

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-100, SUB 101

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)	
Petition for Approval of Generator)	ORDER APPROVING
Interconnection Standard)	REVISED INTERCONNECTION
)	STANDARD

BY THE COMMISSION: Session Law 2007-397 (Senate Bill 3) was signed into law on August 20, 2007. In this comprehensive energy legislation, the General Assembly, among other things, directed the Commission to “[e]stablish standards for interconnection of renewable energy facilities and other nonutility-owned generation with a generation capacity of 10 megawatts or less to an electric public utility’s distribution system; provided, however, that the Commission shall adopt, if appropriate, federal interconnection standards.” G.S. 62-133.8(i)(4).

On September 19, 2007, the Commission issued an Order stating that it agreed with the General Assembly’s apparent intent that it is imperative to further simplify and streamline interconnection for small renewable generators to the greatest extent possible and recognizing that the utilities are currently subject to both a small generator interconnection standard adopted by the Commission and a small generator interconnection standard adopted by the Federal Energy Regulatory Commission (FERC). The Commission requested comments on the perceived differences between the current North Carolina interconnection standard and the federal standard for generators of 100 kW or less, whether the Commission should adopt the federal small generator interconnection standard for use in North Carolina, and, if so, with what modifications, if any.

The Commission received initial comments from six parties: Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc. (PEC); Duke Energy Carolinas, LLC (Duke); Virginia Electric and Power Company, d/b/a Dominion North Carolina Power (Dominion); Interstate Renewable Energy Council (IREC); North Carolina Sustainable Energy Association (NCSEA); and the Public Staff.

On November 20, 2007, the Commission issued an Order requesting reply comments by December 3, 2007, responding to the parties’ initial comments and addressing the following specific issues:

- Have there been any technical advances since the Commission’s March 22, 2005 Order in this docket that would justify a change in the standard relative to the requirement that generators provide an external disconnect switch?

- For the utilities, do your organization's line/field crews have available to them distribution system schematics that indicate the location of customer-owned generation and external disconnect switches? If yes, please provide a sample of such a schematic. If no, please explain why, and whether your organization has efforts underway or planned to provide this information to field personnel.
- If the Commission were to adopt the federal small generator interconnection standard, would you recommend that it adopt the standard for both residential and non-residential customers?
- Are there any other issues relative to North Carolina adopting the federal interconnection standard that should be considered by the Commission?

PEC, Duke, Dominion, the NCSEA and the Public Staff filed timely reply comments. IREC filed reply comments on December 4, 2007, and supplemental comments on December 12, 2007. The City of Durham submitted a letter on December 14, 2007. The NCSEA filed supplemental comments on February 1, 2008.

Background

On June 4, 2004, PEC, Duke and Dominion jointly filed in this docket a proposed model small generator interconnection standard, application, and agreement to be applicable in North Carolina. Although consensus was not reached with regard to all issues, the proposed standard represented the result of a collaborative effort by representatives of the utilities, the NCSEA, and the North Carolina Solar Center. The model interconnection standard was proposed to apply to parallel interconnection of single-phase small generation systems rated at 20 kW or less for residential customers and 100 kW or less for non-residential customers. The proposal was intended to streamline the interconnection process and standardize the interconnection criteria for safety and reliability. By Orders dated March 22, 2005, and July 6, 2005, the Commission addressed the remaining issues in dispute and approved a small generator interconnection standard for North Carolina (NC Standard).

Having previously adopted an interconnection standard for larger generators,¹ on May 12, 2005, the FERC issued Order No. 2006 adopting a federal small generator interconnection standard for generators up to 20 MW (FERC Standard).² The final rule

¹ Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 68 FR 49845 (Aug. 19, 2003), FERC Stats. & Regs. ¶ 31,146 (2003) (Order No. 2003), order on reh'g, Order No. 2003-A, 69 FR 15932 (Mar. 26, 2004), FERC Stats. & Regs. ¶ 31,160 (2004) (Order No. 2003-A), order on reh'g, Order No. 2003-B, 70 FR 265 (Jan. 4, 2005), FERC Stats. & Regs. ¶ 31,171 (2005) (Order No. 2003-B), order on reh'g, Order No. 2003-C, 70 FR 37661 (Jun. 16, 2005), FERC Stats. & Regs. ¶ 31,190 (2005) (Order No. 2003-C), aff'd sub nom. National Ass'n of Regulatory Util. Comm'rs v. FERC, 475 F.3d 1277 (D.C. Cir. 2007), cert. denied, 76 U.S.L.W. 3454 (Feb. 25, 2008).

² Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006, FERC Stats. & Regs. ¶ 31,180, order on reh'g, Order No. 2006-A, FERC Stats. & Regs. ¶ 31,196 (2005), order on reh'g, Order No. 2006-B, FERC Stats. & Regs. ¶ 31,221 (2006).

required utilities to amend their open access transmission tariffs (OATT) to include Small Generator Interconnection Procedures (SGIP) and a Small Generator Interconnection Agreement (SGIA). The SGIP contains the technical procedures a small generator and a utility must follow once the small generator requests interconnection. In addition to the default study process, which may be used by any small generator, the FERC Standard provides two procedures that use technical screens to evaluate proposed interconnections: (1) the “Fast Track Process” for interconnecting certified generators no larger than 2 MW, and (2) the “10 kW Inverter Process” for interconnecting certified inverter-based generators no larger than 10 kW.

Order No. 2006 further states that, to a large extent, the final rule harmonizes state and federal practices by adopting many of the best practices for interconnection rules recommended by the National Association of Regulatory Utility Commissioners (NARUC). Finally, the Order states that the rule only applies to interconnections with facilities that are already subject to the utility OATT at the time the interconnection request is made, including distribution facilities subject to an OATT for the purpose of making wholesale sales. The FERC noted that the majority of small generators interconnect with facilities that are not subject to an OATT and, therefore, the final rule will not apply to most small generator interconnections.

After careful consideration of all of the comments filed in this docket, the Commission finds good cause to adopt the revised generator interconnection standard attached as Appendix A to this Order. The positions of the parties and the Commission’s conclusions with respect to the most significant issues raised in the comments are set forth below. Proposals not specifically discussed below have been considered and decided as reflected in the attached revised NC Standard.

ISSUE 1. Request for Stakeholder Process

Duke requested that the Commission “delay ordering adoption of the FERC interconnection standards to allow the parties time to further discuss interconnection issues with the goal of creating better understanding of existing processes and proposed changes that can benefit all parties.” Duke believes the existing interconnection practices are not well understood, noting that “[s]ome of the parties’ comments seem to incorrectly suggest that only projects of 100 kW or less in size can be interconnected.” Duke stated that it expects that “adopting a more complicated, administratively burdensome, costly interconnection procedure, such as adopting the FERC standards for state jurisdictional projects would only create further dissatisfaction among interconnecting generators.”

IREC recommended that the Commission establish “a working group with a limited scope and timeframe” that would propose additional modifications to the FERC Standard:

Based on the experience in other states, it would be constructive to have such a working group meet six times over three months and report to the

Commission its consensus modifications and points on which the participants failed to reach consensus. In particular, IREC recommends the working group address network connections, whether certain FERC screens can be dropped, and how the standard agreements can be simplified to accommodate smaller system installations.

The NCSEA stated that, if the Commission does not adopt the FERC Standard, it should “initiate a stakeholder process of several meetings over three months to reach agreement on interconnection standards that will enable North Carolina to reach the goals mandated in the REPS [Renewable Energy and Energy Efficiency Portfolio Standard] legislation.”

Dominion noted that, during the previously undertaken collaborative effort,

certain agreements and compromises were reached as part of the give-and-take discussions and negotiations which culminated in the North Carolina Standard and associated application agreement which have been approved by this Commission. Additionally, as discussed in Duke’s Initial Comments, based on experience in interconnecting customer generation projects, the existing interconnection processes used in North Carolina already provide simple and streamlined processes for interconnection. Accordingly, the Company strongly disagrees that any additional stakeholder meetings are necessary.

Given that all of the State’s utilities have issued requests for proposals to secure energy derived from renewable energy resources and that the offers submitted in response to those requests for proposals are expected to quickly evolve into contract negotiations, the Commission finds that there is a need to create certainty sooner, rather than later, regarding how interconnections will be handled. The Commission, therefore, concludes that it is appropriate to issue an Order at this time based on the current record established in this docket. Parties may petition the Commission, if necessary, to consider additional modifications after gaining experience with the revised NC Standard.

ISSUE 2. Applicability of the North Carolina Standard

Senate Bill 3 requires the Commission to establish interconnection standards for facilities with a generation capacity of 10 MW or less to the electric public utility’s distribution system. In its comments, however, the Public Staff stated that any interconnection standard established by the Commission should not be limited to interconnections to a utility’s distribution system. The Public Staff noted that the Commission has jurisdiction over the interconnection of qualifying facilities (QFs) under the Public Utility Regulatory Policies Act of 1978 (PURPA)³ when the QFs are selling all

³ Pub. L. No. 95-617, 92 Stat. 3117 (1978). A “qualifying facility” (QF) under PURPA may be either a “qualifying small power production facility” or a “qualifying cogeneration facility,” as defined in 16 U.S.C. 796(17)-(18). A “qualifying small power production facility” generally includes any facility up to

of their output to the directly interconnected utility. Thus, the standard adopted by the Commission “should apply to all state-jurisdictional interconnections by generators 10 MW and below,” whether interconnected to the utility’s distribution or transmission system.

PEC and Dominion noted that the FERC’s final rule applies only to interconnections with facilities already subject to the FERC’s jurisdiction. If the generator interconnects to local distribution facilities but engages in FERC-jurisdictional power sales, the interconnection is subject to the FERC Standard. The utilities further noted that they “are assuming that the interconnection standards under consideration in this docket are for the purpose of a customer generator operating in parallel for purposes of energy export.”

All parties agreed that the NC Standard should apply to both residential and non-residential customers.

In general, the FERC Standard applies to any interconnection in which the generator intends “to sell energy at wholesale in interstate commerce” and to any new request for interconnection to a utility’s transmission system.⁴ In response to comments, however, the FERC clarified, as noted by the Public Staff, that states retain jurisdiction over the interconnection of a QF to a utility’s transmission system when the QF is selling all of its output to the directly interconnected utility:

When an electric utility is obligated to interconnect [with a QF], that is, when it purchases the QF’s total output, the relevant state authority exercises authority over the interconnection and the allocation of interconnection costs. But when an electric utility interconnecting with a QF does not purchase all of the QF’s output and instead transmits the QF power in interstate commerce, the [FERC] exercises jurisdiction over the rates, terms, and conditions affecting or related to such service, such as interconnections. Thus, the [FERC] has jurisdiction over a QF’s interconnection to a Transmission System if the QF’s owner sells any of the QF’s output to an entity other than the electric utility directly interconnected to the QF. ... [S]tates will continue to exercise authority over QF interconnections when the owner of the QF sells the output of the QF only to an interconnected utility or to on-site customers.⁵

The FERC stated that the same general rule applies with regard to interconnections with lower-voltage facilities:

80 MW that “produces electric energy solely by the use, as a primary energy source, of biomass, waste, renewable resources, geothermal resources, or any combination thereof.”

⁴ Order No. 2003, at ¶ 4.

⁵ *Id.* at ¶¶ 813-14 (footnotes omitted).

[T]he Final Rule applies to a request to interconnect to a public utility's facilities used for transmission in interstate commerce. It also applies to a request to interconnect to a public utility's "distribution" facilities used to transmit electric energy in interstate commerce on behalf of a wholesale purchaser pursuant to a [FERC]-filed OATT. But where the "distribution" facilities have a dual use, i.e., the facilities are used for both wholesale sales and retail sales, the Final Rule applies to interconnections to these facilities only for the purpose of making sales of electric energy for resale in interstate commerce.⁶

The FERC clarified its jurisdiction over such lower-voltage facilities used both for distribution of energy to retail customers and transmission of energy in interstate commerce, or "dual-use" facilities, in Order No. 2003-A, stating that

because [FERC] has the authority to regulate all aspects of wholesale transactions in interstate commerce, it will exercise jurisdiction over interconnections to a "distribution" facility when the facility is included in a public utility's [FERC]-filed OATT and the interconnection is for the purpose of facilitating a jurisdictional wholesale sale of electric energy. If the Interconnection Customer seeks interconnection to a "distribution" facility that is already subject to the OATT, but does not intend to engage in a [FERC]-jurisdictional wholesale sale, then the [FERC] will not assert jurisdiction over the interconnection to the "distribution" facility.⁷

To accommodate interconnections of both large and small generating facilities and to avoid a potential gap in federal and state jurisdiction, the Commission concludes that the revised NC Standard should apply to all state-jurisdictional interconnections, regardless of the size of the generator or the voltage level of the interconnection. In addition, the NC Standard will apply to all state-jurisdictional interconnections for parallel operation, whether the customer-generator is selling power or simply using the energy produced to offset its own consumption.

ISSUE 3. Adoption of the FERC Standard

The Public Staff recommended that the Commission adopt the FERC Standard as the revised NC Standard with the following modifications: (1) delete all references to the FERC, open access transmission tariffs, the FERC's dispute resolution process, and other similar items; (2) supplement the FERC Standard by adding the sections in the current NC Standard restricting the transfer of the interconnection agreement, requiring an external disconnect switch, limiting liability, providing indemnification, and maintaining insurance; and (3) use the North Carolina application and agreement, rather than the FERC application and agreement, for generators larger than 10 kW and no greater than 2 MW. The Public Staff's filing included a modified version of the FERC

⁶ Id. at ¶ 804 (footnotes omitted, emphasis in original).

