

CITY OF ST.GEORGE Energy Services Department (SGESD)	<b>Renewable Net Metering Program</b>  <b>ESD-PRG-001-1</b>	<u>Document No.</u> ESD-PRG-001-1	<u>Revision No.</u> 3.0	<u>Review Cycle</u> Annually
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<u>References</u> Renewable Net Metering Agreement, Renewable Net Metering Policy #10.95			<u>Reviewer</u> R Fleming	<u>Owner</u> R Fleming

<b>REVISION HISTORY</b>				
City of St. George Energy Services Department <b>RENEWABLE NET METERING PROGRAM</b> ESD-PRG-001-1 DOCUMENT NO. ESD-PRG-001-1				
<b>Revision No.</b>	<b>Effective Date</b>	<b>Description</b>	<b>Reviewer</b>	<b>Approved By</b>
3.0	10/19/17	Added text to clarify the need to protect system from reverse power flows.	R Fleming	City Council
3.0	06/2016	Program updated to reflect changes in fees and program updates.	R Fleming	
1.0	4/14/2016	Change to typographic error in the SRC definition	R Fleming	
0.0	10/15/2005	Document created.	R Fleming	City Council
		Signature:		
		Date:		

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## Scope

This program sets forth requirements for the interconnection of customer electric generating facilities that generate Renewable Energy, within the City of St. George Energy Services Department (SGESD) distribution system. SGESD is a municipal electric utility located in St. George Utah.

## Definitions

The following words and terms, when used in this policy shall have the following meanings, unless the context clearly indicates otherwise.

**"Customer Generator"** means a SGESD customer that generates electricity, on the customer's side of the meter and receives an electric utility bill from the City of St. George.

**"Customer Generating Facility"** means the equipment used by a Customer Generator to generate, manage, and monitor electricity. A Customer Generating Facility typically includes an electric generator and/or an Equipment Package, as defined herein.

**"Customer Load"** means the kilowatt hours (kWh) used by Customer Generator within a month to supply their home with energy.

**"Electric Distribution System"** means that portion of an electric system which delivers electricity from transformation points on the transmission system to points of connection at a Customer Generator's premises. An Electric Distribution System generally carries less than 69 kilovolts (kV) of electricity.

**"Equipment Package"** means a group of components connecting an electric generator with an Electric Distribution System, and includes all interface equipment including switchgear, inverters, or other interface devices. An Equipment Package may include an integrated generator or electric source.

**"IEEE"** means the standards published by the Institute of Electrical and Electronic Engineers, available at [www.ieee.org](http://www.ieee.org).

**"Renewable Net Metering Agreement"** means an agreement between a Customer Generator and the City which governs the connection of the Customer Generating Facility to the Electric Distribution System, as well as the ongoing operation of the Customer Generating Facility after it is connected to the system. An interconnection agreement will follow the standard form agreement developed by the SGESD and posted on the City's web site, [www.sgcity.org](http://www.sgcity.org).

**"kW"** means kilowatt, a unit of power representing 1,000 watts. A kW equals 1/1000 of a MW, as defined herein.

**“kWh”** A unit of energy equivalent to one kW of power expended for one hour.

**“MW”** means megawatts, a unit of power representing 1,000,000 watts. A megawatt equals 1000 kW.

**"Net Metering"** means a system of metering electricity in which the City:

1. Credits a Customer Generator for energy produced in excess of the Customer Load.
2. Compensates the Customer Generator at the end of the annual billing period for any remaining kWh credits, at a rate equal to the Renewable Power Rate Available to SGESD.

**“Renewable Power Rate Available”** means the average price of energy delivered for a renewable portfolio which is available to SGESD.

**“Renewable Energy”** means a system that generates solar power which is installed in the SGESD service territory.

**“Solar Reliability Charge”** means the monthly charge to Customer Generators for capacity not collected in generated kWh.

### **Net Metering General Provisions**

St. George Energy Services Department (SGESD) will make Net Metering available to eligible customers on a first come, first-served basis. Fees, Renewable Power Rate Available and Solar Reliability Charge for the Net Metering Program are defined in Appendix 1.

SGESD will offer Net Metering to their customers that generate electricity, on the customer's side of the meter using Renewable Energy sources, provided that the generating capacity of the Customer Generating Facility does not exceed the customer's peak electric needs or exceed the capacity of the distribution circuits.

If, in a given monthly billing period, a Customer Generator supplies more electricity to the Electric Distribution System than SGESD delivers to the Customer Generator, SGESD will credit the Customer Generator for the excess kWh. To do this, the City will reduce the Customer Generator's bill for the next monthly billing period to compensate for the excess electricity in the previous billing period. If a customer has a kWh credit in the December billing cycle, SGESD will buy that amount of kWh at the Renewable Power Rate Available.

