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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-100, SUB 101

FILED

NOV 21 2014

Clerk's Office
N.C. Utilities Commission

In the Matter of:

Adoption, if Appropriate, of
Modifications to Interconnection
Standards to Reflect Recent
Improvements Expressed
in FERC Order No. 792

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INITIAL COMMENTS

NCSEA'S INITIAL COMMENTS

On 8 April 2014, North Carolina Sustainable Energy Association ("NCSEA") filed in this docket a *Petition to Modify Interconnection Procedures in Response to FERC Order No. 792 and to Consider Other Related Matters*. On 11 April 2014, the North Carolina Utilities Commission ("Commission") issued an *Order Requesting Discussion and Comments* in which the Commission set a filing deadline for initial comments. The filing deadline was extended several times so that parties and interested clean energy businesses could meet and collaboratively discuss various proposals for updating the North Carolina Interconnection Procedures, Forms, and Agreements ("the North Carolina interconnection standard"). NCSEA is filing these initial comments pursuant to the Commission's 11 April 2014 order (as modified by the Commission's 30 October 2014 *Order Granting Fourth Extension of Time to File Comments*).

OVERVIEW

The North Carolina interconnection standard that is currently in place was last revised in this docket in 2009 – more than five years ago. Since the last revision of the interconnection standard, North Carolina’s investor-owned utilities – including Duke Energy Carolinas, LLC, Duke Energy Progress, Inc. (collectively “Duke Energy”), and Dominion North Carolina Power (“DNCP”) – have received a large number of interconnection requests. Most of these requests have been for interconnection of solar photovoltaic facilities. When the current interconnection standard was last revised, arguably¹ no one anticipated the number of interconnection requests that the utilities have received in the last two years. The large number of requests received coupled with a failure to “clear” the three utilities’ interconnection queues has resulted in what stakeholders refer to as “clogged” queues.

The three utilities’ clogged queues began concerning NCSEA’s business members last year (*i.e.*, late 2013) when it became apparent that the movement of their proposed projects through the interconnection study, design, and construction processes was slowing considerably. Today, this slowing is significantly disrupting the ability of developers to effectively plan for and manage project development. Because the movement – or non-movement – of projects through the three queues has become completely divorced from the timelines set out in the current interconnection standard, it has effectively become impossible for a developer to even roughly estimate a project development timeline. Beyond this general disruption to project planning, the current slowing presents a very real threat to projects’ eligibility for the North Carolina

¹ The utilities may well make this argument.

renewable energy tax credit and thus a very real threat to many projects' financial viability.²

On 22 November 2013 -- at about the same time that NCSEA's business members began recognizing the threat presented by the State's clogged queues -- the Federal Energy Regulatory Commission ("FERC") issued FERC Order No. 792. As FERC explained in Order No. 792, the then-existing FERC-jurisdictional small generator interconnection procedure ("SGIP") -- upon which North Carolina's current interconnection standard is based -- was no longer suited to effectively manage the interconnection of a growing number of distributed generators. And so, Order No. 792 modified the SGIP.

Particularly noteworthy is how Order No. 792 modified the federal "fast track" process to include (i) a pre-application report to increase access to information about the electrical system to help potential interconnectors to select appropriate project locations, (ii) a modification of the eligibility thresholds for the "fast track" process (allowing appropriately sited projects up to 5 MW to use the expedited process), and (iii) inclusion of a more robust supplemental review process to help avoid the need to send as many projects as possible to full study. FERC found that "[w]ithout these reforms, the

² The North Carolina renewable energy tax credit is currently set to expire at the end of 2015. To be eligible for the tax credit, a developer's project must be operational prior to the credit's expiration. To be operational prior to the credit's expiration, a project developer must secure an interconnection agreement that sets out a construction timetable pursuant to which the utility and the developer have sufficient time, after execution of the interconnection agreement, to build out any necessary upgrades and interconnection facilities as well as the generation plant itself. To secure an interconnection agreement, a project developer must move its project through the utilities' system impact study/facilities study processes. Given all of these dependencies, one can quickly see how the clogged interconnection queue -- particularly in the early study stages -- can result in significant delays in project completion dates.

continued growth in Small Generating Facilities could cause inefficient interconnection queue backlogs and require some Small Generating Facilities to undergo more costly Study Process when they could be interconnected under the Fast Track Process safely and reliably.”³ The “fast track” reforms that FERC adopted are thus highly relevant to North Carolina where clogged queues are preventing projects from moving forward.

With the foregoing serving as backdrop, the utilities, the Public Staff, the Interstate Renewable Energy Council (“IREC”), NCSEA, and multiple NCSEA business members have met numerous times throughout the past six months in an effort to reach agreement on revisions to the North Carolina interconnection standard that will accomplish two primary goals: (1) unclog the queues and prevent them from re-clogging in the future, and (2) incorporate, as appropriate, into North Carolina’s interconnection standard the recent FERC modifications to the federal interconnection standard.⁴

NCSEA is extremely appreciative of each party’s/NCSEA business member’s participation in the discussions that have occurred over the past six months. NCSEA believes the discussions have served to re-familiarize many stakeholders with the current interconnection standard and have helped focus stakeholder attention on several key aspects of the standard that can be modified to try to accomplish the two primary goals set out above. The discussions have produced significant areas of agreement. They have also clarified that the various stakeholders disagree on a number of issues/details.⁵

³Small Generator Interconnection Agreements and Procedures, 78 Fed. Reg. 73,240 (Dec. 5, 2013), 145 FERC ¶ 61,159, Order No. 792, at ¶ 21 (“FERC Order No. 792”).

⁴ See N.C. Gen. Stat. § 62-133.8(i)(4) (requiring adoption of the federal interconnection standards where appropriate).

⁵ It is important to note that NCSEA’s comments do not necessarily reflect positions agreed to unanimously by NCSEA’s business membership. NCSEA’s business membership is diverse and one or more of its members may disagree with one or more of

NCSEA's initial comments are organized and presented as follows:

- First, NCSEA's general comments are presented below.
- Second, NCSEA's specific recommendations for revising the language of the interconnection standard are attached as **Attachment A** – which consists of redlines to the “proposed revised North Carolina Standard” that was circulated to stakeholders by the utilities on 10 November 2014 in compliance with the Commission's 30 October 2014 *Order Granting Fourth Extension of Time to File Comments*. For clarity's sake, NCSEA – in word processing parlance – “accepted” all of the revisions to the existing interconnection standard proposed by the utilities in the 10 November 2014 version they circulated and then NCSEA redlined and commented on the 10 November 2014 version.⁶

the positions taken by NCSEA in these comments. NCSEA has, however, been keeping a number of its interested business members updated as to the stakeholder process and NCSEA has encouraged its individual business members to file comments or consumer statements to the extent NCSEA's comments do not reflect their individual business's position(s).

⁶ NCSEA and the NCSEA business members who participated in the so-called Queue Management Working Group have engaged in discussions with the utilities after the 10 November 2014 version was circulated and have been able to reach agreement on several additional issues/details, some of which are reflected in **Attachment A** and some of which may be reflected in the utilities' initial comments. NCSEA will strive to clarify the additional points of agreement in its reply comments.

INITIAL COMMENTS

Initial Comment No. 1:

In Any Order Approving Revisions to the Interconnection Procedures, the Commission Should Direct Stakeholders to Suggest Conforming/Clarifying Changes to the Attachments to the Interconnection Procedures Within 30 Days.

The North Carolina interconnection standard is a complicated document that governs a complicated real world transaction. The 100+ page document contains several sections: The standard begins with a roughly 30-page section called the interconnection procedures. The procedures are followed by a glossary of defined terms that are used in the procedures; the terms defined in the glossary are also used in the attached forms (*e.g.*, the interconnection request form) and template agreements (*e.g.*, the system impact study agreement, the facilities study agreement, and the interconnection agreement) that follow the glossary.

To date, NCSEA believes the stakeholders have focused the lion's share of their revisionary efforts on the roughly 30-page interconnection procedures. The forms and agreements in the standard comprise the bulk of the document and are equally critical to a functioning interconnection process. Yet the forms and agreements have probably not received the full revisionary attention they merit, at least in part because the forms and agreements are in a sense derivative and must ultimately conform to and not be inconsistent with the procedures.

Given the foregoing, NCSEA recommends that any Commission order approving a fully revised interconnection procedure be accompanied by a direction that the stakeholders once again convene in an effort to identify and communicate to the

Commission within 30 days any revisions that should be made to the forms and agreements to make them conform to the new Commission-approved procedures.

Initial Comment No. 2:

In Any Order Approving Revisions to the Interconnection Procedures, the Commission Should Direct the Utilities to File Periodic (e.g., Monthly) Reports on the Status of their Queues.

A revised standard may or may not successfully unclog the utilities' queues and prevent them from re-clogging in the future. A revised standard may also create unforeseen and inadvertent impediments, internal inconsistencies, or "loopholes" that are antithetical to an efficient interconnection process. NCSEA believes that there is general agreement that a revised standard must be monitored to ensure it is proving effective at unclogging the queue and efficiently and fairly moving projects through the process in accordance with express timelines. NCSEA understands that the utilities may need a reasonable "grace" period to transition to full compliance with a revised standard but suggests that Commission imposition of a monthly⁷ reporting requirement on the utilities will help expedite the transition as well as help expose – earlier rather than later – any unforeseen or inadvertent impediments that may exist in the revised standard.

The reports should be filed with the Commission and should contain, at a minimum:

- A spreadsheet containing a list of all the projects in the utility's interconnection queue, with each project entry in the spreadsheet containing the following information, at a minimum: an identification of the project by Queue Number

⁷ A monthly report should be required for at least the first year. Thereafter, depending on what the reports themselves have shown, the reporting requirement could be relaxed to require quarterly or bi-annual reports.