⁷ Order No. 2003-A, at ¶ 703 (footnotes omitted).

Standard that it recommended be adopted as the revised NC Standard. The Public Staff also advocated that the Commission's Order in this docket state that the revised NC Standard will not be considered to be modified or updated in accordance with subsequent FERC action unless those changes are specifically approved by the Commission.

PEC and Dominion recommended that the Commission adopt the FERC Standard and strongly opposed any attempt to modify it. They stated that any modifications would exacerbate, rather than eliminate, duplication and customer confusion. In its reply comments, however, Dominion recognized that certain changes would be required to the FERC Standard: "Although the Company would prefer to adopt the Federal Standard without modification to accommodate the current North Carolina Standard, it realizes that certain modifications are indeed necessary."

Duke stated that the existing interconnection process used in North Carolina provides simple and streamlined processes when compared to the FERC processes. Duke stated that it has no objection to other utilities choosing to adopt the FERC process for all of their interconnection requests, but fails to see the benefit of adopting this standard for customer-generators that apply to interconnect to Duke's system. Duke asserted that it was skeptical about whether adoption of the FERC Standard would reduce costs to customers or further simplify the interconnection process. In its reply comments, Duke stated that it does not support adopting the FERC Standard for state-jurisdictional interconnections. It stated that the existing North Carolina procedures are less administratively burdensome and less costly to both the utility and the customer-generator than adopting the FERC Standard for non-FERC jurisdictional projects. Duke also noted that

small-scale projects up to 100 kW in size are currently permitted to interconnect to the Company's distribution system under the streamlined NC Interconnection Standard, and Duke ... is supportive of discussions to expand the NC Interconnection Standard to include larger projects and to include three-phase customer generators that are now able to meet the anti-islanding requirements of IEEE 1547 and UL 1741. The comparable FERC SGIP process is only available for projects up to 10 kW in size.

IREC and the NCSEA recommended that the Commission adopt the FERC Standard, but incorporate the following five best practices: (1) specifying shorter timelines and lower fees for small certified systems; (2) eliminating the requirement for external disconnect switches; (3) specifying the fees for additional engineering studies; (4) retaining the insurance levels in the current NC Standard; and (5) establishing a quick, efficient, low-cost dispute resolution procedure.

Of the six parties filing comments in this docket, all but Duke recommended that the Commission adopt the FERC Standard, albeit with differences of opinion as to whether and what modifications would be appropriate. While it might first appear to be a simple matter to "just adopt the FERC Standard" in order to avoid confusion for

generators, the FERC continues to adjust its standard in response to experience, changing market conditions, and complaints about slow processing of interconnection requests.⁸ Even if the Commission were to agree to every future revision to the FERC Standard, it would not be possible to maintain a standard that completely conforms to federal procedures because the FERC allows each transmission provider to adopt variations.

The Commission concludes that the Public Staff's proposal provides the most workable means to achieve some amount of consistency with the FERC Standard while retaining and adopting policies that have served North Carolina well. The Commission, therefore, will use the FERC Standard as the starting point for state-jurisdictional interconnections and will make modifications and minor organizational changes, as necessary, to retain and improve upon the policy decisions made in North Carolina over the last few years. The remaining sections of this Order address proposals by the parties for such modifications.

The Commission further makes clear, as recommended by the Public Staff, that subsequent modifications to the FERC Standard will not automatically modify the NC Standard unless and until any such changes are specifically approved by the Commission.

ISSUE 4. Fee Structure

The NCSEA advocated retention of North Carolina's current fee structure: \$100 for systems up to 20 kW and \$250 for systems from 20 kW up to 100 kW. It advocated lower application fees for distributed generators 10 kW and under that use certified equipment. It did not specify the fee that would be appropriate for such generators, but simply cited to a report, "Freeing the Grid," which suggests that FERC's fee structure is "reasonable."

IREC stated that it understands that the fees in the NC Standard were the product of negotiation and reflect amounts that have been agreed to as appropriate. IREC believes these fees are fair and reasonable and should be retained.

The Public Staff did not oppose lower fees for applications of certified systems of 10 kW and smaller.

Dominion supported the retention of the existing North Carolina application fees. Although it believes the existing fees under-collect the Company's expenses, Dominion recognizes that the socialization of the costs associated with small generator interconnections would be in the public interest.

⁸ For example, on November 2, 2007, the FERC opened Docket No. AD08-2-000 for the purpose of hosting a technical conference and inviting comments about interconnection queuing practices and how to best address problems resulting from existing queuing rules. On March 20, 2008, the FERC issued an order in which it required Regional Transmission Organizations to file reports regarding actions they are taking to improve their queue management.

While several parties advocated the adoption of the FERC Standard with as few modifications as possible, no party specifically advocated adoption of the FERC's fee structure. The application fee structure adopted in North Carolina was the result of collaborative negotiation. The Commission found these fees to be reasonable when it reviewed the issue in 2005. The Commission, therefore, finds it appropriate to retain North Carolina's existing fee structure for generators 100 kW or smaller and to adopt the FERC fee structure for generators larger than 100 kW. The following fee structure results:

- \$100 for generators up to 20 kW;
- \$250 for generators larger than 20 kW up to 100 kW;
- \$500 for generators larger than 100 kW up to 2 MW; and
- for generators larger than 2 MW (and smaller generators that fail the "Fast Track Process" screens), a deposit of up to \$1,000 (or 50% of a good faith estimate) towards a feasibility study. The generator pays the actual costs of that study and any subsequent studies that might be required.

ISSUE 5. Fees for Engineering Studies

The NCSEA stated that, when a proposed project does not fit into the interconnection standard's screens, the cost of additional engineering studies should be spelled out in the interconnection standard rather than recovered through a charge determined by the utilities on a case-by-case basis. The NCSEA did not propose a specific fee structure for engineering studies.

The Public Staff stated that it does not oppose the specification of fees for engineering studies if there is sufficient uniformity and predictability in the work required in connection with studying a project that does not fit into the screens provided by the FERC Standard.

Dominion stated that it believes that to attempt to establish a fixed charge for required engineering studies would be speculative and recommended that the customer-generator pay the actual cost of any engineering studies.

As noted above, several parties generally recommended adopting the FERC Standard with as few modifications as possible. The FERC Standard requires customer-generators to pay the actual cost of engineering studies that might be required to assure their interconnections are properly designed. While the NCSEA advocated that fees for engineering studies be standardized and established in advance, it did not provide the Commission with a specific proposal for such a fee structure. The Commission agrees with Dominion that to do so would be speculative.

The Commission, therefore, concludes that the current North Carolina policy, which is consistent with the FERC Standard, requiring customer-generators to pay the actual cost of any required engineering studies should be retained. If a customer-generator believes the charges assessed in connection with a specific project to be unjust and unreasonable, it can file a complaint with the Commission.

ISSUE 6. Dispute Resolution Process

The Public Staff proposed to delete most of the dispute resolution section in the FERC Standard. The result would be a process under which parties provide each other written notice of dispute, and, if the parties are not able to resolve the dispute within two business days, “either party may contact the Commission for assistance in resolving the dispute.”

The NCSEA and IREC both recommended that an expedited, low-cost process be established for dispute resolution. While IREC concurred with the Public Staff’s suggested modifications to the FERC’s dispute resolution provision, it recommended that the Commission identify a neutral technical master who would have the authority to provide binding decisions should disputes arise. The NCSEA suggested that a technical master hired by the Commission be available through a telephone call. It stated that the best interconnection standards “provide a low-cost means of accessing an expert judgment.”

In response to the proposal by IREC and the NCSEA, the Public Staff replied that the current availability of a neutral technical master with sufficient knowledge of, and experience related to, North Carolina electric systems is unknown, as is the potential cost. As an alternative, the Public Staff noted that an expedited complaint process could be established with shorter response times and less formal procedures. For instance, the Public Staff could file an initial reaction to a complaint (within well-defined time deadlines similar to those adopted in Rule R8-63, the merchant plant rule) recommending that it be fast-tracked or dismissed, with subsequent review by the Commission if any of the parties involved so requested.

Dominion agreed with the Public Staff’s proposal to delete most of the section of the FERC Standard dealing with disputes, but disagreed with the proposal advanced by IREC and the NCSEA.

The Commission notes that no party provided instances of any specific complaints from a generator regarding its effort to secure an interconnection with a North Carolina utility. Given the renewable energy requirements of Senate Bill 3, the electric utilities have every incentive to facilitate the development and interconnection of distributed generation, much of which could help them meet the law’s requirements to use more renewable generation to serve customer demand. Because any dispute could ultimately evolve into a formal complaint, the Commission will not place itself in the position of directly assisting in dispute resolution as suggested by the Public Staff. Rather, the Commission concludes that it is more appropriate to adopt dispute

resolution language that directs disputing parties to contact the Public Staff for assistance in informally resolving the dispute. If the parties are still unable to resolve the dispute, either party may then file a formal complaint with the Commission.

The Commission declines to adopt the deadlines in Rule R8-63, which reflect other statutory timetables applicable to generator certification proceedings. The Commission will, however, attempt to resolve interconnection complaints as quickly as possible and will give due consideration to motions for expedited treatment in specific cases.

ISSUE 7. Transferring an Interconnection Agreement

The interconnection agreement in the current NC Standard provides that the customer-generator shall not assign its rights nor delegate its duties under the agreement without the utility's written consent. In addition, the utility is prohibited from unreasonably withholding its consent to such an assignment. An assignee or new customer must submit a new application to interconnect and obtain the utility's written approval before any assignment can occur. The FERC Standard does not restrict transfers of interconnection agreements except for those 10 kW and smaller. The Public Staff stated that the Commission should consider supplementing the FERC Standard with a provision that restricts transfers consistent with current North Carolina policy.

IREC disagreed with the Public Staff's proposal. It stated that new interconnection customers should assume the obligations of existing interconnection agreements, but assumption of these obligations can be efficiently accomplished through assignment of the existing agreement. It stated that to require a new owner to submit a new interconnection request for an existing, unmodified system is unnecessarily cumbersome, time-consuming and costly.

The Commission concludes that it is appropriate to adopt the Public Staff's proposal, while requiring the inclusion of additional language clarifying that an existing generating facility does not need to be re-studied when ownership changes. It is required, however, that the new owner secure an interconnection agreement with the utility, and a new interconnection request is the appropriate means to initiate the effort to secure that new agreement. The fee for filing an interconnection request in these circumstances shall be \$50 due to the limited resources needed to process transfers.

ISSUE 8. Insurance

The FERC Standard, which applies to FERC-jurisdictional interconnections involving generators no larger than 20 MW, provides that "the amount of insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made." The Public Staff recommended that the Commission supplement the FERC Standard with the following language from the NC Standard regarding insurance:

The Customer shall obtain and retain, for as long as its Generator is interconnected with the Company's system, liability insurance which protects the Customer from claims for bodily injury and/or property damage. For a non-residential Customer the minimum coverage shall be comprehensive general liability insurance with coverage of at least \$300,000 per occurrence and for a residential Customer the minimum coverage shall be at a standard homeowner's insurance policy with liability coverage in the amount of at least \$100,000 per occurrence.

Dominion stated that it supports the retention of the insurance provision of the existing NC Standard. It stated that this provision "further protects the Company, its customers and the public from financial damages associated with a generator malfunction."

IREC stated that the Commission should waive the insurance requirement for systems under 250 kW and retain the existing insurance requirement for larger systems. It stated that it is not aware of any claim for damages caused by an inverter-based system, although more than 30,000 such systems are operating in the United States. "Given the negligible risk associated with systems under 250 kW, IREC firmly believes that an insurance requirement is unnecessary for these systems." It stated that "the FERC Standard and the standards in almost all states do not require insurance for systems under 10 kW." It stated that systems over 250 kW could "conceivably damage a utility transformer." For these larger systems, IREC believes North Carolina's existing insurance requirements strike a balance that protects utilities while not imposing a barrier to entry to new generators.

The NCSEA noted that the current interconnection agreement specifies levels of liability insurance and recommended that these insurance levels be retained for generators above 100 kW. It stated:

In North Carolina, we find most often that 100 kW is the threshold for businesses [for] which generation of electricity is not the primary purpose of their respective enterprises. Also this threshold would align with the fee structure of up to 100 kW. Given IREC's comments to "waive the insurance requirements under 250 kW and retain existing requirements for larger systems," and the evidence they present, 100 kW or less generation should provide little, if any risk.

During the negotiations that led to the current NC Standard, the parties were unable to agree on insurance provisions, and the issue was litigated before the Commission. At that time, the NCSEA advocated insurance requirements of \$100,000 and \$300,000. The utilities stated at that time that their proposal for \$500,000 of insurance was already a compromise and that their risk management analysis demonstrated that the insurance requirements associated with new generation were much higher. The Public Staff agreed with the NCSEA's proposal, which the Commission ultimately adopted.

In light of the fact that no party has provided the Commission with any evidence regarding the specific cost burden that the existing policy presents for customer-generators and the comment by IREC that systems smaller than 250 kW present reduced risks, the Commission concludes that it is appropriate to retain North Carolina's existing insurance requirements for generators up to 250 kW. However, given the fact that the interconnection of larger generators could result in direct liabilities in excess of the minimums set out in the NC Standard, generators larger than 250 kW shall be required to provide insurance consistent with the FERC Standard.

