power Company  
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Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 121

**APPENDIX E: Interconnection Agreement (Continued)**

**VIII. OPERATIONAL ISSUES (Continued)**

Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing, which approval shall not be unreasonably withheld. Xcel Energy shall have a minimum of five (5) business days to review and respond to the planned modification. Xcel Energy shall not take longer than a maximum of ten (10) business days, to review and respond to the modification after the receipt of the information required to review the modifications. When it is not reasonably possible for the Interconnection Customer to provide prior written notice, the Interconnection Customer shall provide written notice to Xcel Energy as soon as reasonably possible, after the completion of the modification(s).

- H) Permits and Approvals: The Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction of the Generation System. The Interconnection Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

**IX. LIMITATION OF LIABILITY**

- A) Each Party shall at all times indemnify, defend, and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the Party's performance of its obligations under this agreement, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the other Party.
- B) Each Party's liability to the other Party for failure to perform its obligations under this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any punitive, incidental, indirect, special, or consequential damages of any kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.
- C) Notwithstanding any other provision in this Agreement, with respect to Xcel Energy's provision of electric service to any customer including the Interconnection Customer, the Xcel Energy's liability to such customer shall be limited as set forth in Xcel Energy's tariffs and terms and conditions for electric service, and shall not be affected by the terms of this Agreement.

**X. DISPUTE RESOLUTION**

- A) Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

(Continued on Sheet No. 10-122)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



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Minneapolis, Minnesota 55401

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

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

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Section No. 10  
Original Sheet No. 122

**APPENDIX E: Interconnection Agreement (Continued)**

**X. DISPUTE RESOLUTION (Continued)**

- B) In the event a dispute arises under this Agreement, and if it cannot be resolved by the Parties within thirty (30) days after written notice of the dispute to the other Party, the Parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in the State of Minnesota. The Parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the Parties may refer the dispute for resolution to the Minnesota Public Utilities Commission (MPUC), which shall maintain continuing jurisdiction over this Agreement.

**XI. INSURANCE**

- A) At a minimum, In connection with the Interconnection Customer's performance of its duties and obligations under this Agreement, the Interconnection Customer shall maintain, during the term of the Agreement, general liability insurance, from a qualified insurance agency with a B+ or better rating by "Best" and with a combined single limit of not less than:
- 1) Two million dollars (\$2,000,000) for each occurrence, if the Gross Nameplate Rating of the Generation System is greater than 250kW.
  - 2) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generation System is between 40kW and 250kW.
  - 3) Three hundred thousand (\$300,000) for each occurrence if the Gross Nameplate Rating of the Generation System is less than 40kW.
  - 4) Such general liability insurance shall include coverage against claims for damages resulting from (i) bodily injury, including wrongful death; and (ii) property damage arising out of the Interconnection Customer's ownership and/or operating of the Generation System under this agreement.
- B) The general liability insurance required shall, by endorsement to the policy or policies, (a) include Xcel Energy as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that Xcel Energy shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for the payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to Xcel Energy prior to cancellation, termination, alteration, or material change of such insurance.

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(Continued on Sheet No. 10-123)

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President and CEO of Northern States Power Company  
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Minneapolis, Minnesota 55401

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

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

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Section No. 10  
Original Sheet No. 123

**APPENDIX E: Interconnection Agreement (Continued)**

**XI. INSURANCE (Continued)**

- C) If the Generation System is connected to an account receiving residential service from Xcel Energy and its total generating capacity is smaller than 40kW, then the endorsements required in Section XI.B shall not apply.
- D) The Interconnection Customer shall furnish the required insurance certificates and endorsements to Xcel Energy prior to the initial operation of the Generation System. Thereafter, Xcel Energy shall have the right to periodically inspect or obtain a copy of the original policy or policies of insurance
- E) Evidence of the insurance required in Section XI.A. shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by Xcel Energy.
- F) If the Interconnection Customer is self-insured with an established record of self-insurance, the Interconnection Customer may comply with the following in lieu of Section XI.A – E:
  - 1) Interconnection Customer shall provide to Xcel Energy, at least thirty (30) days prior to the date of initial operation, evidence of an acceptable plan to self-insure to a level of coverage equivalent to that required under section XI.A.
  - 2) If Interconnection Customer ceases to self-insure to the level required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of its ability to self-insure, the Interconnection Customer agrees to immediately obtain the coverage required under Section XI.A.
- G) Failure of the Interconnection Customer or Xcel Energy to enforce the minimum levels of insurance does not relieve the Interconnection Customer from maintaining such levels of insurance or relieve the Interconnection Customer of any liability.
- H) All insurance certificates, statements of self-insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the Generation Interconnection Coordinator assigned.

**XII. MISCELLANEOUS**

**A) FORCE MAJEURE**

- 1) An event of Force Majeure means any act of God, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order,

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(Continued on Sheet No. 10-124)

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Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
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Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 124

**APPENDIX E: Interconnection Agreement (Continued)**

**XII. MISCELLANEOUS (Continued)**

regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

- 2) Neither Party will be considered in default of any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

**B) NOTICES**

- 1) Any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person or sent by first class mail, postage prepaid, to the person specified below:

- a) Generation Interconnection Coordinator assigned
- Solar\*Rewards Community  
825 Rice Street  
Saint Paul, MN 55117  
SRCMN@xcelenergy.com

- b) If to Interconnection Customer:
- New Energy Equity, LLC



- 2) A Party may change its address for notices at any time by providing the other Party written notice of the change, in accordance with this Section.
- 3) The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's notice to the other Party.

