Interconnection Process Checklist
Surry-Yadkin EMC

This checklist is to be used by members intending to install and operate a generating facility interconnected to Surry-Yadkin Electric Membership Corporation's (SYEMC) electric distribution system. Members should take steps to ensure that all items in this checklist are complete and authorization has been given from SYEMC to interconnect before energizing a generation facility and connecting to SYEMC's system.

☐ 1) Generating facility has been registered with the North Carolina Utilities Commission (NCUC)

☐ 2) Member has completed the Interconnection Application and submitted it with the respective non-refundable application fee ($100, $300, or $1,000) paid to SYEMC.

☐ 3) SYEMC's engineering department gives approval for the installation of the generating facility on SYEMC's system OR SYEMC's engineering department proceeds with studying the proposed interconnection onto SYEMC's system. If a study is needed, an initial deposit of $20,000 will be required and the System Impact and Facilities Study Agreement must be signed and submitted together.

☐ 4) Member has agreed to the terms of and signed the Interconnection Agreement.

☐ 5) Member has provided the following documentation:

a. signed interconnection application
b. signed interconnection agreement
c. copy of NCUC Report for Proposed Construction
d. proof of general liability insurance in the amount of $100,000 (residential) or $300,000 (commercial/industrial) or $1,000,000 (all others)
e. one-line drawings and any other equipment specification sheets available

☐ 6) Member has obtained an electrical inspection from local governing body and a copy of the passed inspection record is sent to SYEMC via the local governing body.

☐ 7) After the member meets the above requirements, SYEMC will install metering to interconnect the generating facility with SYEMC's system as well as make necessary changes to the member's account to reflect the interconnection of a renewable generation facility.

☐ 8) SYEMC will provide a written Certificate of Completion, a document providing permission to energize the generating facility. SYEMC reserves the right to have representatives present when the facility is initially brought online.

Interconnection Application
Surry-Yadkin EMC

Preamble and Instructions

A Surry-Yadkin Electric Membership Corporation member who requests interconnection with Surry-Yadkin Electric Membership Corporation must submit this Interconnection Application by hand delivery, mail, e-mail, or fax to the contact information listed below. An Interconnection Application is considered complete when it provides all applicable and correct information required below as well as payment of all required fees.

Surry-Yadkin Electric Membership Corporation

Designated Contact Person(s): Caleb Lowe, Staff Engineer

Physical Address: 510 S. Main St., Dobson, NC 27017

Mailing Address: P.O. Box 305, Dobson, NC 27017

Telephone Number: 336-356-8241

Fax: 336-356-4081

E-Mail Address: renewables@syemc.com

Processing Fee or Deposit

All application fees are non-refundable and are to be paid at the time of submitting the Interconnection Application to the Cooperative. Payments will be made to Surry-Yadkin Electric Membership Corporation in the form of cash, check, or card. These payments can be made in-person at the main office in Dobson, over the automatic phone payment system, or through SmartHub.

If the Generating Facility is 25 kW or smaller, the fee is $100.

If the Generating Facility is larger than 25 kW but less than 500 kW, the fee is $300.

If the Generating Facility is larger than 500 kW, the fee is $1,000.

If the Interconnection Application is submitted under the Study Process, whether a new submission or an Interconnection Application that did not pass the Fast Track Process, the Interconnection Member shall submit to the Cooperative a deposit equal to 100% of the estimated study costs. The minimum fee to participate in the Study Process is $20,000. Any funds that are not used by the Cooperative to perform the System Impact and Facilities Study will be refunded to the Interconnection Member. The payment and the System Impact and Facilities Study Agreement will be submitted together.

If the Interconnection Application is submitted solely due to a transfer of ownership of the Generating Facility, there is no processing fee.

Fast Track Process: Interconnecting facility has a generating output rating of 25 kW or less.

Study Process: Interconnecting facility has a generating output rating of above 25 kW and does not pass the screening process defined in the Interconnection Study Processes and Agreement for Systems Greater Than 25 kW.

Request for: ❑ Fast Track Process ❑ Study Process

Interconnection Member Information

Legal Name of the Interconnection Member (or, if an individual, individual's name)

Name: _____

Existing Account Number with SYEMC: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Facility Location (if different from above): _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Alternative Contact Information (if different from the Interconnection Member)

Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Application is for: ❑ New Generating Facility

❑ Capacity Addition to Existing Generating Facility

❑ Transfer of Ownership of Existing Generating Facility

If capacity addition to existing Generating Facility, please describe:

_____

_____

_____

Will the Generating Facility be used for any of the following?

To Supply Power to the Interconnection Member? ❑ Yes ❑ No

To Supply Power to the Cooperative? ❑ Yes ❑ No

Generating Facility Information

Data apply only to the Generating Facility, not the Interconnection Facilities.

Energy Source: ❑ Solar ❑ Wind ❑ Diesel ❑ Natural Gas ❑ Fuel Oil

❑ Hydro (Type e.g. Run-of-River) _____

❑ Other (state type) _____

Prime Mover: ❑ Fuel Cell ❑ Reciprocating Engine ❑ Gas Turbine

❑ Steam Turbine ❑ Micro turbine ❑ PV ❑ Other

Type of Generator: ❑ Synchronous ❑ Induction ❑ Inverter

Generator Nameplate Rating: _____kW (Typical) Generator Nameplate: ____kVAR

Interconnection Member or Member-Site Load: _____kW (if none, so state)

Typical Reactive Load (if known): _____

Maximum Physical Export Capability Requested: _____kW

Will the Generating Facility also have installed storage? Yes _____ No_____

Storage Capacity: _____ kWh

Type of Storage: _____

List components of the Generating Facility equipment package that are currently certified:

Equipment Type

1. _____
2. _____
3. _____
4. _____
5. _____

General Information

Enclose copy of site electrical one-line diagram showing the configuration of all Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer if the Generating Facility is larger than 25 kW.

Is One-Line Diagram Enclosed? ❑Yes ❑No

Enclose copy of any site documentation that indicates the precise physical location of the proposed Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Proposed location of protective interface equipment on property (include address if different from the Interconnection Member's address):

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes.

Is Available Documentation Enclosed? ❑Yes ❑No

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).

Are Schematic Drawings Enclosed? ❑ Yes ❑ No

Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Interconnection Application is true and correct.

For Interconnection Member: _____

Date: _____

Interconnection Agreement
Surry-Yadkin EMC

This STANDARD INTERCONNECTION AGREEMENT, (the "Agreement"), is entered into as of _____, 20__, (the "Effective Date"), by and between [Interconnection Member Name], hereinafter called "Interconnection Member," and Surry-Yadkin EMC hereinafter called "Cooperative". Interconnection Member and Cooperative are hereinafter collectively referred to as the "Parties" or individually referred to as "Party." In consideration of the mutual covenants set forth herein, the Parties agree as follows:

1. Scope and Limitations of Agreement

1.1. Purpose

This Agreement relates solely to the conditions under which Cooperative and Interconnection Member agree that Interconnection Member's generation system and equipment, hereinafter the "Generator" or "Generating Facility," will interconnect with and operate in parallel with the Cooperative's electric power distribution system, hereinafter the "System."

1.2. No Agreement to Purchase or Deliver Power or RECs

This Agreement does not constitute an agreement to purchase or wheel Interconnection Member's power, nor is it an agreement to purchase Renewable Energy Certificates (RECs) produced from Interconnection Member's Generator. The purchase or delivery of power, RECs that might result from the operation of the Generator, and other services that the Interconnection Member may require will be covered under separate agreements, if any. The Interconnection Member will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable utility.

1.3. Electrical Requirements

Cooperative will supply the electrical requirements of Interconnection Member that are not supplied by Interconnection Member's Generator. Such electric service shall be supplied to Interconnection Member under Cooperative's rates schedules, and service regulations applicable to Interconnection Member's class of service.

1.4. Limitations

Nothing in this Agreement is intended to affect any other agreement between the Parties.

1.5. Responsibilities of the Parties

1.5.1. The Parties shall perform their obligations under this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.

1.5.2. The Interconnection Member, at its own expense, shall construct, interconnect, operate and maintain its Generator and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, in accordance with this Agreement, Good Utility Practice, and with governmental and industry standards for prudent engineering practices, including, but not limited to, the published standards referenced in Appendix A.

1.5.3. The Cooperative shall construct, operate, and maintain its System and Cooperative's Interconnection Facilities in accordance with this Agreement, and with Good Utility Practice.

1.5.4. The Interconnection Member agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Member agrees to design, install, maintain, and operate its Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the systems or equipment of the Cooperative or Affected System. For purposes of this Agreement, Cooperative's System includes but is not limited to any pre-existing Integrated Volt/VAR Control (IVVC) or Conservation Voltage Reduction (CVR) program. The Interconnection Member's facilities or system construction shall comply with Rural Utility Services (RUS) design and construction requirements.

