

## Small Generator Interconnection Agreement

This SMALL GENERATOR INTERCONNECTION AGREEMENT ("Agreement") is entered into by and between Public Service Company of Colorado, d/b/a Xcel Energy, a Colorado corporation, having a mailing address of P.O. Box 840, Denver, Colorado, 80201, hereinafter referred to as "Public Service," and {!Customer\_Name\_\_c}, having a mailing address of {!Premise\_Address\_\_c}, {!Premise\_City\_\_c}, {!Premise\_State\_\_c} {!Premise\_Zip\_\_c}, hereinafter referred to as "Customer." The Customer and Public Service are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party."

In consideration of the premises and of the mutual covenants and agreements hereinafter set forth, the Parties agree as follows:

### I. SCOPE AND PURPOSE

- A) Establishment of Point of Common Coupling. This Agreement is intended to provide for the Customer to interconnect and operate a Generation System in parallel with the Public Service electric distribution system at {!Premise\_Address\_\_c}, {!Premise\_City\_\_c}, {!Premise\_State\_\_c} {!Premise\_Zip\_\_c}, as more specifically identified in Exhibit C and shown in the Exhibit A one-line diagram.
- B) This Agreement contains the terms and conditions under which the Customer may interconnect and operate in parallel the Generation System with the Public Service electric distribution system and the facilities and operation requirements of the Customer for such interconnection.
- C) This Agreement does not authorize the Customer to export power or constitute an agreement to purchase or wheel the Customer's power. Such purchasing or wheeling services that the Customer may require from Public Service, or other services, are provided under separate agreements or the Public Service's retail or wholesale Electric Tariffs, and are subject to the rules of and/or approval from the applicable regulatory authority.
- D) This Agreement does not cover FERC jurisdictional generating system installations.
- E) The Technical Requirements for interconnection are set forth in a separate Technical Requirements document, entitled "Safety, Interference and Interconnection Guidelines for Cogenerators, Small Power Producers, and Customer-Owned Generation," dated February 1, 2017, a copy of which has been made available to the Customer and the receipt of which Customer hereby acknowledges. The Technical Requirements, as may be modified from time to time, are hereby incorporated and made part of this Agreement by this reference.

### II. DEFINITIONS

- A) "Agreement" – Small Generator Interconnection Agreement.
- B) "Area EPS" - an electric power system (EPS) that serves Local EPSs. Note: Typically, an Area EPS has primary access to public rights-of-way, priority crossing of property boundaries, etc.

- C) "Commission" - the Public Utilities Commission of the State of Colorado.
- D) "Customer" - the party or parties that will own/operate the Generation System and shall be responsible for meeting the requirements of this Agreement.
- E) "Dedicated Facilities" - the equipment that is installed due to the interconnection of the Generation System and not required to serve other Public Service customers, as more specifically described on Exhibit B attached hereto and made a part hereof.
- F) "Electric Tariffs" - Public Service's electric tariffs as in effect and on file with the Commission from time to time.
- G) "EPS" (Electric Power System) - facilities that deliver electric power to a load. Note: This may include generation units.
- H) "Generation" - 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.
- I) "Generation Interconnection Coordinator" - the person or persons designated by Public Service to provide a single point of coordination with the Customer for the generation interconnection process.
- J) "Generation System" - the interconnected generator(s), controls, relays, switches, breakers, transformers, inverters, and associated wiring and cables, located on the Premises, up to the Point of Common Coupling.
- K) "Governmental Entity" - any federal, state or local government, board, department, agency, special district, instrumentality, or other similar entity entitled to rely on the rights, immunities or protections provided by the Colorado Governmental Immunity Act, §§ 24-10-101 to 120, C.R.S., as the same may be amended from time to time.
- L) "Local EPS" - an electric power system (EPS) contained entirely within a single premise or group of premises.
- M) "Nameplate Capacity" - the total AC 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.
- N) "Point of Common Coupling" - the point where the Local EPS is connected to Public Service, as shown on Exhibit A hereto.
- O) "Point of Delivery" - 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.
- P) "Public Service Operator" - the distribution dispatch personnel or group that operates the Public Service Area EPS.

- Q) "Technical Requirements" - standards and requirements set forth in the document entitled "Safety, Interference and Interconnection Guidelines for Cogenerators, Small Power Producers, and Customer-Owned Generation" (February 1, 2017), as may be modified from time to time.

