NCMPA1 Recommended

INTERCONNECTION PROCEDURES, FORMS, AND AGREEMENTS

For Renewable Energy and Other Forms of Distributed Generation on Participant Distribution Systems

Effective September 1, 2009

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Section 1. General Requirements

1.1 Applicability

1.1.1 This Standard contains the requirements, in addition to applicable tariffs and service regulations, for the interconnection and parallel operation of Generating Facilities with Utility Systems which are Participants of North Carolina Municipal Power Agency 1. These procedures apply to Generating Facilities that are interconnecting to such Utility Systems where the Interconnection Customer is not selling the output of its Generating Facility to an entity other than the Utility to which it is interconnecting.

1.1.1.1 A request to interconnect a certified inverter-based Generating Facility no larger than 10 kW shall be evaluated under the Section 2 10 kW Inverter Process. (See Attachments 3 and 4 for certification criteria.)

1.1.1.2 A request to interconnect a certified Generating Facility no larger than 2 MW shall be evaluated under the Section 3 Fast Track Process. (See Attachments 3 and 4 for certification criteria.)

1.1.1.3 A request to interconnect a Generating Facility larger than 2 MW, or a Generating Facility that does not pass the Fast Track Process or the 10 kW Inverter Process, shall be evaluated under the Section 4 Study Process.

1.1.2 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of these procedures.

1.1.3 This Standard shall not apply to Generating Facilities already interconnected or approved for interconnection as of the effective date of this Standard, unless so agreed to by the Utility and the Interconnection Customer. However, this Standard shall apply if the Interconnection Customer proposes Material Modifications or transfers ownership of the Generating Facility after such date.

1.1.4 Prior to submitting its Interconnection Request, the Interconnection Customer may ask the Utility's interconnection contact employee or office whether the proposed interconnection is subject to these procedures.

1.1.5 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All Utilities are expected to meet

basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

1.1.6 References in these procedures to Interconnection Agreement are to the NCMPA1 Recommended Interconnection Agreement. (See Attachment 9.)

1.2 Pre-Request

The Utility shall designate an employee or office from which information on the application process and on an Affected System can be obtained through informal requests from the Interconnection Customer presenting a proposed project for a specific site. The name, telephone number, and e-mail address of such contact employee or office shall be made available to the Interconnection Customer upon request. Electric system information provided to the Interconnection Customer should include relevant system studies, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on the Utility's System, to the extent such provision does not violate confidentiality provisions of prior agreements or critical infrastructure requirements. The Utility shall comply with reasonable requests for such information.

1.3 Interconnection Request

The Interconnection Customer shall submit its Interconnection Request to the Utility, together with the non-refundable processing fee or deposit specified in the Interconnection Request. The Interconnection Request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the Interconnection Request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. The Utility shall notify the Interconnection Customer within ten Business Days of the receipt of the Interconnection Request as to whether the Interconnection Request is complete or incomplete. If the Interconnection Request is incomplete, the Utility shall provide, along with notice that the Interconnection Request is incomplete, a written list detailing all information that must be provided to complete the Interconnection Request. An Interconnection Request will be deemed complete upon submission of the listed information to the Utility.

1.4 Modification of the Interconnection Request

Any modification not agreed to in writing by the Utility and the Interconnection Customer may be deemed a withdrawal of the Interconnection Request and may require submission of a new Interconnection Request, unless proper notification of each Party by the other and a reasonable time to cure the problems created by the changes are undertaken.

1.5 Site Control

Documentation of site control is not required to be submitted with the Interconnection Request. However, the Utility may request a demonstration of site control if two or more proposed Generating Facilities are competing for capacity on the same circuit. The Interconnection Customer that can demonstrate site control will have higher Queue Position than one that is on the same circuit and cannot demonstrate site control. The Interconnection Customer must submit documentation of site control to the Utility at or before the time of execution of the Interconnection Agreement. Site control may be demonstrated through:

1.5.1 Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility;

1.5.2 An option to purchase or acquire a leasehold site for such purpose; or

1.5.3 An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for such purpose.

1.6 Queue Position

The Utility shall assign a Queue Position based upon the date- and time-stamp of the Interconnection Request. The Queue Position of each Interconnection Request will be used to determine the cost responsibility for the Upgrades necessary to accommodate the interconnection. At the Utility's option, Interconnection Requests may be studied serially or in clusters for the purpose of the System Impact Study, should one be required. (See Section 4.4.)