1.5.5. Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Appendices to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of its lines and appurtenances on its side of the Point of Interconnection. The Cooperative and the Interconnection Member, as appropriate, shall provide Interconnection Facilities that adequately protect the Cooperative's System, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance, and ownership of Interconnection Facilities shall be delineated in the Appendices to this Agreement.

1.5.6. The Cooperative shall coordinate with all Affected Systems to support the interconnection.

1.5.7. The Interconnection Member shall not operate the Generator in such a way to exceed the Maximum Generating Capacity.

1.5.8. The Cooperative is required to comply with the Public Utility Regulatory Policies Act of 1978 (PURPA), along with rules and regulations promulgated under PURPA as they relate to qualifying facilities (QF). Any contracts for the sale of electric demand and energy from a QF will be made between the owner/operator and the Cooperative or NCEMC. The Cooperative will assist the owner/operator in making initial contact with NCEMC. Also, through a similar prior arrangement with NCEMC, all contracts for the sale of electric demand and energy from an independent power producer (IPP) will be made between the owner/operator and NCEMC. The Cooperative will assist the owner/operator in making initial contact with NCEMC.

1.6. Studies/Cooperation

1.6.1. Interconnection with the Cooperative's System is contingent upon completion of all required engineering and transmission studies and processes necessary and advisable in the course of determining the impact of the Generator on the systems of the Cooperative and its transmission provider (the "Studies"). Interconnection Member agrees to provide full and complete cooperation with the Cooperative, its wholesale power provider, if applicable, transmission provider and any Affected System, to facilitate the Studies.

1.6.2. Standards for the Cooperative's Fast Track and Study processes are in the SYEMC Interconnection Study Processes and Agreement for Systems Greater Than 25 kW.

1.7. Interconnection

1.7.1. The cost to Interconnection Member for all Cooperative owned and maintained facilities constructed and/or installed by Cooperative to accommodate the interconnection and safe operation of Interconnection Member's Generator in parallel with Cooperative's System shall be determined in accordance with Cooperative's applicable Service Regulations. To the extent not specifically addressed in the Cooperative's Service Regulations, any charges or costs necessary for required upgrades to the Cooperative's system identified in the Studies or otherwise necessary to accept the Generator's production shall at all times remain the financial responsibility of the Interconnection Member and may be charged separately if and as incurred.

1.7.2. The Cooperative will notify Interconnection Member if there is evidence that operation of Generator or the Interconnection Member's Interconnection Facilities have caused or are causing damage to the System or disruption or deterioration of service to other Members served from the System. Even if Interconnection Member's operation and maintenance of the Generator is in accordance with the standard outlined above, Interconnection Member shall reasonably cooperate with the Cooperative to resolve issues covered in such notification of disruption, deterioration, or damage.

1.7.3. Interconnection Member will notify the Cooperative of any emergency or hazardous condition or occurrence with the Generator or Interconnection Facilities that could interfere with safe operation of the System.

1.7.4. The Nameplate Capacity of the Generator is _____ kW AC in the form of ___ phase, _____ wires, alternating current of 60 hertz frequency and at _____ volts. The Net Capacity of the Generator at the Point of Interconnection is projected to be _____ kW AC. Unless otherwise agreed to, the full output capability of the Generator shall not be artificially limited by means of a user definable set-point.

1.7.5. Interconnection Member agrees to interconnect the Generator at the Point of Interconnection in accordance with the Cooperative's rules, regulations, by-laws, and rates which are incorporated herein by reference.

1.8. Parallel Operation Obligations

1.8.1. Interconnection Member shall not make any changes to the Generator output capacity, reactive power and voltage support, and/or modify the protection system required to meet the requirements of this Agreement (such as the various engineering standards cited herein) without prior notice to and written acceptance from Cooperative.

1.8.2. Isolation Device: Interconnection Member shall install a manual load-break disconnect switch with a clear visible indication of switch position between Cooperative's electric system and Interconnection Member's Generator. The Isolation Device shall be installed as specified in the applicable engineering standards. If the Isolation Device is located remotely from the meter base, through some arrangement with the Cooperative, then there shall be a permanent simplified map to indicate the location of the Isolation Device that accompanies the warning label at the meter as described by Section 1.8.3

1.8.3. Warning Label: Interconnection Member will install a permanent warning label in a conspicuous place in close proximity to the electric meter or on the meter base to notify Cooperative personnel that there is a generator installed on the load side of the meter. The warning label shall not be placed

in a location that would interfere with the ability of Cooperative personnel to read the electric meter. Interconnection Member shall also place a warning label on the Isolation Device. The warning labels must be in place before the Generator can be interconnected with Cooperative's System.

1.8.4. Once the Interconnection Member's Generator has been authorized to commence parallel operation, the Interconnection Member shall abide by all rules and procedures pertaining to the parallel operation of the Generator, including, but not limited to the Operating Requirements set forth in Appendix F of this Agreement.

1.8.5. Reactive Power and Voltage Support: The Interconnection Member shall design its Generator and Interconnection Facilities to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at (check appropriate box, filling in the power factor if necessary):

☐ A fixed power factor of unity as measured at the Point of Interconnection.

☐ A power factor within the range of 0.95 leading to 0.95 lagging. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed or switched capacitors, or a combination of the two.

☐ A fixed power factor of _____ as measured at the Point of Interconnection.

Parties should note that the Generator should be set to reflect the required power factor at the Point of Interconnection and not necessarily at the Generator due to the impact of long lengths of conductor or step-up transformation. Prior to changing the mode of operation of the Generator, the Interconnection Member shall validate that such a change does not negate any other protective functions required for parallel operation by IEEE 1547.

1.8.6. Ramp Rate Control: Where Point of Interconnection is downline from line voltage regulators, the Interconnection Member's Generator will operate a ramp rate control to allow the voltage regulators to maintain stable voltage on the System.

1.8.7. Voltage and Frequency Support: The Generator shall be capable of accepting settings and performing "frequency ride through" and "voltage ride through" based on IEEE 1547 Category B for normal operations and

Category II for abnormal operations. Specific inverter settings should be documented in Appendix F.

1.8.8. Static: Interconnection Member equipment shall be capable of adjustable trip settings that can be set remotely.

1.8.9. Notwithstanding Section 1.8.7 above, the Interconnection Member shall work with the Cooperative to determine whether any inverter settings should be altered or disabled based on Good Utility Practice and the results of the Studies performed under Section 1.6.

1.8.10. If an inverter is used, the Interconnection Member shall make Reasonable Efforts to secure the inverter from any unauthorized access (including physical and remote access) which could alter settings or adversely affect the inverter's ability to operate as required. Security measures should include, but are not limited to, utilizing secure password settings that comply with NIST standards for password complexity and/or physical locks on cabinet doors.

1.8.11. The Interconnection Member shall not operate its Generator in parallel with the Cooperative's System without prior written authorization of the Cooperative. The Cooperative will provide such authorization once the Cooperative receives notification that the Interconnection Member has complied with all applicable operation requirements (including any documented in Appendix F). Such authorization shall not be unreasonably withheld, conditioned, or delayed.

1.9. Metering, Curtailment, Control, and Data Acquisition

1.9.1. The Interconnection Member, or if otherwise agreed, the Cooperative, shall install and maintain such metering equipment as may be necessary to meter the electrical output of the Generator for purposes of the Power Purchase Agreement (PPA) with the Cooperative's wholesale power provider. The Cooperative shall install and maintain such metering equipment as may be necessary to meter the electric service provided by the Cooperative to the Generator facilities and, unless otherwise agreed, output of the Generator for purposes of the PPA with the Cooperative. In certain instances, and at the discretion of the Cooperative, the same meter may be used for both purposes. The Cooperative and Interconnection Member shall endeavor to work with the Cooperative's wholesale power provider, to implement an effective metering arrangement as documented in the wholesale power provider's DER Metering, Telemetry and Curtailment Requirements document. Metering shall meet accuracy standards required for equivalent electrical services, using standard meters or any devices that meet data collection and accuracy requirements.

1.9.2. Telemetry: The Interconnection Member shall purchase, own, install, and maintain any equipment necessary to provide real-time kW, kVAR, and kV data. This requirement can be fulfilled through the meter used in Section 1.9.1.

1.9.3. The Interconnection Member shall purchase, own, install, and maintain such relaying and control equipment as may be necessary to monitor, control, and curtail the electrical output of the Generator, including the power factor (as required by Section 1.8.5 above). For projects 50 kW and greater, the Generating Facility must support Modbus and DNP 3.0 protocols for the purpose of exchanging information and receiving any control or curtailment instructions from the Cooperative and/or its wholesale power provider.

1.9.4. The Interconnection Member shall purchase, own, install, and maintain a device, installed at the Point of Interconnection that is capable of measuring power quality. This requirement can be fulfilled through the meter used in Section 1.9.1.

