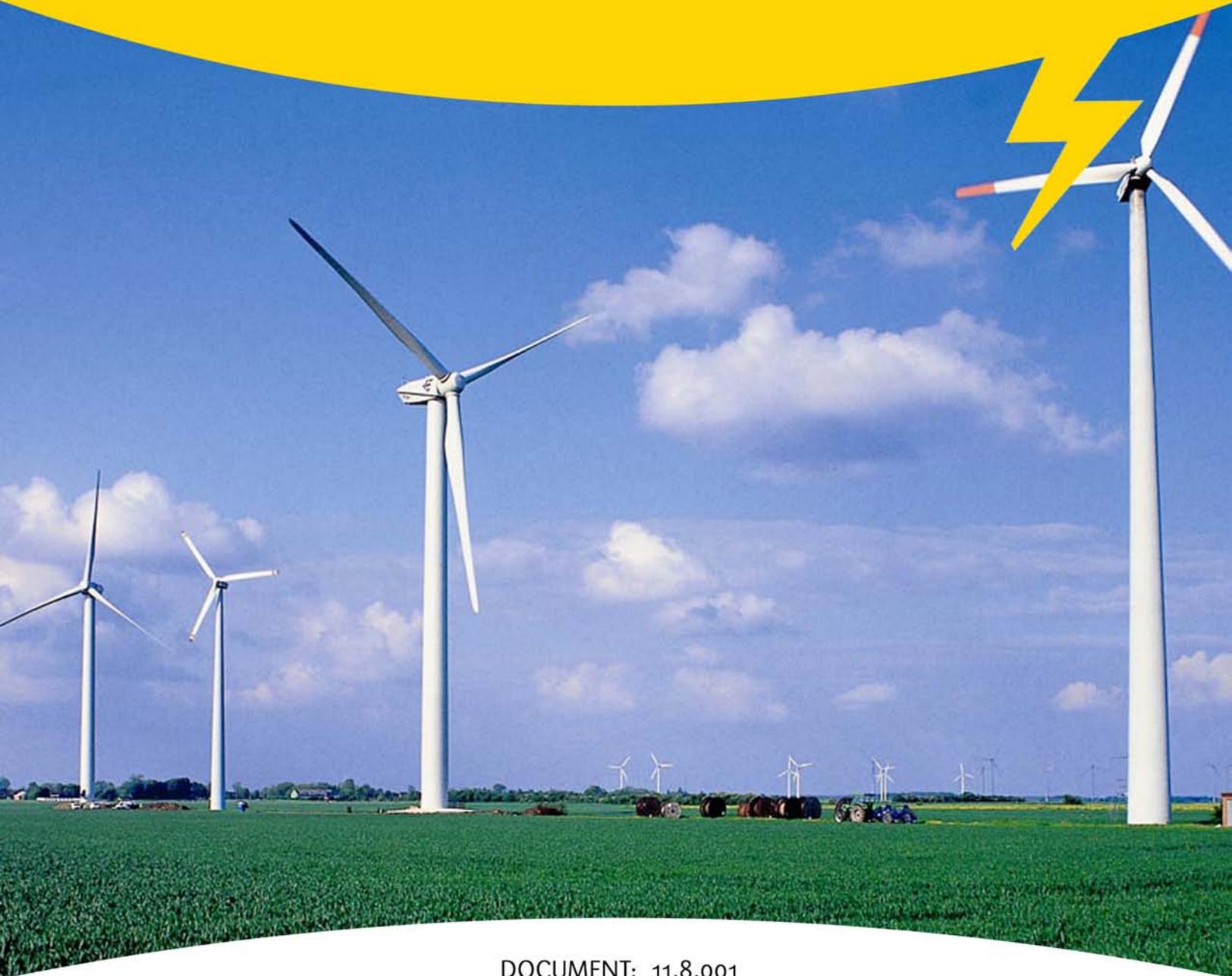


Interconnection Policy Statement

[NON-FOSSIL FUELED DISTRIBUTED GENERATING FACILITIES]
(CAPACITIES: < OR = 50KW)