### **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 Customer's Generation System is interconnected with Public Service's electric distribution system, is attached to and made part of this Agreement as Exhibit A. The single-line diagram shall show the following:
- 1) Point of Delivery
  - 2) Point of Common Coupling
  - 3) Location of Meter(s)
  - 4) Ownership of the equipment
  - 5) Generation System total Nameplate Capacity
  - 6) Scheduled operational (on-line) date for the Generation System

### **IV. RESPONSIBILITIES OF THE PARTIES**

- A) The Parties shall perform all of their respective obligations under this Agreement in accordance with all applicable laws and regulations, operating requirements, and good utility practices.
- B) 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.
- C) If this Agreement is executed before Public Service has conducted its inspection and testing of the Generation System in accordance with the Technical Requirements, and such inspection and testing indicates that certain Dedicated Facilities (Exhibit B) or additional Operating Requirements (Exhibit D) are required, then the Parties shall promptly amend this Agreement to modify Exhibit B or Exhibit D accordingly.
- D) Public Service shall carry out the construction of the Dedicated Facilities in a good and workmanlike manner, in accordance with standard design and engineering practices.

### **V. CONSTRUCTION**

- A) The Parties agree to cause their facilities or systems to be constructed in accordance with the laws of the State of Colorado 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, applicable local building codes, and other applicable ordinances in effect at the time of the installation of the Generation System.

B) Charges and Payments

The Customer is responsible for the actual costs to interconnect the Generation System with the Public Service electric distribution system at the Point of Common Coupling, including, but not limited to any Dedicated Facilities attributable to the addition of the Generation System, Public Service labor for installation coordination, commissioning, installation testing and engineering review of the Generation System, and interconnection design that are consistent with the applicable rules of the Commission. Estimates of these costs to be incurred by Public Service are set forth in Exhibit B. The estimated costs set forth in Exhibit B have been developed for budgeting purposes and may be greater or less than the actual costs required to be reimbursed by the Customer hereunder. Public Service shall make commercially reasonable efforts to ensure that all costs of work to be performed by Public Service for which the Customer is responsible shall be reasonable under the circumstances of the particular design and construction of the interconnection.

1) Dedicated Facilities

- a) During the term of this Agreement, Public Service shall design, construct, and install the Dedicated Facilities outlined in Exhibit B.
- b) Once installed, the Dedicated Facilities shall be owned and operated by Public Service and all costs associated with operating and maintaining the Dedicated Facilities shall be the responsibility of Public Service, unless otherwise agreed.
- c) Upon execution of this Agreement, Public Service shall be authorized to begin construction and to procure the necessary facilities and equipment to complete the installation of the Dedicated Facilities, as described in Exhibit B. Notwithstanding any other provision of this Agreement to the contrary, if for any reason, the Generation System project is canceled or modified, or this Agreement is terminated by the Customer or by reason of the Customer's failure to diligently pursue the interconnection, such that any or all of the Dedicated Facilities are not required, the Customer shall nevertheless reimburse Public Service for actual costs incurred by Public Service in pursuing the installation of the Dedicated Facilities, including, but not limited to, any additional costs to remove and/or to complete the installation of the Dedicated Facilities. The 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 Customer shall provide written notice to Public Service of cancellation. Upon receipt of a cancellation notice, Public Service shall take reasonable steps to minimize additional costs to the Customer, where reasonably possible. This provision shall survive the termination of this Agreement.

2) Payments. The Customer shall pay Public Service for the cost of the Dedicated Facilities as follows.

- a) All of the estimated costs, as set forth in Exhibit B, shall be due prior to initial energization of the Generation System with Public Service.

- b) The remainder of actual costs, incurred by Public Service, excluding the ongoing costs of telemetry, shall be due within thirty (30) days from the date the bill is mailed by Public Service after project completion. If the Customer does not make payment in full within that time, the unpaid balance shall bear interest at the rate of one and one half percent (1.5%) per month. In the event the actual costs are less than the estimated costs paid by Customer, Public Service shall refund the difference to the Customer within sixty (60) days of 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:
  - 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.
  - 2) Exhibit B – Estimated engineering, installation, equipment removal, commissioning and testing costs payable by the Customer. Included in this listing shall be the description and estimated costs for the required Dedicated Facilities being installed by Public Service for the interconnection of the Generation System and a description and estimate for the final acceptance testing work to be done by Public Service.
  - 3) Exhibit C – Engineering Data Submittal. A standard form application, and related charts, drawings and inventory lists that provide the engineering and operating information about the Generation System relied on by Public Service in establishing the interconnection.
  - 4) Exhibit D – Operating Requirements. To be included when needed. The Operating Agreement details special or additional operating information, limitations or requirements that are a condition of interconnection and/or continued ongoing operation.