1.7 Interconnection Requests Submitted Prior to the Effective Date of these Procedures

Nothing in this Standard affects an Interconnection Customer's Queue Position assigned before the effective date of these procedures. The Parties agree to complete work on any interconnection study agreement executed prior to the effective date of these procedures in accordance with the terms and conditions of that interconnection study agreement. Any new studies or other additional work will be completed pursuant to this Standard.

Section 2. Optional 10 kW Inverter Process for Certified Inverter-Based Generating Facilities No Larger than 10 kW

2.1 Applicability

The 10 kW Inverter Process is available to an Interconnection Customer proposing to interconnect its inverter-based Generating Facility with the Utility's System if the Generating Facility is no larger than 10 kW and if the Interconnection Customer's proposed Generating Facility meets the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures, or the Utility has reviewed the design or tested the proposed Generating Facility and is satisfied that it is safe to operate.

2.2 Interconnection Request

The Interconnection Customer shall complete the Interconnection Request for a certified inverter-based Generating Facility no larger than 10 kW (see Attachment 5) and submit it to the Utility, together with the non-refundable processing fee specified in the Interconnection Request.

2.2.1 The Utility shall evaluate the Interconnection Request for completeness and notify the Interconnection Customer within ten Business Days of receipt as to whether the Interconnection Request is complete or incomplete and, if incomplete, advise the Interconnection Customer what material is missing.

2.2.2 The Utility shall verify that the Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process. (See Section 3.2.1.) Unless the Utility determines and demonstrates that the Generating Facility cannot be interconnected safely and reliably, the Utility shall approve the Interconnection Request and return it to the Interconnection Customer.

2.3 Certificate of Completion

2.3.1 After installation of the Generating Facility, the Interconnection Customer shall return the Certificate of Completion to the Utility. (See Attachment 5.) Prior to parallel operation, the Utility may inspect the Generating Facility for compliance with standards which may include a witness test, and may schedule appropriate metering replacement, if necessary.

2.3.2 The Utility shall notify the Interconnection Customer in writing that interconnection of the Generating Facility is authorized. If the witness test is not satisfactory, the Utility has the right to disconnect the Generating Facility. The Interconnection Customer has no right to

operate in parallel with the Utility until a witness test has been performed, or previously waived on the Interconnection Request. Upon receipt of the Certificate of Completion the Utility and the Interconnection Customer shall agree on a reasonable timeframe for the Utility to complete the witness test.

2.3.3 Interconnection and parallel operation of the Generating Facility is subject to the Terms and Conditions stated in Attachment 5 of these procedures.

2.4 Contact Information

The Interconnection Customer must provide the contact information for the legal applicant (i.e., the Interconnection Customer). If another entity is responsible for interfacing with the Utility, that contact information must also be provided on the Interconnection Request.

2.5 Ownership Information

The Interconnection Customer shall provide the legal name(s) of the owner(s) of the Generating Facility.

2.6 UL 1741 Listed

The Underwriters' Laboratories (UL) 1741 standard (Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources) addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers submit their equipment to a nationally recognized testing laboratory that verifies compliance with UL 1741. This "listing" is then marked on the equipment and supporting documentation.

Section 3. Optional Fast Track Process for Certified Generating Facilities No Larger than 2 MW

3.1 Applicability

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Generating Facility with the Utility's System if the Generating Facility is no larger than 2 MW and if the Interconnection Customer's proposed Generating Facility meets the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures, or the Utility has reviewed the design or tested the proposed Generating Facility and is satisfied that it is safe to operate.

3.2 Initial Review

The Utility shall perform an initial review using the screens set forth below, shall notify the Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying the Utility's determinations under the screens.