(Continued on Sheet No. 10-125)

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 125

**APPENDIX E: Interconnection Agreement (Continued)**

**C) ASSIGNMENT**

The Interconnection Customer shall not assign its rights nor delegate its duties under this Agreement without Xcel Energy's written consent. Any assignment or delegation the Interconnection Customer makes without Xcel Energy's written consent shall not be valid. Xcel Energy shall not unreasonably withhold its consent to the Generating Entities assignment of this Agreement.

**D) NON-WAIVER**

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

**E) GOVERNING LAW AND INCLUSION OF XCEL ENERGY'S TARIFFS AND RULES.**

- 1) This Agreement shall be interpreted, governed and construed under the laws of the State of Minnesota as if executed and to be performed wholly within the State of Minnesota without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 2) The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules applicable to the electric service provided by Xcel Energy, which tariff schedules and rules are hereby incorporated into this Agreement by this reference.
- 3) Notwithstanding any other provisions of this Agreement, Xcel Energy shall have the right to unilaterally file with the MPUC, pursuant to the MPUC's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

**F) AMENDMENT AND MODIFICATION**

This Agreement can only be amended or modified by a writing signed by both Parties.

**G) ENTIRE AGREEMENT**

This Agreement, including all attachments, exhibits, and appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the Generation System of the Parties at the Point(s) of Common Coupling expressly provided for in this Agreement and supersedes all prior agreements.

(Continued on Sheet No. 10-126)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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

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

**DISTRIBUTED GENERATION STANDARD**

Section No. 10

**INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

1st Revised Sheet No. 126

**APPENDIX E: Interconnection Agreement (Continued)**

**G) ENTIRE AGREEMENT (Continued)**

or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement. Each party also represents that in entering into this Agreement, it has not relied on the promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated attachments, exhibits and appendices. Notwithstanding this paragraph, if the Interconnection Agreement is in connection with a Solar\*Rewards Community application, then the provisions in the Section 9 tariff applicable to the Solar\*Rewards Community Program also apply.

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N  
N

**H) CONFIDENTIAL INFORMATION**

Except as otherwise agreed or provided herein, each Party shall hold in confidence and shall not disclose confidential information, to any person (except employees, officers, representatives and agents, who agree to be bound by this section). Confidential information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any confidential information so furnished.

**I) NON-WARRANTY**

Neither by inspection, if any, or non-rejection, nor in any other way, does Xcel Energy give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Generation System and any structures, equipment, wires, appliances or devices appurtenant thereto.

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(Continued on Sheet No. 10-127)

Date Filed: 12-18-15

By: Christopher B. Clark

Effective Date: 12-18-15

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-13-867

Order Date: 12-15-15



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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
1st Revised Sheet No. 127

**APPENDIX E: Interconnection Agreement (Continued)**

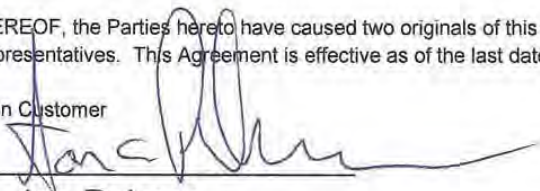
**J) NO PARTNERSHIP**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.


**XIII. SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

Interconnection Customer

By:   
Name: Ian Palmer  
Title: CEO  
Date: May 1, 2017

Xcel Energy

By:   
Name: Lee Gabler  
Title: Sr. Dir. Customer Strategy and Solutions  
Date: \_\_\_\_\_

(Continued on Sheet No. 10-128)

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
Docket No.	E002/M-13-867	President, Northern States Power Company, a Minnesota Corporation	Order Date:	12-15-15

Northern States Power Company, a Minnesota corporation  
and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

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**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 128

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**EXHIBIT A**

GENERATION SYSTEM DESCRIPTION  
AND SINGLE-LINE DIAGRAM

(Continued on Sheet No. 10-129)

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		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06





Exhibit B  
**Cost Estimate and Payment Schedule**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** [REDACTED]

**Project Description:** [REDACTED]

Site	Garden Name	Legal Name (if different than the legal name noted above)	SRC #	Capacity (MW)
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The Interconnection Customer shall provide reasonable adequate assurances of credit, including a letter of credit or personal guaranty of payment and performance from a creditworthy entity acceptable under Xcel Energy credit policy and procedures for the unpaid balance of the estimated amount shown.

Each of the above legal entities is jointly and severally liable for all due amounts.

The payment for the costs contained shall be as follows:

1. 1/3 of estimated costs due upon execution of this agreement
2. 1/3 of estimated costs due prior to initial energization of the generation system
3. Remainder of actual costs, incurred by Xcel Energy, shall be due within 30 days from the date the bill is mailed by Xcel Energy after project completion.

Separate SOWs will be issued for each of the Co-Located Community Solar Gardens, each needs to be signed and returned, but the amount reflected in the SOWs is the total among all of the Co-Located Community Solar Gardens.

Location	Distribution (Extension)	Distribution (Rebuild)	Substation	Meter	Total	1/3 Payment
Site 1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**Total Cost  
for all sites**

[REDACTED]



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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 105

**APPENDIX C: Engineering Data Submittal Form**

**WHO SHOULD FILE THIS SUBMITTAL:** Anyone in the final stages of interconnecting a Generation System with Xcel Energy. This submittal shall be completed and provided to the Generation Interconnection Coordinator during the design of the Generation System, as established in the "State of Minnesota Interconnection Process for Distributed Generation Systems".

**INFORMATION:** This submittal is used to document the interconnected Generation System. The Applicant shall complete as much of the form as applicable. The Applicant will be contacted if additional information is required.