ISSUE 9. Self-insurance

In supplemental comments, IREC raised an additional issue relative to insurance. It stated that there is an apparent discrepancy in the Public Staff's comments and recommendations regarding the ability of an interconnection customer to self-insure when interconnecting a generator from 10 kW up to 2 MW. It noted that the Public Staff submitted two proposed standard interconnection agreements: one for generators sized from 10 kW up to 2 MW, the other for generators greater than 2 MW. This second agreement includes a provision allowing the generator to self-insure, while the agreement for smaller generators does not. "IREC assumes that this is an unintended discrepancy given that there is no logical reason to create a 2 MW cut-off point as to whether an interconnection customer may, or must make an additional showing, to self-insure." It correctly noted that the Commission's March 22, 2005 Order in this docket supports self-insurance:

[T]he utilities state that they are agreeable to the acceptance of self-insurance in lieu of additional insurance when the customer has a self-insurance program established in accordance with commercially acceptable risk management practices that provides coverage at a level of at least the amount otherwise required in the interconnection standard. When a self-insurance situation occurs, the necessary language would be added to the interconnection agreement as an alternative to the insurance coverage.

PEC stated in its reply comments that the "presently effective North Carolina Interconnection Agreement more adequately addresses the insurance requirements," but it prefers to use the FERC forms for the sake of uniformity.

The City of Durham filed a letter asking that it be added to IREC's supplemental comments. In that letter, the City Manager stated that Durham is

exploring the feasibility of installing renewable generation systems, some of which may fall into the 10 kW to 2 MW range. Our City has a well-developed self-insurance program which has been in place for many years, and would potentially seek to self-insure any City-owned renewable energy systems. Should the City be required to purchase insurance by

interconnection standards, rather than self-insuring the system, it would impose an additional burden on undertaking such a project.

The Commission is persuaded that the Public Staff did not intend to limit the self-insurance option to generators over 2 MW. The Commission, therefore, finds good cause to retain North Carolina's existing provision regarding self-insurance for all interconnections subject to the NC Standard.

ISSUE 10. Indemnification

The Public Staff recommended that the Commission retain the existing provision in the NC Standard regarding indemnification. That provision states:

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

Dominion agreed with the Public Staff's recommendation to retain the indemnification provision in both the standard itself as well as in the interconnection agreement. Similarly, IREC stated that the Commission should retain the indemnification provision from the Commission's March 22, 2005 Order.

The Commission finds good cause to retain the indemnification provision in the current NC Standard.

ISSUE 11. Limitation of Liability

The Public Staff recommended that the Commission retain the provision in the current NC Standard relative to limitation of liability. That provision states:

Each party's liability to the other party for any loss, cost, claim, injury, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, special, incidental, consequential, or punitive damages of any kind.

Dominion and IREC agreed with the Public Staff's recommendation.

The Commission finds good cause to adopt the Public Staff's recommendation and to retain the provision in the NC Standard regarding limitation of liability.

ISSUE 12. External Disconnect Switch

The Commission's March 22, 2005 Order in this docket stated that the parties were unable to reach consensus as to whether to require generators to provide an external disconnect switch (EDS). The Commission concluded that the EDS requirement proposed by the utilities was reasonable and stated:

While the Commission is cognizant of the need to avoid unnecessarily imposing costs which might serve as barriers to the development of small distributed generation, safety for utility personnel and the public must be our paramount concern.

As a result, the current NC Standard requires that generators provide an "isolation device," which is defined as:

A manual load-break disconnect switch or safety switch with a clear visible indication of switch position between the Area EPS [Area Electric Power System] and the Generator. The switch must have pad lock provisions for locking in the open position. The switch must be visible to, and accessible to Company personnel. The switch must be in close proximity, and visible from, the customer's point of electrical interconnection with the Company's Area EPS. The switch must be labeled "Generator Disconnect Switch". The switch may isolate the Generator system and its associated load from the [A]rea EPS or disconnect only the Generator from the Area EPS.

The FERC Standard leaves the decision concerning whether to require an EDS to the utility's discretion.

The Public Staff recommended that the Commission retain most of the current NC Standard language on this issue.

IREC stated that the Commission should prohibit external disconnect switches for inverter-based systems. It stated that all inverters that meet IEEE standards have automatic shut-off capabilities integrated in their systems and shut down automatically in the event of grid failure. "External disconnect switches are unnecessary on such systems and represent a fourth or fifth level of redundancy that only serves to raise the cost of distributed generation with no commensurate safety improvement."

Similarly, the NCSEA stated that the Commission should not require "redundant" disconnect switches. It cited an IREC document entitled "Freeing the Grid" and noted "that not one accident resulting from the islanding of net metered renewable energy systems has been reported."

Comments on Technical Advances

In its November 20, 2007 Order Requesting Reply Comments, the Commission asked parties to address the following question:

Have there been any technical advances since the Commission's March 22, 2005 Order in this docket that would justify a change in the standard relative to the requirement that generators provide an external disconnect switch?

The Public Staff stated that it is not aware of any technical changes that would justify a change in the EDS requirement.

IREC stated that both PG&E and the Sacramento Municipal Utility District have "voluntarily dispensed with the requirement for an external disconnect switch on inverter-based systems with a self-contained meter." It cited news releases from both utilities. It also stated that New Jersey and Colorado do not require EDSs.

In its reply comments, PEC stated:

For installations less than 10 kW, PEC now feels that installation of an external isolation switch is generally not necessary, since PEC's normal work rules address the possibility of customer-owned generation whether or not they have applied with PEC for interconnection. (PEC reserves the right to require some type of isolation device in certain situations, such as CT-metered services where removal of the meter will not isolate the customer facilities from the utility.) For installations above 10 kW, an isolation device of some type may be required

In its reply comments, Duke stated that it is not aware of any technical advances that would eliminate the need for the EDS, nor would it expect there to be any. Duke argued that the currently-required EDS is an inexpensive, manually-operated switch that can be used to positively disconnect a customer-generator from the utility:

The disconnect switch is required to comply with utility safe work practices that protect utility electrical workers and also for public safety. The switch provides a visible point of disconnection that ensures a source of generation is isolated from the electric service in the event that utility personnel need to perform routine maintenance activities or restore service in an outage-related event.

Duke stated further that, although generators are required under the existing NC Standard to be compliant with IEEE 1547 and UL 1741, which require systems to disconnect from the grid in the event of an outage:

it is as likely that the generator may be required to be isolated from the grid under “normal conditions” when work is required on the customer’s electric service. These activities can include work on the individual electric service entrance or metering installation, on the electric service secondary conductors, or on the lines and transformer feeding the electric secondary conductors. External disconnect switches are a very inexpensive component of the overall customer generator’s installation, and a small price to pay to protect utility workers and the public.

Dominion stated that its policy is that, “when circuits or equipment are to be worked as de-energized, the circuits or equipment shall be isolated from all sources of potential by opened disconnects, switches, cutouts, and such equipment made inoperable.”

On February 1, 2008, the NCSEA filed supplemental comments citing a January 2008 report by the National Renewable Energy Laboratory (NREL), entitled “Utility-Interconnected Photovoltaic Systems: Evaluating the Rationale for the Utility-Accessible External Disconnect Switch,” and noting recent activity in other states. The NREL report states:

Modern small-commercial and residential PV [photovoltaic] systems include UL-listed components that meet rigorous standards. Inverter technology has advanced considerably in the past decade, and new inverters are required to meet the stringent standards of UL 1741 and IEEE 1547. The NEC [National Electrical Code] requires that an inverter de-energize its output upon loss of utility voltage and remain in that state until utility voltage has been restored Modern electronic inverters are reliable, intelligent, and comprehensively tested to ensure they do not backfeed to the grid during an outage In the case of an emergency when the grid is down, UL-listed inverters sense a situation known as “islanding” and automatically disconnect if the utility source is absent. Under all abnormal or grid-outage conditions, a UL-listed inverter disconnects in 2 seconds or less and only reconnects after 5 minutes of normal utility conditions.

The NREL report further states:

In the United States, 35 states have interconnection rules for distributed generation systems such as the inverter-based PV systems discussed in this paper. Among these states, 18 require an EDS for all systems, 8 specifically waive the requirement for small systems (that meet specific technical requirements), and 9 leave the decision to utilities.

Comments on Availability of Schematics

In its November 20, 2007 Order, the Commission further asked the utilities whether their “organization’s line/field crews have available to them distribution system schematics that indicate the location of customer-owned generation and external disconnect switches.”

PEC stated that, in general, its field crews do not have information on the location of all customer-owned generation. PEC stated that because customers are capable of installing small generators without notifying the utility, it is not possible to provide accurate and reliable information to field crews. Duke stated that it has found it more effective to install signs and labels at the generator delivery transformer, revenue meter, and disconnect switch to identify the presence of generation. Dominion stated that it does not have the location of customer-owned generation and external disconnect switches indicated on its maps. Dominion’s distribution system schematics do not typically identify customer-owned facilities, and there are no plans to do so in the future.

Based on the parties’ comments, including the findings reported by NREL, it appears that an EDS is no longer necessary for certified small inverter-based generators. To meet the standards of IEEE 1547 and UL 1741, these generators must automatically disconnect from the utility’s system whenever there is an outage. While Duke argued that an EDS is still necessary for work “on the customer’s electric service,” the examples Duke cites would involve Duke disconnecting service to the customer-generator, thus creating a localized outage to which the generator would respond by disconnecting. Moreover, although customers are required to notify the utilities and the Commission prior to construction of generation facilities, the utilities’ linemen and field crews cannot be certain of the location of customer-owned generation.

The Commission, therefore, finds good cause to approve a change in the NC Standard whereby an EDS will no longer be required for certified inverter-based generators up to 10 kW, and the decision whether to require an EDS for other generators will be left to the individual utility’s discretion.

ISSUE 13. Application Forms

The FERC Standard adopts separate application forms for certified inverter-based generators under 10 kW and for all other applications.

The Public Staff recommended that the Commission adopt the application forms in the FERC Standard for certified inverter-based generators under 10 kW and for those generators larger than 2 MW. The Public Staff argued, however, that the interconnection application in the existing NC Standard should be modified to apply to generators between 10 kW and 2 MW.

Dominion expressed concern that the current North Carolina application form, which was originally designed for generators up to 100 kW, “may not provide the Company with sufficient detail to complete its investigation and approve the application form in a timely manner.”

Similarly, PEC stated that the Public Staff’s proposal to adopt a variation of the presently-effective North Carolina application form for larger generators creates potential problems because of the relative lack of detail required by the form. PEC noted that the equivalent application in the FERC Standard “requires the customer to provide all of the pertinent information up front, which would enable PEC to expedite the review process and respond to the customer in a quicker, more efficient manner.” PEC also noted that the Public Staff’s proposed application form for this group of generators includes the statement, “If more than three generators/inverters will be used, complete a separate attachment with the information above.” A similar statement regarding more than three transformers appears on the third page of the form. PEC believes the additional detail is unnecessary, and requested that the Commission delete these two statements if the Commission adopts the Public Staff’s proposed application form in lieu of the equivalent FERC application form.

The Commission concludes that, in order to simplify the process and reduce confusion, the current North Carolina application form should be eliminated and replaced by forms based largely on the FERC Standard. This will assure that utilities have the information they need to process interconnection requests quickly. Thus, customers installing a certified inverter-based generator no larger than 10 kW should complete and submit the interconnection request form found in Attachment 5 of the revised NC Standard, and all other customer-generators should complete and submit the interconnection request form found in Attachment 2 of the revised NC Standard.

ISSUE 14. Interconnection Agreement

The FERC Standard also adopts separate standard interconnection agreements for certified inverter-based generators under 10 kW and for all other generators.

The Public Staff recommended that the Commission adopt the standard interconnection agreement in the FERC Standard for certified inverter-based generators under 10 kW and the FERC Standard interconnection agreement, with the North Carolina-specific modifications discussed herein, for those generators larger than 2 MW. The Public Staff advocated that the interconnection agreement in the existing NC Standard be used instead of the FERC Standard interconnection agreement for generators between 10 kW and 2 MW.

In its reply comments, PEC stated:

PEC agrees that the presently-effective North Carolina Interconnection Agreement more adequately addresses the insurance requirements and other additions recommended by the Public Staff. However, PEC is

concerned by the lack of consistency in adopting FERC forms for customers from 0 to 10 kW and 2.001 MW to 10 MW, but adopting a non-FERC form for the mid-size generators. PEC believes that for the sake of uniformity and lack of confusion it would be preferable to use the FERC forms for all three agreements.

The Commission concludes that the revised NC Standard should incorporate the FERC Standard interconnection agreements modified as provided in this Order to add certain North Carolina-specific requirements. The Commission is persuaded that, for the sake of uniformity and lack of confusion, it would be preferable to use only these two interconnection agreements for all generators rather than to add the existing NC Standard agreement for generators larger than 10 kW up to 2 MW.

The NC Standard, therefore, will contain two interconnection agreements: one for certified inverter-based generators up to 10 kW, and one for all other generators. As stated in the interconnection request for customers installing a certified inverter-based generator no larger than 10 kW, such interconnections shall be subject to the terms and conditions provided in Attachment 5 of the revised NC Standard. All other customer-generators shall be required to enter into the interconnection agreement provided in Attachment 9 of the revised NC Standard.