## **VII. TERMS AND TERMINATION**

- A) This Agreement shall become effective as of the date when both the Customer and Public Service have executed 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.
  - 2) The Customer may terminate this Agreement at any time, by written notice to Public Service, prior to witnessing the completion of the final acceptance testing of the Generation System by Public Service. Upon such termination, the Customer shall continue to be responsible for costs incurred by Public Service as provided for in Section V.B. above. Upon receipt of a termination notice, Public Service shall take reasonable steps to minimize additional costs to the Customer, where reasonably possible.

- 3) Once the Generation System is operational, the Customer may terminate this Agreement upon thirty (30) days written notice to Public Service; or
  - 4) Public Service may terminate this Agreement:
    - a) Upon thirty (30) days written notice to the Customer if:
      - i. The Customer fails to interconnect and operate the Generation System in accordance with the terms of this Agreement;
      - ii. The Customer employs excluded and/or unapproved Configurations or Operating Modes as set forth in Exhibit D;
      - iii. The Customer fails to take all corrective actions specified in Public Service's written notice that the Generation System is out of compliance with the terms of Public Service's tariffs or this Agreement, within the time frame set forth in such notice;
      - iv. At any point during the term the PV System is not located at the Service Address, or the Service Address is no longer within Public Service's service territory;
      - v. The Customer fails to complete Public Service's final acceptance testing of the Generation System within 24 months of the date proposed under section III.A.6.; or
    - b) Pursuant to Article VIII H).
  - 5) This Agreement shall automatically terminate upon the removal of the Generation System or the permanent cessation of generation operations of the Generation System behind the Point of Common Coupling.
- B) Upon termination of this Agreement, Public Service may, or may require Customer to, disconnect the Generation System from Public Service's electric distribution system. 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 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); applicable local building codes, and other applicable ordinances in effect during the installation and operation of the Generation System and related facilities.
- B) Right of Access: At all times, Public Service'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 Public Service's

system safely, and to provide service to its customers. As necessary for Public Service to operate, maintain, inspect, test, repair or replace its facilities for the purposes of this Agreement, the Customer shall allow Public Service access to Public Service's equipment and facilities located on the premises. Public Service shall make commercially reasonable efforts to comply with any safety or security requirements of Customer with respect to the Premises provided to Public Service in advance in writing to the extent that such requirements do not interfere with the foregoing purposes.

- C) Electric Service: This Agreement does not govern the provision of electric service by Public Service to supply the electrical requirements of the Local EPS. Any such electric service to be supplied to the Customer's Local EPS by Public Service shall be exclusively in accordance with the Electric Tariffs and rate schedules applicable to the Customer's class of service there under, as in effect from time to time.
- D) Operation and Maintenance: The Generation System shall be operated by the Customer in accordance with the Technical Standards, Exhibit D when applicable, and any additional requirements that may be agreed to in writing from time to time.
- E) Cooperation and Coordination: Both Public Service and the Customer shall communicate and coordinate their operations, so that the normal operation of Public Service's 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 Public Service's system. Under abnormal operations of either the Generation System or the Public Service 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: Public Service may disconnect the Generation System as reasonably necessary in the event of termination of this Agreement, non-compliance by the Customer with the terms of this Agreement, system emergency, imminent danger to the public or Public Service personnel, and routine maintenance, repairs, and modifications to the Public Service system. When reasonably possible, Public Service shall provide prior notice to the Customer explaining the reason for the disconnection. If prior notice is not reasonably possible, Public Service shall, after the fact, provide information to the Customer as to why the disconnection was required. Public Service shall have no liability for any loss of sales or other damages, including any 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 in accordance with this Agreement. Public Service shall use reasonable efforts to reconnect the Generation System in a timely manner and mitigate damages and losses to the Customer where reasonably possible.
- G) Modifications to the Generation System: The Customer shall notify the Public Service Operator, in writing, of plans for any modifications to the Generation System interconnection equipment, including all information needed by Public Service, 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 Public Service. The Customer agrees not to commence installation of any modifications to the Generating System until Public Service has approved the modification, in writing, which approval shall not be unreasonably withheld. Public Service shall have a minimum of five (5) business days to review and respond to the planned modification. Public Service 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. A major upgrade or expansion of the Generation System does not qualify for this provision. Such changes shall be reviewed through a formal interconnection application.