DOCUMENT: 11.8.001



11.8.001.1 SCOPE:

This Policy Statement, and the definitions, standards, procedures and screening processes described in the APUA Interconnection Procedures Guideline, separately published and incorporated into this statement, by reference, apply only to the interconnection of renewable energy sourced generating facilities with a rated capacity up to and including 50kW. Systems which will not be running in parallel with the grid but instead be operated in prime, stand alone or standby mode, will be covered under the present existing standards, procedures and policies applicable to the use and installation of general onsite electrical production facilities.

The Utility's aim, at this time, is to allow for a maximum distributed non-fossil fueled power penetration level of fifteen percent (15%) of feeder/system yearly maximum demand. A limited number of large scale commercial/industrial pilot systems (50kW – 225kW) will however be entertained for the purpose of gathering interconnection study data.

11.8.001.2 STATUTORY AUTHORITY: This policy statement is adopted under the authority vested in this Statutory Corporation for the Production, Distribution and Sale of Electrical Power & Energy in the State of Antigua and Barbuda.

11.8.001.3 DURATION: Permanent.

11.8.001.4 EFFECTIVE DATE: December 1, 2011.

11.8.001.5 OBJECTIVE:

The purpose of this Policy Statement and accompanying Guidelines is to set forth common interconnection requirements and a common interconnection process, based on a common screening process, for the Utility and the Interconnection Customers to expeditiously interconnect non fossil fueled generating facilities with a rated capacity up to and including 50kW in a safe and reliable manner. The Parties however, through mutual agreement may utilize other procedures or forms that are consistent with the Antigua and Barbuda Public Utilities Act.

11.8.001.6 DEFINITIONS:

Terms used in this policy statement shall have the following meanings.

- A.** Business day shall mean a day other than Saturday, Sunday or any day on which banks located in the Nation of Antigua and Barbuda are authorized or obligated to close.

- B.** Certified equipment package means interconnection equipment that has been tested and listed by a recognized testing and certification laboratory for continuous interactive operation with a utility grid. The extent of the equipment package is defined by the type of test performed to certify the package under IEEE 1547.1.

- C.** Certified inverter means an inverter that has been tested and listed by a recognized testing and certification laboratory for continuous interactive operation with a utility grid.

- D.** Distribution system means the utility's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate may differ among areas.
- E.** Distribution upgrade means the additions, modifications, and upgrades to the utility's distribution system at or beyond the point of common coupling to facilitate interconnection of the generating facility and render the service necessary to effect the interconnection customer's operation of on-site generation. Distribution upgrades do not include interconnection facilities.
- F.** Facilities study means the study that specifies and estimates the cost of the equipment, engineering, procurement, and construction work (including overhead costs) needed to implement the conclusions of the system impact study.
- G.** Feasibility study means the study that identifies any potential adverse system impacts that would result from the interconnection of the generating facility.
- H.** Generating facility means the interconnection customer's device for the production of electricity identified in the interconnection application, including all electricity generating systems, electrical wires, equipment, and other facilities owned or provided by the interconnection customer for the purpose of producing electric power.
- I.** Impact study means a study that identifies and details the electric system impacts that would result if the proposed generating facility were interconnected without project modifications or electric system modifications, focusing on the adverse system impacts identified in the feasibility study, or to study potential impacts, including but not limited to those identified in the scoping meeting. An impact study shall evaluate the impact of the proposed interconnection on the reliability of the electric system.
- J.** Interconnection application means the request by an interconnection customer to interconnect a new generating facility, or to increase the capacity or make a material modification to the operating characteristics of an existing generating facility that is interconnected with the utility's system.
- K.** Interconnection customer means any person that proposes to interconnect its generating facility with the utility's system.
- L.** Interconnection facilities mean the utility's interconnection facilities and the interconnection customer's interconnection facilities. Collectively, interconnection facilities include all facilities and equipment between the generating facility and the point of common coupling, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the generating facility to the utility's system. Interconnection facilities are sole use facilities and shall not include distribution upgrades.
- M.** Interconnection procedures guideline means APUA's Interconnection Procedures Guideline Publication and its exhibits separately published and incorporated into this Policy Statement by reference.
- N.** Party means the utility and the interconnection customer separately or in combination.
- O.** Person, for purposes of this rule, means an individual, partnership or corporation.
- P.** Point of common coupling means the point where the interconnection facilities connect with the utility's system.