1.9.5. All costs for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and telemetry equipment required under the PPA shall be borne by the Interconnection Member. If the Interconnection Member energizes the Generating Facility before the Cooperative gives a signed Certificate of Completion, the Cooperative is not responsible nor obligated to refund the Interconnection Member for any energy charges that may occur due to the Generating Facility being brought on-line before allowed.

1.10. Transfer Trip Equipment; Protective Devices

The Generator must be connected to protective devices which will detect power outages and disconnect itself from the System automatically during an outage so as not to cause islanding. Such protective devices must communicate with and otherwise coordinate with Cooperative's protective devices, and Interconnection Member shall notify Cooperative of any proposed changes in settings. The Generator's protective equipment shall allow for Cooperative personnel to install grounds on the line during emergencies and power outages, if deemed necessary by Cooperative. To facilitate the installation of proper protected devices and transfer trip equipment, Interconnection Member shall, at its own cost and expense:

1.10.1. Jointly act with Cooperative to install, or cause to be installed, and maintain transfer trip equipment acceptable to Cooperative between Cooperative's recloser(s) and Interconnection Member's inter-tie breaker or recloser in the event anti-islanding cannot be assured through other methods.

1.10.2. Modify or improve Cooperative's voltage regulating and overcurrent protective equipment as may be required to improve operation of the Generator, the Interconnection Facilities, and the System, including without limitation, the following:

1.10.2.1. any modification(s) to Cooperative's recloser(s) deemed appropriate or necessary by Cooperative, including without limitation, synchronism check relays and associated equipment; and

1.10.2.2. any modification(s) to voltage regulators deemed appropriate and/or necessary by Cooperative.

2. Inspection, Testing, Authorization, and Right of Access

2.1. Equipment Testing and Inspection

2.1.1. Interconnection Member shall not interconnect Interconnection Member's Generator with the System nor commence parallel operation of Interconnection Member's Generator until both Parties have accepted this Agreement and the requirements for interconnection stated in this Agreement have been met. The Interconnection Member shall test and inspect its Generator site and Interconnection Facilities prior to interconnection. If an inverter is used, it shall be set as required in Section 1.8 and subjected to testing and inspection under this section. Cooperative shall have the right and opportunity to have representatives present at the testing of Interconnection Member's Generator. The Cooperative may, at its own expense, send qualified personnel to the Generator site to inspect the interconnection and observe the testing. Unless otherwise agreed to in writing, the Interconnection Member shall notify the Cooperative of such activities no fewer than 10 Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. In the event Interconnection Member has interconnected Interconnection Member's Generator without Cooperative's acceptance of this Agreement or the Generator has not met the requirements of this Agreement, Cooperative shall have the right to immediately isolate Interconnection Member's premises and/or Generator from Cooperative's System until Cooperative's acceptance is granted, and the requirements of the Agreement have been met.

2.1.2. The Interconnection Member shall provide the Cooperative all records of testing. Testing of protection systems for intermediate and large units shall be limited to records of compliance with standard acceptance procedures and by industry standards and practices. These records shall include testing at the start of commercial operation and periodic testing thereafter. Factory testing of pre-packaged Interconnection Facilities and the protective systems of small units shall be acceptable. In the case of a factory test, the

Interconnection Member needs to provide a written description and certification by the factory of the test, the test results, and the qualification of any independent testing laboratory. In addition, the settings of the equipment being installed are to be approved by the Cooperative prior to operation.

2.1.3. In addition to the Cooperative's observation of the Interconnection Member's testing and inspection of its Generator and Interconnection Facilities pursuant to this Section, the Cooperative may also require inspection and testing of Interconnection Facilities which can impact the integrity or safety of the Cooperative's System or otherwise cause adverse operating effects, as described in Section 3.3.4. Such inspection and testing activities will be performed by the Cooperative or a third-party independent contractor approved by the Cooperative and at a time mutually agreed to with the Interconnection Member and will be performed at the Interconnection Member's expense. The scope of required inspection and testing will be consistent across similar types of generating facilities.

2.1.4. The Cooperative may require periodic re-inspection of the Interconnection Member's Generator and Interconnection Facilities, such re-inspection and testing activities will be performed by the Cooperative or a third-party independent contractor approved by the Cooperative at a time mutually agreed to with the Interconnection Member. Such period re-inspection and testing will be performed at the Interconnection Member's expense should the facility fail re-inspection.

2.2. Right of Access

2.2.1. Access to Premises:

The Cooperative's authorized agents shall have the right of ingress and egress to Interconnection Member's premises, as needed over the same general route as Interconnection Member utilizes, for the purpose of reading meters, inspecting Cooperative's wiring and apparatus, changing, exchanging, or repairing its property on the premises of Interconnection Member, to remove such property at the time of or at any time after the suspension of interconnection of the Generator or termination of this Agreement, or for any other reasonable purpose in connection with the interconnection described in this Agreement, or to provide service to its Member/members. Cooperative shall have access to Interconnection Member's Isolation Device at all times. Although the Cooperative reserves the right to inspect Interconnection Member's facilities at any time, nothing in this Agreement shall imply the Cooperative is assuming the responsibility for doing so.

2.2.2. Interconnection Member shall identify an individual (by name or title) who will perform as "Designated Operating Representative" of the Generator and the Member's Interconnection Facilities. This individual must be familiar with this Agreement as well as any other agreements, laws or regulations that may apply. A contact list is provided in Appendix B and can be modified without the need for execution of a new Interconnection Agreement by completing a new form and filing with the Cooperative.

2.2.3. Cooperative's obligation to provide the interconnection as covered in this Agreement is contingent upon Cooperative receiving the rights-of-way and receiving the necessary equipment in sufficient time to install it on or before the Effective Date. Accordingly, it is understood between the Parties that any interconnection date set by the Cooperative and Interconnection Member is subject to change.

3. Effective Date, Term, Termination, and Disconnection

3.1. Effective Date

This Agreement becomes effective when executed by both Parties and shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as the Interconnection Member may request and shall be automatically renewed for successive one-year periods thereafter, unless terminated in accordance with Section 3.2.

3.2. Termination

The Agreement may be terminated in accordance with the following:

3.2.1. If Interconnection Member desires to terminate the Agreement, it must provide the Cooperative 20 Business Days written notice. Cooperative will agree to such termination if Cooperative is satisfied that Interconnection Member no longer can operate Interconnection Member's Generator in parallel with Cooperative's System at the premises and all bills for services previously rendered to Interconnection Member, plus any applicable termination charges, have been paid. Cooperative may waive the termination charges if Cooperative has secured or expects to secure from a new occupant or operator of the premises an Agreement satisfactory to Cooperative for the interconnection to Cooperative for a term not less than the unexpired portion of Interconnection Member's Agreement.

3.2.2. Cooperative, in addition to all other legal remedies, may either terminate the Agreement or suspend interconnection with Interconnection Member (1) for any Default or breach of Agreement by Interconnection Member, (2) for failure to pay any applicable bills when due and payable, (3) for a condition on Interconnection Member's side of the Point of Interconnection actually

known by Cooperative to be, or which Cooperative reasonably anticipates may be, dangerous to life or property, (4) if Interconnection Member either fails to energize the Generator within 12 months of the Effective Date of this Agreement or permanently abandons the Generator, or (5) by giving the Interconnection Member at least sixty days' notice in the event that there is a material change in an applicable rule or statute concerning interconnection and parallel operation of the Generator, unless the Interconnection Member's installation is exempted from the change or the Interconnection Member complies with the change in a timely manner.

3.2.3. No such termination or suspension, however, will be made by Cooperative without written notice delivered to Interconnection Member stating what in particular in the Agreement has been violated, except that no notice need to be given in instances set forth in Section 3.2.2 (3) above.

3.2.4. Interconnection Member's failure to operate the Generator for any consecutive 12-month period after the Effective Date shall constitute permanent abandonment unless otherwise agreed to in writing between the Parties.

3.2.5. Unless otherwise agreed to in writing, upon termination of this Agreement, the Generator will be disconnected from the Cooperative's System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this Agreement, or such non-terminating Party otherwise is responsible for these costs under this Agreement. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.2.6. Either Party may terminate this Agreement after Default pursuant to Section 6.4

3.2.7. The Cooperative may terminate this agreement upon the Interconnection Member's failure to timely meet the milestones specified in Appendix H unless communicated in accordance with Section 5.2.2.

3.3. Disconnection of Generator

Cooperative may isolate Interconnection Member's premises and/or Generator from Cooperative's system when necessary in order to construct, install, repair, replace, remove, investigate, or inspect any of Cooperative's equipment or part of Cooperative's system; or if the Cooperative determines that isolation of the Interconnection Member's premises and/or Generating Facility from the Cooperative's System is necessary because of emergencies, forced outages, force majeure or compliance with Good Utility Practice. Temporary disconnection shall continue only for so long as reasonably necessary under

Good Utility Practice.

