




Sussex Rural Electric Cooperative, Inc.

A Touchstone Energy® Cooperative 

Interconnection Overview - Commercial

Documents Required for Interconnection with Sussex Rural Electric Cooperative

To properly and promptly process your application for interconnection, the following documents are required at the time of application along with the appropriate application fee in a check made payable to Sussex Rural Electric Cooperative as detailed in our Tariff. Please sign, date and attest all documents where indicated.

- Sussex Rural Electric Cooperative Solar Application for Service
- Interconnection Power Purchase Agreement and Schedule A
- Power requirement calculation showing how system size was calculated. A PV Watts serves this purpose. **Note:** *The system cannot be greater than the estimated annual consumption.*
- Renewable Energy Assistance Program Member Section
- One-line drawing of the system and its interconnection design
- Technical specification cut sheets of equipment being used

Process Overview

1. Upon receipt of the aforementioned documents and application fee, Sussex REC will make sure all information has been provided.
2. The documentation is reviewed by Engineering.
3. Systems 500kW or larger will require a System Impact Study, the cost of which will be determined based on the information provided in the application, which will be invoiced to and be the responsibility of the applicant.
4. Either additional information will be requested or we will advise that the design is acceptable pending our field test.
5. Upon receipt of the cut-in card from the local municipality code officials, we will schedule a field test.
6. Following a successful field test (we make sure the interconnecting system disconnects from our system in an outage), we set the net meter and issue the permission to operate letter.

The Cooperative's review process and any inspections are intended as a means to safeguard the Cooperative's facilities and personnel. The Member acknowledges and agrees that any review or acceptance of such plans, specifications and other information by the Cooperative shall not impose any liability on the Cooperative and does not guarantee the adequacy of the Member's equipment to perform its intended function. The Cooperative disclaims any expertise or special knowledge relating to the design or performance of generating installations and does not warrant the efficiency, cost-effectiveness, safety, durability, or reliability of such installations.

The primary concern for our cooperative is the safe operation of the system. One key element is the availability of a manual AC disconnect where our crews can lock out the system if they are working nearby. The lock out on the inverter is acceptable as long as it is accessible at all times. This means it cannot be in a garage or behind a locked gate. Designs without this feature will not be approved for construction.



Member Guidelines for COMMERCIAL Electric Power Renewable Installation and Interconnection

Sussex Rural Electric Cooperative (Cooperative) strives to provide the highest possible quality of service at the lowest possible cost. In some cases, our Members may become interested in installing their own renewable electric power generation equipment including but not limited to solar, wind and biomass. In these cases, the Cooperative stands ready to work with you to ensure that your generation equipment is installed in a proper and safe manner, and in accordance with all applicable codes, standards, regulations, laws and insurance requirements. You will also need to coordinate the installation and approval of your electric power generator with the local code inspection authority (township or municipality).

We encourage our Members considering these systems to carefully evaluate the economics and possible alternatives to insure they receive the greatest benefit from their efforts.

Table 1 (below) summarizes the information required from a Member who is installing such a distributed generation system.

Size	Application Fee	Application		Interconnection Agreement	Schedule A - Installation Description	Line Drawings & Control Panel Schematics	PV Watts	REAP Documentation	Impact Study	Additional documentation may be required
		Part 1	Part 2							
More than 20 kW - Less than 100kW	\$250.00* *may incur additional fees based on size and complexity	✓	✓	✓	✓	✓	✓	✓	*	✓
More than 100kW - Less than 500 kW	\$1,000.00* *may incur additional fees based on size and complexity	✓	✓	✓	✓	✓	✓	✓	*	✓
More than 500 kW	\$1,000.00*** *may incur additional fees based on size and complexity **requires a System Impact Study (additional charge)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Renewables Interconnected with the Cooperative Distribution System

When installing a renewable power generator and you are planning to interconnect with the distribution system, we must review your plans to ensure that personnel safety and system reliability will not be compromised. Your installation must meet our expectations and requirements for interconnection and all equipment used must be approved as a device for interconnection.

If you are interested in selling some or all of the power that you generate, we have a program in place for the purchase of power from Members. However, this purchase agreement is between our power supplier, Allegheny Electric Cooperative, and you, the Member. For information on wheeling of excess power please refer to Tariff Schedule IWS.

If your generator is more than 20 kW, you must complete Parts 1 and 2. All applications must also include completed Interconnection Agreement, Schedule A – Installation Description, Line Drawings & Control Panel Schematics, REAP documentation, and application fee.