Q. Primary distribution feeder means a medium voltage supply emanating from a 69kV/11kV substation feeding the various distribution class transformers supplying utilization voltages to the consumers.

R. Power conversion unit (PCU) means an inverter or AC generator, not including the energy source.

S. Rated capacity means the total AC nameplate rating of the power conversion unit(s) at the point of common coupling.

T. Study process means the procedure for evaluating an interconnection application that includes the scoping meeting, feasibility study, impact study, and facilities study.

U. System means the facilities owned, controlled, or operated by the utility that are used to provide electric service to the consumers.

V. System emergency means a condition on a utility system that is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.

W. Upgrade means the required additions and modifications to the utility's system at or beyond the point of common coupling. Upgrades do not include interconnection facilities.

X. Utility means 'The Antigua Public Utilities Authority' (APUA), a Government owned Statutory Corporation regulated through the provisions of the Antigua Public Utilities Act.

11.8.001.7 APPLICABLE CODES AND STANDARDS:

A. The interconnection customer shall install, operate, and maintain the generating facility and the interconnection equipment in a safe manner in accordance with the rules for safety and reliability set forth in the latest edition of the National Electrical Code, other applicable local codes, and prudent electrical practices.

B. In order to qualify for any interconnection procedures, each generating facility generator shall be in conformance with the following codes and standards as applicable:

(1) IEEE 1547 standard for interconnecting distributed resources with electric power systems or equivalent IEEE 1547.1;

(2) IEEE standard conformance test procedures for equipment interconnecting distributed resources with electric power systems or equivalent; and

(3) UL 1741 Inverters, converters and controllers for use in independent power systems or equivalent.

C. The interconnection equipment package shall be considered certified for interconnected operation if the equipment package has been tested and listed by a recognized testing and certification laboratory for continuous interactive operation with a utility grid.

D. The generating facility shall be designed to conform to all of the applicable requirements in the APUA's Interconnection Procedures Guideline Publication.

11.8.001.8 INTERCONNECTION APPLICATION:

A. An interconnection customer shall submit its interconnection application to the Utility using Guidelines exhibit 1A together with the fees specified in **11.8.001.11**. The Utility shall record the date and time on the face of the interconnection application upon receipt by the Utility. The original date and time recorded by the Utility on the interconnection application at the time of its original submission shall be accepted as the date and time on which the interconnection application was received for the purposes of any timetable established in this Policy Statement or the Guidelines. Following submission of the interconnection application, the parties will follow the procedures and time requirements described in the Guidelines.

B. The Utility shall place interconnection applications in the order they are received. The order of each interconnection application will be used to determine the cost responsibility for the upgrades necessary to accommodate the interconnection. At the Utility's option, interconnection applications may be studied serially or in clusters for the purpose of the system impact study.

11.8.001.9 INTERCONNECTION APPLICATION REVIEW PROCESS:

The Utility shall utilize the interconnection screening process and the screen criteria described in the Guidelines. That screening process will result in the application of one of the three general review paths described as follows:

- A.** Simplified interconnection: for certified inverter-based facilities with a power rating of 5kW or less;
- B.** Fast track: for certified generating facilities that pass certain specified screens; or
- C.** Full interconnection study: for generating facilities that have a power rating of 50kW or less and do not qualify for the screens under the simplified interconnection process or fast track process.

11.8.001.10 INTERCONNECTION APPLICATION REVIEW FLOW CHART AND SCREEN CRITERIA:

The Utility shall use the screen criteria described in the Guidelines to evaluate all interconnection applications.