**OWNER / APPLICANT**

Company / Applicant: New Energy Equity, LLC

Representative: Lindsey Gillis

Phone Number:

FAX Number:

Title:

Mailing Address

Email Address:

**PROPOSED LOCATION OF GENERATION SYSTEM INTERCONNECTION**

Street Address, Legal Description or GPS coordinates:

**PROJECT DESIGN / ENGINEERING (if applicable)**

Company: New Energy Equity

Representative: Rocky Shoemaker

Phone:

FAX Number:

Mailing Address:

Email Address:

**ELECTRICAL CONTRACTOR (if applicable)**

Company:

Representative:

Phone:

FAX Number:

Mailing Address:

Email Address:

(Continued on Sheet No. 10-106)

Date Filed: 11-02-05

By: Cynthia L. Leshner

Effective Date: 02-01-07

President and CEO of Northern States Power Company

Docket No. E002/GR-05-1428

Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 106

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**TYPE OF INTERCONNECTED OPERATION**

Interconnection / Transfer method:

**GENERATION SYSTEM OPERATION / MAINTENANCE CONTACT INFORMATION**

Maintenance Provider:	Phone #:	Pager #:
Operator Name:	Phone #:	Pager #:
Person to Contact before remote starting of units		
Contact Name:	Phone #:	Pager #:
	24hr Phone #:	

**GENERATION SYSTEM OPERATING INFORMATION**

Fuel Capacity (gals):	Full Fuel Run-time (hrs):
Engine Cool Down Duration (Minutes):	Start time Delay on Load Shed signal:
Start Time Delay on Outage (Seconds):	

**ESTIMATED LOAD**

The following information will be used to help properly design the interconnection. This Information is not  
Intended as a commitment or contract for billing purposes.

Minimum anticipated load (generation not operating):	kW:		kVA:	
Maximum anticipated load (generation not operating):	kW:		kVA:	

(Continued on Sheet No. 10-107)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 107

**APPENDIX C: Engineering Data Submittal Form (Continued)**

REQUESTED CONSTRUCTION START/COMPLETION DATES	
Design Completion:	
Construction Start Date:	
Footings in place:	
Primary Wiring Completion:	
Control Wiring Completion:	
Start Acceptance Testing:	
Generation operational (In-service):	

(Complete all applicable items. Copy this page as required for additional generators.)

SYNCHRONOUS GENERATOR (if applicable)			
Unit Number:	Total number of units with listed specifications on site:		
Manufacturer:	Type:	Phases: 1 or 3	
Serial Number (each)	Date of manufacture:	Speed (RPM):	Freq. (Hz);
Rated Output (each unit) kW Standby:	kW Prime:	kVA:	
Rated Power Factor (%):	Rated Voltage(Volts):	Rated Current (Amperes):	
Field Voltage (Volts):	Field Current (Amperes):	Motoring Power (kW):	
Synchronous Reactance (Xd):	% on	kVA base	
Transient Reactance (X'd):	% on	kVA base	
Subtransient Reactance (X'd):	% on	kVA base	
Negative Sequence Reactance (Xs):	% on	kVA base	
Zero Sequence Reactance (Xo):	% on	kVA base	
Neutral Grounding Resistor (if applicable):			
$I^2_t$ or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			

(Continued on Sheet No. 10-108)

Date Filed: 11-02-05 By: Cynthia L. Lesher Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2****DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**Section No. 10  
Original Sheet No. 108**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>INDUCTION GENERATOR (if applicable)</b>		
Rotor Resistance (Rr):	Ohms	Stator Resistance (Rs):
Rotor Reactance (Xr):	Ohms	Ohms
Magnetizing Reactance (Xm):	Ohms	Stator Reactance (Xs):
		Ohms
		Short Circuit Reactance (Xd):
		Ohms
Design Letter:		Frame Size:
Exciting Current:		Temp Rise (deg C°):
Rated Output (kW):		
Reactive Power Required:	kVars (no Load)	kVars (full load)
If this is a wound-rotor machine, describe any external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive output to provide power system voltage regulation.		
Additional Information:		
<b>PRIME MOVER (Complete all applicable items)</b>		
Unit Number:	Type:	
Manufacturer:		
Serial Number:	Date of Manufacture:	
H.P. Rated:	H.P. Max:	Inertia Constant: lb.-ft. <sup>2</sup>
Energy Source (hydro, steam, wind, wind etc.):		

<b>INTERCONNECTION (STEP-UP) TRANSFORMER (If applicable)</b>			
Manufacturer: TBD after IA Scoping Study		kVA: 1000 kVa	
Date of Manufacture:	Serial Number:		
High Voltage: kV	Connection:		Neutral solidly grounded?
Low Voltage: kV	Connection:		Neutral solidly grounded?
Transformer Impedance (Z): TBD		% on	kVA base
Transformer Resistance (R): TBD		% on	kVA base
Transformer Reactance (X): TBD		% on	kVA base
Neutral Grounding Resistor (if applicable)			

(Continued on Sheet No. 10-109)

Date Filed: 11-02-05 By: Cynthia L. Leshner Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 109

**APPENDIX C: Engineering Data Submittal Form (Continued)**

<b>TRANSFER SWITCH</b> (If applicable)	
Model Number:	Type:
Manufacturer:	Rating (amps):

<b>INVERTER</b> (If applicable)
---------------------------------

**NOTE:** *Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.*

<b>POWER CIRCUIT BREAKER</b> (if applicable)					
Manufacturer:			Model:		
Rated Voltage (kilovolts):			Rated Ampacity (Amperes):		
Interrupting Rating (Amperes):			BIL Rating:		
Interrupting Medium (vacuum, oil, gas, etc.)			Insulating Medium (vacuum, oil, gas, etc.)		
Control Voltage (Closing):		(Volts)	AC	DC	
Control Voltage (Tripping):		(Volts)	AC	DC	Battery Charged Capacitor
Close Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Trip Energy (circle one):	Spring	Motor	Hydraulic	Pneumatic	Other
Bushing Current Transformers (Max. ratio):				Relay Accuracy Class:	
CT'S Multi Ratio? (circle one); No / Yes: (Available taps):					

(Continued on Sheet No. 10-110)

Date Filed: 11-02-05 By: Cynthia L. Leshar Effective Date: 02-01-07  
President and CEO of Northern States Power Company  
Docket No. E002/GR-05-1428 Order Date: 09-01-06



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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 110

**APPENDIX C: Engineering Data Submittal Form (Continued)**

**MISCELLANEOUS** (Use this area and any additional sheets for applicable notes and comments)

This project is being applied for under the Solar Rewards Community Solar Garden program. All applicable rules and guidelines governing that program will be adhered to.