Systems of more than 100 kW require a \$250.00 application fee and systems more than 100kW require a \$1,000.00 application fee. Note that commercial solar installations may incur additional fees based on the size and complexity of the system and an impact study may be required as part of the process. Systems of more than 500kW will require a system impact study and that will incur an additional charge.

Once we receive your completed application, we will review your proposed renewable generator installation. As part of our application review process, we will examine the ability of the Cooperative electric distribution system to accept your new power generation unit. Member agrees to pay for extension of Cooperative's facilities and other interconnection costs as may be necessary for Member's interconnection. An estimate shall be provided to the Member if any extension or other

Member Guidelines for COMMERCIAL Electric Power Renewable Installation and Interconnection

costs are required upon Member's submission of his or her application or design plans. The Cooperative reserves the right to require additional safety, reliability and/or operational equipment and/or measures where its engineering study determines that such equipment and/or operational measures are required. In such cases, the Member shall be responsible for the cost of such equipment and/or operational measures. Member will also be asked to sign a system upgrade contract that obligates you to reimburse us for the additional expense incurred on your behalf.

Net Metering Process

The basic concept behind our net metering process is to accurately determine both power consumed and power produced. Based on these values, Sussex REC will calculate the monthly bill amount. At a minimum, the member's monthly bill will be the applicable service connection fee as defined by our tariff and further revised as per your specific situation. On a monthly basis the Net Energy will be calculated by subtracting the Received Energy from the Delivered Energy. Excess energy is "banked" and is purchased on an annual basis by Allegheny Electric Power according to your contract with them. The following illustrates how our net metering process works.

System data inputs: Consumption from the premise net meter
 Production from the premise net meter
 Sussex REC tariffs

Calculation: When Production > Consumption, the difference goes to the Bank.
 When Consumption > Production, the difference comes out of the Bank.
 The minimum monthly bill is the applicable Service Connection Fee (SCF)
 In any month where Consumption > Production + Bank balance, the bill is the SCF +
 (Consumption - (Production + Bank))

Month	Consumption	Production	Bank	Bill Component
Jan	100	90	0	SCF + 10
Feb	100	105	5	SCF
Mar	65	85	25	SCF
Apr	65	60	20	SCF
May	75	50	0	SCF + 5
Jun	65	80	15	SCF
Jul	125	110	0	SCF
Aug	145	110	0	SCF +35
Sep	115	110	0	SCF +5
Oct	95	105	10	SCF
Nov	90	75	0	SCF +5
Dec	105	95	0	SCF +10
Total	Net energy to be purchased		0	

COMMERCIAL



Application for Operation of Member-Owned Renewable Generation

This application should be completed as soon as possible and returned to the Cooperative in order to begin processing the request. See the Member Guidelines document for additional information. This application must be accompanied with the applicable application fee as listed below.

Systems of more than 100 kW require a \$250.00 application fee and systems more than 100kW require a \$1,000.00 application fee. Note that commercial solar installations may incur additional fees based on the size and complexity of the system and an impact study may be required as part of the process. Systems of more than 500kW will require a system impact study and that will incur an additional charge.

INFORMATION: This application is used by the Cooperative to determine the required equipment configuration for the Member interface. Every effort should be made to supply as much information as possible.

PART 1 OWNER/APPLICANT INFORMATION

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

PROJECT DESIGN/ENGINEERING (ARCHITECT) (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

ELECTRICAL CONTRACTOR (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

TYPE OF GENERATOR (as applicable) Manufacturer _____

Photovoltaic _____

Other _____



Application for Operation of Member-Owned Renewable Generation

ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION

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

Total Site Load _____ (kW)

Residential _____ Commercial _____ Industrial _____

Generator Rating _____ (kW) Annual Estimated Generation _____ (kWh)

Mode of Operation

Isolated _____ Paralleling _____ Power Export _____

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including a detailed description of its planned location and when you plan to operate the generator.

PART 2 Complete all applicable items. Copy this page as required for additional generators. Inclusion of manufacturer cut and specification sheets for the system components is recommended and will speed the review process.