3.2.1 Screens

3.2.1.1 The proposed Generating Facility's Point of Interconnection must be on, connected through the Interconnection Customer's premises wiring and electric facilities to, a portion of the Utility's Distribution System.

3.2.1.2 Interconnection of the proposed Generating Facility is in compliance with the North Carolina Municipal Power Agency 1 Policy Regarding Generation on Participant Distribution Systems.

3.2.1.3 For interconnection of a proposed Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Generating Facility, on the circuit shall not exceed 15% of the line section annual peak load as most recently measured at the substation. A line section is that portion of a Utility's System connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

3.2.1.4 For interconnection of a proposed Generating Facility to the load side of spot network protectors, the proposed Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based

generation, shall not exceed the smaller of 5% of a spot network's maximum load or 50 kW.[1]

3.2.1.5 The proposed Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10% to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

3.2.1.6 The proposed Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5% of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5% of the short circuit interrupting capability.

3.2.1.7 Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnection Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Utility's System due to a loss of ground during the operating time of any anti-islanding function.

Primary Distribution Line Type	Type of Interconnection to Primary Distribution Line	Result/Criteria
Three-phase, three wire	Three-phase or single-phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded three-phase or single-phase, line-to-neutral	Pass screen

3.2.1.8 If the proposed Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Generating Facility, shall not exceed 20 kW.

[1] A spot network is a type of distribution system found within modern commercial buildings to provide high reliability of service to a single customer. (Standard Handbook for Electrical Engineers, 11th edition, Donald Fink, McGraw Hill Book Company.)

3.2.1.9 If the proposed Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the KVA nameplate rating of the service transformer.

3.2.1.10 No construction of facilities by the Utility on its own System shall be required to accommodate the Generating Facility.

3.2.1.11 The proposed Generating Facility shall not cause voltage distortions at the Point of Interconnection to Utility-owned facilities to exceed 3% of nominal 60 hertz voltage.

3.2.2 If the proposed interconnection passes the screens, the Interconnection Request shall be approved and the Utility will provide the Interconnection Customer an executable Interconnection Agreement within five Business Days after the determination.

3.2.3 If the proposed interconnection fails the screens, but the Utility determines that the Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the Utility shall provide the Interconnection Customer an executable Interconnection Agreement within five Business Days after the determination.

3.2.4 If the proposed interconnection fails the screens, but the Utility does not or cannot determine from the initial review that the Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless the Interconnection Customer is willing to consider minor modifications or further study, the Utility may provide the Interconnection Customer with the opportunity to attend a customer options meeting.

3.2.5 Utility reserves the right to accept or reject any Interconnection Request that would negatively impact existing customers as determined by the Utility.

3.3 Customer Options Meeting

Regardless of which process the Interconnection Request falls under (10 kW Inverter, Fast Track or Study Process), if the Utility determines the Interconnection Request cannot be approved without minor modifications at minimal cost; or a supplemental study or other additional studies or actions; or at significant cost to address safety, reliability, or power quality problems, the Utility shall notify the Interconnection Customer and provide copies of all data and analyses underlying its conclusion. The Utility shall offer to convene a customer

options meeting to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Generating Facility to be connected safely and reliably. At the time of notification of the Utility's determination, or at the customer options meeting, the Utility shall:

3.3.1 Offer to perform facility modifications or minor modifications to the Utility's System (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Utility's System; or

3.3.2 Offer to continue evaluating the Interconnection Request under the Section 4 Study Process. The Study Process is required for all proposed Generating Facilities larger than 2 MW.

Section 4. Study Process

4.1 Applicability

The Study Process shall be used by an Interconnection Customer proposing to interconnect its Generating Facility with the Utility's System if the Generating Facility is larger than 2 MW, is not certified, or is certified but did not pass the Fast Track Process or the 10 kW Inverter Process.

4.2 Scoping Meeting

4.2.1 A scoping meeting will be held after the Interconnection Request is deemed complete as within a timeframe mutually agreed to by the Parties. The Utility and the Interconnection Customer will bring to the meeting personnel, including system engineers and other resources as may be reasonably required to accomplish the purpose of the meeting. The scoping meeting may be omitted by mutual agreement.