- H) *Any modification to the generation system that causes the system to operate contrary to the provisions of Public Service's tariffs and/or this Agreement shall be considered a material breach of this Agreement. For purposes of this Section modifications include but are not limited to: operating at a power factor other than specified; introduction in any manner of non-eligible energy resources to a net metered installation; connecting additional generation without notification to Public Service; or, other operating modes disallowed under the tariffs pursuant to which operation has been authorized. In such event, Public Service shall notify the Customer of the system's non-compliance with Public Service's tariffs or this Agreement and Customer shall have twenty (20) days from the date of such notice to either remedy the non-compliant operation or cease operation. If Customer fails to either remedy the non-compliant operation or cease operation within twenty (20) days of the date of the notice, Public Service may terminate this Agreement after ten (10) days written notice to Customer.*
- I) Permits and Approvals: The Customer shall obtain all applicable environmental and other applicable permits from governmental authorities as required by law prior to the construction of the Generation System. The Customer shall maintain all such applicable permits, as necessary, and comply 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 misconduct of the other Party. Notwithstanding the foregoing, if (and only if) Customer is a Governmental Entity, the foregoing provisions of this Section IX.A. shall be substituted in their entirety with the following. Each Party will be responsible for any and all claims, damages, liability and court awards, including costs, expenses and attorney fees, incurred as a result of its actions or omissions or any action or omission of its officers, employees, and agents in connection with the subject matter of this Agreement or any amendment hereto. Nothing in this Section or any other provision of this Agreement or any addendum or amendment hereto shall be construed as a waiver of the notice requirements, defenses, immunities and limitations the Customer may have under the Colorado Governmental Immunity Act (§24-10-101, C.R.S., et seq.) or to any other defenses, immunities, or limitations of liability available to the Customer by law.
- B) Any liability of either Party to the other 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 Public Service's provision of electric service to any customer including the Customer, Public Service's liability to such customer shall be limited as set forth in Public Service's tariffs and terms and conditions for electric service, and shall not be modified or in any manner 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.
- B) In the event a dispute arises under this Agreement, and if the Parties cannot resolve it within five (5) days after written notice of the dispute to the other Party, the Parties may mutually agree to submit the dispute to mediation by a mutually acceptable mediator or dispute resolution service, in a mutually convenient location in the State of Colorado. Each Party will be responsible for one-half of the cost paid to neutral third-parties.
- C) The Parties agree to participate in good faith in the mediation or resolution process. If the Parties are not successful in resolving their dispute through mediation or the dispute resolution process, then the Parties may refer the dispute for resolution to the Commission, which shall maintain continuing jurisdiction over this Agreement.

## **XI. INSURANCE**

- A) At a minimum, in connection with the Customer's performance of its duties and obligations under this Agreement, the Customer shall maintain, during the term of the Agreement, general liability insurance, written by an insurer with an A.M. Best rating of at least A-VII or a Standard & Poor's rating of at least A, with a combined single limit of not less than
  - 1) Two million dollars (\$2,000,000) or greater, as mutually agreed to by the Parties, for each occurrence if the Gross AC Nameplate Rating of the Generation System is greater than 2 MW.
  - 2) Two million dollars (\$2,000,000) for each occurrence if the Gross AC Nameplate Rating of the Generation System is greater than 500 kW up to and including 2 MW.
  - 3) One million dollars (\$1,000,000) for each occurrence if the Gross AC Nameplate Rating of the Generation System is greater than 10 kW up to and including 500 kW.
  - 4) Three hundred thousand dollars (\$300,000) for each occurrence if the Gross AC Nameplate Rating of the Generation System is 10 kW or less.

- 5) 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 Customer's ownership and/or operating of the Generation System under this Agreement.
- B) For a Generation System over 500 kW, the general liability insurance required by Section XI.A shall, by endorsement to the policy or policies: (a) include Public Service as an additional insured; and (b) provide that Public Service 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.
- C) All general liability insurance required by Section XI.A shall, by endorsement to the policy or policies, provide for thirty (30) calendar days' written notice to Public Service prior to cancellation, termination, alteration, or material change of such insurance.
- D) 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 Public Service.
- E) If the Customer is self-insured with an established record of self-insurance, the Customer may comply with the following in lieu of Section XI.A – D:
- 1) Customer shall provide to Public Service, 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 Customer ceases to self-insure to the level required hereunder, or if the Customer is unable to provide continuing evidence of its ability to self-insure, the Customer agrees to immediately obtain the coverage required under Section XI.A.
- F) The Customer shall provide Public Service a certificate of insurance evidencing the requisite coverage and provisions prior to the interconnection of the Generation System. After interconnection, Public Service may periodically request proof of current insurance coverage in order to verify compliance with the requirements of this Section XI. Upon receipt of any such request, the Customer shall provide a certificate of insurance evidencing the requisite coverage and provisions. Failure of the Customer to provide timely evidence of proper insurance may result in disconnection of the Generation System pursuant to Section VIII.F.
- G) Failure of the Customer or Public Service to enforce the minimum levels of insurance does not relieve the Customer from maintaining such levels of insurance or relieve the 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 Public Service Company. Applications that are submitted via an on-line submittal process such as the Solar\*Rewards® shall provide the insurance submittal as part of the on-line submittal. All other applications shall submit the insurance documentation to:

*Public Service, Manager Area Engineering, 1123 W. 3<sup>rd</sup> Avenue, Denver, CO 80223*

## **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, 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.
- 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) If to Public Service:

Public Service, Manager Area Engineering, 1123 W. 3<sup>rd</sup> Avenue, Denver, CO  
80223
  - b) If to Customer:

{!Premise\_Address\_\_c}, {!Premise\_City\_\_c}, {!Premise\_State\_\_c} {!Premise\_Zip\_\_c}
- 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 that 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.

### **C) ASSIGNMENT**

All of the terms, covenants, representations, warranties, and conditions of this Agreement shall be binding upon, and inure to the benefit of and be enforceable by, the Parties hereto and their

respective successors, but neither this Agreement nor the rights and obligations of the Customer may be assigned except as provided for in this Section XII.C. In the event the Customer sells, conveys or otherwise transfers ownership or operational control of the Generation System to another entity ("New Owner"), this Agreement may be transferred to such New Owner upon receipt by Public Service of a written document, in a form satisfactory to Public Service, indicating the New Owner's agreement to comply with all of the terms of this Agreement. The Customer shall not otherwise assign its rights nor delegate its duties under this Agreement without Public Service's written consent, which shall not be unreasonably withheld. Any assignment or delegation the Customer makes without Public Service's written consent shall not be valid.

**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 PUBLIC SERVICE'S TARIFFS AND RULES**

- 1) This Agreement shall be interpreted, governed, and construed under the laws of the State of Colorado as if executed and to be performed wholly within the State of Colorado without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 2) The provisions of this Agreement shall at all times be subject to the applicable terms and conditions set forth in the Electric Tariffs pertaining to the electric service provided by Public Service, which are hereby incorporated into this Agreement by this reference.
- 3) Notwithstanding any other provisions of this Agreement, Public Service shall have the right to unilaterally file with the Commission, pursuant to the Commission'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 will not be amended, modified or supplemented except by a written instrument signed by an authorized representative of each of the Parties hereto.

**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 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.

This Agreement may be executed in two or more counterparts, each of which is deemed original but all constitute one and the same instrument. The Parties agree that a facsimile copy of a signature will be deemed original and binding.

**H) CONFIDENTIAL INFORMATION**

- (1) Confidential information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." All design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed confidential information regardless of whether it is clearly marked or otherwise designated as such.
- (2) Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce an agreement between the Parties. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under agreements between the Parties, or to fulfill legal or regulatory requirements.
  - A. Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.
  - B. Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
- (3) Notwithstanding anything in this article to the contrary, if the Commission or its staff, during the course of an investigation or otherwise, or any party to a proceeding before the Commission (an "Intervenor"), requests information from one of the Parties that is otherwise required to be maintained in confidence, the Party shall provide the requested information to the Commission, its staff, or such Intervenor, within the time provided for in the request for information. In providing the information to the

Commission, its staff, or such Intervenor, the Party may request that the information be treated as confidential and non-public by the Commission and that the information be withheld from public disclosure. Public Service shall have no obligation to notify Customer prior to the release of Confidential Information to the Commission, its staff, or such Intervenor. The Party shall notify the other Party when it is notified by the Commission or its staff that a request to release Confidential Information has been received by the Commission, at which time either of the Parties may respond before such information would be made public.

**I) NO WARRANTIES**

By undertaking the performance of any of its responsibilities under the terms of this Agreement, including, without limitation, any inspection, acceptance or non-rejection, Public Service does not give and hereby disclaims 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 Customer or leased by the Customer from third parties, including without limitation the Generation System and any structures, equipment, wires, appliances, or devices appurtenant thereto.

**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.

**K) APPROPRIATIONS**

This Section XII.K. applies only if Customer is a Governmental Entity. The Parties acknowledge that the Customer is subject to Article X, § 20 of the Colorado Constitution. If the Customer fails to appropriate funds for any given fiscal year sufficient to perform its obligations under this Agreement, (a) the Customer will be in material breach of this Agreement and (b) either Party may terminate this Agreement upon ten (10) days prior written notice to the other Party. No finding that this Agreement violates Article X, § 20(4)(b) of the Colorado Constitution will void, make voidable, or nullify this Agreement.