INVERTER DATA (if applicable)

Manufacturer: _____ Model: _____

Rated Power Factor (%): _____ Rated Voltage (Volts): _____ Rated Amperes: _____

Inverter Type (ferroresonant, step, pulse-width modulation, etc): _____

Type commutation: forced line

Harmonic Distortion: Maximum Single Harmonic (%) _____

Maximum Total Harmonic (%) _____

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



Application for Operation of Member-Owned Renewable Generation

POWER CIRCUIT BREAKER (if applicable)

Manufacturer: _____ Model: _____

Rated Voltage (*kilovolts*): _____ Rated Ampacity (*Amperes*) _____

Interrupting rating (*Amperes*): _____ BIL Rating: _____

Interrupting medium / insulating medium (ex. Vacuum, gas, oil) _____ / _____

Control Voltage (Closing): _____ (Volts) AC DC

Control Voltage (Tripping): _____ (Volts) AC DC Battery Charged Capacitor

Close energy: Spring Motor Hydraulic Pneumatic Other: _____

Trip energy: Spring Motor Hydraulic Pneumatic Other: _____

Bushing Current Transformers: _____ (Max. ratio) Relay Accuracy Class: _____

Multi ratio? No Yes: (Available taps) _____

IMPORTANT: ADDITIONAL INFORMATION

In addition to the items listed above, please attach a detailed one-line diagram of the proposed facility, all applicable elementary diagrams, major equipment, (generators, transformers, inverters, circuit breakers, protective relays, etc.) specifications, test reports, etc., and any other applicable drawings or documents necessary for the proper design of the interconnection. Also describe the project's planned operating mode (e.g., combined heat and power, peak shaving, etc.), and its address or grid coordinates.

NOTE: Also include the applicable application fee as described in the Member Guidelines.

END OF PART 2

SIGN OFF AREA

The Member agrees to provide the Cooperative with any additional information required to complete the interconnection. The Member shall operate his equipment within the guidelines set forth by the cooperative. The Member further asserts that, by signing this application, this installation has or will receive all necessary local inspections and approvals.

Applicant _____

Date _____



Application for Operation of Member-Owned Renewable Generation

SUSSEX RURAL ELECTRIC COOPERATIVE CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:

Cooperative contact:
Engineering & Operations Department

Address:
Sussex Rural Electric Cooperative
64 County Route 639
Sussex, NJ 07461

Phone: 973.875.5101

Fax: 973.875.4114

e-mail: info@sussexrec.com

Nameplate Capacity kW	Delivery Point
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Engineering Approval	
Signature:	
Date:	

Interconnection and Power Purchase Agreement

THIS AGREEMENT, made this _____ day of _____ 20__, by and between Sussex Rural Electric Cooperative (hereinafter called "Cooperative"), _____ (hereinafter called "Generator") and Allegheny Electric Cooperative (hereafter called "Allegheny").

WITNESSETH

WHEREAS, the Generator has indicated a desire to install electric generating facilities described on the attached Schedule A on his/her property located at _____ within the service territory of Cooperative; and

WHEREAS, the subject generating facilities will utilize renewable resources as fuel and/or otherwise meet the qualification standards for 1) Qualifying Facilities (QF) established by the Federal Energy Regulatory Commission (FERC) in regulations at 18 C.F.R. Part 292 and in Docket No. RM79-54, Order No. 70 and/or 2) Alternative Energy Systems (AES) established by the Pennsylvania Alternative Energy Portfolio Standards Act of 2004 (Act 213); and

WHEREAS, the Generator wishes to generate electric energy for sale to Allegheny or for his/her own uses with sale of any excess energy to Allegheny; and

WHEREAS, the Cooperative and Allegheny, consistent with their policies of encouraging innovation in the energy field, are willing to interconnect and operate in parallel with the said AES/QF and, if required, to furnish parallel electric service to the Generator for the operation of his/her AES/QF and/or other uses;

NOW THEREFORE, Cooperative, Allegheny and the Generator agree as follows:

1. The Cooperative shall furnish electric service and supply the energy requirements of the Generator that are not supplied by the AES/QF in accordance with the rate schedule applicable to the Generator's class of service as a member of the Cooperative.

2. The Cooperative shall credit an AES at the full retail rate for each kilowatt-hour produced by an AES installed on the member's side of the electric revenue meter, up to a total amount of electricity used by the member during the billing period.

For AESs involved in virtual meter aggregation, a credit shall be applied first to the meter through which the Cooperative supplies electricity to the distribution system, then through the remaining meters for the AES's account equally at each meter's designated rate.

3. Allegheny shall purchase all power and energy delivered into the Cooperative's electric system by the Generator on the terms and conditions of Rate Schedule SPP, which is attached and made part of this Agreement by reference, as such Schedule may be modified by any revisions approved by Allegheny's Board of Directors.

4. The installation and operation of the AES/QF shall be in accordance with the policies, rules, regulations and applicable rate schedule, copies of which are attached and made part of this Agreement by reference, which from time to time may be modified or adopted by the Cooperative and/or Allegheny.

5. Prior to the installation of the AES/QF, the Generator shall submit his/her plans and specifications for the AES/QF to Cooperative for review to assure compliance with the Cooperative's rules, regulations and interconnection policy. Such review shall not be construed as permission to operate the facilities without written authorization from Cooperative after inspection of the completed facilities as hereinafter provided.