(rather than developer name), date of issuance of Queue Number, the project's proposed/approved capacity, the project's fuel, any projected in-service date, the substation to which the project will be interconnected, the substation transformer size, and the feeder/circuit to which the project will be interconnected;⁸

- An identification of key deadlines expressed in the revised standard, together with related analysis/data points including the following, at a minimum: an identification of the party (*i.e.*, utility or developer) responsible for complying with the deadline; the number of projects currently in the queue that have failed to meet the deadline; for all of the projects currently in the queue that have failed to meet a deadline, the average number of days out of compliance; for the single project that is the farthest out of compliance for a deadline, the number of days out of compliance; and, finally,
- For key exercises of utility administrative discretion (*e.g.*, where the utility makes a material modification determination), an identification of the authority for exercise of discretion (*i.e.*, Section 1.5 of the proposed revised standard), the number of times the authority has been invoked, and a summary of the key facts as well as the utility's ultimate determination.⁹

⁸ This information will give developers greater visibility as to where they stand in the overall queue as well as where they stand with regard to the specific substation and feeder/circuit to which they are proposing to interconnect. Such visibility is likely to have a self-regulatory effect. It is NCSEA's understanding that the utilities are willing to provide most, if not all, of this type of information in a report (though they may not agree to provide this type of information on a monthly basis). By way of comparison and example, PJM already makes this type of information publically available. *See*, <http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx> (viewed on 19 November 2014).

⁹ The issue of material modification is illustrative of the importance of such a reporting requirement. The definition of "material modification" has been discussed at length by

Initial Comment No. 3:

In Any Order Approving Revisions to the Interconnection Procedures, the Commission Should Acknowledge Any Innovative/Experimental Aspects of the Revised Procedures and Indicate that the Commission Will Review the Efficacy of the Innovative/Experimental Revisions No Later Than One Year After Implementation.

Some proposed revisions appear to have broad stakeholder support, at least in concept if not down to the final detail. An example would be the interdependent project provisions set out in Section 1.8 of the proposed revised interconnection standard. Broad support does not, however, guarantee success in unclogging the queue and preventing it from re-clogging in the future. Some of the proposed revisions do not have direct analogs in the federal standard or in other states' standards and thus are somewhat experimental. For this reason, a revised standard that incorporates such provisions should be implemented on a "probationary" or "trial" basis. It is imperative that, in addition to requiring monthly monitoring reports, the Commission require a review of the revised standard within a reasonable period after its implementation.

NCSEA suggests a review of any Commission-approved revised standard be initiated no later than one year after implementation. In the event all is going smoothly said review could, for example, simply relax the reporting requirement from a monthly requirement to a quarterly or bi-annual requirement; conversely, in the event "cracks" have begun to appear, said review could involve the Commission taking more substantive action.

stakeholders. The stakeholders have not been able to agree on all of the details of the definition or on exactly how some of the agreed upon language will be administered. A report by the utilities explaining how they have administered any approved definition will help all of the stakeholders better understand whether the definition merits amendment during any Commission-initiated post-implementation review.

Initial Comment No. 4:

In Any Order Approving Revisions to the Interconnection Procedures, the Commission Should Specifically Approve the Proposed Upfront Study Deposit and Clarify that the Deposit Requirement Applies to Future Interconnection Customers and to Projects that Are Currently In the Queue and Awaiting Study or In the Midst of Study.

If the Commission analogizes each utility's interconnection queue to a sink, the current status of each queue can be visualized thusly: The sink's drainpipe is clogged in at least two places, prohibiting water from moving down through the pipe. Adding to the problem is the fact that the faucet is running near full blast and so water is backing up in the sink and accumulating. The stakeholders appear to be in general agreement that clearing the sink and drainpipe of the accumulated water is best accomplished via a two-prong approach: Turning the faucet down and snaking out the drainpipe.

The key mechanism being proposed to turn the faucet down is an upfront deposit. Proposed section 1.4.1.2 provides in pertinent part that the following deposit must be submitted with a new interconnection request in order for a queue number to be issued to the project:

For all Generating Facilities that . . . are to be evaluated under the Section 4 Study Process, an Interconnection Request Deposit is required. *The Interconnection Request Deposit shall equal \$20,000 plus one dollar (\$1.00) per kWac of capacity specified in the Interconnection Request Application Form, not to exceed an aggregate Interconnection Request Deposit of \$100,000.* The Interconnection Request Deposit is intended to cover the Utility's reasonably anticipated costs for conducting the System Impact Study and the Facilities Study. Such deposit shall, however, be applicable towards the cost of all studies, Upgrades and Interconnection Facilities.

Attachment A (emphasis added). This upfront deposit is designed first and foremost to ensure that the utilities have funds available against which to bill developers for study

work done at the developers' request. With an adequate deposit in place, ratepayers will not have to cover the cost of any studies done for developers but not paid for by developers.¹⁰ The upfront deposit is also designed, at least in part, to temper (but not eliminate) the entrepreneurial optimism of developers who currently face low barriers to enter the queues and therefore can introduce more projects into the queues than they might if they faced a more meaningful barrier to entry.¹¹

The stakeholders appear to agree that the upfront deposit mechanism can also help to "snake" the first clog in the drainpipe, but only if it is applied – in addition to new entrants – to projects that are currently in the queue but have not completed the study process. The first clog in the drainpipe is the study process; right now projects are not

¹⁰ The Commission should not assume from these comments that the uncollectible costs are of a shocking magnitude; the utilities have not identified a specific uncollected amount. Nor should the Commission assume that, where costs are being borne by ratepayers, it is because developers have simply chosen not to pay bills that have been issued to them; NCSEA's understanding is that in some instances developers have not received bills at all.

¹¹ Developers will likely continue to exhibit entrepreneurial optimism, knowing that successful development of a single project often requires pursuing multiple projects, most of which will be stymied by insurmountable hurdles. Recent testimony during the 2014 biennial avoided cost hearing helps illustrate some of the hurdles that can stymie project development. NCSEA witness Mike Cohen testified as follows:

A number of hurdles can cause a developer to abandon a project. The hurdles include the following: 1. Environmental restrictions (typically wetlands) which make the available acres for a site too small; 2. Interconnection upgrade costs which make the project uneconomical; 3. Geological conditions (typically rock) which make the site unbuildable; 4. Local zoning, which either prevents the project outright or imposes restrictions making the project uneconomical; 5. Opposition of neighbors, which can influence a land owner's decision to lease property for a solar farm; and 6. Securing financing. The inability to successfully surmount all of the hurdles whittles the number of viable projects considerably.

moving efficiently through the study process. If the upfront deposit is applied to projects that are in the queue but have not completed the study process, developers who have requested numerous interconnections will be called upon to elect how to deploy their limited financial resources and choose which projects to “secure” via a deposit and which to withdraw from the queue. Proposed section 1.1.3 contains the following language designed to make the section 1.4.1.2 upfront deposit applicable to projects currently in the queue:

Any Interconnection Customer that has not executed an interconnection agreement with the Utility prior to the effective date of the 2015 revisions to this Standard shall have 30 Calendar Days following the effective date of the Standards and the posted date of notice in writing from the Utility . . . to post the deposit outlined in Section 1.4.

Attachment A.

NCSEA believes it is critical that the upfront deposit apply to both new entrants and to projects currently in the queue that have not completed the system impact study/facilities study processes. In connection with such an application of the new requirement, NCSEA believes it is important to note several things. First, the proposed deposit requirement merely builds upon and helps to clarify an existing deposit procedure that is arguably both ambiguous and inadequate. Second, the new, clearer requirement has not been designed or intended to impose an additional non-refundable “charge” for any past service; instead, it is designed and intended to help ensure payment for services yet to be rendered or invoiced.

To the extent a project currently in the study process has already put down a deposit or made any study payment, proposed section 1.1.3 puts several due process protections in place that supplement the already existing protections in the law. First,

proposed section 1.1.3 ensures that such projects will receive written notice and be given 30 days to post any required deposit and if any dispute arises as to notice or the deposit amount, the developer will have recourse to the Section 6.2 dispute resolution procedures. Second, but related to the amount of the deposit, proposed section 1.1.3 ensures that a project's new deposit amount will be reduced by any previous deposit and/or payment. On this second point, proposed section 1.1.3 specifically provides: "Any amounts previously paid by the Interconnection Customer at the time payment is due under this Section shall be credited towards the deposit amount . . . required under this Section." In addition to these two express protections, NCSEA understands that application of the new requirement to projects already in the queue will not (and cannot) extend so far as to up-end any relevant executory study contract that exists.¹²

Applying the new upfront deposit requirement to projects already in the queue should also afford ratepayers an enhanced level of protection. During the stakeholder discussions, it became apparent that the current deposit amount is either inadequate to afford protection or is not actually being required of developers by the utilities; as a result, the utilities indicated that ratepayers are at times bearing the burden of some study costs which have not been collected from developers.¹³ The posting of a deposit to

¹² Thus, for example, if a developer has a fully executed system impact study agreement for a project that is currently in the queue for interconnection at the transmission level, the language in that developer's agreement that directs that a "deposit of the equivalent of . . . *one half* of the good faith estimated cost of a transmission system impact study may be required from the Interconnection Customer" will limit the magnitude of any new deposit required (but it will not preclude the posting of a deposit if one has not already been posted).

¹³ Again, the Commission should not assume from these comments that the uncollectible costs are of a shocking magnitude; the utilities have not identified a specific uncollected amount. Nor should the Commission assume that, where costs are being borne by ratepayers, it is because developers have simply chosen not to pay bills that have been

protect ratepayers at large from bearing the burden of unrecovered costs is a well-established practice. *See, e.g.*, Commission Rule R12-1 (“A cash deposit to establish, maintain or reestablish service shall be required . . . to avoid, to the extent practicable, the creation of a burden arising from uncollectible bills which would have to be borne ultimately by all the utility’s ratepayers”). Applying the new study deposit requirement to projects already in the queue (and not just to new entrants) will serve to avoid the creation of any additional ratepayer burden arising from otherwise uncollectible bills.

Initial Comment No. 5:

In a Near-Term Order Partially Approving Proposed Revisions to the Interconnection Standard, the Commission Should Approve for Immediate Implementation the Proposed Upfront Study Deposit and Clarify that the Deposit Requirement Applies to Future Interconnection Customers and to Projects that Are Currently In the Queue and Awaiting Study or In the Midst of Study.

NCSEA believes it is critical that the upfront deposit requirement be approved and that it apply to both new entrants and projects currently in the queue that have not completed the system impact study/facilities study process. NCSEA further believes it is critical that the Commission consider expediting implementation of this particular revision. NCSEA knows of no reason not to take immediate steps to turn the faucet down and begin snaking out the drainpipe (to return briefly to the sink metaphor), nor does NCSEA know of a reason not to take immediate steps to insulate ratepayers from any uncollectible study costs that may accrue under the existing paradigm.