ISSUE 15. Additional Provisions in the FERC Standard

The FERC Standard includes the following provisions not found in the current NC Standard:

- Three-Phase Power – The FERC Standard requires utilities to interconnect with facilities that generate three-phase power.
- Deadlines – The FERC Standard requires utilities to make reasonable efforts to meet specific time-frames during the review process unless they and the generator agree to a different schedule. If the utility cannot meet a deadline, it must inform the generator and provide an explanation for the delay and an estimated completion date.
- Confidentiality – The FERC Standard requires parties to protect confidential information. Each party is to employ at least the same standard of care to protect confidential information obtained from the other party that it uses to protect its own confidential information.
- Maintain Records – The FERC Standard requires utilities to maintain records relating to interconnection requests for three years, subject to audit.
- Comparability – The FERC Standard requires that utilities process interconnections for generation facilities that they own in the same manner that they process interconnection requests from non-utility generators.

- Site Control – The FERC Standard requires generators to demonstrate site control at the time they request interconnection, i.e., that they own, or have a lease or an option on the site where the proposed generator would be located.
- Security – The FERC Standard requires generators to provide the utility with financial security before the utility begins construction of the interconnection facilities or other required upgrades.
- Construction and Operation and Maintenance (O & M) Costs – The FERC Standard requires generators to pay all actual costs of design and construction of the utility's interconnection facilities and any other necessary upgrades. The utility must bill these actual costs within three months of the interconnection being built, and the generator must pay the total within 30 days of the billing. In addition, the FERC Standard allows the utility to charge the generator for O&M expenses, but the utility must file a rate schedule at the FERC in order to do so.

As previously noted, many parties advocated adoption of the FERC Standard with as few modifications as possible, and no party opposed adoption of any of these provisions. The Commission finds good cause to include in the revised NC Standard the unopposed provisions in the FERC Standard regarding three-phase power, deadlines, confidentiality, maintenance of records, and comparability.

The Commission further finds good cause to adopt a modified version of the provisions from the FERC Standard regarding site control, security, and construction and O & M costs. The Commission notes that none of these provisions were opposed or even addressed by the parties. However, taken in total, these provisions could make generator interconnections more difficult for small generators than the current NC Standard.

With regard to the issue of site control, the Commission concludes that it is appropriate to only require the generator to demonstrate site control prior to execution of an interconnection agreement, not at the time the interconnection request is made. However, if two proposed generators are competing for capacity on the same circuit, the one that can demonstrate site control would have priority over the other. In addition, a generator must sign an interconnection agreement within 30 business days of the utility providing the agreement to the generator unless the utility waives the deadline because there is no competing generation waiting to interconnect.

With regard to the issue of security, the Commission finds that it is appropriate to adopt the FERC Standard requiring generators to post security, but to allow the utility to waive the requirement if its credit policies show that the financial risks posed by the interconnection are de minimis, or if the utility's policies allow the acceptance of an alternative showing of credit-worthiness from the generator. To avoid the arbitrary application of such a policy, all waivers must be made in accordance with written

procedures adopted by the utility regarding establishment of security and credit-worthiness.

With regard to the issue of construction and O & M costs, the Commission notes that, under the existing NC Standard, the utility charges the generator an ongoing monthly facilities charge which covers the original construction costs as well as O & M and equipment replacement costs. The Commission finds good cause to allow the generator to choose between North Carolina's current "extra facilities charge" approach to billing for construction costs and on-going O&M, or the FERC approach, under which it would have to pay the entire construction cost shortly after construction. Under the FERC approach, the utility may also charge the generator an on-going fee for O & M of the utility-owned interconnection and upgrade facilities.

ISSUE 16. Uniform Utility Rate Schedules, Tariffs, and Riders

The NCSEA noted that, although adoption of the FERC Standard would greatly simplify interconnection for small generators, "there will still remain a confusion of regulations and disparate terminology from company to company found in numerous Commission dockets, utility tariffs, riders and rate schedules that will continue to impact the economics and feasibility of DG [distributed generation]." The NCSEA requested that the Commission

order a study of the feasibility of pulling these disparate regulatory impacts into a more unified regulation of interconnection, and until this can be implemented, to direct North Carolina utilities at this time to cross-reference and make more consistent their tariffs, riders and schedules. At a minimum, a guideline to interconnecting DG in North Carolina should be published by the Commission or the Public Staff and the adopted FERC standard should be reflected by the utilities making changes in all related utilities tariffs, applications, fees, standby charges, metering charges, additional meters, and other procedures and regulations impacting interconnection.

The Public Staff stated that, while it did not object to such an effort, it would likely not be feasible for all three utilities' applicable tariffs, riders and schedules to be placed into a unified regulatory structure because the utilities would probably also have to change their tariffs in Virginia and South Carolina. The Public Staff recommended that the Commission's Order in this docket "require the utilities to file a list of all tariffs and regulations, such as the avoided cost tariffs and terms and conditions, that are affected by the replacement of the current Interconnection Standard with the new standard, along with proposed modifications."

IREC concurred with the Public Staff's recommendation with regard to this issue.

The Commission finds good cause to adopt the Public Staff's recommendation and to require the utilities, within 30 days, to file a list of all affected rate schedules,

tariffs, riders and service regulations and proposed revisions, as necessary, to comply with this Order and conform to the revised NC Standard. The Commission will not, however, require the utilities to file unified tariffs or cross-references as urged by the NCSEA except to the extent necessary to incorporate the generator interconnection standard adopted herein.

IT IS, THEREFORE, ORDERED as follows:

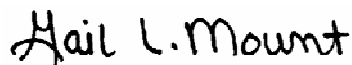
1. That the modified version of the FERC small generator interconnection procedures, forms and agreements attached as Appendix A shall be, and hereby is, adopted as the generator interconnection standard for North Carolina, effective for interconnection requests made after the date of this Order. The revised NC Standard shall apply to all future requests to modify or transfer existing, state-jurisdictional interconnection agreements.

2. That the utilities file with the Commission, not later than 30 days after the date of this Order, a list of all affected rate schedules, tariffs, riders and service regulations and proposed revisions to them as necessary to comply with this Order and conform to the revised NC Standard.

ISSUED BY ORDER OF THE COMMISSION.

This the 9th day of June, 2008.

NORTH CAROLINA UTILITIES COMMISSION



Gail L. Mount, Deputy Clerk

Commissioner James Y. Kerr, II did not participate.

Kc060908.06

NORTH CAROLINA
INTERCONNECTION PROCEDURES,
FORMS, AND AGREEMENTS
For State-Jurisdictional Generator Interconnections

Effective June 9, 2008

Docket No. E-100, Sub 101

TABLE OF CONTENTS

	Page No.
Section 1. General Requirements.....	1
1.1 Applicability.....	1
1.2 Pre-Request.....	2
1.3 Interconnection Request.....	2
1.4 Modification of the Interconnection Request.....	3
1.5 Site Control.....	3
1.6 Queue Position.....	3
1.7 Interconnection Requests Submitted Prior to the Effective Date of these Procedures.....	3
Section 2. Optional 10 kW Inverter Process for Certified Inverter-Based Generating Facilities No Larger than 10 kW.....	4
2.1 Applicability.....	4
2.2 Interconnection Request.....	4
2.3 Certificate of Completion.....	4
2.4 Contact Information.....	5
2.5 Ownership Information.....	5
2.6 UL 1741 Listed.....	5
Section 3. Optional Fast Track Process for Certified Generating Facilities No Larger than 2 MW.....	6
3.1 Applicability.....	6
3.2 Initial Review.....	6
3.2.1 Screens.....	6
3.3 Customer Options Meeting.....	8
3.4 Supplemental Review.....	9
Section 4. Study Process.....	10
4.1 Applicability.....	10
4.2 Scoping Meeting.....	10
4.3 Feasibility Study.....	11
4.4 System Impact Studies.....	11
4.5 Facilities Study.....	13
Section 5. Provisions that Apply to All Interconnection Requests.....	14
5.1 Reasonable Efforts.....	14
5.2 Disputes.....	14
5.3 Interconnection Metering.....	14
5.4 Commissioning.....	14
5.5 Confidentiality.....	14
5.6 Comparability.....	15
5.7 Record Retention.....	16
5.8 Interconnection Agreement.....	16
5.9 Coordination with Affected Systems.....	16

	Page No.
5.10 Capacity of the Generating Facility	16
5.11 Interconnection Agreement Non-Transferable	17
5.12 Isolating or Disconnecting the Generating Facility	17
5.13 Limitation of Liability.....	18
5.14 Indemnification.....	18
5.15 Insurance.....	18

Attachment 1 – Glossary of Terms

Attachment 2 – Interconnection Request

Attachment 3 – Certification Codes and Standards

Attachment 4 – Certification of Generator Equipment Packages

Attachment 5 – Interconnection Request, Certificate of Completion, and Terms and Conditions for Certified Inverter-Based Generating Facilities No Larger than 10 kW

Attachment 6 – Feasibility Study Agreement

Attachment 7 – System Impact Study Agreement

Attachment 8 – Facilities Study Agreement

Attachment 9 – Interconnection Agreement

Section 1. General Requirements

1.1 Applicability

- 1.1.1 This Standard contains the requirements, in addition to applicable tariffs and service regulations, for the interconnection and parallel operation of Generating Facilities with Utility Systems in North Carolina. These procedures apply to Generating Facilities that are interconnecting to Utility Systems in North Carolina where the Interconnection Customer is not selling the output of its Generating Facility to an entity other than the Utility to which it is interconnecting.
 - 1.1.1.1 A request to interconnect a certified inverter-based Generating Facility no larger than 10 kW shall be evaluated under the Section 2 10 kW Inverter Process. (See Attachments 3 and 4 for certification criteria.)
 - 1.1.1.2 A request to interconnect a certified Generating Facility no larger than 2 MW shall be evaluated under the Section 3 Fast Track Process. (See Attachments 3 and 4 for certification criteria.)
 - 1.1.1.3 A request to interconnect a Generating Facility larger than 2 MW, or a Generating Facility that does not pass the Fast Track Process or the 10 kW Inverter Process, shall be evaluated under the Section 4 Study Process.
- 1.1.2 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of these procedures.
- 1.1.3 This Standard shall not apply to Generating Facilities already interconnected or approved for interconnection as of the effective date of this Standard, unless so agreed to by the Utility and the Interconnection Customer. However, this Standard shall apply if the Interconnection Customer proposes Material Modifications or transfers ownership of the Generating Facility after such date.
- 1.1.4 Prior to submitting its Interconnection Request, the Interconnection Customer may ask the Utility's interconnection contact employee or office whether the proposed interconnection is subject to these procedures. The Utility shall respond within 15 Business Days.
- 1.1.5 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All Utilities are expected to meet

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

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

1.2 Pre-Request

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

1.3 Interconnection Request

The Interconnection Customer shall submit its Interconnection Request to the Utility, together with the non-refundable processing fee or deposit specified in the Interconnection Request. The Interconnection Request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the Interconnection Request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. The Utility shall notify the Interconnection Customer of receipt within three Business Days of receiving the Interconnection Request. The Utility shall notify the Interconnection Customer within ten Business Days of the receipt of the Interconnection Request as to whether the Interconnection Request is complete or incomplete. If the Interconnection Request is incomplete, the Utility shall provide, along with notice that the Interconnection Request is incomplete, a written list detailing all information that must be provided to complete the Interconnection Request. The Interconnection Customer will have ten Business Days after receipt of the notice to submit the listed information or to request an extension of time to provide such information. If the Interconnection Customer does not provide the listed information or a request for an extension of time within the deadline, the Interconnection Request will be deemed withdrawn. An Interconnection Request will be deemed complete upon submission of the listed information to the Utility.

1.4 Modification of the Interconnection Request

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

1.5 Site Control

Documentation of site control is not required to be submitted with the Interconnection Request. However, the Utility may request a demonstration of site control if two or more proposed Generating Facilities are competing for capacity on the same circuit. The Interconnection Customer that can demonstrate site control will have higher Queue Position than one that is on the same circuit and cannot demonstrate site control within 20 Business Days of such a request. The Interconnection Customer must submit documentation of site control to the Utility at or before the time of execution of the Interconnection Agreement. Site control may be demonstrated through:

- 1.5.1 Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility;
- 1.5.2 An option to purchase or acquire a leasehold site for such purpose; or
- 1.5.3 An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for such purpose.

1.6 Queue Position

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

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

Nothing in this Standard affects an Interconnection Customer's Queue Position assigned before the effective date of these procedures. The Parties agree to complete work on any interconnection study agreement executed prior to the effective date of these procedures in accordance with the terms and conditions of

that interconnection study agreement. Any new studies or other additional work will be completed pursuant to this Standard.

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

2.1 Applicability

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

2.2 Interconnection Request

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

2.2.1 The Utility shall notify the Interconnection Customer of receipt of the Interconnection Request within three Business Days of receipt.

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

2.2.3 The Utility shall verify that the Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process. (See Section 3.2.1.) The Utility has 15 Business Days to complete this process. Unless the Utility determines and demonstrates that the Generating Facility cannot be interconnected safely and reliably, the Utility shall approve the Interconnection Request and return it to the Interconnection Customer.

2.3 Certificate of Completion

2.3.1 After installation of the Generating Facility, the Interconnection Customer shall return the Certificate of Completion to the Utility. (See Attachment 5.) Prior to parallel operation, the Utility may inspect the Generating Facility for compliance with standards which may include a

witness test, and may schedule appropriate metering replacement, if necessary.