3.3.1. Emergency Conditions:

The Cooperative may immediately suspend interconnection service and temporarily disconnect the Generator in the event it determines, in its sole discretion, the existence of Emergency Conditions that are imminently likely to endanger life, property, or the safety of Cooperative's System. The Cooperative shall notify the Interconnection Member promptly when it becomes aware of such Emergency Conditions that may reasonably be expected to affect the Interconnection Member's operation of the Generator; provided however that said notification need not be in advance of suspending service or disconnecting the Generator the Interconnection Member shall notify the Cooperative promptly when it becomes aware of such Emergency Conditions. To the extent information is known, the notification shall describe the Emergency Conditions, the extent of the actual/potential damage, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action. The Cooperative will respond to Emergency Conditions that do not pose imminent danger to life, property, or the safety of Cooperative's System but are imminently likely to adversely affect other Members or the System in accordance with Section 3.3.4.

3.3.2. Routine Maintenance, Construction, and Repair:

The Cooperative may interrupt interconnection service or curtail the output of the Generator and temporarily disconnect the Generator from the Cooperative's Distribution System when necessary for routine maintenance, construction, and repairs on the Cooperative's System. The Cooperative shall provide the Interconnection Member with two (2) Business Days' notice prior to such interruption. The Cooperative shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Member.

Cooperative may impose more restrictive trip settings on the recloser at the Point of Interconnection without notice to the Interconnection Member during certain periods such as energized work on the circuit or temporary reconfiguration of the circuit. The Cooperative shall use Reasonable Efforts to provide the Interconnection Member with prior notice. If prior notice is not given, the Cooperative shall provide notice to the Interconnection Member as soon as possible.

3.3.3. Forced Outages:

During any forced outage, the Cooperative may suspend interconnection service to effect immediate repairs on the Cooperative's System. The

Cooperative shall use Reasonable Efforts to provide the Interconnection Member with prior notice. If prior notice is not given, the Cooperative shall, upon request, provide the Interconnection Member written documentation after the fact explaining the circumstances of the disconnection.

3.3.4. Adverse Operating Effects:

The Cooperative shall notify the Interconnection Member as soon as practicable if, based on Good Utility Practice, operation of the Generator may cause disruption or deterioration of service to other Members served from the same electric system, or if operating the Generator could cause damage to the Cooperative's System, including but not limited to significant impairment of any pre-existing Integrated Volt/VAR Control (IVVC) or Conservation Voltage Reduction (CVR) program, or Affected System. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Member upon request. If, after notice, the Interconnection Member fails to remedy the adverse operating effect within a reasonable time, the Cooperative may disconnect the Generator. The Cooperative shall provide the Interconnection Member with five (5) Business Days' notice of such disconnection unless the provisions of Section 3.3.1 apply.

3.3.5. Modification of the Generator:

The Interconnection Member must receive written authorization from the Cooperative before making any change to the Generator that may have a material impact on the safety or reliability of the System, this includes changes to the firmware of the inverters. Such authorization shall not be unreasonably withheld. Modifications shall be made in accordance with Good Utility Practice. If the Interconnection Member makes such modification without the Cooperative's prior written authorization, the Cooperative shall have the right to temporarily disconnect the Generator.

3.3.6. Reconnection:

The Parties shall expend reasonable efforts and cooperate with each other to restore the Generator, Interconnection Facilities, and the Cooperative's System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

3.3.7. Generator Protective Device:

The generator protective device must detect power outages and disconnect the Generator from the distribution system automatically during an outage so as not to cause islanding if it is unable to ride-through the frequency or voltage event in accordance with Section1.8. Additionally, the

generator protective device must be able to detect localized faults and automatically disconnect from the distribution system, regardless of ride-through settings. The protective device should be able to detect the fault without dependency upon the Cooperative to detect and clear the fault. Such protective devices must be such that they communicate with or otherwise coordinate with the Cooperative's protective devices, and the Interconnection Member shall notify the Cooperative of any proposed changes in settings. The generator protective equipment shall allow for Cooperative personnel to install grounds on the line during emergencies and power outages. As set forth elsewhere in this Agreement, Cooperative shall give Interconnection Member reasonable notice of the possible isolation of Interconnection Member's premises and/or Generator from Cooperative's System.

3.3.8. Interconnection Member may disconnect the Generator, provided that it notifies the Cooperative of its intent to disconnect by written notice delivered not less than thirty (30) days prior to such disconnection.

4. Cost Responsibility for Interconnection Facilities and Upgrades

4.1. Interconnection Facilities

4.1.1. The Interconnection Member shall pay for the cost of the Cooperative's Interconnection Facilities itemized in Appendix D of this Agreement. The Cooperative shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs.

4.1.2. The Interconnection Member shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) the Cooperative's operating, maintaining, repairing, and replacing its Interconnection Facilities.

4.2. System Upgrades

The Cooperative shall design, procure, construct, install, and own the Upgrades described in Appendix G of this Agreement. If the Cooperative and the Interconnection Member agree, the Interconnection Member may construct Upgrades that are located on land owned by the Interconnection Member. The actual cost of the Upgrades, including overheads, shall be directly assigned to the Interconnection Member.

4.3. Special Provisions for Affected Systems

The Affected System Operator shall design, procure, construct, install and

own the Affected System Upgrades described in Appendix I to this Agreement. The actual cost of the Affected System Upgrades, including overheads, shall be directly assigned to the Interconnection Member.

5. Payment, Milestones, and Financial Security

5.1. Payment Procedures

5.1.1. Absent agreement to the contrary, Interconnection Member shall pay all costs related to design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement, with all such costs paid in advance of the Cooperative's performing its obligations under this Agreement.

5.1.2. Within three months of completing the construction and installation of the Interconnection Member's Interconnection Facilities and/or Upgrades described in the Appendices to this Agreement, the Cooperative shall provide the Interconnection Member a final accounting report of any difference between (1) the Interconnection Member's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Member's previous aggregate payments to the Cooperative for such facilities or Upgrades. If the Interconnection Member's cost responsibility exceeds its previous aggregate payments, the Cooperative shall invoice the Interconnection Member for the amount due and the Interconnection Member shall make payment to the Cooperative within 20 Business Days. If the Interconnection Member's previous aggregate payments exceed its cost responsibility under this Agreement, the Cooperative shall refund to the Interconnection Member an amount equal to the difference within 20 Business Days of the final accounting report.

5.1.3. The Cooperative shall also bill the Interconnection Member for the costs associated with operating, maintaining, repairing, and replacing the Cooperative's System Upgrades, as set forth in Appendix G of this Agreement. The Cooperative shall bill the Interconnection Member for the costs of providing the Cooperative's Interconnection Facilities including the costs for on-going operations, maintenance, repair and replacement of the Cooperative's Interconnection Facilities under a Cooperative rate schedule, tariff, rider, or service regulation providing for extra facilities or additional facilities charges, as set forth in Appendix D of this Agreement, such monthly charges to continue throughout the entire life of the interconnection.

5.1.4. Upon receipt of the foregoing pre-payment charges for Upgrades, if the Interconnection Member cancels the Interconnection Request for any reason:

5.1.4.1. With respect to any portion of Cooperative's Interconnection Facilities that have not yet been constructed or installed, Cooperative shall to the extent possible and with Interconnection Member's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Member elects not to authorize such cancellation, Interconnection Member shall assume all payment obligations with respect to such materials, equipment, and contracts, and Cooperative shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Member as soon as practicable, at Interconnection Member's expense. To the extent that Interconnection Member has already paid Cooperative for any or all such costs of materials or equipment not taken by Interconnection Member, Cooperative shall promptly refund such amounts to Interconnection Member, less any costs, including penalties incurred by Cooperative to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Member terminates this agreement, it shall be responsible for all costs incurred in association with that Interconnection Member's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Cooperative has incurred expenses and has not been reimbursed by Interconnection Member.

5.1.4.2. Cooperative may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Member chooses not to accept delivery of, in which case Cooperative shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

5.1.4.3. With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this agreement, Interconnection Member shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

5.1.5. If implemented by the Cooperative or requested by the Interconnection Member in writing within 15 Business Days of the Interconnection Facilities Delivery Date, the Cooperative shall provide the Interconnection Member a final accounting report within 90 Business Days addressing any difference between (1) the Interconnection Member’s cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection

Member's previous aggregate payments to the Cooperative for such facilities or Upgrades. If the Interconnection Member's cost responsibility exceeds its previous aggregate payments, the Cooperative shall invoice the Interconnection Member for the amount due and the Interconnection Member shall make payment to the Cooperative within 30 Business Days. If the Interconnection Member's previous aggregate payments exceed its cost responsibility under this Agreement, the Cooperative shall refund to the Interconnection Member an amount equal to the difference within 30 Business Days of the final accounting report. If necessary and appropriate as a result of the final accounting, the Cooperative may also adjust the monthly charges set forth in Appendix D of the Interconnection Agreement.