4.2.2 The purpose of the scoping meeting is to discuss the Interconnection Request and review existing studies relevant to the Interconnection Request. The Parties shall further discuss whether the Utility should perform a Feasibility Study or proceed directly to a System Impact Study, a Facilities Study, or an Interconnection Agreement.

4.2.3 If the Parties agree that a Feasibility Study should be performed, the Utility shall provide the Interconnection Customer as soon as possible after the scoping meeting, a Feasibility Study Agreement (Attachment 6), including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

4.2.4 If the Parties agree not to perform a Feasibility Study, but to proceed directly to a System Impact Study or Facilities Study, the Utility shall provide the Interconnection Customer either a System Impact Study Agreement (Attachment 7) or a Facilities Study Agreement (Attachment 8), as appropriate, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study in a timeframe mutually agreed upon by the Parties in the scoping meeting.

4.2.5 If the Parties agree not to perform a Feasibility Study, but to proceed directly to an Interconnection Agreement, the Utility shall provide the Interconnection Customer with an executable Interconnection Agreement in a timeframe mutually agreed upon by the Parties in the scoping meeting.

4.3 Feasibility Study

4.3.1 The Feasibility Study shall identify any potential adverse system impacts that would result from the interconnection of the Generating Facility.

4.3.2 In order to remain in consideration for interconnection, the Interconnection Customer must return the executed Feasibility Study Agreement within the timeframe agreed upon in the scoping meeting.

4.3.3 A deposit of the good faith estimated Feasibility Study costs may be required from the Interconnection Customer.

4.3.4 The scope of and cost responsibilities for the Feasibility Study are described in the Feasibility Study Agreement.

4.3.5 If the Feasibility Study shows no potential for adverse system impacts, the Utility shall send the Interconnection Customer within an agreed upon timeframe a Facilities Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If a Facilities Study is not required, the Utility shall send the Interconnection Customer an executable Interconnection Agreement within an agreed upon timeframe.

4.3.6 If the Feasibility Study shows the potential for adverse system impacts, the review process shall proceed to the appropriate System Impact Studies.

4.4 System Impact Studies

4.4.1 The System Impact Studies shall identify and detail 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. The System Impact Studies shall evaluate the impact of the proposed interconnection on the reliability of the electric system.

4.4.2 If potential adverse Distribution System impacts are identified in the scoping meeting or shown in the Feasibility Study, a Distribution System Impact Study must be performed. The Utility shall send the Interconnection Customer a Distribution System Impact Study Agreement within an agreed upon timeframe of transmittal of the Feasibility Study or the scoping meeting if no Feasibility Study is to be performed, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

4.4.3 If potential adverse Transmission System impacts are identified in the scoping meeting or shown in the Feasibility Study or Distribution System Impact Study, a Transmission System Impact Study must be performed. The Utility shall send the Interconnection Customer a Transmission System Impact Study Agreement within an agreed upon timeframe of transmittal of the Feasibility Study or Distribution System Impact Study or the scoping meeting if no Feasibility Study or Distribution System Impact Study is to be performed, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

4.4.4 In order to remain under consideration for interconnection, the Interconnection Customer must return an executed System Impact Study Agreement within an agreed upon timeframe.

4.4.5 A deposit of the good faith estimated cost of a Distribution System Impact Study and of the good faith estimated cost of a Transmission System Impact Study may be required from the Interconnection Customer.

4.4.6 The scope of and cost responsibilities for a System Impact Study are described in the System Impact Study Agreement.

4.4.7 If the System Impact Studies show no potential for adverse system impacts, the Utility shall send the Interconnection Customer within an agreed upon timeframe a Facilities Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If no additional facilities are required, the Utility shall send the Interconnection Customer an executable Interconnection Agreement within an agreed upon timeframe.

4.5 Facilities Study

4.5.1 The Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of Feasibility Study and/or System Impact Studies and to allow the Generating Facility to be interconnected and operated safely and reliably.