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

**Customer:**

By: \_\_\_\_\_[[SertifiSStamp\_1]]\_\_\_\_\_

Name:{!Customer\_Name\_\_c}

Title: \_\_\_\_\_[[SertifiTitle\_1]]\_\_\_\_\_

Date: \_\_\_\_\_[[SertifiDate\_1]]\_\_\_\_\_

**Public Service Company of Colorado**

By: \_\_\_\_\_[[SertifiSStamp\_2]]\_\_\_\_\_

Name: Lee Gabler

Title: Director, Customer Strategy and Solutions

Date: \_\_\_\_\_[[SertifiDate\_2]]\_\_\_\_\_

**EXHIBIT A****GENERATION SYSTEM DESCRIPTION  
AND SINGLE-LINE DIAGRAM**

(1) One Line Diagram

\*\* Submitted with Solar application

For all other applications, attach the submitted one-line diagram to this Exhibit.



**EXHIBIT B**

SUMMARY OF PUBLIC SERVICE COSTS AND DESCRIPTION OF DEDICATED FACILITIES BEING INSTALLED BY  
PUBLIC SERVICE, FOR THE INTERCONNECTION OF THE GENERATION SYSTEM

## **EXHIBIT C**

### **ENGINEERING DATA SUBMITTAL, FOR THE INTERCONNECTION OF THE CUSTOMER'S GENERATION SYSTEM**

(1) Small Generator Interconnection Application

\*\* Submitted with online Solar application (only applicable for systems over 10 kW)

For all other applications, the completed application form shall be attached to this Exhibit.

## EXHIBIT D

### OPERATING REQUIREMENTS

*[Drafting note: This Exhibit D is for Solar\*Rewards. Replace for S\*R Community.]*

#### **The Generation Facility shall operate at a specified fixed Power Factor:**

The specified Power Factor as a condition of interconnection: 98%; Absorbing VARs

This Power Factor is specified at the: Point of Common Coupling

The power factor may be changed from time to time by mutual agreement. A temporary power factor may be specified by Public Service Company of Colorado d/b/a Xcel Energy as a condition of operation in lieu of disconnecting when the distribution system is in a contingency configuration.

The system owner is responsible to operate and maintain all equipment per manufacturer specifications and guidelines.

#### **Start-Up, Shut-Down, and Ramp Rates (Applicable for systems above 100kW with more than 1 inverter):**

- In order to mitigate voltage variations, where the Generation System consists of more than one unit (e.g., inverters in a solar PV context), with aggregate rating of 100kW AC or above; Interconnection Customer shall stagger the planned start-up and shutdown of the units in 50%+/- increments if only two inverters, 33% +/- increments if three inverters and 25% +/- increments if four or more inverters, with a minimum delay of 30 seconds between the starting and controlled stopping of each unit. A controlled planned shutdown may be a condition of interconnection. The sequence of operation, including estimated timeframes for actions, must be submitted to and approved by Xcel Energy in advance.
- In order to mitigate voltage variations and surges, Xcel Energy reserves the right, based upon the Engineering Study, to have Customer modify Start-up, Shut Down, and Ramp Rate requirements, within the equipment's capability. Customer shall comply with the request for modification in a timely fashion in accordance with good utility practices.
- Specific to Customer's Installation: **N/A**

#### **Applicable If Energy Storage Systems Are Involved:**

Three Energy Storage Guidance Documents ("Guidance Documents") address battery configurations and requirements related to the terms of Colorado Public Utilities Commission Proceeding No. 16AL-0048E. Energy storage interconnections are allowed as addressed in these Guidance Documents. The interconnection principles illustrated also apply to large interconnections, as permitted in the filed tariffs. In the event of a conflict between this Operating Agreement and Guidance Documents, the Guidance Documents shall rule. Energy

storage system interconnections not included in this PUC Proceeding must be documented and be in accordance with the Engineering Study and applicable tariffs.

Nothing under the Guidance Documents shall be construed to limit the export of actual onsite renewable self-generation that is net metered in compliance with the approved tariffs.

### **Exclusions**

Certain tariff and generation interconnection types are outside the provisions of PUC Proceeding No. 16AL-0048E and are not covered in the Guidance Documents. Each Guidance Document lists the relevant interconnection types excluded. Energy storage system interconnections not included in this proceeding must be documented and be in accordance with the Engineering Study and applicable tariffs.