2.3.2 The Utility shall notify the Interconnection Customer in writing that interconnection of the Generating Facility is authorized. If the witness test is not satisfactory, the Utility has the right to disconnect the Generating Facility. The Interconnection Customer has no right to operate in parallel with the Utility until a witness test has been performed, or previously waived on the Interconnection Request. The Utility is obligated to complete this witness test within ten Business Days of the receipt of the Certificate of Completion. If the Utility does not inspect within ten Business Days or by mutual agreement of the Parties, the witness test is deemed waived.

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

2.4 Contact Information

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

2.5 Ownership Information

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

2.6 UL 1741 Listed

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

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

3.1 Applicability

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

3.2 Initial Review

Within 15 Business Days after the Utility notifies the Interconnection Customer it has received a complete Interconnection Request, the Utility shall perform an initial review using the screens set forth below, shall notify the Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying the Utility's determinations under the screens.

3.2.1 Screens

- 3.2.1.1 The proposed Generating Facility's Point of Interconnection must be on a portion of the Utility's Distribution System.
- 3.2.1.2 For interconnection of a proposed Generating Facility to a radial distribution circuit, the aggregated generation, including the proposed Generating Facility, on the circuit shall not exceed 15% of the line section annual peak load as most recently measured at the substation. A line section is that portion of a Utility's System connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.
- 3.2.1.3 For interconnection of a proposed Generating Facility to the load side of spot network protectors, the proposed Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5% of a spot network's maximum load or 50 kW.¹

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

- 3.2.1.4 The proposed Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10% to the distribution circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.
- 3.2.1.5 The proposed Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5% of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5% of the short circuit interrupting capability.
- 3.2.1.6 Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnection Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the Utility's System due to a loss of ground during the operating time of any anti-islanding function.

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

- 3.2.1.7 If the proposed Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Generating Facility, shall not exceed 20 kW.
- 3.2.1.8 If the proposed Generating Facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- 3.2.1.9 The Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation

transformer feeding the circuit where the Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the point of interconnection).

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

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

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

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

3.3 Customer Options Meeting

If the Utility determines the Interconnection Request cannot be approved without minor modifications at minimal cost; or a supplemental study or other additional studies or actions; or at significant cost to address safety, reliability, or power quality problems, within the five Business Day period after the determination, the Utility shall notify the Interconnection Customer and provide copies of all data and analyses underlying its conclusion. Within ten Business Days of the Utility's determination, the Utility shall offer to convene a customer options meeting to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Generating Facility to be connected safely and reliably. At the time of notification of the Utility's determination, or at the customer options meeting, the Utility shall:

- 3.3.1 Offer to perform facility modifications or minor modifications to the Utility's System (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Utility's System; or
- 3.3.2 Offer to perform a supplemental review if the Utility concludes that the supplemental review might determine that the Generating Facility could continue to qualify for interconnection pursuant to the Fast Track Process, and provide a non-binding good faith estimate of the costs of such review; or
- 3.3.3 Offer to continue evaluating the Interconnection Request under the Section 4 Study Process.

3.4 Supplemental Review

If the Interconnection Customer agrees to a supplemental review, the Interconnection Customer shall agree in writing within 15 Business Days of the offer, and submit a deposit for the estimated costs. The Interconnection Customer shall be responsible for the Utility's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within 20 Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the Utility will return such excess within 20 Business Days of the invoice without interest.

- 3.4.1 Within ten Business Days following receipt of the deposit for a supplemental review, the Utility will determine if the Generating Facility can be interconnected safely and reliably.
 - 3.4.1.1 If so, the Utility shall forward an executable Interconnection Agreement to the Interconnection Customer within five Business Days.
 - 3.4.1.2 If so, and Interconnection Customer facility modifications are required to allow the Generating Facility to be interconnected consistent with safety, reliability, and power quality standards under these procedures, the Utility shall forward an executable Interconnection Agreement to the Interconnection Customer within five Business Days after confirmation that the Interconnection Customer has agreed to make the necessary modifications at the Interconnection Customer's cost.
 - 3.4.1.3 If so, and minor modifications to the Utility's System are required to allow the Generating Facility to be interconnected consistent with safety, reliability, and power quality standards

under these procedures, the Utility shall forward an executable Interconnection Agreement to the Interconnection Customer within ten Business Days that requires the Interconnection Customer to pay the costs of such System modifications prior to interconnection.

- 3.4.1.4 If not, the Interconnection Request will continue to be evaluated under the Section 4 Study Process, provided the Interconnection Customer indicates it wants to proceed and submits the required deposit within 15 Business Days.

Section 4. Study Process

4.1 Applicability

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

4.2 Scoping Meeting

- 4.2.1 A scoping meeting will be held within ten Business Days after the Interconnection Request is deemed complete, or as otherwise mutually agreed to by the Parties. The Utility and the Interconnection Customer will bring to the meeting personnel, including system engineers and other resources as may be reasonably required to accomplish the purpose of the meeting. The scoping meeting may be omitted by mutual agreement.
- 4.2.2 The purpose of the scoping meeting is to discuss the Interconnection Request and review existing studies relevant to the Interconnection Request. The Parties shall further discuss whether the Utility should perform a Feasibility Study or proceed directly to a System Impact Study, a Facilities Study, or an Interconnection Agreement.
- 4.2.3 If the Parties agree that a Feasibility Study should be performed, the Utility shall provide the Interconnection Customer, as soon as possible, but not later than five Business Days after the scoping meeting, a Feasibility Study Agreement (Attachment 6), including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
- 4.2.4 If the Parties agree not to perform a Feasibility Study, but to proceed directly to a System Impact Study or Facilities Study, the Utility shall provide the Interconnection Customer, no later than five Business Days

after the scoping meeting, either a System Impact Study Agreement (Attachment 7) or a Facilities Study Agreement (Attachment 8), as appropriate, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

- 4.2.5 If the Parties agree not to perform a Feasibility Study, but to proceed directly to an Interconnection Agreement, the Utility shall provide the Interconnection Customer an executable Interconnection Agreement within 15 Business Days of the scoping meeting.

4.3 Feasibility Study

- 4.3.1 The Feasibility Study shall identify any potential adverse system impacts that would result from the interconnection of the Generating Facility.
- 4.3.2 In order to remain in consideration for interconnection, the Interconnection Customer must return the executed Feasibility Study Agreement within 15 Business Days.
- 4.3.3 A deposit of the lesser of 50% of the good faith estimated Feasibility Study costs or earnest money of \$1,000 may be required from the Interconnection Customer.
- 4.3.4 The scope of and cost responsibilities for the Feasibility Study are described in the Feasibility Study Agreement.
- 4.3.5 If the Feasibility Study shows no potential for adverse system impacts, the Utility shall send the Interconnection Customer within five Business Days a Facilities Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If a Facilities Study is not required, the Utility shall send the Interconnection Customer an executable Interconnection Agreement within five Business Days.
- 4.3.6 If the Feasibility Study shows the potential for adverse system impacts, the review process shall proceed to the appropriate System Impact Studies.

4.4 System Impact Studies

- 4.4.1 The System Impact Studies shall identify and detail the electric system impacts that would result if the proposed Generating Facility were interconnected without project modifications or electric system modifications, focusing on the adverse system impacts identified in the Feasibility Study, or to study potential impacts, including, but not

limited to, those identified in the scoping meeting. The System Impact Studies shall evaluate the impact of the proposed interconnection on the reliability of the electric system.

- 4.4.2 If potential adverse Distribution System impacts are identified in the scoping meeting or shown in the Feasibility Study, a Distribution System Impact Study must be performed. The Utility shall send the Interconnection Customer a Distribution System Impact Study Agreement within five Business Days of transmittal of the Feasibility Study or the scoping meeting if no Feasibility Study is to be performed, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
- 4.4.3 If potential adverse Transmission System impacts are identified in the scoping meeting or shown in the Feasibility Study or Distribution System Impact Study, a Transmission System Impact Study must be performed. The Utility shall send the Interconnection Customer a Transmission System Impact Study Agreement within five Business Days of transmittal of the Feasibility Study or Distribution System Impact Study or the scoping meeting if no Feasibility Study or Distribution System Impact Study is to be performed, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
- 4.4.4 In order to remain under consideration for interconnection, the Interconnection Customer must return an executed System Impact Study Agreement within 30 Business Days.
- 4.4.5 A deposit of the good faith estimated cost of a Distribution System Impact Study and one half of the good faith estimated cost of a Transmission System Impact Study may be required from the Interconnection Customer.
- 4.4.6 The scope of and cost responsibilities for a System Impact Study are described in the System Impact Study Agreement.
- 4.4.7 If the System Impact Studies show no potential for adverse system impacts, the Utility shall send the Interconnection Customer within five Business Days a Facilities Study Agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If no additional facilities are required, the Utility shall send the Interconnection Customer an executable Interconnection Agreement within five Business Days.

4.5 Facilities Study

- 4.5.1 The Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to implement the conclusions of Feasibility Study and/or System Impact Studies and to allow the Generating Facility to be interconnected and operated safely and reliably.
- 4.5.2 The Utility shall design any required Interconnection Facilities and/or Upgrades under the Facilities Study Agreement. The Utility may contract with consultants to perform activities required under the Facilities Study Agreement. The Interconnection Customer and the Utility may agree to allow the Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by the Utility, under the provisions of the Facilities Study Agreement. If the Parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, the Utility shall make sufficient information available to the Interconnection Customer in accordance with confidentiality and critical infrastructure requirements to permit the Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.
- 4.5.3 In order to remain under consideration for interconnection, or, as appropriate, in the Utility's interconnection queue, the Interconnection Customer must return the executed Facilities Study Agreement or a request for an extension of time within 30 Business Days.
- 4.5.4 A deposit of the good faith estimated costs for the Facilities Study may be required from the Interconnection Customer.
- 4.5.5 The scope of and cost responsibilities for the Facilities Study are described in the Facilities Study Agreement.
- 4.5.6 Upon completion of the Facilities Study, and with the agreement of the Interconnection Customer to pay for Interconnection Facilities and Upgrades identified in the Facilities Study, the Utility shall provide the Interconnection Customer an executable Interconnection Agreement within five Business Days.

Section 5. Provisions that Apply to All Interconnection Requests

5.1 Reasonable Efforts

The Utility shall make reasonable efforts to meet all time frames provided in these procedures unless the Utility and the Interconnection Customer agree to a different schedule. If the Utility cannot meet a deadline provided herein, it shall notify the Interconnection Customer, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

5.2 Disputes

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

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

5.2.3 If the dispute has not been resolved within two Business Days after receipt of the Notice, either Party may contact the Public Staff for assistance in informally resolving the dispute. If the Parties are unable to informally resolve the dispute, either Party may then file a formal complaint with the Commission.

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

5.3 Interconnection Metering

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

5.4 Commissioning

Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. The Utility must be given at least five Business Days written notice, or as otherwise mutually agreed to by the Parties, of the tests and may be present to witness the commissioning tests.

5.5 Confidentiality

5.5.1 Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of these

procedures all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.

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

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

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

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

5.6 Comparability

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

5.7 Record Retention

The Utility shall maintain for three years records, subject to audit, of all Interconnection Requests received under these procedures, the times required to complete Interconnection Request approvals and disapprovals, and justification for the actions taken on the Interconnection Requests.

5.8 Interconnection Agreement

After receiving an Interconnection Agreement from the Utility, the Interconnection Customer shall have 30 Business Days, or another mutually agreeable timeframe, to sign and return the Interconnection Agreement. If the Interconnection Customer does not sign the Interconnection Agreement within such time, the Interconnection Request shall be deemed withdrawn. The Utility may waive the withdrawal if no other Interconnection Requests are pending for Generating Facilities that propose to interconnect to the same circuit on the Utility's System. After the Parties sign the Interconnection Agreement, the interconnection of the Generating Facility shall proceed under the provisions of the Interconnection Agreement.

5.9 Coordination with Affected Systems

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

5.10 Capacity of the Generating Facility

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

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

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

5.11 Interconnection Agreement Non-Transferable

- 5.11.1 The Interconnection Agreement is non-transferable. The Interconnection Customer shall notify the purchaser of the Generating Facility that a new Interconnection Request must be submitted to the Utility within 20 Business Days of the transfer of ownership or the Utility's Interconnection Facilities shall be removed or disabled and the Generating Facility disconnected from the Utility's System.
- 5.11.2 The technical requirements in the Interconnection Agreement shall be grandfathered for subsequent owners as long as (1) the Generating Facility's maximum rated capacity has not been changed; (2) the Generating Facility has not been modified so as to change its electrical characteristics; and (3) the interconnection system has not been modified.

5.12 Isolating or Disconnecting the Generating Facility

- 5.12.1 The Utility may isolate the Interconnection Customer's premises and/or Generating Facility from the Utility's System when necessary in order to construct, install, repair, replace, remove, investigate or inspect any of the Utility's equipment or part of Utility's System; or if the Utility determines that isolation of the Interconnection Customer's premises and/or Generating Facility from the Utility's System is necessary because of emergencies, forced outages, force majeure or compliance with prudent electrical practices.
- 5.12.2 Whenever feasible, the Utility shall give the Interconnection Customer reasonable notice of the isolation of the Interconnection Customer's premises and/or Generating Facility from the Utility's System.
- 5.12.3 Notwithstanding any other provision of this Standard, if at any time the Utility determines that the continued operation of the Generating Facility may endanger either (1) the Utility's personnel or other persons or property or (2) the integrity or safety of the Utility's System, or otherwise cause unacceptable power quality problems for other electric consumers, the Utility shall have the right to isolate the Interconnection Customer's premises and/or Generating Facility from the Utility's System.
- 5.12.4 The Utility may disconnect from the Utility's System any Generating Facility determined to be malfunctioning, or not in compliance with this Standard. The Interconnection Customer must provide proof of compliance with this Standard before the Generating Facility will be reconnected.