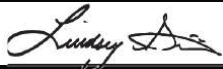
**SIGN OFF AREA**

This Engineering Data Submittal documents the equipment and design of the Generation System. We agree to supply Xcel Energy with an updated Engineering Data Submittal any time significant changes are made in the equipment used or the design of the proposed Generation System. The Applicant agrees to design, operate and maintain the Generation System within the requirements set forth by the "State of Minnesota Distributed Generation Interconnection Requirements".

**Applicant Name (print):**

Lindsey Gillis

**Applicant Signature:**



**Date:**

02/01/17

**SEND THIS COMPLETED & SIGNED ENGINEERING DATA SUBMITTAL AND ANY ATTACHMENTS TO THE  
GENERATION INTERCONNECTION COORDINATOR**

(Continued on Sheet No. 10-111)

Date Filed: 11-02-05

By: Cynthia L. Leshner

Effective Date: 02-01-07

President and CEO of Northern States Power Company

E002/GR-05-1428

09-01-06

Exhibit D

**Exhibit D**  
**Operating Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ kW

This Exhibit D – Operating Agreement (Exhibit D), is an Exhibit to the Generation System Interconnection Agreement between the Parties and provides the specific operating information and requirements for, and facilitates the operation of, the Generation System. The Interconnection Customer must operate the Generation System in accordance with the Technical Requirements, this Exhibit D as well as all provisions of Section 10 of the Xcel Energy Minnesota tariff. Unless otherwise defined in this Exhibit D, capitalized terms herein shall have the meaning provided such terms in the Generation System Interconnection Agreement.

Nothing in this Exhibit D is intended to or shall be construed as limiting Xcel Energy's rights under the Xcel Energy Minnesota tariff. In the event of a conflict between this Operating Agreement and any law, regulation and/or the Xcel Energy Minnesota tariff, the law regulation or Xcel Energy Minnesota tariff shall control, and the conflicting Operating Agreement provision shall have no effect. In the event of such a conflict, the remaining terms of this Operating Agreement shall remain in effect.

If the Generation System at Site identified above is part of a co-located Community Solar Garden site, the Generation Systems which are part of the same co-located Community Solar Garden site are:

Site	SRC #
1	_____

Pursuant to Minnesota Public Utilities Commission ruling the aggregated name plate capacity of the Generation Systems which are part of such a co-located Community Solar Garden site cannot exceed 5 MW (AC) if the application under the Solar\*Rewards Community program was submitted on or prior to September 25, 2015, and cannot exceed 1 MW (AC) on a co-located basis if the application was submitted after that date.

The Parties may, upon written agreement of the Parties, amend this Exhibit D pursuant to the terms of the Generating System Interconnection Agreement. In addition, upon written agreement of the Parties, this Operating Agreement may be reviewed and updated periodically, to allow the operation of the Generation System to change to meet the needs of both Xcel Energy and Interconnection Customer, provided that change does not negatively affect the other Party. In addition, the Parties may agree to amend this Operating Agreement to reflect operating changes required by regulatory authorities having jurisdiction over the matters governed by this Exhibit D, such as changes required by the Minnesota Public Utility Commission, the Federal Energy Regulatory Commission or the Midwest Independent System Operator.

This Exhibit D sets forth the technical terms pursuant to which Interconnection Customer may export energy to Xcel Energy from the Generation System. This Exhibit D does not provide for the amount, metering, billing and accounting for the export of energy from the Generation System, nor does it



Exhibit D

constitute Xcel Energy's agreement to purchase or pay for any such energy. Any such arrangements will be provided for in a separate written agreement.

Unless otherwise noted, capitalized terms shall have the meaning set forth in the Generating System Interconnection Agreement.

**1.0 Definitions**

- 1.1. "Engineering Study" means the Engineering Study Xcel Energy performed as part of the Interconnection Process conducted pursuant to its Distributed Generation Standard Interconnection and Power Purchase Tariff, Minnesota Electric Rate Book - MPUC No. 2, Section 10.
- 1.2. "Xcel Energy Control Center Contact" is as defined in Section 8.2.
- 1.3. "Interconnection Customer Control Center Contact" is as defined in Section 8.2.
- 1.4. Unless specifically defined otherwise, all measurements and performance requirements will be measured at the point of common coupling.

**2.0 Power Factor Requirements.** The power factor of the Generation System and connected load shall be as follows: (1) Inverter Based interconnections – shall at minimum be designed to operate at the full power factor range of 90% leading to 90% lagging at the inverter terminals, subject to any more specific power factor for this Generation System as specified in par. 2.1.1 below; (2) Limited Parallel Generation Systems, such as closed transfer or soft-loading transfer systems shall operate at a power factor of no less than 90%, during the period when the Generation System is parallel with Xcel Energy, as measured at the Point of Common Coupling; and, (3) Extended Parallel Generation Systems of rotating machine type shall be designed to be capable of operating between 95% lagging and 95% leading. These Generation Systems shall normally operate near unity power factor (+/- 98%) or as mutually agreed between Xcel Energy and the Interconnection Customer.