If the Commission receives comments evidencing broad stakeholder support for the new deposit requirement, NCSEA suggests the new upfront deposit requirement be

issued to them; NCSEA’s understanding is that in some instances developers have not received bills at all.

implemented on an expedited basis even as the Commission deliberates over the remaining revisions to be made.¹⁴ Such action would not be unprecedented. In 2005, the Commission issued an order partially approving a proposed interconnection standard and then approved the full standard in an order issued three months later. *See Order Approving, In Part, Proposed Interconnection Standard*, p. 18, Commission Docket No. E-100, Sub 101 (22 March 2005); *see also Order Approving Revised Interconnection Standard, Application, and Agreement*, Commission Docket No. E-100, Sub 101 (6 July 2005).

Initial Comment No. 6:

In Any Order Approving Revisions to the Interconnection Procedures, the Commission Should Specifically Direct that the Utilities Begin Paying Interest on Deposits Posted by Interconnection Customers at the Statutory Interest Rate Beginning on the 91st Day After the Deposit Was Received.

NCSEA and a number of its business members believe that, by supporting the new deposit requirement (among other revisions), they have “put skin in the game” toward the goal of unclogging the queues and preventing re-clogging in the future. NCSEA and its members would like to see the utilities put similar “skin in the game” evidencing their commitment to unclog the queues and keep projects moving through their processes expeditiously. The topic of penalties for failure of a utility to adhere to express deadlines came up several times during the stakeholder discussions. The utilities appear to oppose specific penalty provisions.

¹⁴ In any expedited order implementing the new upfront deposit requirement, NCSEA recommends the Commission require that the utilities provide developers with enough detail regarding their projects’ positions in the queues for the developers to make informed decisions about whether to post the deposit for a project or withdraw a project’s interconnection request.

One proposal that was raised by a stakeholder that NCSEA believes is reasonable and will help to incent the utilities to conduct studies and engage in construction expeditiously is to require the utilities to pay interest on any deposits at 8 percent beginning on the 91st day after the deposit was made. NCSEA believes this approach is reasonable given that, if the new deposit requirement is approved, the utilities are likely to be holding more money on deposit in the aggregate and the payment of interest on deposits is not unprecedented.

N.C. Gen. Stat. § 24-1 establishes 8 percent as the legal rate of interest in North Carolina. In turn, Commission Rule R12-4(c) provides as follows, in connection with customer deposits:

Each utility shall pay interest on any deposit held more than ninety (90) days at the rate of eight percent per annum. Interest on a deposit shall accrue annually and, if requested, shall be annually credited to the customer by deducting such interest from the amount of the next bill for service following the accrual date. A utility shall pay interest on a deposit beginning with the 91st day after it is collected and continuing until such deposit is lawfully tendered back to the customer by first-class mail, or to his legal representative or until it escheats to the State, with accrued interest.

In a 2003 order, the Commission opined on the fairness of this rule:

The Commission agrees that a fixed interest rate is simple, easily understood by customers, and easily administered by utilities. Because almost all of the state's utilities earn overall rates of return in excess of 8 percent, the 8 percent interest rate on deposits is not causing them any financial loss. The deposits they receive from customers can be invested in their ongoing business operations at a profit. Security deposits, being monies that utility customers are required to pay to receive necessary services, benefit the utilities as both collateral to ensure customer payments and as useful capital. Therefore, utilities should pay a fair rate of interest for the period they use these funds. The present 8 percent rate is equitable, just, and reasonable. It provides a fair middle ground between what utilities pay for borrowing and what they and their shareholders earn as a reasonable return. In addition, the Commission believes that the interest rate for customer deposits should be at a level high enough to

provide a fair return to customers on their money, but not so low as to encourage utilities to require deposits in situations where they are not necessary. The Commission further notes that Rule R12-4(c) exempts the Petitioners from paying any interest on security deposits for the first 90 days that the deposits are held, while Rule R12-5(d) allows the Petitioners to refund security deposits, in whole or in part, at any time. Thus, the Petitioners can choose to hold a customer's security deposit for 90 days to gauge whether that customer is a good credit risk. If so, they can refund the deposit without paying any interest. Even if deposits are held for a full 12 months, the effective rate of interest paid by utilities on the deposit is only 6 percent, due to the interest exemption during the first 90 days.

Order Denying Petitions to Amend Rule, pp. 8-9, Commission Docket No. M-100, Sub 131 (23 December 2003). Interconnection deposits are no different in substance than the customer deposits covered by Commission Rule R12-4 and so the utilities should likewise pay a fair rate of interest for the period during which they use (or could use) the interconnection deposits. Obviously, interest would cease to accrue on any portion of the deposit once that portion had been billed against for study or construction costs or, alternatively, that portion of the deposit had been refunded.

It should be noted that this so-called "penalty" approach is not really a penalty at all; it is simply fair, and yet it provides incentive to the utility to move projects through the processes quickly and efficiently. If this approach is nonetheless viewed as a penalty, it is a very light penalty, made even more so because – as with the customer deposits – the effective interest rate would be less than 8 percent per annum because of the 90 day "grace period."

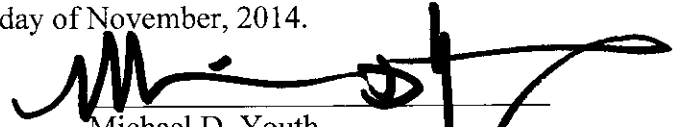
Initial Comment No. 7:

In Any Order Approving Revisions to the Interconnection Procedures, NCSEA Supports Commission Approval of IREC's Proposed Revisions to the Extent IREC's Proposed Revisions Are Not in Conflict With Any Specific Recommendations NCSEA Makes In This Proceeding.

NCSEA supports IREC's proposed revisions to (i) the 20 kW Inverter Process (*see* Section 2 of the proposed revised interconnection procedures) and (ii) the "fast track" and supplemental review processes (*see* Section 3 of the proposed revised interconnection procedures) to the extent IREC's proposed revisions do not conflict with anything NCSEA has advocated for above or in the redline attached hereto. IREC's proposed changes are based upon the revisions to the federal SGIP that were adopted in FERC Order No. 792 and could assist in alleviating the study backlog that is contributing to the clogged queues.

NCSEA supports IREC's efforts to see the "fast track" and supplemental review processes available to as many projects as possible. The approach adopted by FERC that expands eligibility for "fast track" review is technically sound and provides utilities with ample time and discretion to identify any potential safety and reliability issues. Each project that moves through this expedited review process is one less project that need be fully studied, permitting a utility to focus its limited resources on projects that require full study. At the same time, this process can save a project developer the cost of a full study. For the foregoing reasons, NCSEA believes incorporating the FERC amendments discussed above is appropriate, *see* N.C. Gen. Stat. § 62-133.8(i)(4)(directing the Commission to adopt appropriate federal interconnection standards), and therefore supports IREC's proposals to the extent they do not conflict with any specific NCSEA proposal set out in **Attachment A**.

Respectfully submitted, this the 21 day of November, 2014.

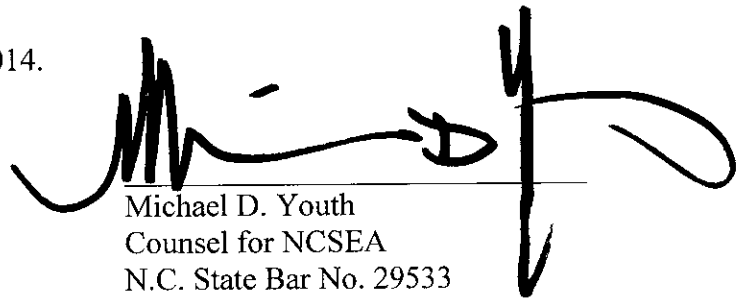


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CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing Initial Comments, together with any attachments, by hand delivery, first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission with the party's consent.

This the 21 day of November, 2014.



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ATTACHMENT A

11 10 2014 Duke + Dominion Draft Circulated to Stakeholders 6:30pm

NCSEA Markup 11 20 2014

NORTH CAROLINA

**INTERCONNECTION PROCEDURES,
FORMS, AND AGREEMENTS**

For State-Jurisdictional Generator Interconnections

Effective __/__/2014

Docket No. E-100, Sub 101

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Attachment 1 – Glossary of Terms

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Attachment 8 – 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.

Interconnection Requests for new Generating Facilities shall be submitted to the Utility for approval at the final design stage and prior to the beginning of construction.

The submission of a written request for a Section 1.2 Pre-Request Response and/or Section 1.3 Pre-Application Report is encouraged to identify potential interconnection issues unforeseen by the Interconnection Customer.

Revised Interconnection Requests for equipment or design changes should be submitted pursuant to Section 1.5.

Notification by the Interconnection Customer to the Utility of change of ownership or change in control should be submitted pursuant to Section 6.11.

- 1.1.1.1 A request to interconnect a certified inverter-based Generating Facility no larger than 20 kW shall be evaluated under the Section 2, 20 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 the capacity specified in Section 3.1 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 the capacity stated in Section 3.1, or a Generating Facility that does not qualify for or pass the Fast Track Process or qualify for the 20 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 ~~The 2015 revisions to the Commission's interconnection standard approved in 2009 shall not apply to Generating Facilities already interconnected as of the effective date of the 2015 revisions to this Standard, unless so agreed to by the Utility and the Interconnection Customer. This Standard shall apply if the Interconnection Customer has not actually interconnected the Generating Facility as of the effective date of the 2015 revisions to this Standard, or proposes Material Modifications, or transfers ownership of the Generating Facility after such date. The 2015 revisions to the Commission's interconnection standard shall not apply to Generating Facilities already interconnected as of the effective date of the 2015 revisions to this Standard, unless the Interconnection Customer associated with such a Generating Facility proposes any Material Modification after such date or applicability of the 2015 revision is so agreed to by the Utility and the Interconnection Customer. Additionally, Section 6.11 shall apply where a Generating Facility already interconnected transfers ownership of the Generating Facility after the effective date of the 2015 revisions to this Standard. This Standard shall apply if the Interconnection Customer has not actually interconnected the Generating Facility as of the effective date of the 2015 revisions to this Standard.~~

Comment [A1]: The Interconnection Agreement defines what happens in case of a change of ownership. It is unclear what within the procedures would apply to projects that have already interconnected and are just changing to new ownership with no technical changes.