If using a contractor to install the equipment, a Utah licensed electrical contractor (S200, S201 or S202) must install the photovoltaic systems. The contractor must

obtain a current City of St. George Business License and complete the SGESD Pre-Qualified Solar PV Contractor class and maintain the pre-qualification status.

The City will provide the following review procedures for applications for interconnection of customer-generating facilities:

Level 1 – SGESD will use this review procedure for all applications to connect inverter-based Customer Generating Facilities, which has a power rating of 10 kW or less AC installed and is a single phase system.

Level 2 – SGESD will use this review procedure for applications to connect Customer Generating Facilities with a power rating above 10 kW AC to a maximum of 250 kW AC or:

- Any system that includes a generator or battery storage or;
- any three phase system or;
- Commercial customer installation. Any three phase system or system installed for a commercial customer is required to be designed and stamped by an electrical engineer licensed in the State of Utah.

SGESD must protect their system from any potential reverse power flows. Therefore SGESD will refuse or limit the size of Customer Generating Facility based on the potential energy flows on any given circuit.

SGESD will assign an employee from whom a customer can obtain basic application forms and information through an informal process. On request, this employee will provide all relevant forms, documents, and technical requirements for submittal of a complete application for interconnection review under this section, as well as specific information necessary to contact the SGESD representatives assigned to review the application.

Upon request, SGESD staff will meet with a customer who qualifies for an interconnection review to assist them in preparing the application.

An application for interconnection review shall be submitted on a standard form, available from SGESD and posted on the City's website at [www.sgcity.org](http://www.sgcity.org). The application form will require the following types of information:

1. Basic information regarding the customer
2. Information regarding the type and specifications of the Customer Generating Facility
3. Information regarding the contractor who will install the Customer Generating Facility
4. Equipment submittals/shop drawings
5. Site Plan
6. One line or three line diagram as applicable for the installation

7. Structural load design and letter from a structural engineer licensed in the State of Utah
8. Other similar information that is necessary to determine compliance with this program
9. Any other information as may be required by the City Public Works Department

SGESD will not be responsible for the cost of determining the rating of equipment owned by a Customer Generating Facility.

If the proposed system includes a battery backup or generator backup, a detailed wiring diagram and shop drawings of all equipment shall be submitted with the application.

The provisions of this policy that apply to interconnection are primarily intended for Customer Generator Facilities that are eligible for Net Metering; that is renewable generation facilities with a rating no greater than 250 kW, which generate electricity for customer use.

SGESD must protect their system from any potential reverse power flows. Therefore SGESD will refuse or limit the size of Customer Generating Facility based on the potential energy flows on any given circuit.

**The Public Works Department should be contacted regarding installations to assure required permits are obtained.**

### **Meters and metering**

A Customer Generating Facility used for Net Metering shall be equipped with metering equipment that can measure the flow of electricity in both directions at the same rate. This is typically accomplished through use of a single bi-directional meter. Meter equipment shall be provided by the SGESD. The Customer Generator is responsible for the cost of the bi-directional meter above the cost of a standard meter provided at the time permanent power is first installed.

SGESD will require a production meter be installed for each Customer Generating Facility. **The production meter will be placed to meter total kWh production from the solar PV system before any load.** The production meter base is required at the Customer Generator expense; SGESD will provide the production meter. The production meter base shall be installed no further than five (5) feet from the main meter.

## **Qualification of customer-generator facilities**

In order to qualify for all levels of interconnection review procedures, a Customer Generating Facility must be certified as complying with the following standards, as applicable:

- 1 IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems, as amended and supplemented, which is incorporated by reference herein. IEEE standard 1547 can be obtained through the IEEE website at [www.ieee.org](http://www.ieee.org); and
- 2 UL 1741, Inverters, Converters, and Controllers for Use in Independent Power Systems (January 2001), as amended and supplemented, which is incorporated by reference herein. UL standards can be obtained through the Underwriters Laboratories website at [www.ul.com](http://www.ul.com).

An Equipment Package shall be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized testing and certification laboratory, and has been tested and listed by the laboratory for continuous interactive operation with an Electric Distribution System in compliance with the applicable codes and standards listed in above.

If the Equipment Package has been tested and listed as an integrated package, which includes a generator or other electric source, the Equipment Package shall be deemed approved, and SGEDS generally will not require further design review, testing or additional equipment.