5.13 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, incidental, consequential, or punitive damages of any kind.

5.14 Indemnification

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

5.15 Insurance

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

5.15.1 For an Interconnection Customer that is a residential customer of the Utility proposing to interconnect a Generating Facility no larger than 250 kW, the required coverage shall be a standard homeowner's insurance policy with liability coverage in the amount of at least \$100,000 per occurrence.

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

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

Glossary of Terms

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

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

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

Business Day – Monday through Friday, excluding State Holidays.

Commission – The North Carolina Utilities Commission.

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

Distribution System – The Utility's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

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

Fast Track Process – The procedure for evaluating an Interconnection Request for a certified Generating Facility no larger than 2 MW that includes the Section 3 screens, customer options meeting, and optional supplemental review.

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

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

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

Interconnection Customer – Any entity, including the Utility, that proposes to interconnect its Generating Facility with the Utility's System.

Interconnection Facilities – The Utility's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Utility's System. Interconnection Facilities are sole use facilities and shall not include Upgrades.

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

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

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

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

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

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

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

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

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

Standard – The interconnection procedures, forms and agreements approved by the Commission for interconnection of Generating Facilities to Utility Systems in North Carolina.

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

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

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

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

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

**NORTH CAROLINA
INTERCONNECTION REQUEST**

Utility: _____

Designated Contact Person: _____

Address: _____

Telephone Number: _____

Fax: _____ E-Mail Address: _____

An Interconnection Request is considered complete when it provides all applicable and correct information required below.

Preamble and Instructions

An Interconnection Customer who requests a North Carolina Utilities Commission jurisdictional interconnection must submit this Interconnection Request by hand delivery, mail, e-mail, or fax to the Utility.

Request for: Fast Track Process ___ Study Process ___
(All Generating Facilities larger than 2 MW must use the Study Process.)

Processing Fee or Deposit

Fast Track Process – Non-Refundable Processing Fees

- If the Generating Facility is 20 kW or smaller, the fee is \$100.
- If the Generating Facility is larger than 20 kW but not larger than 100 kW, the fee is \$250.
- If the Generating Facility is larger than 100 kW but not larger than 2 MW, the fee is \$500.

Study Process – Deposit

If the Interconnection Request is submitted under the Study Process, whether a new submission or an Interconnection Request that did not pass the Fast Track Process, the Interconnection Customer shall submit to the Utility a deposit not to exceed \$1,000 towards study costs.

Change in Ownership – Non-Refundable Processing Fee

If the Interconnection Request is submitted solely due to a transfer of ownership of the Generating Facility, the fee is \$50.

Interconnection Customer Information

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

Name: _____

Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Facility Location (if different from above): _____

Telephone (Day): _____ Telephone (Evening): _____

Fax: _____ E-Mail Address: _____

Alternative Contact Information (if different from the Interconnection Customer)

Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ Telephone (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?

Net Metering? Yes ____ No ____

To Supply Power to the Interconnection Customer? Yes ____ No ____

To Supply Power to the Utility? Yes ____ No ____

To Supply Power to Others? Yes ____ No ____

(If yes, discuss with the Utility whether the interconnection is covered by the NC Interconnection Standard.)

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

(Local Electric Service Provider*)

(Existing Account Number*)

[*To be provided by the Interconnection Customer if the local electric service provider is different from the Utility]

Contact Name: _____

Title: _____

Address: _____

Telephone (Day): _____ Telephone (Evening): _____

Fax: _____ E-Mail Address: _____

Requested Point of Interconnection: _____

Interconnection Customer's Requested In-Service Date: _____

Generating Facility Information

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

Energy Source: Solar __ Wind __ Hydro __ Hydro Type (e.g. Run-of-River): _____
Diesel __ Natural Gas __ Fuel Oil __ Other (state type) _____

Prime Mover: Fuel Cell __ Recip Engine __ Gas Turbine __ Steam Turbine __
Microturbine __ PV __ Other _____

Type of Generator: Synchronous ___ Induction ___ Inverter ___

Generator Nameplate Rating: _____ kW (Typical) Generator Nameplate: _____ kVAR

Interconnection Customer or Customer-Site Load: _____ kW (if none, so state)

Typical Reactive Load (if known): _____

Maximum Physical Export Capability Requested: _____ kW

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, X_d : _____ P.U.

Direct Axis Transient Reactance, X'_d : _____ P.U.

Direct Axis Subtransient Reactance, X''_d : _____ P.U.

Negative Sequence Reactance, X_2 : _____ P.U.

Zero Sequence Reactance, X_0 : _____ P.U.

KVA Base: _____

Field Volts: _____

Field Amperes: _____

Induction Generators:

Motoring Power (kW): _____

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

Rotor Resistance, R_r : _____

Stator Resistance, R_s : _____

Stator Reactance, X_s : _____

Rotor Reactance, X_r : _____

Magnetizing Reactance, X_m : _____

Short Circuit Reactance, X_d'' : _____

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 Utility 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 Customer? Yes ___ No ___

Transformer Data (if applicable, for Interconnection Customer-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 _____ Wye _____ Wye Grounded

Transformer Fuse Data (if applicable, for Interconnection Customer-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: _____

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 50 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 Customer'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 Request is true and correct.

For Interconnection Customer: _____ Date: _____

Certification Codes and Standards

- ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)
- IEEE 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)
- IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms
- IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers
- IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems
- IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers
- IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors
- IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits
- IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits
- NEMA MG 1-1998, Motors and Small Resources, Revision 3
- NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1
- NFPA 70 (2002), National Electrical Code
- UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources

Certification of Generator Equipment Packages

- 1.0 Generating Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in Attachment 3 of the North Carolina Interconnection Procedures, (2) it has been labeled and is publicly listed by such NRTL at the time of the Interconnection Request, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.
- 2.0 The Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.
- 3.0 Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the Parties to the interconnection nor follow-up production testing by the NRTL.
- 4.0 If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.
- 5.0 Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the Interconnection Customer's side of the point of common coupling shall be required to meet the requirements of the North Carolina Interconnection Procedures.
- 6.0 An equipment package does not include equipment provided by the Utility.

**Interconnection Request
for Interconnecting a Certified Inverter-Based
Generating Facility No Larger than 10 kW**

This Interconnection Request is considered complete when it provides all applicable and correct information required below. Additional information to evaluate the Interconnection Request may be required.

Processing Fee

A non-refundable processing fee of \$100 must accompany this Interconnection Request.

If the Interconnection Request is submitted solely due to a transfer of ownership of the Generating Facility, the fee is \$50.

Interconnection Customer

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Interconnection Customer)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Owner(s) of the Generating Facility: _____

Generating Facility Information

Location (if different from above): _____

Utility: _____

Account Number: _____

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)
Single Phase _____ Three Phase _____

System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: Photovoltaic Reciprocating Engine Fuel Cell
Turbine Other _____

Energy Source: Solar Wind Hydro Diesel Natural Gas
Fuel Oil Other (describe) _____

Is the equipment UL 1741 Listed? Yes ___ No ___
If Yes, attach manufacturer's cut-sheet showing UL 1741 listing

Estimated Installation Date: _____ Estimated In-Service Date: _____

The 10 kW Inverter Process is available only for inverter-based Generating Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of Attachments 3 and 4 of the North Carolina Interconnection Procedures, or the Utility has reviewed the design or tested the proposed Generating Facility and is satisfied that it is safe to operate.

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

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

Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Interconnection Request is true. I agree to abide by the Terms and Conditions for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 10 kW and return the Certificate of Completion when the Generating Facility has been installed.

Signed: _____

Title: _____ Date: _____

Contingent Approval to Interconnect the Generating Facility (For Utility use only)

Interconnection of the Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 10 kW and return of the Certificate of Completion.

Utility Signature: _____

Title: _____ Date: _____

Interconnection Request ID number: _____

Utility waives inspection/witness test? Yes ___ No ___

**Certificate of Completion
for Interconnecting a Certified Inverter-Based
Generating Facility No Larger than 10 kW**

Is the Generating Facility owner-installed? Yes ___ No ___

Interconnection Customer

Name: _____

Contact Person: _____

Address: _____

Location of the Generating Facility (if different from above)

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Electrician

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

License Number: _____

Date Approval to Install Generating Facility granted by the Utility: _____

Interconnection Request ID Number: _____

Inspection:

The Generating Facility has been installed and inspected in compliance with the local building/electrical code of _____

Signed (Local electrical wiring inspector, or attach signed electrical inspection):

Print Name: _____

Date: _____

As a condition of interconnection, you are required to send/fax a copy of this form along with a copy of the signed electrical permit to (insert Utility information below):

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Fax: _____

Approval to Energize the Generating Facility (For Utility use only)

Energizing the Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 10 kW.

Utility Signature: _____

Title: _____ Date: _____

**Terms and Conditions
for Interconnecting a Certified Inverter-Based
Generating Facility No Larger than 10 kW**

1.0 Construction of the Facility

The Interconnection Customer (Customer) may proceed to construct (including operational testing not to exceed two hours) the Generating Facility when the Utility approves the Interconnection Request and returns it to the Customer.

2.0 Interconnection and Operation

The Customer may interconnect the Generating Facility with the Utility's System and operate in parallel with the Utility's System once all of the following have occurred:

2.1 Upon completing construction, the Customer will cause the Generating Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and

2.2 The Customer returns the Certificate of Completion to the Utility, and

2.3 The Utility has either:

2.3.1 Completed its inspection of the Generating Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes. All inspections must be conducted by the Utility, at its own expense, within ten Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to the Parties. The Utility shall provide a written statement that the Generating Facility has passed inspection or shall notify the Customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place; or

2.3.2 If the Utility does not schedule an inspection of the Generating Facility within ten Business Days after receiving the Certificate of Completion, the witness test is deemed waived (unless the Parties agree otherwise); or

2.3.3 The Utility waives the right to inspect the Generating Facility.

2.4 The Utility has the right to disconnect the Generating Facility in the event of improper installation or failure to return the Certificate of Completion.

2.5 Revenue quality metering equipment must be installed and tested in accordance with applicable American National Standards Institute (ANSI) standards and all applicable regulatory requirements.

3.0 Safe Operations and Maintenance

The Customer shall be fully responsible to operate, maintain, and repair the Generating Facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.

4.0 Access

The Utility shall have access to the disconnect switch (if a disconnect switch is required) and metering equipment of the Generating Facility at all times. The Utility shall provide reasonable notice to the Customer, when possible, prior to using its right of access.

5.0 Disconnection

The Utility may temporarily disconnect the Generating Facility upon the following conditions:

5.1 For scheduled outages upon reasonable notice.

5.2 For unscheduled outages or emergency conditions.

5.3 If the Generating Facility does not operate in a manner consistent with these Terms and Conditions.

5.4 The Utility shall inform the Customer in advance of any scheduled disconnection, or as soon as is reasonable after an unscheduled disconnection.

6.0 Indemnification

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

7.0 Insurance

All insurance policies must be maintained with insurers authorized to do business in North Carolina. The Parties agree to the following insurance requirements:

- 7.1 If the Customer is a residential customer of the Utility, the required coverage shall be a standard homeowner's insurance policy with liability coverage in the amount of at least \$100,000 per occurrence.
- 7.2 If the Customer is a non-residential customer of the Utility, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least \$300,000 per occurrence.
- 7.3 The Customer may provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices.

8.0 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, incidental, consequential, or punitive damages of any kind.

9.0 Termination

The agreement to interconnect and operate in parallel may be terminated under the following conditions:

9.1 By the Customer

By providing written notice to the Utility and physically and permanently disconnecting the Generating Facility.

9.2 By the Utility

If the Generating Facility fails to operate for any consecutive 12-month period or the Customer fails to remedy a violation of these Terms and Conditions.

9.3 Permanent Disconnection

In the event this Agreement is terminated, the Utility shall have the right to disconnect its facilities or direct the Customer to disconnect its Generating Facility.

9.4 Survival Rights

This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

10.0 Assignment/Transfer of Ownership of the Facility

10.1 This Agreement shall not survive the transfer of ownership of the Generating Facility to a new owner.

10.2 The new owner must complete and submit a new Interconnection Request agreeing to abide by these Terms and Conditions for interconnection and parallel operations within 20 Business Days of the transfer of ownership. The Utility shall acknowledge receipt and return a signed copy of the Interconnection Request within ten Business Days.

10.3 The Utility shall not study or inspect the Generating Facility unless the new owner's Interconnection Request indicates that a Material Modification has occurred or is proposed.

Feasibility Study Agreement

THIS AGREEMENT (“Agreement”) is made and entered into this ____ day of _____ 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____, a _____ existing under the laws of the State of _____, (“Utility”). The Interconnection Customer and the Utility each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the Utility’s System; and

WHEREAS, the Interconnection Customer has requested the Utility to perform a feasibility study to assess the feasibility of interconnecting the proposed Generating Facility with the Utility’s System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the North Carolina Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the Utility shall cause to be performed an interconnection feasibility study consistent with the North Carolina Interconnection Procedures.
- 3.0 The scope of the feasibility study shall be subject to the assumptions set forth in Appendix A to this Agreement.
- 4.0 The feasibility study shall be based on the technical information provided by the Interconnection Customer in the Interconnection Request, as may be modified as the result of the scoping meeting. The Utility reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the feasibility study and as designated in accordance with the North Carolina Interconnection Procedures. If the Interconnection Customer modifies

its Interconnection Request, the time to complete the feasibility study may be extended by agreement of the Parties.