5.1.6. The Cooperative shall also bill the Interconnection Member for the costs associated with operating, maintaining, repairing, and replacing the Cooperative's System Upgrades, as set forth in Appendix G of this Agreement. The Cooperative shall bill the Interconnection Member for the costs of providing the Cooperative's Interconnection Facilities including the costs for on-going operations, maintenance, repair and replacement of the Cooperative's Interconnection Facilities under a Cooperative rate schedule, tariff, rider or service regulation providing for extra facilities or additional facilities charges, as set forth in Appendix D of this Agreement, such monthly charges to continue throughout the entire life of the interconnection.

5.2. Milestones

5.2.1. The Parties shall agree on milestones for which each Party is responsible and list them in Appendix H of this Agreement.

5.2.2. Except for timing for prepayment/provision of Financial Security, if a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, it shall immediately notify the other Party of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones or explain why a reasonable alternate date cannot be identified, and (2) request appropriate amendments to Appendix H. The Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless (1) it will suffer significant uncompensated economic or operational harm from the delay, (2) the delay will materially affect the schedule of another Interconnection Member with subordinate Queue Position, (3) attainment of the same milestone has previously been delayed, or (4) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

6. Assignment, Liability, Indemnity, Uncontrollable Force, Consequential Damages, and Default

6.1. Assignment

This Agreement shall be binding upon the heirs, successors and assigns of Interconnection Member and shall not be assigned without the written consent of the Cooperative, which shall not be unreasonably withheld. At any time during the term of this Agreement, the Interconnection Member may assign this Agreement to a corporation, an entity with limited liability or an individual (the "Assignee") to whom the Interconnection Member transfers ownership of the Generator, provided that the Interconnection Member obtains the consent of the Cooperative in advance of the assignment. The Cooperative's consent will be based on a determination that the Assignee is financially and technically capable to assume ownership and/or operation of the Generator. The Company or individual to which this Agreement is assigned will be responsible for the proper operation and maintenance of the Generator and must agree in writing to be subject to all provisions of this Agreement. The Cooperative may assign the Agreement to another entity without the approval of the Interconnection Member, provided the assignment is subject to Assignee's obligation to continue to service Interconnection Member's load and to otherwise be responsible for the Cooperative's obligations under this Agreement.

6.2. Indemnity and Liability

6.2.1. Limitation of Liability:

Notwithstanding any other provision in this Agreement, with respect to the Cooperative's provision of electric service to Interconnection Member and the services provided by the Cooperative pursuant to this Agreement, the Cooperative's liability to Interconnection Member shall be limited as set forth in the Cooperative's tariffs and terms and conditions for electric service, which are incorporated herein by reference. The Cooperative's liability to the Interconnection Member for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any Default or breach hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall Cooperative be liable to the Interconnection Member for any indirect, special, incidental, consequential, or punitive damages of any kind, including but not limited to claims for loss of sales, business opportunity, or profits.

6.2.2. Indemnification:

Notwithstanding any other provision of this Agreement, the Interconnection Member shall assume all liability for and shall indemnify the Cooperative

and its members, trustees, directors, officers, managers, employees, agents, representatives, affiliates, successors and assigns for and shall hold them harmless from and against any claims, losses, costs, and expenses of any kind or character to the extent that they result from Interconnection Member's negligence, breach of this Agreement, or other wrongful conduct in connection with the design, construction, installation, operation or maintenance of the Generator or Interconnection Facilities. Such indemnity shall include, but is not limited to, financial responsibility for (a) monetary losses; (b) reasonable costs and expenses of defending an action or claim; (c) damages related to death or injury; (d) damages to property; (e) all other obligations by or to third parties, arising out of or resulting from the Interconnection Member's action or inaction; and (f) damages for the disruption of business.

Without limiting the foregoing, interconnection Member acknowledges that its indemnification obligations under and subject to this Section 6.2.2 include any damages or losses incurred by Cooperative due to disruption or deterioration of service or damage to other Members' property caused by a condition at the Generating Facility prior to disconnection pursuant to Sections 3.3.4 or Section 3.3.1.

6.2.3. The provisions of Sections 6.2.1 and 6.2.2 shall not be construed to relieve any insurer of its obligations to pay any claims in accordance with the provision of any valid insurance policy.

6.2.4. If Interconnection Member at any time fails to comply with the insurance provisions of this Agreement, Interconnection Member shall, at its own cost, defend, save harmless and indemnify Cooperative, its directors, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person or damage to any property, including the personnel and property of Cooperative, its contractors, its Members, and/or the public to the extent that Cooperative would have been protected had Interconnection Member complied with all such insurance provisions. The inclusion of this section is not intended to create any express or implied right in Interconnection Member to elect not to provide any such required insurance.

6.2.5. Interconnection Member shall be responsible for installing and maintaining devices adequate to protect against damages caused by irregularities or outages on Cooperative's system, regardless of the cause or fault, including devices to protect against voltage fluctuations and single phasing.

6.2.6. The Cooperative and Interconnection Member shall each be responsible for the safe installation, maintenance, repair and condition of their respective

lines, wires, switches, or other equipment or property on their respective sides of the Point of Interconnection. Prior to allowing the interconnection of systems larger than 25 kW, the Cooperative may inspect the Interconnection Member's lines, wires, switches, or other equipment or property.

6.3. Force Majeure

If a Force Majeure event prevents a party from fulfilling any obligations under this agreement, such party will promptly notify the other party in writing and will keep the other party informed on a continuing basis as to the scope and duration of the Force Majeure event. The affected party will specify the circumstances of the Force Majeure event, its expected duration, and the steps that the affected party is taking to mitigate the effect of the event on its performance. The affected party will be entitled to suspend or modify its performance of obligations under this Agreement but will use reasonable efforts to resume its performance as soon as possible.

6.4. Default

6.4.1. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except where a condition on Interconnection Member's side of the Point of Interconnection is actually known by Cooperative to be (or is reasonably anticipated to be) dangerous to life, property, or the safety of the System, and except as provided in Section 6.4.2 below, the defaulting Party shall have five (5) Business Days from receipt of the Default notice within which to cure such Default.

6.4.2. If a Default is not cured as provided in Section 6.4, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party, subject to Section 6.2.1 above, all amounts due hereunder. The provisions of this article will survive termination of this Agreement.

6.5. Non-Warranty

Cooperative's approvals given pursuant to this Agreement or actions taken hereunder shall not be construed as any warranty or representation to Interconnection Member or any third party regarding the safety, durability, reliability, performance or fitness of Interconnection Member's generation and

service facilities, its control or protective devices or the design, construction, installation, or operation thereof.

6.6. Interconnection Member shall have the right to assign this Agreement, without the consent of Cooperative, solely for collateral security purposes to aid in providing financing for the Generator, provided that Interconnection Member will promptly notify Cooperative of any such assignment. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof.

7. Insurance

7.1. Interconnection Member shall obtain and retain, for as long as its Generator is interconnected with the Cooperative's system, liability insurance which protects Interconnection Member from claims for bodily injury and/or property damage. This insurance shall be primary for all purposes. The Interconnection Member shall provide certificates evidencing this coverage as required by the Cooperative. Such insurance shall be obtained from an insurance provider authorized to do business in North Carolina.

7.1.1. For an Interconnection Member that is a residential Member of the Cooperative proposing to interconnect a Generating Facility no larger than 25 kW, the required coverage will be a standard homeowner's insurance policy with liability coverage in the amount of at least $100,000 per occurrence.

7.1.2. For an Interconnection Member that is a non-residential Member of the Cooperative proposing to interconnect a Generating Facility no larger than 500 kW, the required coverage will be comprehensive general liability insurance with coverage in the amount of at least $300,000 per occurrence.

7.1.3. For an Interconnection Member that is a non-residential Member of the Cooperative proposing to interconnect a Generating Facility greater than 500 kW, the required coverage will be comprehensive general liability insurance with coverage in the amount of at least $1,000,000 per occurrence.

7.2. Prior to interconnection of the Generator with Cooperative's system, Interconnection Member shall furnish a properly executed certificate of insurance to Cooperative clearly evidencing the required coverage and any exclusions applicable to such coverage. The Cooperative shall be named as an "additional insured" entity on the Interconnection Member's policy. The Interconnection Member shall submit the certificate of insurance annually to the Cooperative (as soon as possible after receipt and on the anniversary thereof in subsequent years) or sooner if there is a change in insurance coverage. The

certificate shall provide that the insurance coverage shall not be canceled or modified unless and until Cooperative receives at least thirty (30) days prior written notice. Interconnection Member shall further replace such certificates for policies expiring during the period its Generator is interconnected with Cooperative's System. Cooperative has the right to refuse to establish or continue the interconnection of Interconnection Member's generation facility to Cooperative's System if such insurance is not in effect.

7.3. Insurance on the premises where the Interconnection Member's Generator is located shall, by endorsement to the policy or policies, provide for thirty (30) days of written notice to Cooperative prior to cancellation, termination, alteration, or material change of such insurance.