If the Equipment Package includes only the interface components (switchgear, inverters, or other interface devices), the Customer Generator must show that the generator or other electric source being utilized with the Equipment Package is compatible with the Equipment Package and consistent with the testing and listing specified for the package. If the generator or electric source being utilized with the Equipment Package is consistent with the testing and listing performed by the nationally recognized testing and certification laboratory, the Equipment Package will be deemed approved.

The aggregate generation capacity on the distribution circuit to which the Customer Generating Facility will interconnect, including the rating of the Customer Generating Facility, shall not contribute more than the distribution circuit standard operation limits (SOL).

SGEDS must protect their system from any potential reverse power flows. Therefore SGEDS will refuse or limit the size of Customer Generating Facility based on the potential energy flows on any given circuit.

## **Timeline for review of all interconnection applications**

A customer shall submit an application interconnection review on a standard form, available from SGESD and posted on the City's website at [www.sgcity.org](http://www.sgcity.org). A customer may choose to simultaneously submit the SGESD standard application form and the Renewable Net Metering Agreement executed by the Customer Generator.

Within five (5) business days after receiving an application for interconnection review, SGESD will provide written or e-mail notice to the Customer Generator or the designated representative that it received the application and whether the application is complete. If the application is incomplete, the written notice will include a list of all of the information needed to complete the application.

Within ten (10) business days after SGESD notifies the Customer that the application is complete SGESD will perform an initial review of the proposed interconnection to determine whether the interconnection meets the applicable requirements. During this initial review, SGESD may, at the Customer Generator expense, conduct any studies or tests it deems necessary to evaluate the proposed interconnection. The initial review will result in one of the following determinations:

- 1 The Customer Generating Facility meets the applicable requirements
- 2 The Customer Generating Facility has failed to meet one or more of the applicable requirements. There are two possible actions.
  - a. The application is denied and will not be reconsidered for interconnection.
  - b. SGESD will identify the requirements the Customer Generating Facility failed to meet and will accept the application for additional review. The Customer may resubmit the application with changes as indicated by SGESD. Resubmittals will restart the review timeline. The Customer is responsible for fees associated with additional reviews. Fees are listed in Renewable Net Metering Program Appendix ESD-APX-001-1.
- 3 SGESD will provide a copy of the approved application package to be taken to the Public Works Department for a building permit. Please be aware that the Public Works Department may have other required items to be submitted before a permit will be issued. All fees will be paid at the time the building permit is issued.

## **Timeline for Building Inspection and Utility Verification**

SGESD will require a City building inspection and SGESD will require utility verification of a Customer Generating Facility for code compliance and compliance with this program prior to operation, and may require and arrange for witness of commissioning tests as set forth in IEEE standard 1547 (Latest revision), as amended and supplemented, which is incorporated by reference herein.

The Customer Generator will not begin operating the Customer Generating Facility until after the inspection and utility verification are completed.

Both the Customer Generator and installation contractor must be on site for the utility verification. If the required representatives are not on site, SGESD will not conduct the utility verification and the verification will have to be rescheduled.

The Utility Verification will include the following:

- Verify that the system was installed per the approved electrical drawing;
- Verify that the labeling is complete and meets the requirements specified in the net meter application;
- Verify that the manual disconnect operates properly;
- Verify that any other requirements noted by the Chief Energy Services Engineer and/or Meter Specialist.

Once the items above are verified, the SGESD will set the bi-directional meter and production meter. The Renewable Net Metering Agreement must be submitted at this time, if not submitted earlier in the process.

## **Customer and City requirements**

Once a Net Metering interconnection has been approved under this policy, the SGESD will not require a Customer Generator to test or perform maintenance on its facility except for the following:

- 1 An annual test in which the Customer Generating Facility is disconnected from the City's distribution equipment to ensure that the inverter(s) stops delivering power to the grid; and
- 2 Any post-installation testing necessary to ensure compliance with IEEE 1547 or to ensure safety.

SGESD shall have the right to inspect a Customer Generating Facility after interconnection approval is granted, at reasonable hours and with reasonable prior notice to the Customer Generator. If SGESD discovers that the Customer



Generating Facility is not in compliance with the requirements of this program, and the noncompliance adversely affects the safety or reliability of the Electric Distribution System, SGESD may require the Customer Generator to disconnect the Customer Generating Facility until compliance is achieved.

SGESD shall have the right to disconnect the Customer Generating Facility in the event it causes system problems. The Customer Generator will have the option of correcting the problem, at which time the system will be re-verified before beginning operation again.

The Customer Generator shall be required to install a manual AC disconnect located within three (3) feet of the meter and be readily assessable by utility personal.