6. Prior to interconnection of the AES/QF, the Generator may notify Cooperative and the Cooperative shall inspect the facilities for compliance with the Cooperative's or Allegheny's rules, regulations and bylaws. Cooperative may inspect and test the operation of the AES/QF to assure the safety of the personnel of the Cooperative and the satisfactory operation of the AES/QF in parallel with the Cooperative's system before authorizing the operation of the AES/QF. Such inspection by the Cooperative shall not relieve the Generator from his/her responsibility to install, operate, and maintain the AES/QF in a safe and satisfactory manner. The above-described inspection does not impose any obligation upon the Cooperative or Allegheny to warrant or ensure in any manner the AES/QF's safety or compliance with this Agreement. Further, the Cooperative and Allegheny make no representations concerning, and expressly disclaim any expertise or specialized knowledge relating to the particular type of generation employed by the Generator or the equipment associated with such generation.

7. The Generator shall reimburse the Cooperative and Allegheny for their respective costs of providing additional facilities or modifying existing facilities, including metering, required to interconnect with the AES/QF. Payment shall be due within 30 days of receipt of a statement thereof from the Cooperative and/or Allegheny.

Said payment shall be received prior to physical interconnection of the facilities.

8. The Cooperative or Allegheny may at any time install or modify its equipment as it deems necessary to ensure the safety of its personnel and the satisfactory operation of its system, and/or the accuracy of its meter as a result of the operation of the AES/QF. The Generator shall reimburse the Cooperative or Allegheny for the total cost of such installation or modification within 30 days of receipt of a statement thereof from the Cooperative or Allegheny.

9. Authorized Cooperative or Allegheny personnel shall have the right to enter upon the Generator's property at any time for the purpose of inspecting the AES/QF and making additional tests to ensure the continued safe operation of the AES/QF and the accuracy of the meter. Such inspections shall not relieve the Generator from his/her obligation to install, operate, and maintain the AES/QF in a safe and satisfactory manner.

10. If, in the judgment of the Cooperative or Allegheny, the Generator has failed to maintain the AES/QF in satisfactory operating condition, the Cooperative or Allegheny may notify the Generator to disconnect the AES/QF from the Cooperative's system. If the Generator fails to immediately comply with such notice, the Cooperative may discontinue service to the Generator until the AES/QF is disconnected or restored to a satisfactory operating condition.

11. The Generator shall have the sole responsibility for the safety and electrical protection of his/her AES/QF, without regard to the condition of the Cooperative's or Allegheny's facilities.

12. The Generator agrees that he/she shall indemnify and hold harmless the Cooperative and Allegheny for any personal injuries to any person and/or damage to property of any type arising out of the existence, maintenance, or operation of the Generator's AES/QF, regardless of whether the injury or damage occurs on the Cooperative's and/or Allegheny's side of the interconnection point.

13. Except for residential consumer-members, the Generator shall procure and maintain the following liability insurance in the amounts stated:

- A. Bodily injury in the amount of \$1,000,000 or greater per occurrence.
- B. Property damage in the amount of \$1,000,000 or greater per occurrence.

The Cooperative and Allegheny shall be listed as Additional Named Insureds on the Policy and the Cooperative and Allegheny shall be given a minimum of twenty (20) days advance notice of cancellation or non-renewal of the Policy. Residential consumer-members that are AES/QF owners are strongly advised to maintain a current liability

insurance policy adequate in amount to cover all forms of liability that may arise from the operation of the AES/QF interconnected to the Cooperative's electrical system. The policy should list the Cooperative and Allegheny as additional named insureds.

14. This Agreement shall become effective immediately upon the execution hereof and shall continue in effect until terminated by any party upon thirty (30) days written notice to the other parties. Termination shall require permanent disconnection of the AES/QF.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the day and year first above written.

ATTEST:

COOPERATIVE

By: _____

ATTEST:

GENERATOR

By: _____

Address: _____

Telephone No.: _____

ATTEST:

ALLEGHENY ELECTRIC COOPERATIVE, INC.

By: _____

SCHEDULE A.

Interconnection and Power Purchase Agreement (Description of Installed Electric Generating Facilities)

The _____ (name of project) consists of a _____ kW, _____ (inverter or generator, if generator please denote whether it is an induction or synchronous generator) utilizing _____ (type of technology*) technology and fueled by _____ (type or source of fuel**). The _____ (inverter or generator) _____ is installed at _____ (physical location of inverter/generator on property) and has an output of _____ volts, which is (stepped up/stepped down to _____ volts by a _____ (type/size) transformer and fed or (fed) into the Generator's service panel. The control panel was designed and built by _____ (brand). The design drawings are as follows: (1) one line drawing _____ (reference number) and; (2) control panel detail _____ (reference number), issued _____ (date). These drawings are included with the attached Interconnection and Power Purchase Agreement.