11.8.001.11 GENERAL PROVISIONS APPLICABLE TO INTERCONNECTION APPLICATIONS:

A. An interconnection customer shall pay the following application fee to the Utility at the time it delivers its interconnection application to the Utility:

- (1)** EC \$150 if the proposed generating facilities will have a rated capacity less than or equal to 5 kW;
- (2)** EC \$180 if the proposed generating facilities will have a rated capacity greater than 5 kW and less than or equal to 25 kW; or
- (3)** EC \$300 if the proposed generating facilities will have a rated capacity greater than 25kW.

B. In addition to the fees authorized by this Policy Statement, the Utility may collect from the interconnection customer the reasonable costs incurred to obtain necessary expertise from consultants to review interconnection applications for generating facilities with rated capacities greater than 5 kW. The Utility shall provide a good faith estimate of the costs of such consultants to an interconnection customer within ten (10) business days of the date the interconnection application is delivered to the Utility.

C. Commissioning tests of the interconnection customer's installed equipment shall be performed pursuant to applicable codes and standards, including IEEE 1547.1 "IEEE standard conformance test procedures for equipment interconnecting distributed resources with electric power systems." The Utility must be given at least five (5) business days written notice of the tests, or as otherwise mutually agreed to by the parties. An interconnection customer shall reimburse the Utility for its costs associated with witnessing commissioning tests performed pursuant to the Guidelines except that the Utility may not charge a fee in addition to the application fee for the cost of witnessing commissioning tests for inverter-based generating facilities that have rated capacities that are less than or equal to 5 kW.

D. If an interconnection customer requests an increase in capacity for an existing generating facility, the interconnection application shall be evaluated on the basis of the new total capacity of the generating facility. If an interconnection customer requests interconnection of a generating facility that includes multiple energy production devices at a site for which the interconnection customer seeks a single point of common coupling, the interconnection application shall be evaluated on the basis of the aggregate capacity of the multiple devices.

E. All interconnection applications shall be evaluated using the maximum rated capacity of the proposed generating facility.

F. Confidential information shall remain confidential. Confidential information shall mean any confidential and proprietary information provided by one party to the other party that is clearly marked or otherwise designated "confidential".

G. Failure to undertake this application and approval process, or to execute the interconnection agreement prior to interconnecting with the Utility's grid, will result in the prompt disconnection of Utility service to the customer together with the complete recovery of all the Utility's service equipment.

11.8.001.12 GENERAL PROVISIONS APPLICABLE TO THE UTILITY:

A. The Utility shall interconnect any interconnection customer that meets the interconnection criteria set forth in this Policy Statement and in the Guidelines. The Utility shall make reasonable efforts to keep the interconnection customer informed of the status and progress.

B. The Utility shall reasonably endeavor to aid and assist interconnection customers to ensure that a proposed generating facility's interconnection design, operation, and maintenance are appropriate for connection to the utility's system. This may include consultations with the interconnection customer and its engineering and other representatives.

C. The Utility shall make reasonable efforts to meet all time frames provided for in this Policy Statement unless the Utility and an interconnection customer agree to a different schedule. If the Utility cannot meet a deadline provided herein, it shall notify the interconnection customer, explain the reason for its inability to meet the deadline, and provide an estimated time by which it will complete its activity.

D. The Utility shall use the same reasonable efforts in processing and analyzing interconnection applications from all interconnection customers, whether the generating facility is owned or operated by a person, partnership or corporation.

E. The Utility shall maintain records for three years of each interconnection application received, the times required to complete each interconnection application approval or disapproval, and justification for the Utility's disapproval of any interconnection application.

F. The Utility shall maintain current, clear and concise information regarding this Policy Statement including the name, telephone number, and email address of its contact persons. The Utility shall maintain a copy of this Policy Statement and the Guidelines at its head office and make the same available for public inspection and copying during regular business hours.