- 5.0 In performing the study, the Utility shall rely, to the extent reasonably practicable, on existing studies of recent vintage. The Interconnection Customer shall not be charged for such existing studies; however, the Interconnection Customer shall be responsible for charges associated with any new study or modifications to existing studies that are reasonably necessary to perform the feasibility study.
- 6.0 The feasibility study report shall provide the following analyses for the purpose of identifying any potential adverse system impacts that would result from the interconnection of the Generating Facility as proposed:
 - 6.1 Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - 6.2 Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
 - 6.3 Initial review of grounding requirements and electric system protection; and
 - 6.4 Description and non-binding estimated cost of facilities required to interconnect the proposed Generating Facility and to address the identified short circuit and power flow issues.
- 7.0 The feasibility study shall model the impact of the Generating Facility regardless of purpose in order to avoid the further expense and interruption of operation for reexamination of feasibility and impacts if the Interconnection Customer later changes the purpose for which the Generating Facility is being installed.
- 8.0 The study shall include the feasibility of any interconnection at a proposed project site where there could be multiple potential Points of Interconnection, as requested by the Interconnection Customer and at the Interconnection Customer's cost.
- 9.0 A deposit of the lesser of 50 percent of good faith estimated feasibility study costs or earnest money of \$1,000 may be required from the Interconnection Customer.
- 10.0 Once the feasibility study is completed, a feasibility study report shall be prepared and transmitted to the Interconnection Customer. Barring unusual circumstances, the feasibility study must be completed and the feasibility study report transmitted within 30 Business Days of the Interconnection Customer's agreement to conduct a feasibility study.

11.0 Any study fees shall be based on the Utility's actual costs and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.

12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the Utility shall refund such excess within 30 calendar days of the invoice without interest.

13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of North Carolina, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

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

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1 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.

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

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 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 or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 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.

20.1 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 Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer 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.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Utility shall have the right to make a unilateral filing with the Commission to modify this Agreement with respect to any rates, terms and conditions, charges, or classifications of service, and the Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this Agreement; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before the Commission in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Utility]

[Insert name of Interconnection Customer]

Signed _____

Signed _____

Name (Printed):

Name (Printed):

Title _____

Title _____

Assumptions Used in Conducting the Feasibility Study

The feasibility study will be based upon the information set forth in the Interconnection Request and agreed upon in the scoping meeting held on _____:

1) Designation of Point of Interconnection and configuration to be studied.

2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the Utility.

System Impact Study Agreement

THIS AGREEMENT (“Agreement”) is made and entered into this ____ day of _____ 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____, a _____ existing under the laws of the State of _____, (“Utility”). The Interconnection Customer and the Utility each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the Utility’s System; and

WHEREAS, the Utility has completed a feasibility study and provided the results of said study to the Interconnection Customer (this recital to be omitted if the Parties have agreed to forego the feasibility study); and

WHEREAS, the Interconnection Customer has requested the Utility to perform a system impact study to assess the impact of interconnecting the Generating Facility with the Utility’s System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the North Carolina Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the Utility shall cause to be performed a system impact study consistent with the North Carolina Interconnection Procedures.
- 3.0 The scope of the system impact study shall be subject to the assumptions set forth in Appendix A to this Agreement.
- 4.0 A system impact study will be based upon the results of the feasibility study and the technical information provided by Interconnection Customer in the Interconnection Request. The Utility reserves the right to request additional

technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study. If the Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the system impact study may be extended.

- 5.0 A system impact study shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. A system impact study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. A system impact study shall provide a list of facilities that are required as a result of the Interconnection Request and non-binding good faith estimates of cost, responsibility and time to construct.
- 6.0 A distribution system impact study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.
- 7.0 Affected Systems may participate in the preparation of a system impact study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a system impact study that covers potential adverse system impacts on their electric systems, and the Utility has 20 additional Business Days to complete a system impact study requiring review by Affected Systems.
- 8.0 If the Utility uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the system impact study shall consider all generating facilities (and with respect to paragraph 8.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced –
 - 8.1. Are directly interconnected with the Utility’s electric system; or
 - 8.2. Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and
 - 8.3. Have a pending higher queued Interconnection Request to interconnect with the Utility’s electric system.

- 9.0 A distribution system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 30 Business Days after this Agreement is signed by the Parties. A transmission system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 45 Business Days after this Agreement is signed by the Parties, unless the study involves Affected Systems per 7.0.
- 10.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and one half of the good faith estimated cost of a transmission system impact study may be required from the Interconnection Customer.
- 11.0 Any study fees shall be based on the Utility's actual costs and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the Utility shall refund such excess within 30 calendar days of the invoice without interest.

13.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of North Carolina, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

14.0 Amendment

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

15.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

16.0 Waiver

16.1. 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.

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

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 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 or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 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.

20.1. 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 Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer 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.

20.2. The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Utility shall have the right to make a unilateral filing with the Commission to modify this Agreement with respect to any rates, terms and conditions, charges, or classifications of service, and the Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this Agreement; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before the Commission in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Utility]

[Insert name of Interconnection Customer]

Signed _____

Signed _____

Name (Printed):

Name (Printed):

Title _____

Title _____

Assumptions Used in Conducting the System Impact Study

The system impact study shall be based upon the results of the feasibility study, subject to any modifications in accordance with the Interconnection Procedures, and the following assumptions:

- 1) Designation of Point of Interconnection and configuration to be studied.

- 2) Designation of alternative Points of Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the Utility.

Facilities Study Agreement

THIS AGREEMENT (“Agreement”) is made and entered into this ____ day of _____ 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____, a _____ existing under the laws of the State of _____, (“Utility”). The Interconnection Customer and the Utility each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request completed by the Interconnection Customer on _____; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the Utility’s System; and

WHEREAS, the Utility has completed a system impact study and provided the results of said study to the Interconnection Customer (this recital to be omitted if the Parties have agreed to forego the system impact study); and

WHEREAS, the Interconnection Customer has requested the Utility to perform a facilities study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the system impact study and/or any other relevant studies in accordance with Good Utility Practice to physically and electrically connect the Generating Facility with the Utility’s System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the North Carolina Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the Utility shall cause to be performed a facilities study consistent with the North Carolina Interconnection Procedures.
- 3.0 The scope of the facilities study shall be subject to data provided in Appendix A to this Agreement.
- 4.0 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overheads) needed to

implement the conclusions of the system impact studies. The facilities study shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of the Utility's Interconnection Facilities and Upgrades necessary to accomplish the interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities.

- 5.0 The Utility may propose to group facilities required for more than one Interconnection Customer in order to minimize facilities costs through economies of scale, but any Interconnection Customer may require the installation of facilities required for its own Generating Facility if it is willing to pay the costs of those facilities.
- 6.0 A deposit of the good faith estimated facilities study costs may be required from the Interconnection Customer.
- 7.0 In cases where Upgrades are required, the facilities study must be completed within 45 Business Days of the receipt of this Agreement. In cases where no Upgrades are necessary, and the required facilities are limited to Interconnection Facilities, the facilities study must be completed within 30 Business Days.
- 8.0 Once the facilities study is completed, a facilities study report shall be prepared and transmitted to the Interconnection Customer.
- 9.0 Any study fees shall be based on the Utility's actual costs and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 10.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the Utility shall refund such excess within 30 calendar days of the invoice without interest.

11.0 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of North Carolina, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

12.0 Amendment

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

13.0 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

14.0 Waiver

14.1. 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.

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

15.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

16.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

17.0 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 or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

18.0 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.

18.1. 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 Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer 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.

18.2. The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

19.0 Reservation of Rights

The Utility shall have the right to make a unilateral filing with the Commission to modify this Agreement with respect to any rates, terms and conditions, charges, or classifications of service, and the Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this Agreement; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before the Commission in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties except to the extent that the Parties otherwise agree as provided herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Utility]

[Insert name of Interconnection Customer]

Signed _____

Signed _____

Name (Printed):

Name (Printed):

Title _____

Title _____

**Data to Be Provided by the Interconnection Customer
with the Facilities Study Agreement**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, circuits, etc.

On the one-line diagram, indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one-line diagram, indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

One set of metering is required for each generation connection to the new ring bus or existing Utility station. Number of generation connections: _____

Will an alternate source of auxiliary power be available during CT/PT maintenance?
Yes _____ No _____

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes _____ No _____
(Please indicate on the one-line diagram).

What type of control system or PLC will be located at the Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle map of the site. Indicate the plant, station, distribution line, and property lines.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Utility's System.

Tower number observed in the field (Painted on tower leg)*:

Number of third party easements required for lines*:

* To be completed in coordination with Utility.

Is the Generating Facility located in Utility's service area?

Yes _____ No _____ If No, please provide name of local provider:

Please provide the following proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformers
receive back feed power Date: _____

Generation Testing Date: _____

Commercial Operation Date: _____

**NORTH CAROLINA
INTERCONNECTION AGREEMENT**

TABLE OF CONTENTS

	Page No.
Article 1. Scope and Limitations of Agreement	1
1.1 Applicability	1
1.2 Purpose	2
1.3 No Agreement to Purchase or Deliver Power or RECs	2
1.4 Limitations	2
1.5 Responsibilities of the Parties	2
1.6 Parallel Operation Obligations	3
1.7 Metering	3
1.8 Reactive Power	3
1.9 Capitalized Terms	4
Article 2. Inspection, Testing, Authorization, and Right of Access	4
2.1 Equipment Testing and Inspection	4
2.2 Authorization Required Prior to Parallel Operation	5
2.3 Right of Access	5
Article 3. Effective Date, Term, Termination, and Disconnection	6
3.1 Effective Date	6
3.2 Term of Agreement	6
3.3 Termination	6
3.4 Temporary Disconnection	6
Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades	8
4.1 Interconnection Facilities	8
4.2 Distribution Upgrades	9
Article 5. Cost Responsibility for Network Upgrades	9
5.1 Applicability	9
5.2 Network Upgrades	9
Article 6. Billing, Payment, Milestones, and Financial Security	9
6.1 Billing and Payment Procedures and Final Accounting	9
6.2 Milestones	10
6.3 Financial Security Arrangements	11
Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default	11
7.1 Assignment	11
7.2 Limitation of Liability	12
7.3 Indemnity	12
7.4 Consequential Damages	13
7.5 Force Majeure	13
7.6 Default	14

	Page No.
Article 8. Insurance	14
Article 9. Confidentiality	15
Article 10. Disputes	16
Article 11. Taxes	16
Article 12. Miscellaneous	16
12.1 Governing Law, Regulatory Authority, and Rules	16
12.2 Amendment	17
12.3 No Third-Party Beneficiaries	17
12.4 Waiver	17
12.5 Entire Agreement	17
12.6 Multiple Counterparts	18
12.7 No Partnership	18
12.8 Severability	18
12.9 Security Arrangements	18
12.10 Environmental Releases	18
12.11 Subcontractors	19
12.12 Reservation of Rights	19
Article 13. Notices	19
13.1 General	19
13.2 Billing and Payment	20
13.3 Alternative Forms of Notice	21
13.4 Designated Operating Representative	22
13.5 Changes to the Notice Information	22
Appendix 1 – Glossary of Terms	
Appendix 2 – Description and Costs of the Generating Facility, Interconnection Facilities, and Metering Equipment	
Appendix 3 – One-line Diagram Depicting the Generating Facility, Interconnection Facilities, Metering Equipment, and Upgrades	
Appendix 4 – Milestones	
Appendix 5 – Additional Operating Requirements for the Utility’s System and Affected Systems Needed to Support the Interconnection Customer’s Needs	
Appendix 6 – Utility’s Description of its Upgrades and Best Estimate of Upgrade Costs	

This Interconnection Agreement (“Agreement”) is made and entered into this ____ day of _____, 20__, by _____ (“Utility”), and _____ (“Interconnection Customer”) each hereinafter sometimes referred to individually as “Party” or both referred to collectively as the “Parties.”

Utility Information

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Interconnection Customer Information

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Interconnection Request ID No: _____

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 Applicability

This Agreement shall be used for all Interconnection Requests submitted under the North Carolina Interconnection Procedures except for those submitted under the 10 kW Inverter Process in Section 2 of the Interconnection Procedures.

1.2 Purpose

This Agreement governs the terms and conditions under which the Interconnection Customer's Generating Facility will interconnect with, and operate in parallel with, the Utility's System.

1.3 No Agreement to Purchase or Deliver Power or RECs

This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power or Renewable Energy Certificates (RECs). The purchase or delivery of power, RECs that might result from the operation of the Generating Facility, and other services that the Interconnection Customer may require will be covered under separate agreements, if any. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable Utility.

1.4 Limitations

Nothing in this Agreement is intended to affect any other agreement between the Utility and the Interconnection Customer.

1.5 Responsibilities of the Parties

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

1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.

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

1.5.4 The Interconnection Customer 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, Underwriters' Laboratories, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer 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 System or equipment of the Utility and any Affected Systems.

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 their respective lines and appurtenances on their respective sides of the point of change of ownership. The Utility and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Utility'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 Utility shall coordinate with all Affected Systems to support the interconnection.