**2.1. Normal operation:**

- 2.1.1. Interconnection Customer will operate the Generation System as an Inverter Based Generation system at a fixed power factor, as identified by the Engineering Study, within the power factor range as described in Section 2.0 above to mitigate voltage rise due to reverse power flow. Power production outside the specified power factor range is not allowed at any time without permission by Xcel Energy. It is the responsibility of Interconnection Customer and not Xcel Energy to assure that all equipment is sized properly so as to not curtail real power production if that is an objective of the Interconnection Customer.

Interconnection Customer shall operate the Generation System at a fixed power factor of [REDACTED] Note that a generator leading power factor means the machine is absorbing reactive power.



## Exhibit D

- 2.1.2. In the future, distribution system reconfigurations, capacity constraints, or other external factors may require that the Generation System be served from another system and/or may also require that the Generation System change power factors within the limits identified in section 2.0 in order to prevent voltage rise. Xcel Energy shall provide reasonable advance notice to Interconnection Customer pursuant Section XII(B) of the Generating System Interconnection Agreement in order to coordinate the implementation of such changes.

### 2.2. Contingency operation:

- 2.2.1. Temporary system conditions, such as overvoltage, may require Xcel Energy's Control Center Contact, in accordance with good utility practice and avoiding, to the extent reasonably possible, a reduction in the Generation System output (in the sole discretion of Xcel Energy), to direct the Interconnection Customer's Control Center Contact to disconnect or partially curtail the output of the Generation System. In some cases, and in its sole discretion, Xcel Energy may permit Interconnection Customer to partially operate or fully restore operation by temporarily applying different power factor settings.

## 3.0 Start-Up, Shut-Down, and Ramp Rates

- 3.1. Where the Generation System consists of one or more units (e.g., inverters in a solar PV context), Interconnection Customer shall stagger the planned start-up and shutdown of the units, with a minimum delay of 30 seconds between the starting and stopping of each unit, in order to mitigate voltage flicker. A controlled shutdown may be allowed if a sequence of operation, including estimated timeframes for actions, is submitted to and approved by Xcel Energy in advance.
- 3.2. Interconnection Customer shall have the ability to limit the up-ramp or skew rate of the Generation System.
- 3.3. In order to mitigate a voltage surge, Xcel Energy reserves the right, based upon the Engineering Study, to specify how many inverters may come online simultaneously. Interconnection Customer may also be required to ensure that the inverters for the Generation System allow random or preprogrammed time delays between the startup of multiple inverters. Ramp Rate Limitations (or inverter start up limitations in a solar PV context): [REDACTED]

## 4.0 Local and Remote Control

- 4.1. The Interconnection Customer shall ensure that at all times Xcel Energy has access to a manually operated three-phase ganged lockable service-disconnect switch. If transfer trip has been installed, then Interconnection Customer shall also ensure that Xcel Energy has access to a breaker that can remotely control the Generation System from Xcel Energy's systems. To the extent allowed by law, Xcel Energy shall provide notice to the Interconnection Customer explaining the reason for the disconnection. If there is an emergency described in Section 4.1.1 or 4.1.2 below and prior notice is not reasonably possible, Xcel Energy shall after the fact,



Exhibit D

provide to the Interconnection Customer as to why the disconnection was required. Where reasonably possible Xcel Energy shall use commercially reasonable efforts to reconnect the Generation System in a timely manner. Interconnection Customer agrees and consents to Xcel Energy's remote tripping or manual disconnection, as reasonably necessary under good utility practice, of the breaker for the Generation System including, but not limited to, in the following circumstances, as system conditions exceed parameters defined in any IEEE, NESC or ANSI standards:

- 4.1.1. Electric Distribution or Generator System emergency
- 4.1.2. Public emergency
- 4.1.3. Abnormal feeder operation
- 4.1.4. Planned switching
- 4.1.5. Interconnection Customer's failure to promptly respond to and execute on Xcel Energy's request to curtail the output of, or disconnect, the Generation System.

4.2. If Xcel Energy remotely trips the breaker for the Generation System and Interconnection Customer desires that Xcel Energy close the breaker remotely, Interconnection Customer's Control Center Contact may make the request of Xcel Energy's Control Center Contact, and Xcel Energy will close the breaker remotely once the reason for the remote tripping has passed and it is safe and consistent with good utility practice to do so.

4.3. Local or Remote Close

- 4.3.1. If the Generation System has tripped offline due to an interruption on the Distribution System, Interconnection Customer shall contact Xcel Energy's Control Center Contact and, consistent with Section 5 below, verify that the Distribution System is in a normal operating configuration and the Generator System can be energized prior to energizing the Generator System.
- 4.3.2. If Xcel Energy remotely trips the breaker for the Generation System, Xcel Energy's Control Center Contact will notify the Interconnection Customer's Control Center Contact when the Generation System can be returned to normal operation.

4.4. If Transfer Trip (TT)/Communication Channel is required as part of the engineering study results, then:

- 4.4.1. Upon loss of the TT communication channel, if any, the Interconnection Customer shall immediately disconnect the Generation System.
- 4.4.2. In general, the Generation System shall remain offline for the duration of the time the TT communication channel is lost. However, Xcel Energy may, in its sole discretion, allow limited operation of the Generation System in these circumstances.
- 4.4.3. The Generation System interconnection breaker shall trip with no intentional delay when receiving a transfer trip signal.



## Exhibit D

### 5.0 Outages of the Distribution System

5.1. Upon the occurrence of an emergency outage(s) (defined as any unplanned interruption of Xcel Energy's distribution system), Interconnection Customer shall do the following:

5.1.1. Disconnect the Generation System from Xcel Energy's system when a TT signal is active, if applicable.

5.1.2. Unless otherwise directed by Xcel Energy's Control Center Contact, wait five (5) minutes after the TT signal is removed, if applicable, from the interconnection breaker before implementing startup procedure for the Generation System.