### **Additional Definitions**

“Configuration” - the physical electrical design of the Distributed Energy Resource (“DER”). The Guidance Documents provide diagrams showing representative typical connection designs for a small PV as examples. The Configuration is a combination of the illustrated connection and the diagram notes concerning the equivalent connections inside of a software-governed inverter.

“Distributed Energy Resource (DER)” - a source of electric power that is not directly connected to a bulk power system. DERs includes both generators and energy storage technologies capable of exporting active power to the Area Electric Power Supplier (“EPS”) as defined by the Institute of Electrical and Electronics Engineers (“IEEE”) standard 1547-2003.

“Energy Storage Guidance Documents” or “Guidance Documents” - Guidance documents for the interconnection of electric storage based on agreed to terms from Proceeding No. 16AL-0048E and as published on the Xcel Energy website.

“Inadvertent Export” - the unscheduled and uncompensated export of real power generated from a customer’s parallel operation and delivered to the Company. The use of an internal transfer relay, energy management system, or other customer facility hardware or software system(s) intended to prevent the reverse power flow, or net export, from the customer’s energy source across the point of interconnection shall be required. The magnitude of energy export shall be less than the aggregate nameplate rating (kW-gross) of all sources ineligible to export power (Non-Export) multiplied by one hour per month, and the duration of export of power from the customer’s parallel operation shall be less than 30 seconds for any single event.

“Interconnected DER Capacity” - the aggregate nameplate ratings of the DER that can be simultaneously supplied to the grid, such as storage and self-generation. If the contribution of the energy storage to the total contribution is limited by programming or by some other onsite limiting element, the reduced ongoing capacity will be used.

“Material Change” - any modification to the system that causes the system to operate contrary to the approved operating configuration shall be considered a material change and shall be considered a material breach of this Agreement.

“Non-Export” - a restriction whereby no Parallel Operation of Self-Generation or Energy Storage energy may export from the utility service meter to the utility is allowed and for which no payment will be given. Non-Export also applies to specific sources not allowed to export, such as batteries. Export of non-renewable sourced energy is not allowed. Non-Export restrictions are subject to the “Inadvertent Export” definition.

“Operating Mode” - a combination of the functionality in the physical Configuration and the functionality in the software programming some of which is not shown in the Configuration diagram. Operating Mode is the combined function designed to achieve an Operating Objective that may vary with a change of settings. Operating Modes are established as a function, not by a diagram designation. Operating Modes include, but are not limited to, battery non-export, maximize self-consumption, maximize export, perform time shifting, and perform peak shaving. A change of Operating Mode may constitute a change of Operating Objective.

“Operating Objective” - the functional purpose of the DER operation achieved by the combination of the approved Configuration and Operating Mode. Any alterations to an Operating Mode may result in unacceptable changes to the Operating Objective as originally approved. Such changes may render the facility ineligible for use without additional mitigations.

“Parallel Operation of Energy Storage” - a source operated in parallel with the grid when it can supply energy to the customer simultaneously with the Company supply of energy.

“Self-Generation” - a customer supplying all or part of their entire load from onsite generation with no intent of exporting that self-generated power or receiving payment for export.

### **Energy Storage Requirements and Additional Information**

1. The energy storage design follows Guidance Document and Configuration and follows all provisions of associated requirements. **{Enter Energy Storage Guidance Document and Configuration}**
2. Per the Guidance Documents, interconnection study, and interconnection tariff, the Operating Modes allowed for the energy storage shall be limited to applicable Operating Modes allowed under the Energy Storage Guidance and Tariff.
3. Any change in Configuration or Operating Mode from the Configuration or Operating Mode specified in the application that impacts the ability of the energy storage system to adhere to the applicable and approved Configuration and Guidance Document requirements may be considered a material change and may require partial or full review of the facility, which may require additional system mitigations.
4. Excluded modes are any Operating Modes not included and approved as part of the interconnection review. Configurations and Operating Modes Excluded: **{Enter Excluded Configurations and Operating Modes}**
5. Inverter software programming or other programming required to meet the energy storage guidance requirements shall be inaccessible and/or password protected with access restricted to manufacturer/developer/installer. This may include locks or other physical

security or other means of securing the settings; or as mutually agreed upon on a case-by-case basis and identified in this Energy Storage System section of Exhibit D: \_\_\_\_\_