1.6 Parallel Operation Obligations

Once the Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Generating Facility in the applicable control area, including, but not limited to: 1) any rules and procedures concerning the operation of generation set forth in Commission-approved tariffs or by the applicable system operator(s) for the Utility's System and; 2) the Operating Requirements set forth in Appendix 5 of this Agreement.

1.7 Metering

The Interconnection Customer shall be responsible for the Utility's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Appendices 2 and 3 of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

1.8 Reactive Power

1.8.1 The Interconnection Customer shall design its Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Utility has established different requirements that apply to all similarly situated generators in the

control area on a comparable basis. The requirements of this paragraph shall not apply to wind generators.

- 1.8.2 The Utility is required to pay the Interconnection Customer for reactive power that the Interconnection Customer provides or absorbs from the Generating Facility when the Utility requests the Interconnection Customer to operate its Generating Facility outside the range specified in Article 1.8.1. In addition, if the Utility pays its own or affiliated generators for reactive power service within the specified range, it must also pay the Interconnection Customer.
- 1.8.3 Payments shall be in accordance with the Utility's applicable rate schedule then in effect unless the provision of such service(s) is subject to a regional transmission organization or independent system operator FERC-approved rate schedule. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb reactive power under this Agreement, the Parties agree to expeditiously file such rate schedule and agree to support any request for waiver of any prior notice requirement in order to compensate the Interconnection Customer from the time service commenced.

1.9 Capitalized Terms

Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 of the North Carolina Interconnection Procedures or the body of this Agreement.

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

2.1 Equipment Testing and Inspection

- 2.1.1 The Interconnection Customer shall test and inspect its Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Utility of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day, unless otherwise agreed to by the Parties. The Utility may, at its own expense, send qualified personnel to the Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Utility a written test report when such testing and inspection is completed.
- 2.1.2 The Utility shall provide the Interconnection Customer written acknowledgment that it has received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or

warranty by the Utility of the safety, durability, suitability, or reliability of the Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Generating Facility.

2.2 Authorization Required Prior to Parallel Operation

2.2.1 The Utility shall use Reasonable Efforts to list applicable parallel operation requirements in Appendix 5 of this Agreement. Additionally, the Utility shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Utility shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

2.2.2 The Interconnection Customer shall not operate its Generating Facility in parallel with the Utility's System without prior written authorization of the Utility. The Utility will provide such authorization once the Utility receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

2.3 Right of Access

2.3.1 Upon reasonable notice, the Utility may send a qualified person to the premises of the Interconnection Customer at or immediately before the time the Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Generating Facility (including any required testing), startup, and operation for a period of up to three Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Utility at least five Business Days prior to conducting any on-site verification testing of the Generating Facility.

2.3.2 Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Utility shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.

2.3.3 Each Party shall be responsible for its own costs associated with following this Article.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

This Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of ten years from the Effective Date or such other longer period as the Interconnection Customer may request and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with Article 3.3 of this Agreement.

3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving the Utility 20 Business Days written notice and physically and permanently disconnecting the Generating Facility from the Utility's System.

3.3.2 Either Party may terminate this Agreement after Default pursuant to Article 7.6.

3.3.3 Upon termination of this Agreement, the Generating Facility will be disconnected from the Utility'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.

3.3.4 The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.5 The provisions of this article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1 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 Utility, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Utility’s System, the Utility’s Interconnection Facilities or the systems of others to which the Utility’s System is directly connected; or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or the Interconnection Customer’s Interconnection Facilities. Under Emergency Conditions, the Utility may immediately suspend interconnection service and temporarily disconnect the Generating Facility. The Utility shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer’s operation of the Generating Facility. The Interconnection Customer shall notify the Utility promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Utility’s System or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties’ facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Routine Maintenance, Construction, and Repair

The Utility may interrupt interconnection service or curtail the output of the Generating Facility and temporarily disconnect the Generating Facility from the Utility’s System when necessary for routine maintenance, construction, and repairs on the Utility’s System. The Utility shall provide the Interconnection Customer with five Business Days notice prior to such interruption. The Utility shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages

During any forced outage, the Utility may suspend interconnection service to effect immediate repairs on the Utility’s System. The Utility shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Utility shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects

The Utility shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Generating Facility could cause damage to the Utility's System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Utility may disconnect the Generating Facility. The Utility shall provide the Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of Article 3.4.1 apply.

3.4.5 Modification of the Generating Facility

The Interconnection Customer must receive written authorization from the Utility before making any change to the Generating Facility that may have a material impact on the safety or reliability of the Utility's System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Utility's prior written authorization, the latter shall have the right to temporarily disconnect the Generating Facility.

3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Generating Facility, Interconnection Facilities, and the Utility's System to their normal operating state as soon as reasonably practicable following a temporary or emergency disconnection.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Appendix 2 of this Agreement. The Utility 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. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, and the Utility.

4.1.2 The Interconnection Customer 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) operating, maintaining, repairing, and replacing the Utility's Interconnection Facilities.

4.2 Distribution Upgrades

The Utility shall design, procure, construct, install, and own the Distribution Upgrades described in Appendix 6 of this Agreement. If the Utility and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

Article 5. Cost Responsibility for Network Upgrades

5.1 Applicability

No portion of this Article 5 shall apply unless the interconnection of the Generating Facility requires Network Upgrades.

5.2 Network Upgrades

The Utility shall design, procure, construct, install, and own the Network Upgrades described in Appendix 6 of this Agreement. If the Utility and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. Unless the Utility elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne by the Interconnection Customer.

Article 6. Billing, Payment, Milestones, and Financial Security

6.1 Billing and Payment Procedures and Final Accounting

6.1.1 The Utility shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within 30 calendar days of receipt, or as otherwise agreed to by the Parties.

6.1.2 Within three months of completing the construction and installation of the Utility's Interconnection Facilities and/or Upgrades described in the Appendices to this Agreement, the Utility shall provide the

Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Utility for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Utility shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Utility within 30 calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the Utility shall refund to the Interconnection Customer an amount equal to the difference within 30 calendar days of the final accounting report.

6.1.3 If the Interconnection Customer elects the payment procedures in Articles 6.1.1 and 6.1.2, the Utility may also bill the Interconnection Customer periodically for the costs associated with operating, maintaining, repairing and replacing the Utility's Interconnection Facilities, as set forth in Appendix 2 of this Agreement.

6.1.4 The Interconnection Customer may elect to be billed the costs in Articles 6.1.1 and 6.1.2 and for on-going operations, maintenance, repair and replacement of the Utility's Interconnection Facilities under a Utility rate schedule, tariff, rider or service regulation providing for extra facilities charges, as set forth in Appendix 2 of this Agreement, such monthly charges to continue throughout the entire life of the interconnection.

6.2 Milestones

The Parties shall agree on milestones for which each Party is responsible and list them in Appendix 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. 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, and (2) request appropriate amendments to Appendix 4. 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) attainment of the same milestone has previously been delayed, or (3) 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.

6.3 Financial Security Arrangements

At least 20 Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Utility's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Utility, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Utility and is consistent with the Uniform Commercial Code of North Carolina. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Utility's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Utility under this Agreement during its term. In addition:

- 6.3.1 The guarantee must be made by an entity that meets the creditworthiness requirements of the Utility, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.
- 6.3.2 The letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to the Utility and must specify a reasonable expiration date.
- 6.3.3 The Utility may waive the security requirements if its credit policies show that the financial risks involved are de minimus, or if the Utility's policies allow the acceptance of an alternative showing of creditworthiness from the Interconnection Customer.

Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

7.1 Assignment

- 7.1.1 This Agreement shall not survive the transfer of ownership of the Generating Facility to a new owner. The new owner must complete a new Interconnection Request and submit it to the Utility within 20 Business Days of the transfer of ownership or the Utility's Interconnection Facilities shall be removed or disabled and the Generating Facility disconnected from the Utility's System. The Utility shall not study or inspect the Generating Facility unless the new owner's Interconnection Request indicates that a Material Modification has occurred or is proposed.
- 7.1.2 The Interconnection Customer shall have the right to assign this Agreement, without the consent of the Utility, for collateral security purposes to aid in providing financing for the Generating Facility,

provided that the Interconnection Customer will promptly notify the Utility 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.

7.1.3 Any attempted assignment that violates this article is void and ineffective.

7.2 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, incidental, consequential, or punitive damages of any kind, except as authorized by this Agreement.

7.3 Indemnity

7.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 7.2.

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

7.3.3 If an indemnified Party is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such claim, such indemnified Party may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

7.3.4 If an indemnifying Party is obligated to indemnify and hold any indemnified Party harmless under this Article, the amount owing to the indemnified Party shall be the amount of such indemnified Party's actual loss, net of any insurance or other recovery.

7.3.5 Promptly after receipt by an indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified Party shall notify the indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying Party.

7.4 Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

7.5 Force Majeure

7.5.1 As used in this article, a Force Majeure Event shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing.

7.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

7.6 Default

- 7.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event 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 as provided in Article 7.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.
- 7.6.2 If a Default is not cured as provided in this Article, 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 all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

Article 8. Insurance

- 8.1 The Interconnection Customer shall obtain and retain, for as long as the Generating Facility is interconnected with the Utility's System, liability insurance which protects the Interconnection Customer from claims for bodily injury and/or property damage. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. This insurance shall be primary for all purposes. The Interconnection Customer shall provide certificates evidencing this coverage as required by the Utility. Such insurance shall be obtained from an insurance provider authorized to do business in North Carolina. The Utility reserves the right to refuse to establish or continue the interconnection of the Generating Facility with the Utility's System, if such insurance is not in effect.
- 8.1.1 For an Interconnection Customer that is a residential customer of the Utility proposing to interconnect a Generating Facility no larger than 250 kW, the required coverage shall be a standard homeowner's

insurance policy with liability coverage in the amount of at least \$100,000 per occurrence.

- 8.1.2 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility no larger than 250 kW, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least \$300,000 per occurrence.
- 8.1.3 An Interconnection Customer of sufficient credit-worthiness may propose to provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices, and such a proposal shall not be unreasonably rejected.
- 8.2 The Utility agrees to maintain general liability insurance or self-insurance consistent with the Utility's commercial practice. Such insurance or self-insurance shall not exclude coverage for the Utility's liabilities undertaken pursuant to this Agreement.
- 8.3 The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

Article 9. Confidentiality

- 9.1 Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.
- 9.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.
 - 9.1.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.

- 9.1.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
- 9.3 If information is requested by the Commission from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to the Commission within the time provided for in the request for information. In providing the information to the Commission, the Party may request that the information be treated as confidential and non-public in accordance with North Carolina law and that the information be withheld from public disclosure.

Article 10. Disputes

- 10.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this Article.
- 10.2 In the event of a dispute, either Party shall provide the other Party with a written notice of dispute. Such notice shall describe in detail the nature of the dispute.
- 10.3 If the dispute has not been resolved within two Business Days after receipt of the notice, either Party may contact the Public Staff for assistance in informally resolving the dispute. If the Parties are unable to informally resolve the dispute, either Party may then file a formal complaint with the Commission.
- 10.4 Each Party agrees to conduct all negotiations in good faith.

Article 11. Taxes

- 11.1 The Parties agree to follow all applicable tax laws and regulations, consistent with North Carolina and federal policy and revenue requirements.
- 11.2 Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the Utility's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

Article 12. Miscellaneous

12.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of North Carolina, without regard to its conflicts of law principles. This Agreement is subject to all Applicable

Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

12.2 Amendment

The Parties may amend this Agreement by a written instrument duly executed by both Parties, or under Article 12.12 of this Agreement.

12.3 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

12.4 Waiver

12.4.1 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.

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

12.5 Entire Agreement

This Agreement, including all Appendices, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

12.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

12.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

12.8 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 or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. All Utilities are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.

12.10 Environmental Releases

Each Party shall notify the other Party, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

12.11 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.

12.11.1 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 Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer 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.

12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

12.12 Reservation of Rights

The Utility shall have the right to make a unilateral filing with the Commission to modify this Agreement with respect to any rates, terms and conditions, charges, or classifications of service, and the Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this Agreement; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before the Commission in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties except to the extent that the Parties otherwise agree as provided herein.

Article 13. Notices

13.1 General

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 below:

If to the Interconnection Customer:

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

If to the Utility:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

13.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

If to the Utility:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

13.3 Alternative Forms of Notice

Any notice or request required or permitted to be given by either Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

E-Mail Address: _____

If to the Utility:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

E-Mail Address: _____

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

E-Mail Address: _____

Utility's Operating Representative:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

E-Mail Address: _____

13.5 Changes to the Notice Information

Either Party may change this information by giving five Business Days written notice prior to the effective date of the change.

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

For the Utility

Name: _____

Title: _____

Date: _____

For the Interconnection Customer

Name: _____

Title: _____

Date: _____

Glossary of Terms

See Glossary of Terms, Attachment 1 to the North Carolina Interconnection Procedures.

**Description and Costs of the Generating Facility,
Interconnection Facilities, and Metering Equipment**

Equipment, including the Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer, or the Utility. The Utility will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

**One-line Diagram Depicting the Generating Facility,
Interconnection Facilities, Metering Equipment, and Upgrades**

Milestones

In-Service Date: _____

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Utility _____ Date _____

For the Interconnection Customer _____ Date _____

**Additional Operating Requirements for the Utility's
System and Affected Systems Needed to Support
the Interconnection Customer's Needs**

The Utility shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the Utility's System.

**Utility's Description of its Upgrades
and Best Estimate of Upgrade Costs**

The Utility shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Utility shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.