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Any Interconnection Customer that has not executed an interconnection agreement with the Utility prior to the effective date of the 2015 revisions to this Standard shall have 30 Calendar Days following the effective date of the Standards and the posted date of notice in writing from the Utility to demonstrate site control pursuant to Section 1.6, and ~~30 Calendar Days~~ to post the deposit outlined in Section 1.4.

Comment [A2]: Language clean up: stating 30 days twice in this sentence is confusing / not necessary.

Any Interconnection Customer that has executed an interconnection agreement with the Utility prior to the effective date of this Standard but the Utility has not actually interconnected the Generating Facility, —shall have 60 Calendar Days to submit Upgrade payments required pursuant to Sections 5.2.5. Any amounts previously paid by the Interconnection Customer at the time deposit or payment is due under this Section shall be credited towards the deposit amount or other payment required under this Section.

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 10 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 89.)

1.2 Pre-Request Response

1.2.1 The Utility shall designate an employee or office from which information on the application process 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.

1.2.2 The Interconnection Customer may request a Pre-Request Response by providing the Utility ~~in writing~~ details of a potential project in writing, including site address, grid coordinates, project size and proposed Point of Interconnection.

Electric system information provided to the Interconnection Customer should include number of phases and voltage of closest circuit, distance to existing source, distance to substation, and other information and/or 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 in a timely manner, not to exceed ten (10) Business Days. The Pre-Request Response produced by the Utility is non-binding and does not confer any rights. The Interconnection Customer must still meet the Section 1.4 requirements to apply to interconnect to the Utility's system and to obtain a Queue Number. Any one developer shall have no more than five (5) Pre-Request Response requests in the Pre-Request Response queue at one time.

1.3 Pre-Application Report

1.3.1 In addition to, or instead of, requesting an informal Pre-Request Response, an Interconnection Customer may submit a formal Pre-Application Report written request form (see Attachment ZZ) along with a non-refundable fee of \$300 for a Pre-Application Report on a proposed project at a specific site. The Utility shall provide the Pre-Application data described in Section

1.3.2 to the Interconnection Customer within ten (10) Business Days of receipt of the completed request form and payment of the \$300 fee. The Pre-Application Report produced by the Utility is non-binding, does not confer any rights, and the Interconnection Customer must still successfully apply to interconnect to the Utility's system and to obtain a Queue Number. The written Pre-Application Report request form shall include the information in Sections 1.3.1.1 through 1.3.1.8 below to clearly and sufficiently identify the location of the proposed Point of Interconnection. Any one developer shall have no more than five (5) Pre-Application Report requests in the Pre-Application Report queue at one time.

1.3.1.1 Project contact information, including name, address, phone number, and email address.

1.3.1.2 Project location (street address, location map with nearby cross streets and town).

1.3.1.3 Meter number, pole number, location map or other equivalent information identifying proposed Point of Interconnection, if available.

1.3.1.4 Generator Type (e.g., solar, wind, combined heat and power, etc.)

1.3.1.5 Size (alternating current kW).

1.3.1.6 Single or three phase generator configuration.

1.3.1.7 Stand-alone generator (no onsite load, not including station service – Yes or No?)

1.3.1.8 Is new service requested? Yes or No? If there is existing service, include the customer account number, site minimum and maximum current or proposed electric loads in kW (if available) and specify if the load is expected to change.

1.3.2. Using the information provided by the Interconnection Customer in the Pre-Application Report request form in Section 1.3.1, the Utility shall identify the substation/area bus, bank or circuit likely to serve the proposed Point of Interconnection. This selection by the Utility does not necessarily indicate, after application of the screens and/or study, that this

would be the circuit the project ultimately connects to. The Interconnection Customer must request additional Pre-Application Reports if information about multiple Points of Interconnection is requested. Subject to Section 1.3.3, the Pre-Application Report shall include the following information:

- 1.3.2.1 Total capacity (in MW) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Interconnection.
- 1.3.2.2 Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection.
- 1.3.2.3 Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection.
- 1.3.2.4 Substation nominal distribution voltage and/or transmission nominal voltage if applicable.
- 1.3.2.5 Nominal distribution circuit voltage at the proposed Point of Interconnection.
- 1.3.2.6 Approximate circuit distance between the proposed Point of Interconnection and the substation.
- 1.3.2.7 Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load and absolute minimum load, when available.
- 1.3.2.8 Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer.

- 1.3.2.9 Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit.
 - 1.3.2.10 Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation.
 - 1.3.2.11 Whether the Point of Interconnection is located on a spot network, grid network, or radial supply.
 - 1.3.2.12 Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.
 - 1.3.2.13 Other information regarding an Affected System the Utility deems relevant to the Interconnection Customer.
- 1.3.3 The Pre-Application Report need only include existing data. A Pre-Application Report request does not obligate the Utility to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If the Utility cannot complete all or some of the Pre-Application Report due to lack of available data, the Utility shall provide the Interconnection Customer with a Pre-Application Report that includes the data that is readily available. Notwithstanding any of the provisions of this section, the Utility shall, in good faith, include data in the Pre-Application Report that represents the best available information at the time of reporting. Further, the total capacity provided in Section 1.3.2.1 does not necessarily indicate that an interconnection of aggregate generation up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, and data provided in the Pre-Application Report may become outdated at the time of the submission of the complete Interconnection Request.

1.4 Interconnection Request

- 1.4.1 The Interconnection Customer shall submit its Interconnection Request to the Utility, and the Utility shall notify the Interconnection

Customer confirming receipt of the Interconnection Request within three (3) Business Days of receiving the Interconnection Request.

The Interconnection Request Application Form shall be date- and time-stamped upon receipt of the following:

1.4.1.1 A substantially complete Interconnection Request Application Form contained in Attachment ~~2XX~~ submitted by a valid legal entity registered with the North Carolina Secretary of State, and signed by the Interconnection Customer.

1.4.1.2 The applicable fee or Interconnection Request Deposit.
The applicable fee is specified in the Interconnection Request Application Form and applies to a certified inverter-based Generating Facility no larger than 20 kW reviewed under Section 2 and to any certified Generating Facility no larger than the capacity specified in Section 3.1 to be evaluated under the Section 3 Fast Track Process .

For all Generating Facilities that do not qualify for the Fast Track Process, fail the Fast Track and Supplemental Review Process under Section 3.0 or qualify for the 20 kW Inverter Process and are to be evaluated under the Section 4 Study Process, an Interconnection Request Deposit is required.¹ The Interconnection Request Deposit shall equal \$20,000 plus one dollar (\$1.00) per kWac of capacity specified in the Interconnection Request Application Form, not to exceed an aggregate Interconnection Request Deposit of \$100,000. The Interconnection Request Deposit is intended to cover the Utility's reasonably anticipated costs for conducting the System Impact Study and the Facilities Study. Such deposit shall, however, be applicable towards the cost of all studies, Upgrades and Interconnection Facilities.

1.4.1.3 The Site Control Verification letter included as within Attachment ~~2XX~~.

1.4.1.4 A site plan indicating the location of the project, the property lines and the desired Point of Interconnection.

1.4.1.5 An electrical one-line diagram for the Generating Facility.

1.4.1.6 Inverter specification sheets for the Interconnection Customer's equipment that will be utilized.

1.4.2 The original date- and time-stamp applied to the Interconnection Request Application Form shall be accepted as the qualifying date- and time-stamp for the purposes of establishing Queue Position and any timetable in these procedures.

1.4.3 An Interconnection Request will be deemed complete upon submission of the listed information in Section 1.4.1 to the Utility. The Utility shall notify the Interconnection Customer within ten (10) Business Days of the receipt of the Interconnection Request Application Form as to whether the Form and initial supporting documentation specified in Sections 1.4.1.1 through 1.4.1.6 are complete or incomplete.

1.4.4 If the Interconnection Request Application Form and/or the initial supporting documentation is incomplete, the Utility shall provide, along with notice that the information is incomplete, a written list detailing all information that must be provided. The Interconnection Customer will have ten (10) Business Days after receipt of the notice to submit the listed information. If the Interconnection Customer does not provide the listed information or a request for an extension of time, not to exceed ten (10) additional Business Days, within the deadline, the Interconnection Request will be deemed withdrawn.

1.5 Modification of the Interconnection Request

"Material Modification" means 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. Material Modifications include project revisions proposed at any time after receiving notification by the Utility of a completed Interconnection Request pursuant to Section 1.4.3 that 1) alters the size or output characteristics of the Generating Facility from its Utility-approved Interconnection Request submission; or 2) adversely impact other Interdependent Interconnection Requests with higher Queue Numbers. Material Modifications shall also include project revisions proposed after the Utility commences the Section 4 Study process and such change requires material changes to the Study due to expected impacts on the electric grid performance or the scope of System Upgrades or Interconnection Facilities.

Comment [A3]: Note that this sentence prohibits any change that affects materially affects a study, after the study has started.

Indicia of a Material Modification, include, but are not limited to:

- A change in Point of Interconnection (POI) to a new location, unless the change in a POI is on the same circuit less than two (2) poles away from the original location, and the new POI is within the same protection zone as the original location;
- A change or replacement of generating equipment such as generator(s), inverter(s), ~~solar panel(s)~~, transformers, relaying, controls, etc. that is not a like-kind~~direct~~ substitution in size, ratings, impedances, efficiencies or capabilities of the equipment specified in the original or preceding Interconnection Request;
- A change from certified to non-certified devices ("certified" means certified by an OSHA recognized Nationally Recognized Test Laboratory (NRTL), to relevant UL and IEEE standards, authorized to perform tests to such standards);
- A change of transformer connection(s) or grounding from that originally proposed;
- A change to certified inverters with different specifications or different inverter control specifications or set-up than originally proposed;
- An increase of the AC output ~~or DC input~~ of a Generating Facility; or
- A change reducing the AC output of the generating facility by more than 10%.

Comment [A4]: If a like-kind change does not impact the result of the study, or the utility has not commenced a study, like-kind changes should not pose a problem.

With the current long delays in the queue, there is the need to update equipment specs to the current equipment available on the market, which may be similar but not exactly the same.