8. Miscellaneous:

8.1. Entire Agreement:

This Agreement and the documents attached hereto or incorporated by reference constitute the entire Agreement between the Parties relating to the subject matter hereof, there being no other agreements or understandings, written or oral, other than those contained in this Agreement, referenced herein and attached hereto. This Agreement does not modify, change, or impact any other agreement between the Parties relating to the supply of electric service, or the sale of, or purchase of, electric power.

8.2. Governing Law:

This Agreement shall be governed under laws of the State of North Carolina.

8.3. Amendment:

The Parties may amend this Agreement by a written instrument duly executed by all Parties.

8.4. Further Assurances:

Each Party covenants to take all such actions and to execute all such documents as may be desirable to implement the provisions of this Agreement fully and effectively.

8.5. Interpretation:

This Agreement and any other applicable documents are subject to changes or substitutions, either in whole or in part, as may be necessary to conform to applicable law. Unless specified otherwise, any changes or substitutions shall become effective immediately and shall nullify all prior provisions in conflict

therewith. This Agreement has been fully reviewed and negotiated by the Parties. Accordingly, in interpreting this Agreement, no weight shall be placed upon which Party drafted or controlled the drafting of the provisions being interpreted.

8.6. Headings:

The descriptive headings of the various sections of this Agreement have been inserted for convenience or reference only and are to be afforded no significance in the interpretation or construction of this Agreement.

8.7. Severability:

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

8.8. Counterparts:

This Agreement may be executed in any number of counterparts, each of which shall be regarded as an original and all of which shall constitute but one and the same instrument.

8.9. Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

8.9.1. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Cooperative be liable for the actions or inactions of the Interconnection Member or its subcontractors with respect to obligations of the Interconnection Member under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

8.9.2. The obligations under this article will not be limited in any way by any

limitation of subcontractor's insurance.

8.10. Waiver

8.10.1. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

8.10.2. Any waiver at any time by a Party of its rights with respect to this Agreement shall not be deemed to be a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Member shall not constitute a waiver of Interconnection Member's legal rights to obtain an interconnection from the Cooperative and from the Affected System Operator. Any waiver of this Agreement shall, if requested, be provided in writing.

8.11. Member Certification:

By signing this Agreement below, Interconnection Member hereby certifies that, to the best of Interconnection Member's knowledge, all of the information provided to the Cooperative in connection with electric service, interconnection and/or sale pursuant to this Agreement is true and correct, and that Interconnection Member has received and reviewed this Agreement.

8.12. Acceptance and Signatures:

Upon the acceptance hereof by Cooperative, evidenced by the signature of its authorized representative appearing below, this document shall be an Agreement for the interconnection of Interconnection Member's Generator to Cooperative's system.

8.13. Relationship of the Parties:

Nothing contained in the Agreement shall be construed to create an association, joint venture, partnership, or any other type of business entity between the Cooperative and Interconnection Member, and neither Party shall take any action inconsistent with the obligation or commitments of the other hereunder.

8.14. Notifications to Authority Having Jurisdiction

Nothing contained in the Agreement shall be construed to create an obligation of the Cooperative to provide regulatory reporting or notifications to the authority having jurisdiction concerning the requirements of the Generator.

9. Notices

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified in Appendix B.

10. Interconnection Agreement Checklist

10.1. Interconnection Member shall fill in as many sections and appendices as possible. Interconnection Member MUST complete all parts of this Interconnection Agreement listed below in order for the agreement to be valid and allow the Cooperative to proceed in the interconnection process.

10.1.1. Fill out date on first page

10.1.2. Complete section 1.7.4, 1.8.5

10.1.3. Complete Appendix H, Appendix J

10.1.4. Fill out and sign section 11

10.1.5. Return this document in its entirety to the Cooperative

11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

[Name of Interconnection Member]:

By:_____

_____
[Print Name]

Title: _____

Date: _____

Accepted:

By:_____

_____
[Print Name]

Title: _____

Date: _____

List of Applicable Standards

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

IEEE 1547-2018, Standard for Interconnecting Distributed Resources with Electric Power Systems

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 (2002), National Electrical Code

OSHA 1910.269 (d), Hazardous energy control (lockout/tagout) procedures

OSHA 1910.269 (m), De-energizing lines and equipment for employee protection

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

These references include and incorporate by reference any updates or additions to the listed standards and these standards (or “families” of standards) shall apply to any future applications.

Appendix B

COMMUNICATION PROTOCOL
FOR Surry-Yadkin Electric Membership Corporation

This Communication Protocol is meant to supplement Section 3.3 of the Standard Interconnection Agreement. In the event of a conflict between this Agreement and the Standard Interconnection agreement between the Parties, the Standard Interconnection Agreement shall control.

Guidelines

- The Cooperative shall give the Interconnection Member notice of the possible isolation of Interconnection Member's premises and/or Generator from Cooperative's System for any Planned condition or situation by contacting the Designated Operating Representative or Secondary Contact.
- If the Cooperative or Interconnection Member experiences an Unplanned or Emergency Conditions, the other party will make Reasonable Efforts to accommodate and communicate this unplanned work in a timely manner.

Contact List

Interconnection Member	Cooperative
Designated Operating Representative	
Attention: Click here to enter text. Address: Click here to enter text. City/State/Zip: Click here to enter text. Phone: Click here to enter text. Fax: Click here to enter text.	Attention: Caleb Lowe Address: 510 S. Main St. City/State/Zip: Dobson, NC 27017 Phone: 336-356-8241 Ext. 237 Fax: 336-356-4081
Secondary Contact	
Attention: Click here to enter text. Address: Click here to enter text. City/State/Zip: Click here to enter text. Phone: Click here to enter text. Fax: Click here to enter text.	Attention: Mike Mills Address: 510 S. Main St. City/State/Zip: Dobson, NC 27017 Phone: 336-356-8241 Ext. 242 Fax: 336-356-4081
Billing and Payment	
Attention: Click here to enter text. Address: Click here to enter text. City/State/Zip: Click here to enter text. Phone: Click here to enter text. Fax: Click here to enter text.	Attention: Kim Blackburn Address: 510 S. Main St. City/State/Zip: Dobson, NC 27017 Phone: 336-356-8241 Ext. 277 Fax: 336-356-4081

Glossary of Terms

Affected System - An electric system other than the Cooperative'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 and/or Federal Holidays.

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

Emergency Conditions - "Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Cooperative, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the System, the Cooperative's Interconnection Facilities or any Affected Systems; or (3) that, in the case of the Interconnection Member, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generator or the Interconnection Member's Interconnection Facilities.

Force Majeure - event is any event: (a) that is beyond the reasonable control of the affected party; and (b) that the affected party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent that they satisfy the preceding requirements: acts of war, terrorism, riot, public disorder, rebellion or insurrection; floods, hurricanes, earthquakes, lightning, storms or other natural calamities; explosions or fires; strikes, work stoppages or labor disputes; embargoes; and sabotage.

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 Member, the Cooperative, or any Affiliate thereof.

Interconnection Facilities – Interconnection Facilities include all facilities and equipment between the Generator and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Cooperative's System. Interconnection Facilities are sole use facilities and shall not include Upgrades. Unless limited to Cooperative's Interconnection Facilities, the term refers to all facilities and equipment owned by the Interconnection Member and the Cooperative.

Material Modification – A modification that has a material impact on the cost or timing of any Interconnection Request, or any other valid interconnection request to the Cooperative with a later queue priority date.

Nameplate Capacity – The term "Nameplate Capacity" will mean the manufacturer's nameplate rated output capability of the generator. For multi-unit generator facilities, the "Nameplate Capacity" of the facility will be the sum of the individual manufacturer's nameplate rated output capabilities of the generators.

Net Capacity – The term "Net Capacity" will mean the Nameplate Capacity of the Member's generating facilities, less the portion of that capacity needed to serve the Generating Facility's Auxiliary Load.

Operating Requirements – Any operating and technical requirements that may be applicable due to Regional Reliability Organization, Independent System Operator, control area, or the Cooperative's requirements, including those set forth in the Interconnection Agreement.

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

Planned - An event that does not fall under an Unplanned or Emergency situation or condition.

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.

Unplanned - A condition or situation that, while not an Emergency and not an immediate threat to service, property or safety, is nonetheless unplanned, unscheduled and prompt attention is either necessary or desired.

Upgrades – The additions, modifications, and upgrades to the Cooperative's System at or beyond the Point of Interconnection to facilitate interconnection of the Generator and render the service necessary to effect the Interconnection Member's wholesale sale of electricity. Upgrades do not include Interconnection Facilities.

Appendix D

Description and Estimated Costs of Interconnection Facilities and Metering Equipment

One-line Diagram Depicting the Generator, Interconnection Facilities, Metering Equipment, and Upgrades

Additional Operating Requirements for the Cooperative's System and Affected Systems Needed to Support the Interconnection Member's Needs

1. Interoperability

   As defined by IEEE 1547, and the applicable performance category[1], the full range of the DER reactive power capability shall be available for use by the host Distribution Cooperative for the purpose of mitigating impacts of DER on the distribution system. For equipment that complies with IEEE 1547-2018, the full range of real and reactive power capabilities shall be available for implementation to resolve DER grid impacts after the initial installation, even if functions are not initially implemented. The host Distribution Cooperative shall notify when a change in reactive power control modes is required to address operating needs.