4.5.2 The Utility shall design any required Interconnection Facilities and/or Upgrades under the Facilities Study Agreement. The Utility may contract with consultants to perform activities required under the Facilities Study Agreement. The Interconnection Customer and the Utility may agree to allow the Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by the Utility, under the provisions of the Facilities Study Agreement. If the Parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, the Utility shall make sufficient information available to the Interconnection Customer in accordance with confidentiality and critical infrastructure requirements to permit the Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.

4.5.3 In order to remain under consideration for interconnection, or, as appropriate, in the Utility's interconnection queue, the Interconnection Customer must return the executed Facilities Study Agreement or a request for an extension of time within an agreed upon timeframe.

4.5.4 A deposit of the good faith estimated costs for the Facilities Study may be required from the Interconnection Customer.

4.5.5 The scope of and cost responsibilities for the Facilities Study are described in the Facilities Study Agreement.

4.5.6 Upon completion of the Facilities Study, and with the agreement of the Interconnection Customer to pay for Interconnection Facilities and Upgrades identified in the Facilities Study, the Utility shall provide the Interconnection Customer an executable Interconnection Agreement within an agreed upon timeframe.

Section 5. Provisions that Apply to All Interconnection Requests

5.1 Reasonable Efforts

The Utility shall make reasonable efforts to meet all time frames provided in these procedures unless the Utility and the 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 the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

5.2 Disputes

5.2.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this section.

5.2.2 In the event of a dispute, either Party shall provide the other Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

5.2.3 If the dispute cannot be resolved, the Interconnection Customer may contact the Office of the City (Town) Manager for assistance in resolving the dispute.

5.2.4 Each Party agrees to conduct all negotiations in good faith.

5.3 Interconnection Metering

Any metering necessitated by the use of the Generating Facility shall be installed at the Interconnection Customer's expense in accordance with all applicable regulatory requirements or the Utility's specifications.

5.4 Commissioning

Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. The Utility must be given notice as mutually agreed to by the Parties, of the tests and must be present to witness the commissioning tests.

5.5 Confidentiality

5.5.1 Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of these procedures all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed

Confidential Information regardless of whether it is clearly marked or otherwise designated as such.

5.5.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce these procedures. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under these procedures, or to fulfill legal or regulatory requirements.

5.5.2.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.

5.5.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

5.5.3 If information is requested by the Commission from one of the Parties that is otherwise required to be maintained in confidence pursuant to these procedures, the Party shall provide the requested information to the Commission within the time provided for in the request for information. In providing the information to the Commission, the Party may request that the information be treated as confidential and non-public in accordance with North Carolina law and that the information be withheld from public disclosure.

5.6 Comparability

The Utility shall receive, process, and analyze all Interconnection Requests received under these procedures in a timely manner, as set forth in these procedures. The Utility shall use the same reasonable efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facility is owned or operated by the Utility, its subsidiaries or affiliates, or others.

5.7 Record Retention

The Utility shall maintain for three years records, subject to audit, of all Interconnection Requests received under these procedures, the times required to

complete Interconnection Request approvals and disapprovals, and justification for the actions taken on the Interconnection Requests.

5.8 Interconnection Agreement (for over 10 kW)

After receiving an Interconnection Agreement from the Utility, the Interconnection Customer shall sign and return the Interconnection Agreement within a mutually agreeable timeframe. If the Interconnection Customer does not sign the Interconnection Agreement within such time, the Interconnection Request shall be deemed withdrawn. The Utility may waive the withdrawal if no other Interconnection Requests are pending for Generating Facilities that propose to interconnect to the same circuit on the Utility's System. After the Parties sign the Interconnection Agreement, the interconnection of the Generating Facility shall proceed under the provisions of the Interconnection Agreement.

5.9 Coordination with Affected Systems

The Utility shall coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System operators and, if possible, include those results (if available) in its applicable studies within the time frame specified in these procedures. The Utility will include such Affected System operators in all meetings held with the Interconnection Customer as required by these procedures. The Interconnection Customer will cooperate with the Utility in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Utility which may be an Affected System shall cooperate with the Utility with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

5.10 Capacity of the Generating Facility

5.10.1 If the Interconnection Request is for an increase in capacity for an existing Generating Facility, the Interconnection Request shall be evaluated on the basis of the new total capacity of the Generating Facility.