The AES/QF site is located in _____ Township at _____ (Cooperative's name) and customer map location number _____. The mailing address and telephone number for the member/owner and operator of the generation facility is:

Member Owner Name: _____

Street Address: _____

P.O.
Box: _____

City/State/Zip Code: _____

Telephone Number: _____

Operator Name: _____

Street Address: _____

P.O. Box: _____

City/State/Zip Code: _____

Telephone Number: _____

_____ (name/title of cooperative staff) witnessed the final acceptance tests of the generation system on _____ (date). _____ (Cooperative's name) will have access to the generation site at all times.

* Types of Technology: solar/photovoltaic, hydroelectric, wind, fuel cell, anaerobic digestion or other.

** Types of Fuels: Solar, wind, water, natural gas, bio-gas, methane, propane, waste coal or other.

Revised: 5-4-2011

PENNSYLVANIA/NEW JERSEY RURAL ELECTRIC COOPERATIVES
Renewable Energy Assistance Program
REAP

I. MEMBER SECTION

(To be Completed by Electric Cooperative Member)

Member Name: _____

Address: _____

Telephone: (____) ____ - _____

E-Mail Address: _____

Type of Application: *(Check Appropriate Choice):*

() Residential Premise; () Farm Premise; () Commercial; () Industrial; () Other _____

Type of Alternative Energy System (AES):

(Check Appropriate Choice or Complete)

() Solar () Anaerobic Digester () Small Hydroelectric () Wind Turbine

() Other: _____

Nameplate Rating of AES (kW): _____ kW

I am the: *(Check All That Apply)*

Owner ____ (Yes/No) Operator ____ (Yes/No) Lessee ____ (Yes/No) or

Otherwise Have Exclusive Control of AES ____ (Yes/No).

I, Mr./Mrs. _____ Acknowledge and Attest that the
Statements/Information Provided Above Are True/Correct to the Best of My Knowledge.

(Member Must Complete)

(Signature of Member Applicant for REAP Funds)

(Date)

STANDARD TERMS AND CONDITIONS

16 - General Interconnection Requirements

- 16.01 The following requirements and standards for connection of generating facilities located on Member's premises to the Cooperative system shall be met to assure the integrity and safe operation of the Cooperative system with no deterioration to the quality and reliability of service to other Members. The operation of the generation facility should be done in a competent manner, such that the Cooperative system as a whole is protected.
- 16.02 All small power producers (including renewable energy systems) or cogenerators shall make application to the Cooperative for approval to interconnect their facilities with the Cooperative system.
- 16.03 The Cooperative shall require the following as part of the application, properly completed, signed and attested as necessary:
- (a) Application for service.
 - (b) Application fee as determined from the current applicable tariff.
 - (c) Interconnection Power Purchase Agreement.
 - (d) SREC AEC Schedule A.
 - (e) Renewable Energy Assistance Program Member Section.
 - (f) One line drawing of the system and its interconnection design.

Additional requirements for application may include:

- (g) Completion of a system impact engineering study by an engineering firm of the Cooperative's choosing, cost to be borne by the Member.
 - (h) Evidence of insurance satisfactory to the Cooperative.
 - (i) An agreement to indemnify and hold harmless the Cooperative from any and all liability or claim thereof for damage to property, including property of the Cooperative and injury or death to persons resulting from or caused by the presence, operation, maintenance or removal of such installation.
- 16.04 The Cooperative shall within 30 days from the receipt of all required data from the Applicant either approve or reject in writing the application for connection to the Cooperative system. Rejection of an application shall state with specificity the reasons for such rejection. Connection to the Cooperative system will be permitted only upon obtaining the formal approval of the Cooperative in the form of an approval to operate letter.