The following are not indicia of a Material Modification:

- A change in ownership of a Generating Facility; the new owner, however, will be required to execute a new Interconnection Agreement and any Study agreements which have not been completed.
- A change of generating equipment such as generator(s), inverter(s), transformers, solar panel(s), relaying, controls, etc. that is a like-kind~~direct~~ substitution in size, ~~solar panel(s)~~, ratings, impedances, or capabilities of the equipment specified in the original or preceding Interconnection Request;
- An increase in the DC/AC ratio that does not increase the maximum AC output capability of the generating facility;
- A decrease in the DC/AC/DC ratio such that it does not reduce the AC output capability of the generating facility by more than 10%.

1.5.1 To the extent Interconnection Customer proposes to modify any information provided in the Interconnection Request deemed complete by the Utility, the Interconnection Customer shall submit any such modifications to the Utility in writing. If the Utility determines that the proposed modification(s) constitutes a Material Modification, the Utility shall notify the Interconnection Customer in writing that the modification is

a Material Modification and the Interconnection Request shall be withdrawn from the Queue unless (a) the Interconnection Customer withdraws the proposed Material Modification within 15 Calendar Days of receipt of Utility's written notification. If the modification is determined by the Utility not to be a Material Modification or, the Utility shall notify the Interconnection Customer in writing that the modification has been accepted and that the Interconnection Customer shall retain its Queue Number. Any dispute as to the Utility's determination that a modification constitutes a Material Modification shall proceed in accordance with Section 6.2, below.

Comment [A5]: Change is for typo clean up and clarification.

1.5.2 Modification Inquiry

1.5.2.1 Prior to making any modification, the Interconnection Customer may first submit an informal modification inquiry in writing that requests the Utility to evaluate whether such modification to the original or most recent Interconnection Request is a Material Modification. The Interconnection Customer shall provide specific details on all changes that are to be considered by the Utility.

1.5.2.2 In response to Interconnection Customer's informal request, if the Utility evaluates the proposed modification(s) and determines that the changes are not Material Modifications, the Utility shall inform the Interconnection Customer in writing in a timely manner, not to exceed ten (10) Business Days. If the Interconnection Customer wishes to proceed with the proposed modification(s), it must submit a revised Interconnection Request Form that reflects the approved modifications in accordance with Section 1.5.3 below.

1.6 Site Control

Documentation of site control shall be submitted to the utility with the Interconnection Request using the sample site control verification form included in the Interconnection Request in Attachment 2XX.

Site control may be demonstrated through:

1. Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the SGF generating facility;

Comment [A6]: SGF is not defined anywhere

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

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.

Should Interconnection Customer's site control lapse at any point in time prior to interconnection and such lapse is brought to the attention of Utility, the Utility shall notify the Interconnection Customer in writing of the alleged lapse in site control. The Interconnection Customer shall have ten (10) Business Days from receipt of notice from the Utility to cure and submit documentation of re-established site control, where failure to cure the lapse will result in the Interconnection Request being deemed withdrawn.

1.7 Queue Number

1.7.1 The Utility shall assign a Queue Number pursuant to Section 1.4.2. The Queue Number of each Interconnection Request shall be used to determine the cost responsibility for the Upgrades necessary to accommodate the interconnection. Subject to Section 1.8, the Queue Number of each Interconnection Request shall also determine the order in which each Interconnection Request is studied.

1.7.2 Subject to the provisions of Sections 1.4, 1.5, and 1.6, Generating Facilities shall retain the Queue Number assigned to their initial Interconnection Request throughout the review process, including where moving through the processes covered by Sections 2, 3, and 4.

1.8 Interdependent Projects

~~"Interdependent Customer" (or "Project _") means an Interconnection Customer (or Project) whose Upgrade or Interconnection Facilities requirements are impacted by another Generating Facility, as determined by the Utility. "Interdependent Customer", "Interdependent Project", "Project A" and "Project B" are defined in the glossary of terms (see Attachment 1).~~

Comment [A7]: Added this definition to the glossary section along with other definitions.

1.8.1 Upon an Interconnection Customer's submission of a Section 1.4 Interconnection Request for the Section 3 Fast Track Process or Section 4 Study Process, the Utility shall review the Interconnection Request and make a preliminary determination ~~at the Section 4.2 Scoping Meeting~~ whether any known Interdependency exists between the Interconnection Customer's proposed Generating Facility and any other Interconnection Customer with a lower Queue Number. Any preliminary determination by

the Utility that the Generating Facility does not create an Interdependency will result in the Interconnection Request being preliminarily designated as a Project A and the Utility shall proceed immediately to either the Section 3 Fast Track Process or the Section 4.3 System Impact Study process, as applicable. The Utility shall advise the Interconnection Customer at the Section 4.2 Scoping Meeting regarding its preliminary determination of whether Interdependency would be created by the Generating Facility. A Generating Facility so designated and reviewed for system impacts as a Project A may still be determined to create an Interdependency and may be designated as an Interdependent Project during the Section 4.3 System Impact Study Process. Once the System Impact Study report is issued by the Utility designated a Generating Facility as a Project A, the Interconnection Request shall retain this designation without change.

- 1.8.2 If the Utility determines that that the Interconnection Customer's proposed Generating Facility is Interdependent with one (1) other Interconnection Request with a lower Queue Number, the Utility shall notify the Project B Interconnection Customer at the Section 4.2 Scoping Meeting that the Interconnection Request is designated as a Project B.

1.8.2.1 ~~At the request of the Project B Interconnection Customer~~ Following the Section 4.2 Scoping Meeting and execution of the System Impact Study Agreement, the Project B shall proceed to the Section 4.3 System Impact Study process. Project B shall receive a System Impact Study report analyzing two scenarios, one that assumes the interdependent Project A Interconnect Request with the lower Queue Number completes construction and interconnection and one and another System Impact Study report that assumes the interdependent Project A Interconnect Request with the lower Queue Number is not constructed and is withdrawn.

Comment [A8]: Clarifies that Project B goes into System Impact Study or withdraws from the queue. There's no delay time / decision.

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Comment [A9]: To be consistent with Section 4.3.6 below, this sentence should clarify that one study report will be issued that analyzes two scenarios (one where Project A is constructed and one where it is not).

1.8.2.2 The Utility shall not proceed to a Project B Facilities Study until after the Project B Interconnection Customer returns a signed Facilities Study Agreement to the Utility and the Utility has issued the Section 4.4.4 Facilities Study report for the Interdependent Project A. The Project B Interconnection Customer shall then have the option of whether to proceed with a Facility Study, or wait until the Interdependent Project A executes a Final Interconnection Agreement under Section 5.2 and makes pre-payment for any required Upgrade, Interconnection Facilities, and other charges as required by Section 5.2.4. If the Project B Interconnection Customer provides written notice of its intent to proceed with the a signed Facility Study Agreement prior to Interdependent Project A committing to Section 5 construction, the Project B's Facility Study shall assume that the interdependent Project A Interconnect

Request with the lower Queue Number completes construction and interconnection. If Project A is later cancelled prior to the Project A Interconnection Customer making payment for the required Upgrade, the Utility will revise the Project B Facility Study at Project B Interconnection Customer's expense. If Project B Interconnection Customer chooses to wait to request the Project B Facility Study, Project B is not required to adhere to the timeline in Section 4.4.1 until Project A has signed an Interconnection Agreement and paid the pre-payment charge specified in Section 5.2.4 of these Interconnection Procedures or withdrawn.

Comment [A10]: Sentence was not complete, this language was missing.

1.8.3 If the Utility determines that that the Interconnection Customer's proposed Generating Facility is interdependent with more than one (1) other Interconnection Request with lower Queue Numbers, the Utility shall make a preliminary determination and notify the Interconnection Customer at the Section 4.2 Scoping Meeting describing generally the number and type of Interdependencies of Interconnection Requests with lower Queue Numbers.

1.8.3.1 The Utility shall not study the Interconnection Request until the Interconnection Request becomes a Project B Interconnection Request that is Interdependent with only one (1) other Interconnection Request with a lower Queue Number due to an Interdependent Project A signing an Interconnection Agreement and paying the pre-payment charge specified in Section 5.2.4 of these Standards or withdrawing, taking action described in Section 1.8.2.2 and the Project B Interconnection Request with the higher Queue Number becoming the new Project A.

Comment [A11]: The reference to 1.8.2.2 should instead be a reference to the Project A signing an Interconnection Agreement and making payment.

1.8.3.2 Within five (5) Business Days of an Interconnection Request becoming a Project B Interconnection Request that is Interdependent with only one (1) other Interconnection Request with a lower Queue Number, the Utility shall schedule the Section 4.2 Scoping Meeting and provide the new Project B an executable System Impact Study Agreement. Upon being designated by the Utility as a Project B the Interconnection Customer's Queue Number will be used to determine the order in which the Interconnection Request is studied under section 4.3 relative to all other Interconnection Requests.

Comment [A12]: should say "lower", this clause is not required / may add confusion.

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

Other than as set forth in Section 1.1.3, nothing in this Standard affects an Interconnection Customer's Queue Number assigned before the effective date of these procedures. Should an Interconnection Customer fail to comply with Section 1.1.3 following receipt of written notice specifying how the Interconnection Customer failed to comply and the expiration of an opportunity to cure by the close of business on the tenth (10th) Business Day following the posted date of such notice to cure, such Interconnection Customer will lose its Queue Number and such Interconnection Request shall be deemed withdrawn. ~~Any Interconnection Study Agreement executed prior to the effective date of these procedures shall be exempted from compliance with this Section and work will be completed in accordance with the terms and conditions of such Interconnection Study Agreement. All new studies and any other additional work shall be completed pursuant to this Standard.~~

Comment [A13]: Deleted because this conflicts with Section 1.1.3.

Section 1.1.3 says that projects with a signed Interconnection Agreement (not Interconnection Study Agreement, as written here) are exempted from these new standards.

Section 2. Optional 20 kW Inverter Process for Certified Inverter-Based Generating Facilities No Larger than 20 kW

2.1 Applicability

The 20 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 20 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.

The Utility may require the Interconnection Customer to install a manual load-break disconnect switch or safety switch as a clear visible indication of switch position between the Utility System and the Interconnection Customer. When the installation of the switch is not otherwise required (e.g. National Electric Code, state or local building code) and is deemed necessary by the Utility for certified, inverter-based generators no larger than 10 kW, the Utility shall reimburse the Interconnection Customer for the reasonable cost of installing a switch that meets the Utility's specifications (see also Section 6.16).