5.10.2 If the Interconnection Request is for a Generating Facility that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single Point of Interconnection, the Interconnection Request shall be evaluated on the basis of the aggregate capacity of the multiple devices, unless otherwise agreed to by the Utility and the Interconnection Customer.

5.10.3 The Interconnection Request shall be evaluated using the maximum rated capacity of the Generating Facility, unless otherwise agreed to by the Utility and the Interconnection Customer.

5.11 Interconnection Agreement Non-Transferable

5.11.1 The Interconnection Agreement is non-transferable.

5.11.2 The technical requirements in the Interconnection Agreement shall be grandfathered for subsequent owners as long as (1) the Generating Facility's maximum rated capacity has not been changed; (2) the Generating Facility has not been modified so as to change its electrical characteristics; (3) the interconnection system has not been modified; and (4) a new Interconnection Request and Interconnection Agreement is completed.

5.12 Isolating or Disconnecting the Generating Facility

5.12.1 The Utility may isolate the Interconnection Customer's premises and/or Generating Facility from the Utility's System when necessary in order to construct, install, repair, replace, remove, investigate or inspect any of the Utility's equipment or part of Utility's System; or if the Utility determines that isolation of the Interconnection Customer's premises and/or Generating Facility from the Utility's System is necessary because of emergencies, forced outages, force majeure or compliance with prudent electrical practices.

5.12.2 Whenever feasible, the Utility shall give the Interconnection Customer reasonable notice of the isolation of the Interconnection Customer's premises and/or Generating Facility from the Utility's System.

5.12.3 Notwithstanding any other provision of this Standard, if at any time the Utility determines that the continued operation of the Generating Facility may endanger either (1) the Utility's personnel or other persons or property or (2) the integrity or safety of the Utility's System, or otherwise cause unacceptable power quality problems for other electric consumers, the Utility shall have the right to isolate the Interconnection Customer's premises and/or Generating Facility from the Utility's System.

5.12.4 The Utility may disconnect from the Utility's System any Generating Facility determined to be malfunctioning, or not in compliance with this Standard. The Interconnection Customer must provide proof of compliance with this Standard before the Generating Facility will be reconnected.

5.13 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually

incurred. In no event shall either Party be liable to the other Party for any indirect, special, incidental, consequential, or punitive damages of any kind.

5.14 Indemnification

The Parties shall at all times indemnify, defend and save the other Party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney's fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inaction of its obligations hereunder on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

5.15 Insurance

The Interconnection Customer shall obtain and retain, for as long as the Generating Facility is interconnected with the Utility's System, liability insurance which protects the Interconnection Customer from claims for bodily injury and/or property damage. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. This insurance shall be primary for all purposes. The Interconnection Customer shall provide certificates evidencing this coverage as required by the Utility. Such insurance shall be obtained from an insurance provider authorized to do business in North Carolina. The Utility reserves the right to refuse to establish or continue the interconnection of the Generating Facility with the Utility's System, if such insurance is not in effect.

5.15.1 For an Interconnection Customer that is a residential customer of the Utility proposing to interconnect a Generating Facility no larger than 20 kW, the required coverage shall be a standard homeowner's insurance policy with liability coverage in the amount of at least $100,000 per occurrence.

5.15.2 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility no larger than 250 kW, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least $300,000 per occurrence.

5.15.3 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility larger than 250 kW and less than 10 MW, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least $1,000,000 per occurrence.

5.15.4 An Interconnection Customer of sufficient credit-worthiness may propose to provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices, and such a proposal shall not be unreasonably rejected.

Glossary of Terms

10 kW Inverter Process – The procedure for evaluating an Interconnection Request for a certified inverter-based Generating Facility no larger than 10 kW that uses the Section 3 screens. The application process uses an all-in-one document that includes a simplified Interconnection Request, simplified procedures, and a brief set of Terms and Conditions. (See Attachment 5.)