Date Issued: September 22, 2012

Effective: October 1, 2012

Issued By: Jack S. Haggerty, Jr., Chairman
Sussex Rural Electric Cooperative
64 County Route 639
Sussex, NJ 07461

STANDARD TERMS AND CONDITIONS

- 16.05 The installation of the generation facilities must be in compliance with the requirements of the National Electrical Code and all applicable local, State and federal codes or regulations. The installation shall be undertaken and completed in a workmanlike manner, and shall meet or exceed industry acceptance standards of good practice. The provisions of the National Electrical Safety Code and the standards of the Institute of Electrical and Electronics Engineers, National Electrical Manufacturers Association and the American National Standards Institute shall be observed to the extent that they are applicable. Prior to connection, the Cooperative must be provided with evidence that electrical inspection by an authorized inspection agency has been completed.
- 16.06 The generation facility shall have the following characteristics:
- (a) Interconnection voltage shall be compatible and consistent with the system to which the Cooperative determines the generation facility is to be connected.
 - (b) The generation facility shall produce 60 Hertz sinusoidal output compatible with the Cooperative system to which the facility is to be connected.
 - (c) The generation facility must provide and maintain automatic synchronization with the Cooperative system to which it is to be connected.
 - (d) The break point between the generation facilities producing single-phase or three-phase output shall be in accordance with existing Cooperative motor specifications or as otherwise specified by the Cooperative.
 - (e) At no time shall the operation of the facility result in excessive harmonic distortion of the Cooperative wave form. Total harmonic distortion greater than 5% shall be deemed excessive and shall result in disconnection of the facility from the Cooperative system.
 - (f) The installation of power factor correction ("PFC") capacitors at the facility may be required under conditions to be determined by the Cooperative when necessary to assure the quality and reliability of service to other Members. The cost of PFC capacitors shall be borne by the Member.
 - (g) The cost of supplying and installing 15-minute integrated generation output metering, and any other special facilities or devices occasioned by the generation facility which the Cooperative may deem necessary on its system, such as telemetry and control equipment, shall be borne by the Member.
 - (h) All upgrades required of the Cooperative's system to which the generator will be interconnected as determined by the system impact study (Section 3.g) will be borne by the Member. The Cooperative will provide a good faith estimate of said costs to assist with planning but the Member will bear the actual cost.

Date Issued: September 22, 2012

Effective: October 1, 2012

Issued By: Jack S. Haggerty, Jr., Chairman
Sussex Rural Electric Cooperative
64 County Route 639
Sussex, NJ 07461

STANDARD TERMS AND CONDITIONS

- 16.07 The Member shall provide automatic disconnecting devices with appropriate control devices which will isolate the facility from the Cooperative system within a time period specified by the Cooperative for, but not necessarily limited to, the following conditions:

- (a) A fault on the Member's equipment.
- (b) A fault on the Cooperative system.
- (c) A de-energized Cooperative line to which the Member is connected.
- (d) An abnormal operating voltage or frequency.
- (e) Failure of automatic synchronization with the Cooperative system.
- (f) Loss of a phase or improper phase sequence.
- (g) Total harmonic content in excess of 5%.
- (h) Abnormal power factor.

The devices shall be so designed and constructed to prevent reconnection of the facility to the Cooperative system until the cause of disconnection is corrected.

- 16.08 The Cooperative shall reserve the right to specify settings of all isolation devices which are part of the generation facility.
- 16.09 The Cooperative shall require initial inspection and testing and may, at its discretion, require subsequent inspection and testing of the facility's isolation and fault protection systems at the Member's expense. Maintenance of these systems must be performed and documented by the Member at specified intervals to the satisfaction of the Cooperative. The Cooperative shall reserve the right to disconnect the Member and/or the generation equipment from the Cooperative system for failure to comply with these inspections, testing and maintenance requirements.
- 16.10 The Member is solely responsible for providing adequate protection for the equipment located on the Member's side of the interconnection system. This protection shall include, but not be limited to, negative phase sequence voltage on three-phase systems.
- 16.11 The Member shall provide a Cooperative-controlled disconnecting device providing a visible break on the Cooperative side of the interconnection system. The Cooperative shall require that this device accept a Cooperative-provided padlock. The Cooperative may also require manual operation of the device when required. The Cooperative shall require this device to be labeled "Cogeneration Disconnection Switch" and be located such that 24-hour access is possible.

Date Issued: September 22, 2012

Effective: October 1, 2012

Issued By: Jack S. Haggerty, Jr., Chairman
Sussex Rural Electric Cooperative
64 County Route 639
Sussex, NJ 07461

STANDARD TERMS AND CONDITIONS

- 16.12 The Member shall agree to grant access to the Cooperative's authorized representative during any reasonable hours to install, inspect and maintain the Cooperative's metering equipment.
- 16.13 The Member must satisfy, and shall be subject to, all terms and conditions of the Cooperative's Tariff for Service.
- 16.14 No wind generator, tower structure or device shall be installed at a location where, in the event of failure, it can fall in such a manner as to contact, land upon, or interfere with any Cooperative lines or equipment.
- 16.15 The Member shall maintain or cause to be maintained the generator and its associated structures, wiring and devices in a safe and proper operating condition so that the installation continues to meet all the requirements contained herein.
- 16.16 The Cooperative reserves the right to modify or replace the Member's service meter to prevent reverse registration from the Member's generation facility.