2.2 Interconnection Request

The Interconnection Customer shall complete the Interconnection Request Application Form for a certified inverter-based Generating Facility no larger than 20 kW in the form provided in Attachment 5 and submit it to the Utility, together with the non-refundable processing fee specified in the Interconnection Request Application Form and the documentation required pursuant to Section 1.4.1.

2.2.1 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 upon fulfillment of all requirements in Section 1.4 and return the Interconnection Request Application Form to the Interconnection Customer.

2.2.2 Screens failure: Despite the failure of one or more screens, the Utility, at its sole option, may approve the interconnection provided such approval is consistent with safety and reliability. If the Utility cannot determine that the Generating Facility may be interconnected consistent with safety, reliability, and power quality standards, the Utility shall provide the Interconnection Customer with detailed information on the reasons for failure in writing. In addition, the Utility shall either:

2.2.2.1 Notify the Interconnection Customer in writing that the Utility is continuing to evaluate the Generating Facility under Section 3.4 Supplemental Review if the Utility concludes that the Supplemental Review might determine that the Generating Facility could continue to qualify for interconnection pursuant to Fast Track: or

2.2.2.2 Offer to continue evaluating the Interconnection Request under the Section 4 Study Process.

2.3 Certificate of Completion

2.3.1 After installation of the Generating Facility, the Interconnection Customer shall submit the Certificate of Completion in the form provided in Attachment XX to the Utility. Prior to parallel operation, the Utility may inspect the Generating Facility for compliance with standards including a witness test and the scheduling of an 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 (10) 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 its contact information. If another entity is responsible for interfacing with the Utility, that contact information must also be provided on the Interconnection Request Application Form.

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

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's capacity does not exceed the size limits identified in the table below. Generating Facilities below these limits are eligible for Fast Track review. However, Fast Track eligibility is distinct from the Fast Track Process itself, and eligibility does not imply or indicate that a Generating Facility will pass the Fast Track screens in Section 3.2 below or the Supplemental Review screens in Section 3.4 below.

Fast Track eligibility is determined based upon the generator type, the size of the generator, voltage of the line and the location of and the type of line at the Point of Interconnection. All Generating Facilities connecting to lines greater or equal to 35 kilovolt (kV) are ineligible for the Fast Track Process regardless of size. For inverter-based systems, only certified inverter-based systems are eligible for the Fast Track Process and the size limit varies according to the voltage of the line at the proposed Point of Interconnection. Certified inverter-based

Generating Facilities located within 2.5 electrical circuit miles of a substation and on a mainline (as defined in the table below) are eligible for the Fast Track Process under the higher thresholds set forth in the table below. In addition to the size threshold, the Interconnection Customer's proposed Generating Facility must meet the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures, or the Utility has to have reviewed the design or tested the proposed Generating Facility and be satisfied that it is safe to operate.

Fast Track Eligibility for Inverter-Based Systems ¹		
Line Voltage	Fast Track Eligibility Regardless of Location	Fast Track Eligibility on a Mainline ² and ≤ 2.5 Electrical Circuit Miles from Substation ³
< 5 kV	≤ 100 kW	≤ 250 kW
≥ 5 kV and < 15 kV	≤ 500 kW	≤ 1 MW
≥ 15 kV and < 35 kV	≤ 1 MW	≤ 2 MW

¹ Must be an UL certified inverter.

² For purposes of this table, a mainline is the three-phase backbone of a circuit. It will typically constitute lines with wire sizes of 4/0 American wire gauge, 336.4 kcmil, 397.5 kcmil, 477 kcmil and 795 kcmil.

³ An Interconnection Customer can determine this information about its proposed interconnection location in advance by requesting a pre-application report pursuant to section 1.2.

3.2 Initial Review

Within 15 Business Days after the Utility notifies the Interconnection Customer it has received a complete Interconnection Request pursuant to Section 1.4, 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 a radial distribution circuit, the aggregated generation, including the proposed Generating Facility, on the circuit shall not exceed 90% of the circuit and/or bank minimum load at the substation.
- 3.2.1.4 All synchronous and induction machines must be connected to a distribution circuit where the local minimum load to generation ratio on the circuit line segment is larger than 3 to 1. A 3-1 load to generation ratio screen utilizes actual recorded data that is sufficient to establish the minimum threshold.
- 3.2.1.5 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 kW⁴.

⁴A 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.)

- 3.2.1.6 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.
- 3.2.1.7 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.
- 3.2.1.8 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 to be provided to the Interconnection Customer, including line configuration and the transformer connection for the purpose of limiting 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	3-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

- 3.2.1.9 If the proposed Generating Facility is to be interconnected on a single-phase shared secondary, the aggregate Generating Facility capacity on the shared secondary, including the proposed Generating Facility, shall not exceed 65% of the transformer nameplate rating.
- 3.2.1.10 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.
- 3.2.1.11 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).
- 3.2.2 If the proposed interconnection passes the screens and requires no construction by the Utility on its own System, the Interconnection Request shall be approved and the Utility will provide the Interconnection Customer an executable Interconnection Agreement within ten (10) Business Days after the determination.
- 3.2.3 If the proposed interconnection passes the screens and the Utility is able to determine without further study or review that only minor Utility construction is required to interconnect the Generating Facility to the Utility's system, the Interconnection Request shall be approved and the Utility will provide the Interconnection Customer a non-binding good faith estimate of the cost of interconnection along with an executable Interconnection Agreement within 15 Business Days after the

determination.

- 3.2.4 If the proposed interconnection passes the screens, but the costs of interconnection including System Upgrades and Interconnection Facilities cannot be determined without further study or review, the Utility will notify the Interconnection Customer that the Utility will need to complete a Facilities Study under Section 4.4 to determine the necessary costs of interconnection.
- 3.2.5 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, and requires no construction by the Utility on its own System, the Utility shall provide the Interconnection Customer an executable Interconnection Agreement within ten (10) Business Days after the determination.
- 3.2.6 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 and the Utility is able to determine without further study or review that only minor Utility construction is required to interconnect with the Generating Facility, the Interconnection Request shall be approved and the Utility will provide the Interconnection Customer a non-binding good faith estimate of the cost of interconnection along with an executable Interconnection Agreement within 15 Business Days after the determination.
- 3.2.7 If the proposed interconnection fails the screens, and 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 as described in Section 3.3 below.

3.3 Customer Options Meeting

If the Utility determines the Interconnection Request cannot be approved without (1) minor modifications at minimal cost, (2) a supplemental study or other additional studies or actions, or (3) incurring significant cost to address safety, reliability, or power quality problems, the Utility shall notify the Interconnection Customer of that determination within five (5) Business Days after the determination, and provide copies of all data and analyses underlying its conclusion. Within ten (10) 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. The Interconnection Customer shall have ten (10) Business Days to agree to pay for the modifications to the Utility's electric system or the Interconnection Request shall be deemed to be withdrawn. If the Interconnection Customer agrees to pay for the modifications to the Utility's electric system, the Utility will provide the Interconnection Customer with an executable Interconnection Agreement within ten (10) Business Days of the Interconnections Customer's agreement to pay; or
- 3.3.2 Offer to perform a supplemental review under Section 3.4 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. The Interconnection Customer shall have ten (10) Business Days to accept the Utility's offer to perform a Supplemental Review and post any deposit requirement for the Supplemental Review, or the Interconnection Request shall be deemed to be withdrawn; or
- 3.3.3 Offer to continue evaluating the Interconnection Request under the Section 4 Study Process. The Interconnection Customer shall have ten (10) Business Days to agree in writing to its Interconnection Request continuing to be evaluated under the Section 4 Study Process, and post any deposit requirement for the Study Process, or the Interconnection Request shall be deemed to be withdrawn.

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 or the request shall be deemed to be withdrawn. 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 (10) 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 ten (10) 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 15 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 (10) Business Days that requires the Interconnection Customer to pay the costs of such System modifications prior to interconnection.

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 exceeds the size limits for the Section 3 Fast Track Process, is not certified, or is certified but did not pass the Fast Track Process or the 20 kW Inverter Process. The Interconnection Customer may be required to submit additional documentation, as may be requested by the Utility in writing, during the Study Process.

4.2 Scoping Meeting

- 4.2.1 A scoping meeting will be held within ten (10) 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 System Impact Study, a Facilities Study, or proceed directly to an Interconnection Agreement.

4.2.3 If the Utility, after consultation with the Interconnection Customer, determines that the project should proceed to a System Impact Study or Facilities Study, the Utility shall provide the Interconnection Customer, no later than ten (10) Business Days after the scoping meeting, either a System Impact Study Agreement (Attachment 6) or a Facilities Study Agreement (Attachment 7), as appropriate, including an outline of the scope of the study or studies and a nonbinding good faith estimate of the cost to perform the study or studies, which cost shall be subtracted from the deposit outlined in Section 1.4.12.2.

4.2.4 If the Parties agree not to perform a System Impact Study or Facilities Study, but to proceed directly to an Interconnection Agreement, the Parties shall proceed to the Construction Planning Meeting as called for in Section 5.

4.3 System Impact Study

4.3.1 In order to retain its Queue Position, the Interconnection Customer must return a System Impact Study Agreement signed by the Interconnection Customer within 15 Business Days of receiving an executable System Impact Study Agreement as provided for in Section 4.2.3.

4.3.2 The scope of and cost responsibilities for a System Impact Study are described in the System Impact Study Agreement. The time allotted for completion of the System Impact Study shall be as set forth in the System Impact Study Agreement.

4.3.3 The System Impact Study 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, or to study potential impacts, including, but not limited to, those identified in the scoping meeting. The System Impact Study shall evaluate the impact of the proposed interconnection on the reliability of the

electric system, including the distribution and transmission systems, if required.