G. Should the Utility use a consultant to review a proposal to interconnect a generating facility with the Utility's system, it may extend each of the time deadlines for review of the fast track process by a period not to exceed twenty (20) business days provided that the Utility shall make a good faith effort to complete the review sooner.

H. Compliance with this interconnection process does not constitute a request for, nor provision of any transmission delivery service, or any local distribution delivery service. Interconnection under this Policy does not constitute an agreement by the Utility to purchase or pay for any energy, inadvertently or intentionally exported to the grid by the interconnection customer. The Utility will continue to bill the interconnection customer, in accordance with the published tariff schedule in effect at the time, for all units imported by the interconnection customer together with all relevant fixed charges as stipulated in such tariff schedule.

11.8.001.13 GENERAL PROVISIONS APPLICABLE TO INTERCONNECTION CUSTOMERS:

A. The cost of any Utility system modifications required pursuant to the fast track process or the full interconnection study process shall be borne by the interconnection customer unless otherwise agreed by the parties.

B. An interconnection customer shall have thirty (30) business days (or other mutually agreeable period) following receipt of an interconnection agreement to execute the agreement and return it to the Utility. If the interconnection customer does not execute the interconnection agreement and return it to the Utility within the applicable period, the interconnection application shall be deemed withdrawn. After all parties execute an interconnection agreement, interconnection of the generating facility shall proceed under the provisions of the interconnection agreement.

C. An interconnection customer is responsible for the prudent maintenance and upkeep of its interconnection equipment.

D. The Utility may require a customer with a generating facility with a rated capacity of 50 kW or less to obtain general liability insurance prior to connecting with the Utility.

E. Though this Interconnection Policy shall allow for the occasional and inadvertent export of energy to the Utility, it does not in any way constitute a commitment by the Utility to purchase or pay for any energy inadvertently or intentionally exported.

F. The Utility shall require proof that the Designated System Installer has successfully undergone both theoretical and practical training in the safe installation of such energy production systems as are here being applied for by the interconnection customer.

11.8.001.14 SAFETY PROVISIONS:

A. An interconnection customer shall separate from the Utility system in the event of any one or more of the following conditions:

- (1)** A fault on the generating facility's system; or
- (2)** A generating facility contribution to a utility system emergency; or
- (3)** Abnormal frequency or voltage conditions on the Utility's system; or
- (4)** Any occurrence or condition that will endanger Utility employees or customers; or
- (5)** A generating facility condition that would otherwise interfere with the Utility's ability to provide safe and reliable electric service to other customers; or
- (6)** The sudden loss of the Utility system power.

B. A visible-open, load break disconnect switch between the generating facility and the Utility system that is visibly marked "generating facility generation disconnect" and is accessible to and lockable by the Utility is required for all generating facilities.

C. Interconnection customers shall post a permanent and weather proof one-line electrical diagram of the generating facility located at the point of service connection to the utility. Generating facilities where the disconnect switch required by Subsection B of **11.8.001.14** is not located in close proximity to the Utility meter must post a permanent and weather proof map showing the location of all major equipment including the Utility meter point, the generating facility generation disconnect, and the generating facility DC disconnect where applicable.

Non-residential generating facilities larger than 5 kW shall include with or attached to the map the names and current telephone numbers of at least two persons authorized to provide access to the generating facility and who have authority to make decisions regarding the generating facility interconnection and operation.

D. If the generating facility interconnection equipment package is not certified or if a certified equipment package has been modified, the generating facility interconnection equipment package shall be reviewed and approved by a Professional Electrical Engineer authorized by the Utility.

11.8.001.15 VARIANCES:

A party may file a request for a variance from the requirements of this Policy Statement. Such application shall describe the reasons for the variance; set out the effect of complying with this Policy on the parties and the Utility's customers if the variance is not granted; identify the section(s) of this Policy Statement for which the variance is requested; describe the expected result which the request will have if granted; and state how the variance will aid in achieving the objectives of this Policy Statement.