5.1.3. Obtain permission from the Xcel Energy Control Center Contact to startup the Generation System.

5.2. If there is automation installed on the feeder, then the Generation System shall disconnect from Xcel Energy's electric distribution system when not served by the normal source.

5.3. Xcel Energy shall use commercially reasonable efforts to promptly restore the Generation System to service, consistent with good utility practice.

5.4. Unless otherwise directed by Xcel Energy's Control Center Contact, during a momentary distribution system interruption (defined as an interruption of electric service to a customer with disruption less than or equal to 5 minutes), the Interconnection Customer shall wait five (5) minutes after successful close of the feeder breaker or recloser before starting up the Generation System.

5.5. During an extended distribution system interruption (defined as an interruption of electric service to a customer with a duration greater than 5 minutes), unless otherwise directed by Xcel Energy's Control Center Contact the Interconnection Customer shall wait 5 minutes after sensing normal voltage and frequency before starting up the Generation System.

**6.0 Interference.** If the Generation System causes radio, television or electrical service interference to other customers, via the electric power system or interference with the operation of Xcel Energy, the Interconnection Customer shall disconnect the Generation System. The Interconnection Customer shall either effect repairs to the Generation System or reimburse Xcel Energy for the cost of any required Xcel Energy modifications due to the interference.

### 7.0 Electric Distribution System Modification:

7.1. At its sole discretion Xcel Energy may modify its electric distribution system. Xcel Energy shall provide written notice to Interconnection Customer explaining the plans and schedule for any modifications to its electric distribution system that may impact operation or protection of Generation System. Xcel Energy shall provide such notice as soon as reasonably practicable prior to the time Xcel Energy intends to begin to modify its electric distribution system. Xcel Energy shall utilize good utility practice to minimize any curtailment of energy for the



## Exhibit D

Generation System. Xcel Energy will make reasonable efforts to avoid planned system outages during the months of June, July and August.

- 7.2. Xcel Energy shall include the Generation System in its substation and feeder additions planning and distribution system reconfigurations and make all necessary and required accommodations to Interconnection Customer to insure that the Generation System retains its capability to deliver its power output to Xcel Energy per the Engineering Study, subject to the provisions of paragraph 7.1 above.
- 7.3. The Generation System must be designed and interconnected such that the reliability and the service quality for all customers of the electrical power system are not compromised. The Interconnection Customer is responsible for all costs associated with the installation, operation, and maintenance of the Generation System. The Interconnection Customer shall be responsible for any expenses, which may be incurred by Xcel Energy as a result of any changes or modifications of the Interconnection Customer's Generation System.

### 8.0 Contingency Configurations

- 8.1. During contingency operations, if the Interconnection Customer is unable to use power factor control to mitigate voltage or power quality issues created by the Generation System, whether the voltage or power quality issues are due to steady state voltage rise or in the event of voltage regulation issues due to reverse power flow, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection would facilitate maintaining compliance with ANSI Range B voltage limits.
- 8.2. During contingency operations, if the Generation System creates loading, overloading or protection issues, at the direction of Xcel Energy's Control Center Contact the Interconnection Customer shall disconnect the Generation System if, in Xcel Energy's sole discretion, it believes disconnection is consistent with good utility practice.
- 8.3. If the Generation System is taken offline during contingency operations, Xcel Energy's Control Center Contact may, in its sole discretion, direct the Interconnection Customer's Control Center Contact to keep the Generation System offline or operate it on a limited basis if field ties and alternate sources of power utilized during contingency configurations do not have the capability to accommodate operation of Generation System.
- 8.4. Generation System shall cease operation for loss of Generator System ground referencing equipment, if applicable, or loss of any other required Generator System component related to the safe and reliable operation of the Generation System.

### 9.0 Control Center Contacts

- 9.1. Each Party shall contact each other's Control Center Contact for all operational issues related to the Generation System. In order to permit Xcel Energy and Interconnection Customer to take

Exhibit D

immediate action, Interconnection Customer and Xcel Energy shall at all times provide to each other the contact information of each other's Control Center Contact, who shall be available twenty-four (24) hours a day, seven (7) days a week and be able to take action with respect to the operation of the Generation System and the Distribution System, respectively.

- 9.2. The contact information for the Xcel Energy Control Center contact that is available to Interconnection Customer twenty (24) hours a day, seven (7) days a week is:

Outstate Control Center: [REDACTED]

- 9.3. The contact information for Interconnection Customer's Control Center contact that is available to Xcel Energy twenty (24) hours a day, seven (7) days a week is:

[REDACTED]

- 9.4. Each Party shall keep the other informed of their Control Center contact information. Notice of changes to Control Center contact information shall be provided immediately pursuant to Section XII B of the Generating System Interconnection Agreement.

**10.0 Right of Access.**

- 10.1. At all times, Xcel Energy shall have access to the disconnect switch of the Generation System for any reasonable purpose in connection with: the performance of its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); to meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, to provide service to its customers.

- 10.2. At all times, the Interconnection Customer shall give Xcel Energy access to Xcel Energy's equipment and facilities located on the Interconnection Customer's premises, when necessary for Xcel Energy to: perform its obligations under the Generating System Interconnection Agreement (including this Operating Agreement); meet its obligation to operate the Xcel Energy system safely and reliably; to comply with law or regulation; or, provide service to its customers.