- 4.3.4 The System Impact Study report will provide the Preliminary Estimated Upgrade Charge, which is a preliminary indication of the cost and length of time that would be necessary to correct any System problems identified in those analyses and implement the interconnection.
- 4.3.5 The System Impact Study report will provide the Preliminary Estimated Interconnection Facilities Charge, which is a preliminary non-binding indication of the cost and length of time that would be necessary to provide the Interconnection Facilities.
- 4.3.6 When the Utility has determined that an Interdependency exists, a Project B will receive ~~two~~ an System Impact Study report with two options (including two estimated prices)s. One report option will assume Project A is constructed. The second report option will assume Project A is not constructed.
- 4.3.7 After receipt of the System Impact Study report, the Interconnection Customer shall inform the Utility in writing if it wishes to withdraw the Interconnection Request and to request an accounting of any remaining deposit amount pursuant to Section 6.3.
- 4.3.8 If requested by the Interconnection Customer following delivery of the System Impact Study Report, the Utility shall provide the Interconnection Customer an executable Interim Interconnection Agreement within ten (10) Business Days. The Interim Interconnection Agreement shall be identical in form and content to the Final Interconnection Agreement, but will not include Detailed Estimated Upgrade Charges, Detailed Estimated Interconnection Facility Charge, Appendix 4 (Construction Milestone schedule listing tasks, dates and the party responsible for completing each task), and other information that otherwise would be determined in Section 5.
- 4.3.9 At the time the System Impact Study Report is provided to the Interconnection Customer, the Utility shall also deliver an executable Facilities Study Agreement to the Interconnection Customer. After receipt of the System Impact Study report and Facilities Study Agreement, when the Interconnection Customer is ready to proceed with the design and construction of the Upgrades and Interconnection Facilities, the Interconnection Customer shall return the signed Facilities Study Agreement in accordance with Section 4.4 below.

Comment [A14]: Clarification.

4.4 Facilities Study

4.4.1 A solar Interconnection Customer– must request a Facilities Study by returning the signed Facilities Study Agreement within 60 Calendar Days of the date the Facilities Study Agreement was provided, where failure to comply will result in the Interconnection Request being deemed withdrawn. Any other Interconnection Customer must request a Facility Study by returning the signed Facilities Study Agreement within 365 Calendar Days of the date the Facilities Study Agreement was provided, where failure to comply will result in the Interconnection Request being deemed withdrawn.

4.4.2 When an Interdependent Project A ~~with a lower Queue Number~~ exists, a Project B Interconnection Request will not be required to comply with Section 4.4.1 until Project A has paid the pre-payment charge specified in Section 5.2.45 or withdrawn. If Project B has not provided written notice of its intent to proceed to a Facilities Study under Section 1.8.2.2, upon the Project A making the pre-payment required under Section 5.2.5 or withdrawing the Interconnection Request, the Utility shall deliver to the Project B Interconnection Customer an executable Facilities Study Agreement and advise the Project B Interconnection Customer that it has the time specified in Section 4.4.1 to return the signed Facilities Study Agreement or the Interconnection Request shall be deemed withdrawn ~~by the Utility~~.

4.4.3 The scope of and cost responsibilities for the Facilities Study are described in the Facilities Study Agreement. The time allotted for completion of the Facilities Study is described in the Facilities Study Agreement.

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

4.4.5 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 that critical infrastructure 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.

Section 5 Interconnection Agreement and Scheduling

5.1. Construction Planning Meeting

- 5.1.1. Within ten (10) Business Days of receipt of the Facility Study report, the Interconnection Customer shall request a Construction Planning Meeting, where failure to comply shall result in the Interconnection Request being deemed withdrawn. The Construction Planning Meeting request shall be in writing and shall include the Interconnection Customer's reasonably requested date for completion of the construction of the Upgrades and Interconnection Facilities.
- 5.1.2. The Construction Planning Meeting shall be scheduled within ten (10) Business Days of the Section 5.1.1 request from the Interconnection Customer, or as otherwise mutually agreed to by the parties.
- 5.1.3. The purpose of the Construction Planning Meeting is to identify the tasks for each party and discuss and determine the milestones for the construction of the Upgrades and Interconnection Facilities. Agreed upon milestones shall be specific as to scope of action, responsible party, and date of deliverable and shall be recorded in the Final Interconnection Agreement (see Appendix 4 to Attachment 8) to be provided to Interconnection Customer pursuant to Section 5.2.1 below.
- 5.1.4. If the Utility cannot complete the installation of the required Upgrades and Interconnection Facilities within two (2) months of the Interconnection Customer's reasonably requested In-Service Date, the Interconnection Customer shall have the option of discussing payment for work outside of normal business hours or discussing hiring a Utility-approved subcontractor to perform the distribution Upgrades. Any Utility-approved subcontractor performance remains subject to Utility oversight during construction. The Utility shall make a list of Utility-approved subcontractors available to the Interconnection Customer promptly upon request.

5.2. Final Interconnection Agreement

- 5.2.1. Within fifteen (15) Business Days of the Construction Planning Meeting, the Utility shall provide an executable Final Interconnection Agreement containing the Detailed Estimated Upgrade Charges, Detailed Estimated Interconnection Facility Charge, Appendix 4 (Construction Milestone and payment schedule listing tasks, dates and the party responsible for completing each task), and other appropriate information, requirements, and charges. The Final Interconnection Agreement will replace any Interim Interconnection Agreement, which shall terminate upon execution of the Final Interconnection Agreement.
- 5.2.2. Within ten (10) Business Days of receiving the Final Interconnection Agreement, the Interconnection Customer must execute and return the Final Interconnection Agreement, where failure to comply results in the Interconnection Request being deemed withdrawn.
- 5.2.3. After the Parties execute the Final Interconnection Agreement, the Utility shall return a copy of the Final Interconnection Agreement to the Interconnection Customer and interconnection of the Generating Facility shall proceed under the provisions of the Final Interconnection Agreement.
- 5.2.4. The Final Interconnection Agreement shall specify, among other milestones, that pre-payment of charges along with Financial Security if required pursuant to Article 6.3 and Attachment 4 of the Final Interconnection Agreement, must be received by close of business 6070 Calendar Days after the date the Interconnection Agreement is delivered to the Interconnection Customer for signature. The Interconnection Customer must render payment and financial security if applicable by the date required by the applicable Final Interconnection Agreement milestones in Attachment 4, where failure to comply results in the Interconnection Request being deemed withdrawn.

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5.3 Interconnection Construction

- ~~5.3.1~~ Construction of the Upgrades and Interconnection Facilities will proceed as called for in the final Interconnection Agreement and Appendices.

~~5.3.2 Provided the applicable Utility Facilities are installed and operational, billing for the Interconnection Facilities Charge and any other charges will begin on their respective In-service Dates as specified in the Final Interconnection Agreement, regardless of whether the Generating Facility is interconnected or generating. If needed~~applicable~~, the Letter of Credit may be drawn upon to pay for the Interconnection Facilities Charge and other charges.~~

Section 6. Provisions that Apply to All Interconnection Requests

6.1 Delivery Timelines Reasonable Efforts

The Utility shall make bestreasonable 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 at its earliest opportunity 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.

Comment [A15]: Because later projects cannot proceed until Project A and B move through the system, there is not an ability to delay.

6.2 Disputes

6.2.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this section. Where an Interconnection Customer seeks to resolve a dispute involving its Queue Number according to the provisions of this section, any disputed loss of Queue Number shall not be final until Interconnection Customer abandons the process set out in this section or a final Commission order is entered.

6.2.2 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.

6.2.3 If the dispute has not been resolved within ten (10) 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.

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

6.3 Withdrawal of An Interconnection Request

- 6.3.1 An Interconnection Customer may withdraw an Interconnection Request at any time prior to executing a Final Interconnection Agreement by providing the Utility with a written request for withdrawal.
- 6.3.2 An Interconnection Request shall be deemed withdrawn if the Interconnection Customer fails to meet its obligations specified in the Interconnection Procedures, System Impact Study Agreement or Facility Study Agreement ~~or~~ and to take advantage of any express opportunity to cure.
- 6.3.3 Within 90 Calendar Days of any voluntary or deemed withdrawal of the Interconnection Request, the Utility will 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 work performed, and (2) the Interconnection Customer's previous aggregate Interconnection Facility Request Deposit payments to the Utility for such work. 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.

6.4 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.

6.5 Commissioning

Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. If the Interconnection Customer is not proceeding under Section 2.3.2, the Utility must be given at least ten (10) 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.

6.6 Confidentiality

- 6.6.1 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.

6.6.2 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.

6.6.2.1 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.

6.6.2.2 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.

6.6.3 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.

6.6.4 All information pertaining to a project will be provided to the new owner in the case of a change of control of the existing legal entity or a change of ownership to a new legal entity.

6.7 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.

6.8 Record Retention

The Utility shall maintain for three (3) 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.

6.9 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.

6.10 Capacity of the Generating Facility

6.10.1

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.

6.10.2 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.

6.11 Sale of a Proposed Generation Facility

6.11.1 The Interconnection Customer shall notify the Utility of the pending sale of a proposed Generation Facility in writing. The Interconnection Customer shall provide the Utility with information regarding whether the

sale is a change of ownership of the Generation Facility to a new legal entity, or a change of control of the existing legal entity.

The Interconnection Customer shall promptly notify the Utility of the final date of sale and transfer date of ownership in writing. The purchaser of the Generation Facility shall confirm to the Utility the final date of sale and transfer date of ownership in writing, and submit an Interconnection Request requesting transfer of control or change of ownership together with the change of ownership fee listed in Attachment 2.

Comment [A16]: Clarification.

- 6.11.2 Existing Interconnection Agreements are non-transferable. If the Generation Facility is sold to a new legal entity, a new Interconnection Agreement must be executed by the new legal entity prior to the interconnection or for the continued interconnection of the Generating Facility to the Utility's system. The Utility shall not withhold or delay the execution of an Interconnection Agreement with the new owner provided the Generation facility or proposed Generation facility complies with requirements of 6.11.1.
- 6.11.3 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.
- 6.12 Isolating or Disconnecting the Generating Facility
- 6.12.1 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.
- 6.12.2 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.
- 6.12.3 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.

- 6.12.4 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.

6.13 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.

6.14 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.

6.15 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.

- 6.15.1 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.
- 6.15.2 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.
- 6.15.3 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility greater than 250 kW, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least \$1,000,000 per occurrence.
- 6.15.4 An Interconnection Customer of sufficient credit-worthiness may propose to provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices, and such a proposal shall not be unreasonably rejected.