Affected System – An electric system other than the Utility's System that may be affected by the proposed interconnection. The owner of an Affected System might be a Party to the Interconnection Agreement or other study agreements needed to interconnect the Generating Facility.

Applicable Laws and Regulations – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Business Day – Monday through Friday, excluding State Holidays.

Commission – The North Carolina Utilities Commission.

Default – The failure of a breaching Party to cure its breach under the Interconnection Agreement.

Distribution System – The Utility's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries 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 differ among areas.

Distribution Upgrades – The additions, modifications, and upgrades to the Utility's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the service necessary to allow the Generating Facility to operate in parallel with the Utility and to inject electricity onto the Utility's System. Distribution Upgrades do not include Interconnection Facilities.

Fast Track Process – The procedure for evaluating an Interconnection Request for a certified Generating Facility no larger than 2 MW that includes the Section 3 screens and customer options meeting. This process will apply to Interconnection Requests for a certified Generating Facility less than 10 kW that the Utility cannot approve under the 10 kW Inverter Process.

Generating Facility – The Interconnection Customer's device for the production of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Good Utility Practice – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, the Utility, or any affiliate thereof.

Interconnection Customer – Any entity, including the Utility that proposes to interconnect its Generating Facility with the Utility's System. For the 10 kW Inverter Process this must be the Utility's billing customer.

Interconnection Facilities – 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 Interconnection, 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 Upgrades.

Interconnection Request – The Interconnection Customer's request, in accordance with these procedures, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to, an existing Generating Facility that is interconnected with the Utility's System.

Material Modification – A modification to machine data or equipment configuration or to the interconnection site of the Generating Facility that has a material impact on the cost, timing or design of any Interconnection Facilities or Upgrades.

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Network Upgrades – Additions, modifications, and upgrades to the Utility's Transmission System required to accommodate the interconnection of the Generating Facility to the Utility's System. Network Upgrades do not include Distribution Upgrades.

Operating Requirements – Any operating and technical requirements that may be applicable due to Regional Reliability Organization, Independent System Operator,

control area, or the Utility's requirements, including those set forth in the Interconnection Agreement.

Participant – Member of NCMPA1.

Party or Parties – The Utility, Interconnection Customer, and possibly the owner of an Affected System, or any combination of the above.

Point of Interconnection – The point where the Interconnection Facilities connect with the Utility's System.

Public Staff – The Public Staff of the North Carolina Utilities Commission.

Queue Position – The order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the Utility and a demonstration of site control, if requested.

Reasonable Efforts – With respect to an action required to be attempted or taken by a Party under the Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Standard – The interconnection procedures, forms and agreements approved by the Participant's City (Town) Council for interconnection of Generating Facilities to its Utility System.

Study Process – The procedure for evaluating an Interconnection Request that includes the Section 4 scoping meeting, feasibility study, system impact study, and facilities study.

System – The facilities owned, controlled or operated by the Utility that are used to provide electric service in North Carolina.

Utility – The entity that owns, controls, or operates facilities used for providing electric service in North Carolina.

Transmission System – The facilities owned, controlled or operated by the Utility that are used to transmit electricity in North Carolina.

Upgrades – The required additions and modifications to the Utility's System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

Certification Codes and Standards

ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)

IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms

IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers

IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

NEMA MG 1-1998, Motors and Small Resources, Revision 3

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

NFPA 70, current National Electrical Code

UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources

IEEE Std 929-2000, IEEE Recommended Practice for Utilities Interface of Photovoltaic (PV) Systems

Certification of Generator Equipment Packages

1.0 Generating Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in Attachment 3 of the NCMPA1 Recommended Interconnection Procedures, (2) it has been labeled and is publicly listed by such NRTL at the time of the Interconnection Request, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.

2.0 The Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.

3.0 Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the Parties to the interconnection nor follow-up production testing by the NRTL.

4.0 If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.

5.0 Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the Interconnection Customer's side of the point of common coupling shall be required to meet the requirements of the NCMPA1 Recommended Interconnection Procedures.

6.0 An equipment package does not include equipment provided by the Utility.