Date Issued: September 22, 2012

Effective: October 1, 2012

Issued By: Jack S. Haggerty, Jr., Chairman
Sussex Rural Electric Cooperative
64 County Route 639
Sussex, NJ 07461

LARGE POWER
SCHEDULE NET METERING SERVICE
(Rate Code 205 and 218)

AVAILABILITY

Available only to approved Commercial, Industrial and Farm renewable energy system members which require three-phase transformer capacity and have completed all necessary applications, agreements and paperwork, passed the necessary engineering reviews and passed the safety test. The rate shall be limited by the percentage of the Cooperative's load served by renewable energy systems and/or impact on the Cooperative's members not utilizing this rate.

The renewable energy system shall be sized so that it does not generate more energy than is used by the member on an annualized basis.

TYPE OF SERVICE

Three-phase, 60 cycles, at Seller's standard voltage.

APPLICATION FEES

Systems of less than 20 kW require a \$100.00 application fee, systems between 20 & 100 kW, a \$250.00 application fee. Systems 100 kW and larger will have a different application fee based on size and complexity but not less than \$1,000.00.

SYSTEM SIZING

All systems shall be sized according to the consumption history of the property being served. This consumption shall be determined by an analysis of the property's consumption using data from our metering system. For occupied properties, we will look at the most recent twelve (12) months of history to determine a maximum consumption. For new construction, the member must complete a System Requirements Summary, to be verified by the Cooperative that will determine maximum system sizing.

No system will be allowed to interconnect that exceeds the maximum allowable size as determined by the foregoing methods. No system will be allowed to interconnect that is part of an unoccupied property, even if that property is under construction or renovation.

MONTHLY RATE (All charges include Sales Tax where applicable)

System Connection Fee	@	\$ 45.42	per month
Demand Charge	@	\$ 10.00	per kW of billing demand
Energy Charge	@	\$ 0.0869913	per kWh
Power Cost Adjustment (PCA)		Rider PCA	

DETERMINATION OF BILLING DEMAND

The Billing Demand shall be the maximum integrated fifteen-minute demand recorded during the month for which the bill is rendered.

Date Issued: **August 27, 2019**

Effective: **September 1, 2019**

Issued by: Jack Haggerty, Jr., Chairman
Sussex Rural Electric Cooperative
64 County Road 639
Sussex, New Jersey 07461



POWER FACTOR ADJUSTMENT

When the Average Monthly Power Factor falls below 90 percent, the Seller may adjust the integrated demand in kilowatts by increasing the measured demand 1 percent for each 1 percent by which the average power factor is less than 90 percent lagging.

NET METERING

Facilities interconnected under this schedule are eligible for net metering. The Cooperative will install a meter capable of net metering. Each month, meter data will be used to compare consumption against production. Each kilowatt hour of energy produced will be credited with the full retail rate applicable for the class of service. In months where production exceeds consumption, the excess will be recorded in a bank. In months where consumption exceeds production, the excess consumption will be offset by the bank, if any. When consumption exceeds production plus excess bank, this excess consumption will be billed at the full retail rate applicable for the class of service.

At the end of twelve (12) months, any excess energy in the bank will be purchased by the Cooperative's power supplier at their marginal avoided cost, as determined by the power supplier, if the member has executed an agreement with the power supplier.

MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the highest one of the following charges as determined for the consumer in question.

1. The minimum monthly charge specified in the contract for service.
2. Monthly **System Connection Fee** plus \$.98 per KVA of installed capacity.
3. Monthly **System Connection Fee** plus twenty percent (20%) of the highest demand charge during the previous 12 months as determined under MONTHLY RATE

INTERCONNECTION REQUIREMENTS

All systems must comply with the current interconnection policies and processes of the Cooperative. Systems that have not completed the process or followed the policies will not be allowed to interconnect until they have complied with all the current requirements.

ENGINEERING IMPACT STUDY

For renewable energy systems larger than 100 kW, the Cooperative may require an independent engineering assessment of the impact on the Cooperative's facilities. This study is used to determine upgrades and enhancements that will be required on the Cooperative's facilities as a result of the interconnection of the renewable energy system. The Cooperative will provide the member with a cost for this study. Payment for the study is required in advance and is necessary for the study to begin.