   The site shall be configured to provide read and write access to all parameters in the nameplate information, configuration information, monitoring information, and management information, as defined by IEEE 1547 Section 4.6 – Control and capability requirements, including the capability to disable permit to service; capability to limit active power; and execution of mode and parameter changes. Where multiple inverters are used, the system shall be capable of reporting these parameters for each device.

2. Nameplate and Configuration Information

   Nameplate Information (read capability) and Configuration Information (read/write capability) from the Device Controller.

   The information in IEEE 1547-2018 Table 28 shall be available and configured based on the system design. The setpoints shall be available to change the parameter based on as-built conditions.

   Each rating in the Nameplate Information section may have an associated configuration setting that represents the as-configured value. If a configuration setting value is different from the corresponding nameplate value, the configuration setting value shall be used as the rating within the DER. Configuration settings are intended to be used as a configuration option as nameplate alternatives. Configuration settings are not intended for continuous dynamic adjustment.

[1] *Categories A and B have different reactive power capability requirements, both require a percentage of the apparent power Nameplate Rating to be available from reactive power. Category B is capable of reactive power injection of 44% and absorption of 25% of nameplate apparent power when active power output exceeds 20% of DER Nameplate Rating. Both categories reactive power requirements contain a gradient between 5% and 20% active power output levels. See section 5.2 of IEEE 1547 for additional details.*

The Installed Nameplate Rating shall be documented on the as-built drawings and listed in this interconnection agreement.

3. Monitoring Information (read capability)

Within the Monitoring Information section, the information reported shall be the latest value that has been measured within the required response time for each of the Device Controllers. All table and figure numbers refer to IEEE 1547-2018.

Table 1 — Monitoring information (IEEE 1547-2018 Section 10.5**)**

Parameter	Description
Active Power	Active power in watts
Reactive Power	Reactive power in vars
Voltage	Voltage(s) in volts. (One parameter for single-phase systems and three parameters for three-phase systems)
Frequency	Frequency in Hertz
Operational State	Operational state of the DER. The operational state should represent the current state of the DER. The minimum supported states are on and off but additional states may also be supported
Connection Status	Power-connected status of the DER
Alarm Status	Active alarm status
Operational State of Charge	0% to 100% of operational energy storage capacity

4. Management Information (read/write capability)

The following settings reflect capability requirements by NCEMC and shall be used unless limited by the host Distribution Cooperative and documented in the associated interconnection agreement. The Site Controller shall have a way to modify these settings from a remote location.

The power factor mode of operation should be set so that it meets the requirements set in Section 1.8.5 of the interconnection agreement.

Table 2 — Constant power factor mode parameters (IEEE 1547-2018 Section 10.6**)**

Parameter	Description	Default	Range
Constant Power Factor Mode Enable	Enable constant power factor mode	On	On/Off
Constant Power Factor	Constant power factor setting	1	0−1
Constant Power Factor Excitation	Constant power factor excitation setting	Over-excited	Over-excited or under-excited

Table 3 — Voltage-reactive (Volt-Var) power mode parameters (IEEE 1547-2018 Section 10.6 and Table 8 Section 5**)**

Parameter	Description	Default	Range
Voltage-Reactive Power Mode enable	Enable voltage-reactive power mode	Off	On/Off
*V*Ref	Reference voltage	1	0.95–1.05 p.u. *V* nominal
Autonomous *V*Ref adjustment enable	Enable/disable autonomous *V*Ref adjustment	On	On/Off
*V*Ref adjustment time constant	Adjustment range for *V*Ref time constant	300 s	300 s to 5000 s
V/*Q* Curve Points	Voltage-reactive power curve points		See IEEE 1547-2018 Table 8 for ranges
IEEE 1547-2018 Table 8			
V2	*V*/*Q* Curve Points	$V_{Ref} - 0.02\ V_N$	
Q2	*V*/*Q* Curve Points	0	
V3	*V*/*Q* Curve Points	$V_{Ref} + 0.02\ V_N$	

Q3	*V*/*Q* Curve Points	0	
V1	*V*/*Q* Curve Points	$V_{Ref} - 0.08\ V_N$	
Q1	*V*/*Q* Curve Points	44% of nameplate apparent power rating, injection	
V4	*V*/*Q* Curve Points	$V_{Ref} + 0.08\ V_N$	
Q4	*V*/*Q* Curve Points	44% of nameplate apparent power rating, absorption	
Open Loop Response Time	Time to ramp up to 90% of the new reactive power target in response to the change in voltage	5 s	1 s to 90 s

Figure 1 — Voltage-reactive (Volt-Var) power mode parameters

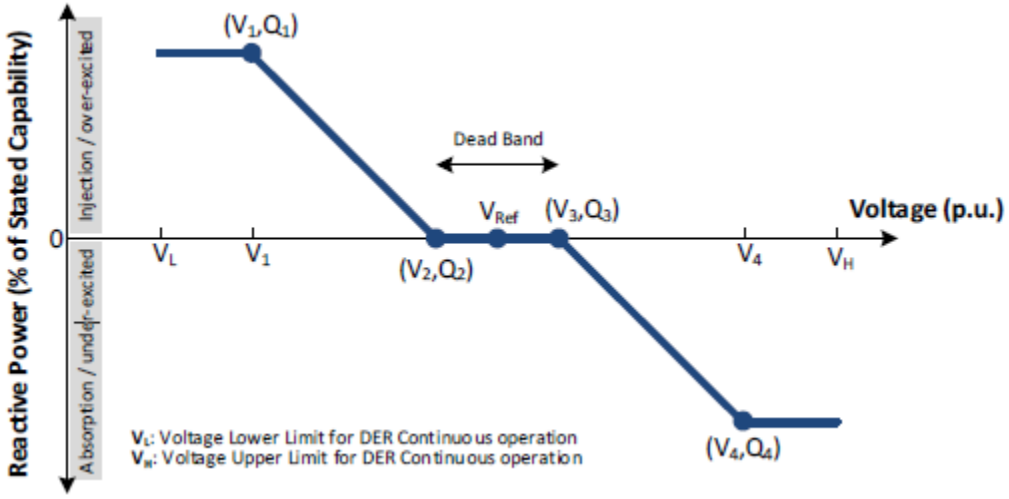

Table 4 — Active power-reactive power mode parameters (IEEE 1547-2018 Section 10**)**

Parameter		Default	Range
Active Power-Reactive Power Mode Enable	Enable active power-reactive power mode	Off	On/Off
P/Q Curve Points	Active power-reactive power curve points	N/A	See IEEE 1547-2018 Table 9 for ranges

Table 5 — Constant reactive power mode parameters (IEEE 1547-2018 Section 10**)**

Parameter	Description	Default	Range
Constant Reactive Power Mode Enable	Enable constant reactive power mode.	Off	On/Off
Constant Reactive Power	Constant reactive power setting.	N/A	See IEEE 1547-2018 Table 7 for reactive power settings for Category B DER

Table 6 — Voltage-active power mode parameters (IEEE 1547-2018 Section 10**)**

Parameter	Description	Default	Range
Voltage-Active Power Mode Enable	Enable voltage-active power mode.	Off	On/Off
V/P Curve Points	Voltage-active power curve points.	N/A	See IEEE 1547-2018 Table 10
Open Loop Response Time	Time to ramp up to 90% of the new active power target in response to the change in voltage.	N/A	0.5–60 s

Table 7 — Voltage trip parameters – Category II (IEEE 1547-2018 Section 6**)**

Shall trip function	Pickup Voltage	Default Time
OV2	1.20 p.u.	0.16 s
OV1	1.10 p.u.	1.0 s
UV1	0.88 p.u.	2.0 s
UV2	0.45 p.u.	0.16 s

Table 8 — Voltage Ride Through – Category II (IEEE 1547-2018 Section 6**)**

Voltage range (p.u.)	Operating mode/response	Minimum response time (s) (design criteria)
$V > 1.20$	Cease to Energize	N/A
$1.175 < V \leq 1.20$	Permissive Operation	0.2
$1.15 < V \leq 1.175$	Permissive Operation	0.5
$1.10 < V \leq 1.15$	Permissive Operation	1
$0.88 \leq V \leq 1.10$	Continuous Operation	**Infinite**
$0.65 \leq V < 0.88$	Mandatory Operation	Linear slope of 8.7 s/1 p.u. voltage starting at 3 s @ 0.65 p.u.: TVRT = 3 s + 8.7 s/1 p.u. (V – 0.65 p.u)
$0.45 \leq V < 0.65$	Permissive Operation	0.32
$0.30 \leq V < 0.45$	Permissive Operation	0.16
$V < 0.30$	Cease to Energize	N/A

