PLATEAU ELECTRIC COOPERATIVE

INTERCONNECTION PROCEDURES

FOR DISTRIBUTED GENERATION

Policy B32

REVISION 0
NOVEMBER 17, 2014

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ATTACHMENTS

1. GENERAL PROCEDURES & STANDARDS

1.1. **Scope**

These procedures describe the steps an Interconnection Customer (herein after called Customer) must follow in order for their distributed generation (DG) equipment to be evaluated and approved for interconnection to the Plateau Electric Cooperative (PEC) distribution system for parallel operation. To assure that the DG equipment does not cause significant degradation of the safety, power quality, or reliability to PEC's distribution system, these procedures and standards have been established.

PEC has an all requirements contract to purchase its total electric power requirements from the Tennessee Valley Authority (TVA). Therefore, PEC can not

purchase any portion of the output of DG connected to its distribution system. PEC can only provide distribution facilities to connect the DG and to transmit the energy to TVA. The owner of the DG must obtain from TVA either 1) a Power Purchase Agreement (PPA) to buy the electrical energy, or 2) a Transmission Service Agreement (TSA) to move the power to another utility.

The fully executed Power Purchase Agreement or the Transmission Service Agreement with TVA must be in the hand of the Applicant prior to PEC beginning the construction process.

1.2. **Application for Interconnection**

Each Customer should submit a completed application and supporting documents to PEC as provided in Attachment 1.

DG projects will be required to submit the application form and all supporting information identified in Attachment 1. These projects must also be submitted to TVA for assessment of any potential impacts to the bulk transmission system. For any project of greater than or equal to 20 MW, these large generation projects must follow the TVA Large Generator Interconnection Projects (LGIP) process detailed at www.tva.gov. This process will assess and mitigate the impacts of connecting larger amounts of generation to both PEC's distribution and TVA's transmission facilities.

The latest application and completion forms along with other program details can be obtained by contacting the PEC office at

Plateau Electric Cooperative
16200 Scott Highway
Oneida, TN 37841
(423) 569-8591

1.3. Application Processing

1.3.1. PEC will review the applications for new projects for sufficiency and completeness and notify the Customer of receipt of application, that it has received all documents required, or indicate how the application is deficient.

1.3.2. Customer will not be allowed to proceed with parallel operation until all provisions of these procedures have been met and PEC has given written notification to proceed with parallel operation.

1.3.3. The Customer must execute the Prepay and Made Whole Agreement and return it to PEC prior to the actual construction and purchase of material by PEC.

1.3.4. Prior to parallel operation, PEC may inspect the DG equipment for compliance with the proposed design and may require a Commissioning Test in accordance with the procedures defined by the latest version of IEEE 1547.1. PEC or its representatives will have the option of witnessing the Commissioning test or may require documentation from the equipment owner describing which tests were performed and their results.

1.3.5. If the inspection of the completed system and any required Commissioning test are satisfactory, PEC will notify the Customer in writing that interconnection of the DG equipment is authorized for parallel operation subject to TVA's approval to accept the generation. If the system does not pass the inspection and/or Commissioning test, PEC has the right to Lockout the Facility. The Customer shall not under any circumstance take any action to operate the system in parallel until the problems have been corrected and a new inspection and Commissioning test are performed, or waived by PEC.

1.4. Standards and Certification Criteria

The DG equipment must comply with the latest revision of the following standards and the Customer must provide evidence of certification with the DG Equipment Application or with the Certificate of Completion:

1.4.1. IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.2 testing protocols to establish conformity)

1.4.2. IEEE 1547.2 Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

1.4.3. UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

1.4.4. NFPA 70 National Electrical Code

1.4.5. The DG Equipment shall be considered certified for interconnected operation if the generation equipment and all related interconnection components have been tested and listed by a Nationally Recognized Testing Laboratory (NRTL certification by Department of Labor) for continuous interactive operation with an electric distribution system in compliance with the codes and standards outlined in 1.4.1 – 1.4.4 above.

1.4.6. The Customer must provide evidence that the installation has been inspected and approved by state or local code officials, as applicable, prior to its operation in parallel. This information will be submitted with the Certification of Completion.

2. STUDY & INTERCONNECTION PROCESS

2.1. System Impact Study

The study process begins with the System Impact Study (SIS) to determine impacts on the PEC distribution system that must be addressed. A SIS is designed to identify and detail the electric system impacts that would result if the proposed project were interconnected without project modifications or electric system modifications. A SIS shall evaluate the impact of the proposed interconnection on the reliability of the electric system. Depending on the size of the DG, TVA may also require its own SIS to assess the impacts on the transmission system. PEC shall provide the Customer an outline of the scope of the SIS and a non-binding good faith estimate of the cost and time to perform the study. Once the Customer has paid the estimated cost of the Study, the process continues.

2.2. Prepay and Made Whole Agreement (PMWA)

Once the required SIS is complete, a PWMA is provided to the Customer outlining the system upgrades and interconnection facilities required. The PMWA agreement must be fully executed before actual work and material purchases begins. Also, included in the PWMA will be a schedule of anticipated project costs which Customer must pay in advance of the work and material purchases. The advance payments of anticipated and/or estimated costs projected by PEC will be invoiced in segments as the work and material purchases of the next segment approaches or begins. Once the invoice has been paid, the work and material purchases on that segment will proceed.

2.3. Interconnection Agreement (IA)

Prior to the operation of the Plant, an IA must be in place to govern the terms and conditions under which the Customer's Generating Facility will interconnect with and operate in parallel with PEC's System. This IA must be fully executed and TVA must give approval to accept the generation prior to commencement of the construction process and material purchases.

APPLICATION FOR INTERCONNECTION OF DISPERSED GENERATION

The Customer or his designated representative shall supply the following information.

Customer Name: _____

Address: _____

Phone Number: _____Email Address_____

The output of dispersed generation cannot be purchased by Plateau EC due to its all requirements contract with TVA. Thus, before operation of the facility can be permitted, a Power Purchase Agreement or Transmission Service Agreement must be in place with TVA to accept the generation from Plateau EC. Please attach an electronic copy of the submitted application to TVA. Also, provide any additional information below if not included in the TVA Application.

Location of Dispersed Generation Facility_____

No. of Generators _____ Manufacturer _____ Model No: _____

kW Rating _____ kVA Rating _____Power Factor_____

Voltage Rating: _____ Number of Phases: _____Frequency: _____

Type (Synchronous, Induction, photo-voltaic, micro-turbine, fuel cell etc.) _____

Amount of power to be exported to TVA: _____kW

Is one line diagram attached?_____ Is disconnect device location shown?_____

Expected Start-up Date: _____

Submitted by: _____Title: _____

Signature _____Date: _____

Address _____

Phone Number: _____Email: _____

Return completed application to:

Joel McCartt
Plateau Electric Cooperative
Assistant Manager/Director of Engineering
P.O. Box 4669
Oneida, TN 37841