Date Issued: **August 27, 2019**

Effective: **September 1, 2019**

Issued by: Jack Haggerty, Jr., Chairman
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CONTRIBUTION IN AID TO CONSTRUCTION

Members wishing to use this rate will receive our standard service connection which consists of one (1) span of overhead service and a service drop to the member's point of service. All additional costs associated with delivery of service to the member shall be at current costs to the Cooperative. Any changes made to the Cooperative's facilities made necessary to accommodate the member's interconnection shall be the responsibility of the member. All costs are payable before any construction involving the Cooperative's facilities begins.

LOAD CONTROL

Load management credits are not available to members being served under this schedule.

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Interconnection Wheeling Service

SCHEDULE IWS
(Rate Code 340)

AVAILABILITY

Available for Non-Utility Generators (including Qualifying Facilities) that are Interconnected to and export power across Sussex REC's Electric System and which have executed an Interconnection Agreement with Sussex REC.

Definitions

1. "Interconnection" means electrical connection of Non-Utility Generation facilities with the Sussex REC electrical system.
2. "Independent Power Producer" (IPP), "Non-Utility Generation" or "Non-Utility Generator" means any electrical generation source not owned or operated by an electric utility.
3. "Parallel Operation" means the condition where a Non-Utility Generator operates while electrically connected to the Sussex REC system. Under this condition, electric power can flow from the Sussex REC system to the Producer's facility or from the Producer's facility into the Sussex REC system.
4. "Qualifying Facility" means a Qualifying Facility as defined under currently effective federal law (18 C.F.R. Part 292).

TYPES OF INTERCONNECTION

1. Three-phase, 60 cycles AC, at 34.5 kV
2. Three-phase, 60 cycles AC, at 12.47 kV

APPLICABILITY

Sussex REC will construct or modify facilities for the Interconnection Participant's benefit. The participant requesting the installation or modification will be required to pay the initial capital costs for all improvements plus operating and maintenance costs of the new facilities. All facilities constructed by Sussex REC will become the property of Sussex REC.

INTERCONNECTION APPLICATION PROCEDURES

Any Independent Power Producer (IPP) intending to interconnect and operate generation in parallel with Sussex REC electric system is required to follow the technical interconnection and operational requirements contained in Sussex REC's Interconnection Guidelines. These guidelines contain the general requirements and technical operating parameters for Interconnecting Non-Utility Generation on the Sussex REC system.

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RATES

All rates will be billed on a monthly basis:

Wheeling Rate (All charges include Sales and Use Tax as provided in Rider SUT):

1. 34.5 kV- \$.28/month of contracted peak KW output of generation facility.
2. 12.47 kV- \$10.33/month of contracted peak kW output of generation facility.

* If generation facility is connected to the 12.47 kV system and utilizes the 34.5 kV system to export power, the Wheeling Rate will be the sum of two rates.

Line Loss Adjustment: A line loss factor may be applied based on Sussex REC average 34.5 kV system losses, 12.47 kV system losses or total system losses, depending on the voltage class of the Sussex REC system used to export power.

Late Payment Charge: Bills will be increased by 1.5% per month on amounts unpaid after 30 calendar days from the date the bill is rendered.

FACILITY CHARGES

Any interconnection facilities or other excess facilities installed by Sussex necessary to wheel power from an IPP or other generator shall be considered as additional facilities and shall be provided, if Sussex finds it practicable, under the following conditions:

1. The facilities will be of a kind and type normally used by or acceptable to Sussex and will be installed at a place and in a manner satisfactory to Sussex.
2. IPP or other generator will pay to Sussex a Monthly **Wheeling Facility** charge of 1.33 percent of the estimated original installed cost and rearrangement cost of all facilities, including metering, required to accept interconnection to cover operating and maintenance costs.
3. The Monthly **Wheeling Facility** charge as determined above shall continue regardless of the term of the Agreement until IPP no longer has need for such facilities.
4. IPP's wiring and appurtenant structures shall be located and designed to accommodate the location, connection, and installation of Sussex's standard metering equipment or other equipment deemed necessary by Sussex for the metering of IPP's electrical output.
5. Sussex shall not be required to make such installation of facilities in addition to those normally provided until IPP has paid all costs and fees and signed an Interconnection Agreement with Sussex REC, including provisions for termination, as may be required by Sussex.

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Rider PCA Power Cost Adjustment
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POWER COST ADJUSTMENT

The Cooperative reserves the right to implement a Power Cost Adjustment to settle wholesale energy collections from members. The PCA is applicable to all metered kilowatthours of energy billed under the Cooperative's electric service schedules. The PCA is applied by crediting or debiting the member's monthly bill to recover or refund the difference between estimated and actual wholesale power costs.

Power Cost Adjustment(PCA) @ -0.0021945 per kWh.

Date Issued: December 21, 2017

Effective: January 1, 2018

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