Table 9 — Frequency parameters (IEEE 1547-2018 Section 6**)**

Condition		
Frequency Trip	**Pickup**	**Default Time**
OF2	62.0 Hz	0.16 s
OF1	61.2 Hz	300.0 s
UF1	58.5 Hz	300.0 s
UF2	56.5 Hz	0.16 s

Table 10 — Frequency Ride Through (IEEE 1547-2018 Section 6**)**

Frequency range (p.u.)	**Operating mode/response**	**Minimum response time(s) (design criteria)**
$f > 62.0$	No ride-through requirements apply to this range	
$61.2 < f \leq 61.8$	Mandatory Operation	299
$58.8 \leq f \leq 61.2$	Infinite	Infinite
$57.0 \leq f < 58.8$	Mandatory Operation	299
$f < 57.0$	No ride-through requirements apply to this range	

Table 11 — Enter service after trip parameters (IEEE 1547-2018 Section 10**)**

Parameter	**Description**		**Range**
Permit service	Able to enter or stay in service	Enabled	Enabled/Disabled
ES Voltage High	Enter service voltage high	≥ 0.917 p.u.	0.88 p.u. to 0.95 p.u.
ES Voltage Low	Enter service voltage low	≤ 1.05 p.u.	1.05 p.u. to 1.06 p.u.
ES Frequency High	Enter service frequency high	≥ 59.5 Hz	59.0 Hz to 59.9 Hz

ES Frequency Low	Enter service frequency low	≤ 60.1 Hz	60.1 Hz to 61.0 Hz
ES Delay	Enter service delay	300 s	0–600 s
ES Randomized Delay	Enter service randomized delay	1 s[1]	1–1000 s
ES Ramp Rate	Enter service ramp rate	600 s[2]	1–1000 s

Where a stepwise ramp is used, the rate of change over the period between any two consecutive steps shall not exceed the average rate-of-change over the full enter service period.

Notes:

First site on a feeder can be set to 1 sec, second site set to 60 seconds, third site set to 120 seconds, etc.

The maximum active power increase of any single step during the enter service period shall be less than or equal to 20%

Table 12 — Limit maximum active power parameters (IEEE 1547-2018**)**

Parameter	Description	Default	Range
Limit Active Power Enable	Enable mode	Off	On/Off
Maximum Active Power	Maximum active power setting	N/A	See IEEE 1547-2018 4.6.2

5. Q at Night Mode

Where available from the inverter and as requested by the host Distribution Cooperative, the inverters shall switch into the applicable mode. The Site Controller shall have the setpoints mapped to allow for this process.

Cooperative's Description of its Upgrades and Best Estimate of Upgrade Costs

Appendix H

Milestones

Upgrade In-Service Date: _____
Interconnection Facilities In-Service Date _____

Critical milestones and responsibility as agreed to by the Parties:

The build-out schedule does not include contingencies for deployment of Utility personnel to assist in outage restoration efforts on the Utility's system or the systems of other utilities with whom the Utility has a mutual assistance agreement. Consequently, the In-service date may be delayed to the extent outage restoration work interrupts the design, procurement, and construction of the requested facilities.

	Milestone	Completion Date	Responsible Party
1)			
2)			
3)			
4)			
5)			
6)			
7)			

Agreed to by:

For the Utility _____ Date _____
Print Name: _____

For the Interconnection Member _____ Date _____
Print Name: _____

Affected System Operator Upgrades and Costs

Interconnection Member Information

Legal Name of the Interconnection Member (or, if an individual, individual's name)

Name: _____

Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Facility Location (if different from above): _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Alternative Contact Information (if different from the Interconnection Member)

Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Application is for: ❑ New Generating Facility

❑ Capacity Addition to Existing Generating Facility

❑ Transfer of Ownership of Existing Generating Facility

If capacity addition to existing Generating Facility, please describe:

_____

_____

_____

Will the Generating Facility be used for any of the following?

To Supply Power to the Interconnection Member? ❑ Yes ❑ No

To Supply Power to the Cooperative? ❑ Yes ❑ No

For installations at locations with existing electric service to which the proposed Generating Facility will interconnect, provide:

(Existing Account Number*) Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Requested Point of Interconnection: _____

Interconnection Member's Requested In-Service Date: _____

Generating Facility Information

Data apply only to the Generating Facility, not the Interconnection Facilities.

Energy Source: ❑ Solar ❑ Wind ❑ Diesel ❑ Natural Gas ❑ Fuel Oil

❑ Hydro (Type e.g. Run-of-River) _____

❑ Other (state type) _____

Prime Mover: ❑ Fuel Cell ❑ Reciprocating Engine ❑ Gas Turbine

❑ Steam Turbine ❑ Micro turbine ❑ PV ❑ Other

Type of Generator: ❑ Synchronous ❑ Induction ❑ Inverter

Generator Nameplate Rating: _____kW (Typical) Generator Nameplate: ____kVAR

Interconnection Member or Member-Site Load: _____kW (if none, so state)

Typical Reactive Load (if known): _____

Maximum Physical Export Capability Requested: _____kW

Will the Generating Facility also have installed storage? Yes _____ No_____

List components of the Generating Facility equipment package that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Is the prime mover compatible with the certified protective relay package? ❑Yes ❑No

Generator (or solar collector)

Manufacturer, Model Name, & Number: _____

Version Number: _____

Nameplate Output Power Rating in kW: _____(Summer) _____(Winter)

Nameplate Output Power Rating in kVA: _____(Summer) _____(Winter)

Individual Generator Power Factor

Rated Power Factor: Leading: _____ Lagging: _____

Total Number of Generators in wind farm to be interconnected pursuant to this

Interconnection Request: _____Elevation: _____

Single phase _____ Three phase ____

Inverter Manufacturer, Model Name, & Number (if used): _____

List of adjustable set points for the protective equipment or software: _____

Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.

Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: _____ Instantaneous ___ or RMS? __

Harmonics Characteristics: _____

Start-up requirements: _____

Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: _____

(*) Neutral Grounding Resistor (if applicable): _____

Synchronous Generators:

Direct Axis Synchronous Reactance, Xd: _____P.U.

Direct Axis Transient Reactance, X'd: _____P.U.

Direct Axis Subtransient Reactance, X"d: _____P.U.

Negative Sequence Reactance, X2: _____P.U.

Zero Sequence Reactance, X0: _____P.U.

KVA Base: _____

Field Volts: _____

Field Amperes: _____

Induction Generators: Motoring Power (kW): _____

$I_2^2 t$ or K (Heating Time Constant): _____

Rotor Resistance, Rr: _____

Stator Resistance, Rs: _____

Stator Reactance, Xs: _____

Rotor Reactance, Xr: _____

Magnetizing Reactance, Xm: _____

Short Circuit Reactance, Xd'': _____

Exciting Current: _____

Temperature Rise: _____

Frame Size: _____

Design Letter: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Total Rotating Inertia, H: _____ Per Unit on kVA Base

Note: Please contact the Cooperative prior to submitting the Interconnection Request to determine if the specified information above is required.

Excitation and Governor System Data for Synchronous Generators Only

Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

Interconnection Facilities Information

Will a transformer be used between the generator and the point of common coupling? Yes ❑ No ❑

Will the transformer be provided by the Interconnection Member? Yes ❑ No ❑

Transformer Data (if applicable, for Interconnection Member-owned transformer):

Is the transformer: ❑ Single phase ❑

Three phase Size: _____kVA

Transformer Impedance: _____% on kVA Base

If Three Phase: Transformer Primary: _____Volts

___Delta ___Wye _____Wye Grounded

Transformer Secondary: _____Volts

___Delta ___Wye _____Wye Grounded

Transformer Tertiary: Volts Delta _____Volts

___Delta ___Wye _____Wye Grounded

Transformer Fuse Data (if applicable, for Interconnection Member-owned fuse):

Attach copy of fuse manufacturer's Minimum Melt and Total Clearing Time-Current Curves

Manufacturer: _____ Type: _____ Size: _____

Speed: _____ Interconnecting Circuit Breaker (if applicable): _____

Manufacturer: Type: Load Rating (Amps): _____

Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

Interconnection Protective Relays (if applicable):

If Microprocessor-Controlled:

List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

If Discrete Components:

(Enclose Copy of any Proposed Time-Overcurrent Coordination Curves)

Manufacturer: _____ Type: _____

Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____

Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____

Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____

Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____

Style/Catalog No.: _____ Proposed Setting: _____

Current Transformer Data (if applicable):

(Enclose Copy of Manufacturer's Excitation and Ratio Correction Curves)

Manufacturer: _____ Type: _____

Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____

Accuracy Class: _____ Proposed Ratio Connection: _____

Potential Transformer Data (if applicable):

Manufacturer: Type: _____ Accuracy Class: _____

Proposed Ratio Connection: _____

Manufacturer: Type: _____ Accuracy Class: _____

Proposed Ratio Connection: _____