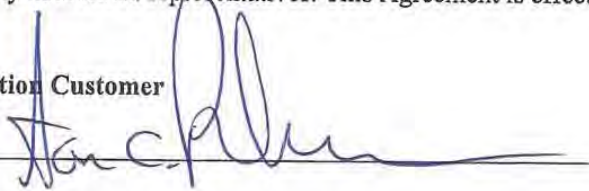


Exhibit D

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

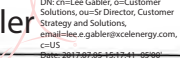
By: 

Name: Ian C. Palmer

Title: CEO

Date: 5/3/17

**Xcel Energy**

By: Lee Gabler   
Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.06 15:17:41 -0500

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

Exhibit E

**Exhibit E**

**Maintenance Agreement**

**Customer Legal Name:** New Energy Equity LLC

**Service Address:** \_\_\_\_\_

**SRC #:** \_\_\_\_\_

**Generator Size:** \_\_\_\_\_ kW

Each Generation System interconnection will be unique and will require a unique Maintenance Agreement. It is envisioned that this Exhibit will be tailored for each Generation System interconnection. It is also intended that this Maintenance Agreement Exhibit will be reviewed and updated periodically, to allow the maintenance of the Generation System be allowed to change to meet the needs of both Xcel Energy and the Interconnection Customer, provided that change does not negatively affect the other Party. There may also be changes required by outside issues; such as changes in FERC and MISO requirements and/or policies that will require this agreement to be modified.

**1.0 Routine Maintenance Requirements –**

- 1.1. Interconnection Customer shall maintain the system in good working order.
- 1.2. Interconnection Customer shall perform maintenance in accordance with manufacturer recommendations and intervals.

**2.0 Generation Metering, Monitoring, and Control**

- 2.1. When telemetry is required, the Interconnection customer is financially responsible for the communications channel associated with Xcel Energy's Remote Monitoring System. The communication channel shall comply with Xcel Energy requirements and standards. If the communications cabinet and/or communication channel is provided by Xcel Energy, the Interconnection Customer shall be responsible for operating and maintenance costs, and replace any failed parts or materials.
- 2.2. Interconnection customer shall be responsible for costs associated with emergency repairs, scheduled repairs, or replacement of parts for the telemetry system.
- 2.3. Interconnection Customer shall be responsible for replacement costs for advanced metering equipment, such as an ION meter.
- 2.4. Interconnection Customer is responsible for assuring network equipment functions properly to facilitate communications between the Xcel Energy communications cabinet and all meters on site. Any failure of Interconnection Customer provided equipment between the communication cabinet and meters shall be repaired or replaced by the Interconnection Customer within seven (7) calendar days of the first day of improper functioning of this equipment. This includes wiring, connectors, switches, panels, all other hardware, fiber or Ethernet, Remote Terminal Unit (RTU), 120 V power source, etc. To the extent this equipment is not working properly, there may be delayed payment for generation. Failure of the Interconnection Customer to repair the improperly working equipment within this seven (7) calendar day period may result in disconnection of the Generation System from Xcel Energy's electric distribution system and only be reconnected after the situation is corrected.

**3.0 Modifications to the Generation System –**

- 3.1. The Interconnection Customer shall notify Xcel Energy, in writing of plans for any



Exhibit E

modifications to the Generation System interconnection equipment at least twenty (20) business days prior to undertaking such modification.

- 3.2. Modifications to any of the interconnection equipment, including all required protective systems, the generation control systems, the transfer switches/breakers, VT's & CT's, generating capacity and associated wiring shall be included in the notification to Xcel Energy.
- 3.3. The Interconnection Customer agrees not to commence installation of any modifications to the Generating System until Xcel Energy has approved the modification, in writing.
- 3.4. Xcel Energy shall have a minimum of five (5) business days and a maximum of ten (10) business days, to review and respond to the modification, after the receipt of the information required to review the modifications.

**4.0 Special Facilities**

- 4.1. Interconnection Customer may request underground facilities where Company standard construction is overhead facilities.
- 4.2. The Company will determine if the request will not adversely affect the reliability, operational integrity, or schedule of required work.
- 4.3. The Interconnection Customer shall be responsible for Operating, Maintenance and Replacement costs of the special facilities. In this context, the term "special facilities" means facilities which the Company builds or installs which differ from the Company's standard construction standards. For example, this would include the situation where the Interconnection Customer, for aesthetics, permitting, or any other reason, requests underground facilities even though from a technical perspective overhead facilities would be sufficient.
- 4.4. Perpetual easements will be granted Company at no cost to the Company whenever any portion of the underground distribution system is located on private land. Said easements also will allow the Company access for inspection, maintenance, and repair of Company facilities.

**5.0 Shared Facilities**

- 5.1. If the Generation System is designed as part of a co-located Community Solar Garden Site under the Company's Solar\*Rewards Community program and there are shared facilities between the Generation Systems comprising the co-located Community Solar Garden Site, then Interconnection Customer agrees to be jointly and severally liable with the Interconnection Customers associated with the co-located Community Solar Garden Site for all parts, installation, and maintenance costs and fees associated with the shared facilities.
- 5.2. Examples of shared facilities include, but are not limited to, switchgear or service entrance equipment, remote monitoring facilities, communication equipment, and communication channels.

Exhibit E

**SIGNATURES**

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

**Interconnection Customer**

By: 

Name: Ian C. Palmer

Title: CEO

Date: 5/3/17

**Xcel Energy**

By:  **Lee Gabler**

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director, Customer  
Strategy and Solutions,  
email=lee.gabler@xcelenergy.com,  
c=US  
Date: 2017.07.05 15:17:53 -05'00'

Name: Lee Gabler

Title: Sr. Dir. Customer Strategy and Solutions

Date: \_\_\_\_\_

Date Filed:	12-18-15	By: Christopher B. Clark	Effective Date:	12-18-15
	President, Northern States Power Company, a Minnesota corporation			
Docket No.	E002/M-13-867		Order Date:	12-15-15

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

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 134.2

**ASSIGNMENT OF  
INTERCONNECTION AGREEMENT  
(Continued)**

5. The contact information, including name, primary contact, address, telephone number and email address for the Assignee is as follows, and this information amends the Notice provisions in Section XII.B.1.b of the Contract:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. It is further agreed that all terms and conditions of the Contract, as amended, shall remain in full force and effect.