6. Any energy storage system that cannot be secured in a single Operating Mode must be reviewed for compliance with the guidelines for all Configurations or Operating Modes that are user selectable. The application must have all unapproved Operating Modes documented under Excluded Modes in paragraph 4 above and the applicable Guidance Document. Any use of excluded or unapproved Configurations or Operating Modes may be grounds for disconnection and termination of the Agreement subject to cure provision in IA Section VIII.H to which this Exhibit is attached.
7. Customer accepts that for energy storage systems interconnected per Guidance Document No. 3, Configurations will result in some loss of Production Meter recorded RECs and corresponding payments for installations eligible for REC payments. This is due to battery energy storage systems' consuming some power for maintaining a charge along with the discharge-charge cycle resulting in turn-around losses.
8. For energy storage systems interconnected per Guidance Document No. 3, Configuration 3A, with a protected load panel, a meter socket shall be installed between the hybrid inverter and protected load panel for the installation of a uni-directional Load meter by utility.
9. Telemetry requirements are determined based on the Interconnected DER Capacity with requirement thresholds outlined in the Technical Requirements. Telemetry required: Y\_ N\_
10. Xcel Energy reserves the right to conduct a facility inspection to verify compliance at a later date if problems arise or indications of possible non-compliance are present.
11. Specific to Customer's Installation {blank unless storage only requirements apply}

**Applicable for Systems that Require Ground Referencing Transformer Provisions:**

The ground referencing transformer shall be operated and maintained such that:

- The grounding referencing transformer must be in service whenever the inverters or other sources are on-line and capable of producing power while connected to the utility.
- At any time the grounding transformer is unavailable, the inverters or other sources must not be allowed to start or restart a connection to the utility.
- Specific to Customer's Installation: \_\_\_\_\_

**Applicable to Systems Over 100 kW AC when Disconnection Due to System Constraints or Safety may be Required:**

Disconnection or Curtailment Requirements of the generating system when required pursuant to Section VIII.F) of the Generating System Interconnection Agreement (IA) to which this Exhibit is attached:

Public Service may disconnect the Generation System as reasonably necessary in the event of imminent danger to the public or Public Service personnel, and routine maintenance, repairs, and modifications to the Public Service system. See IA VIII.F) for notification by Public Service provisions.

The Interconnection Customer shall ensure that at all times Public Service has access to a manually operated three-phase lockable disconnect switch pursuant to Section VIII.B) of the IA.

Interconnection Customer agrees and consents to Public Service's remote tripping or manual disconnection, as reasonably necessary under good utility practice, of the utility owned disconnecting device or other agreed to facility device for the Generation System including, but not limited to, in the following circumstances, when system conditions exceed parameters defined in any IEEE, NESC, ANSI standards, prudent safety practices, system capacity limits, or utility system contractual limits:

- Electric Distribution or Transmission System emergency
- Public emergency
- Abnormal system operation
- Planned switching
- Transmission system constraints

The above may have situations where a partial reduction in Facility output may adequately alleviate the problem. If partial curtailment is an option for one or more of the above conditions, the applicant will need to demonstrate how this can be accomplished. Interconnection Customer's failure to promptly respond to and execute on Public Service's request to curtail the output of the Generation System, it will be disconnected either manually or remotely by Public Service Company. If Public Service remotely trips the disconnecting device for the Generation System, Public Service will close the device remotely, if so equipped, after attempting to notify the Large Interconnection Customer's Control Center Contact. Public Service will close their device remotely once the reason for the remote tripping has passed and it is safe and consistent with good utility practice to do so. If the disconnection was done manually, Public Service will close the device in a timely manner.

The Generation System is subject to curtailment or disconnection for the following defined limitation **in addition to the above conditions: (N/A if none)**

Describe: \_\_\_\_\_

Remotely operated separation device, if other than utility owned, agreed to by the Large Interconnection Customer: **(N/A if none)**

Describe: \_\_\_\_\_

**Control Center Contacts:**

Each Party shall contact each other's Control Center Contact for all operational issues related to the Generation System, pursuant to IA Section XII.B). In order to permit Public Service and the Large Interconnection Customer to take immediate action, the Large Interconnection Customer and Public Service shall at all times provide to each other the contact information of each other's Control Center Contact, which 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. Each Party shall keep the other informed of their Control Center contact information. Notice of changes to Control Center contact information shall be provided when such changes occur.

**Developer:**

By: \_\_\_\_\_[[SertifiSStamp\_1\_2]]\_\_\_\_\_

Name: {!Developer\_Contact\_First\_\_c} {!Developer\_Contact\_Last\_\_c} (Authorized agent for {!Developer\_Name\_\_c})

Title: \_\_\_\_\_[[SertifiTitle\_1\_2]]\_\_\_\_\_

Date: \_\_\_\_\_[[SertifiDate\_1\_2]]\_\_\_\_\_