Facsimile signatures, or signatures to the Assignment of Contract sent electronically, shall have the same effect as original signatures. Photocopies, or electronically stored versions of this Assignment of Contract, shall have the same validity as the original.

**IN WITNESS WHEREOF**, Company, the Assignor, and the Assignee have executed this Assignment of Solar\*Rewards Contract as of this 28 day of June, 2017.

Assignor – New Energy Equity, LLC

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

Assignee – \_\_\_\_\_

By: \_\_\_\_\_

Name: Matthew Hankey

Title: COO

**Northern States Power Company  
d/b/a Xcel Energy**

By: Lee

Name: Gabler

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

Digitally signed by Lee Gabler  
DN: cn=Lee Gabler, o=Customer  
Solutions, ou=Sr Director,  
Customer Strategy and Solutions,  
email=lee.g.gabler@xcelenergy.c  
om, c=US  
Date: 2017.06.28 15:19:39 -05'00'

(Continued on Sheet No. 10-135)

Date Filed: 12-18-15 By: Christopher B. Clark Effective Date: 12-18-15  
President, Northern States Power Company, a Minnesota corporation  
Docket No. E002/M-13-867 Order Date: 12-15-15



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and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 113

**APPENDIX E: Interconnection Agreement**

**State of Minnesota  
Proposed Interconnection Agreement**

For the Interconnection of Extended Parallel Distributed Generation Systems With Electric Utilities

This Generating System Interconnection Agreement is entered into by and between Xcel Energy,  
"Northern States Power Company, a Minnesota corporation" and the Interconnection Customer "New Energy Equity, LLC". The  
Interconnection Customer and Xcel Energy are sometimes also referred to in this Agreement jointly as "Parties" or  
individually as "Party".

In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties  
agree as follows:

**I. SCOPE AND PURPOSE**

- A. Establishment of Point of Common Coupling. This Agreement is intended to provide for the Interconnection Customer to interconnect and operate a Generation System with a total Nameplate Capacity of 10MWs or less in parallel with Xcel Energy at the location identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B. This Agreement governs the facilities required to and contains the terms and condition under which the Interconnection Customer may interconnect the Generation System to Xcel Energy. This Agreement does not authorize the Interconnection Customer to export power or constitute an agreement to purchase or wheel the Interconnection Customer's power. Other services that the Interconnection Customer may require from Xcel Energy, or others, may be covered under separate agreements.
- C. To facilitate the operation of the Generation System, this agreement also allows for the occasional and inadvertent export of energy to Xcel Energy. The amount, metering, billing and accounting of such inadvertent energy exporting shall be governed by Exhibit D (Operating Agreement). This Agreement does not constitute an agreement by Xcel Energy to purchase or pay for any energy, inadvertently or intentionally exported, unless expressly noted in Exhibit D or under a separately executed power purchase agreement (PPA).
- D. This agreement does not constitute a request for, nor the provision of any transmission delivery service or any local distribution delivery service.
- E. The Technical Requirements for interconnection are covered in a separate Technical Requirements document know as, the "State of Minnesota Distributed Generation Interconnection Requirements", a copy of which as been made available to the Interconnection Customer and incorporated and made part of this Agreement by this reference.

(Continued on Sheet No. 10-114)

Date Filed:	11-02-05	By: Cynthia L. Leshner	Effective Date:	02-01-07
		President and CEO of Northern States Power Company		
Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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and wholly owned subsidiary of Xcel Energy Inc.  
Minneapolis, Minnesota 55401

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

**DISTRIBUTED GENERATION STANDARD  
INTERCONNECTION AND POWER PURCHASE TARIFF (Continued)**

Section No. 10  
Original Sheet No. 114

**APPENDIX E: Interconnection Agreement (Continued)**

**II. DEFINITIONS**

- A. "Area EPS" is an electric power system (EPS) that serves Local EPS's. For the purpose of this agreement, the Xcel Energy system is the Area EPS. Note: Typically, Xcel Energy has primary access to public rights-of-way, priority crossing of property boundaries, etc.
- B. "Area EPS Operator" is the entity that operates the electric power system. For purpose of this agreement, Xcel Energy is the Area EPS Operator.
- C. "Dedicated Facilities" is the equipment that is installed due to the interconnection of the Generation System and not required to serve other Xcel Energy customers.
- D. "EPS" (Electric Power System) are facilities that deliver electric power to a load. Note: This may include generation units.
- E. "Extended Parallel" means the Generation System is designed to remain connected with Xcel Energy for an extended period of time.
- F. "Generation" is any device producing electrical energy, i.e., rotating generators driven by wind, steam turbines, internal combustion engines, hydraulic turbines, solar, fuel cells, etc.; or any other electric producing device, including energy storage technologies.
- G. "Generation Interconnection Coordinator" is the person or persons designated by Xcel Energy to provide a single point of coordination with the Applicant for the generation interconnection process.
- H. "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.
- I. "Interconnection Customer" is the party or parties who will own/operate the Generation System and are responsible for meeting the requirements of the agreements and Technical Requirements. This could be the Generation System applicant, installer, owner, designer, or operator.
- J. "Local EPS" is an electric power system (EPS) contained entirely within a single premises or group of premises.
- K. "Nameplate Capacity" is the total nameplate capacity rating of all the Generation included in the Generation System. For this definition the "standby" and/or maximum rated kW capacity on the nameplate shall be used.

(Continued on Sheet No. 10-115)

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Docket No.	E002/GR-05-1428		Order Date:	09-01-06

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