6.16 Disconnect Switch

The Utility may require the interconnection Customer to install a manual load-break disconnect switch or safety switch as a clear visible indication of switch position between the Utility System and the interconnection Customer. The switch must have padlock provisions for locking in the open position. The switch must be visible to, and accessible to Utility personnel. The switch must be in close proximity to, and on the Interconnection Customer's side of the point of electrical interconnection with the Utility's system. The switch must be labeled "Generator Disconnect Switch." The switch may isolate the Interconnection Customer and its associated load from the Utility's System or disconnect only the Generator from the Utility's System and shall be accessible to the Utility at all times. The Utility, in its sole discretion, determines if the switch is suitable and necessary. When the installation of the switch is not otherwise required (e.g. National Electric Code, state or local building code, and is deemed necessary by the Utility for certified, inverter-based generators no larger than 10 kW, the Utility shall reimburse the Interconnection Customer for the reasonable cost of installing a switch that meets the Utility's specifications.

6.17 Certification Codes and Standards

Attachment 3 specifies codes and standards the Generating Facility must comply with.

6.18 Certification of Generator Equipment Packages

Attachment 4 specifies the certification requirements for the Generating Facility.

Glossary of Terms

20 kW Inverter Process - The procedure for evaluating an Interconnection Request for a certified inverter-based Generating Facility no larger than 20 kW that uses the Section 3 screens. The application process uses an all-in-one document that includes a simplified Interconnection Request Application Form, 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.

Auxiliary Load - The term "Auxiliary Load" shall mean power used to operate auxiliary equipment in the facility necessary for power generation (such as pumps, blowers, fuel preparation machinery, exciters, etc.)

Business Day - Monday through Friday, excluding State Holidays.

Calendar Days - Sunday through Saturday, including all 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 meets the eligibility requirements of Section 2.1 and Section 3.1, customer options meeting, and optional supplemental review.

Final Interconnection Agreement – The Interconnection Agreement that specifies the Detailed Estimated Upgrade Charges, Interconnection Facility Charge, mutually agreed upon Milestones, etc. and terminates and replaces the Interim Interconnection Agreement.

Financial Security - A letter of credit or other financial arrangement that is reasonably acceptable to the Utility and is consistent with the Uniform Commercial Code of North Carolina that is sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Utility's Interconnection Facilities and Upgrades. Where appropriate, the Utility may deem Financial Security to exist where its credit policies show that the financial risks involved are de minimus or where the Utility's policies allow the acceptance of an alternative showing of credit-worthiness from the Interconnection Customer.

Comment [A17]: Definition added into the Procedures, with language taken from the Interconnection Agreement paragraphs 6.3 and 6.3.3

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.

In-Service Date – The date upon which the construction of the Utility's facilities is completed and the facilities are capable of being placed into service.

Interconnection Customer - Any valid legal entity, including the Utility, that

proposes to interconnect its Generating Facility with the Utility's System.

Interconnection Facilities – Collectively, 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 Facilities Delivery Date – The Interconnection Facilities Delivery Date shall be the date upon which the Utility's Interconnection Facilities are first made operational for the purposes of receiving power from the Interconnection Customer.

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.

"Interdependent Customer" (or "Interdependent Project") means an Interconnection Customer (or Project) whose Upgrade or Interconnection Facilities requirements are impacted by another Generating Facility with a lower queue number, as reasonably determined by the Utility.

Interim Interconnection Agreement – The Interconnection Agreement that specifies the Preliminary Estimated Upgrade Charges, excludes Milestones, and must be cancelled and replaced with a Final Interconnection Agreement.

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Month – The term "Month" means the period intervening between readings for the purpose of routine billing, such readings usually being taken once per month.

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

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

Net Power - The term "Net Power" shall mean the total amount of electric power produced by the Customer's Generating Facility less the portion of that power used to supply the Generating Facility's Auxiliary Load.

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.

North Carolina Interconnection Procedures - The term "North Carolina Interconnection Procedures" shall refer to the North Carolina Interconnection Procedures, Forms, and Agreements for State-Jurisdictional Generator Interconnections as approved by the North Carolina Utilities Commission.

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.

Project A - An Interconnection Customer that has a lower Queue Number than Interdependent Project B.

Project B - An Interconnection Customer that has a higher Queue Number than Interdependent Project A.

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

Queue Number - The number assigned by the Utility that establishes a Customer's Interconnection Request's position in the study queue relative to all other valid Interconnection Requests. A lower Queue Number will be studied prior to a higher Queue Number, except in the case of Interdependent Projects, where subsequent Projects may be on hold awaiting Project A's payment of charges or withdrawal.

Queue Position - The order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, based on Queue Number.

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, 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 APPLICATION FORM**

Utility: _____

Designated Utility Contact: _____

E-Mail Address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone Number: _____

Fax: _____

An Interconnection Request Application Form 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 Application Form 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 an Interconnection Facilities Deposit Charge of \$20,000 plus \$1.00 per kW_{AC}.

Change in Ownership – Non-Refundable Processing Fee

If the Interconnection Request is submitted solely due to a transfer of ownership or change of control 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 Name: _____

Title: _____

E-Mail Address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

County: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

Facility Location (if different from above):

Address: _____

City: _____ State: _____ Zip: _____

County: _____

Alternative Contact Information (if different from the Interconnection Customer)

Contact Name: _____

Title: _____

E-Mail Address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

Application is for: _____ New Generating Facility

_____ Capacity Change to a Proposed or Existing Generating Facility

_____ Change of Ownership of a Proposed or Existing Generating Facility to a new legal entity

_____ Change of Control of a Proposed or Existing Generating Facility of the existing legal entity.

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.)

Requested Point of Interconnection: _____

Requested In-Service Date: _____

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: _____

E-Mail Address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

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 _____

Total Generator Nameplate Rating: _____ kW_{AC} (Typical)
_____ kVAR

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

Interconnection Customer Generator Auxiliary Load: _____ kW

Typical Reactive Load (if known): _____ kVAR

Maximum Physical Export Capability Requested: _____ kW_{AC}

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

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

Generator (or solar panel information)

Manufacturer, Model Name, & Number of units: _____

Nameplate Output Power Rating in kW_{AC}: _____ Summer _____ Winter

Nameplate Output Power Rating in kVA: _____ Summer _____ Winter

Individual Generator Rated Power Factor: Leading _____ Lagging _____

Total Number of Generators in wind farm to be interconnected pursuant to this Interconnection Request (if applicable): _____ Elevation: _____

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

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

For solar projects provide the following information:

Latitude: _____ Degrees _____ Minutes North

Longitude: _____ Degrees _____ Minutes West

Orientation: _____ Degrees (Due South=180°)

Fixed Tilt Array ☐ Single Axis Tracking Array ☐ Double Axis Tracking Array ☐

Fixed Tilt Angle: _____ Degrees

Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: _____ Instantaneous ____ or RMS? ____

Harmonics Characteristics: _____

Start-up requirements: _____

Inverter Short-Circuit Model Data

Model and parameter data required for short-circuit analysis is specific to each PV inverter make and model. All data to be provided in per-unit ohms, on the equivalent inverter MVA base.

Inverter Equivalent MVA Base: _____ MVA

Short-Circuit Equivalent Pos. Seq. Resistance (R1), valid for initial 2 to 6 cycles: _____
p.u.

Short-Circuit Equivalent Pos. Seq. Reactance (XL1), valid for initial 2 to 6 cycles: _____
p.u.

Short-Circuit Equivalent Neg. Seq. Resistance (R2), valid for initial 2 to 6
cycles: _____ p.u.

Short-Circuit Equivalent Neg. Seq. Reactance (XL2), valid for initial 2 to 6 cycles: _____
p.u.

Short-Circuit Equivalent Zero Seq. Resistance (R0), valid for initial 2 to 6
cycles: _____ p.u.

Short-Circuit Equivalent Zero Seq. Reactance (XL0), valid for initial 2 to 6 cycles: _____
p.u.

Special notes regarding short-circuit modeling assumptions:

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:

Motor Power (kW): _____

$I_2^2 t$ 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 more than one transformer be used between the generator and the point of common coupling?

Yes ___ No ___ (If yes, copy this section and provide the information for each transformer used. This information must match the single-line drawing and transformer specification sheets.)

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, floating neutral ___
Wye Grounded neutral ___

Transformer Secondary ___ Volts, Delta ___ Wye, floating neutral ___
Wye Grounded neutral ___

Transformer Tertiary: ___ Volts, Delta ___ Wye, floating neutral ___
Wye Grounded neutral ___

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

1. One-line diagram

Enclose site electrical one-line diagram showing the configuration of all Generating Facility equipment, current and potential circuits, and protection and control schemes.

- ☐ The one-line diagram should include the project owner's name, project name, project address, model numbers and nameplate sizes of equipment, including number and nameplate electrical size information for solar panels, inverters, wind turbines, disconnect switches, latitude and longitude of the project location, and tilt angle and orientation of the photovoltaic array for solar projects.
- ☐ The diagram should also depict the metering arrangement required whether installed on the customer side of an existing meter ("net metering/billing") or directly connected to the grid through a new or separate delivery point requiring a separate meter.
- ☐ List of adjustable set points for the protective equipment or software should be included on the electrical one-line drawing.
- ☐ 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 ___

2. Site Plan

- ☐ 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) and the proposed Point of Interconnection.
- ☐ Proposed location of protective interface equipment on property (include address if different from the Interconnection Customer's address) _____

☐ Is Site Plan Enclosed? Yes ___ No ___

☐ Is Site Control Verification Form Enclosed? Yes ___ No ___

3. Equipment Specifications

Include equipment specification information (product literature) for the solar panels and inverter(s) that provides technical information and certification information for the equipment to be installed with the application.

- ☐ Are Equipment Specifications Enclosed? Yes ___ No ___

4. Protection and Control Schemes

- ☐ 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 Application Form is true and correct.

For Interconnection Customer:

Signature _____ Date: _____
(Authorized Agent of the Legal Entity)

Print Name _____

In the Matter of the Application of)
[Developer Name] for an)

SITE CONTROL VERIFICATION

Interconnection Agreement)

with [Utility Name])

I, [Authorized Signatory Name], [Title] of [Developer Name], under penalty of perjury, hereby certify that, [Developer Name] or its affiliate has executed a written contract with the landowner(s) noted below, concerning the property described below. I further certify that our written contract with the landowner(s) specifies the agreed rental rate or purchase price for the property, as applicable, and allows [Developer Name] or its affiliates to construct and operate a renewable energy power generation facility on the property described below.

This verification is provided to [Utility Name] in support of our application for an Interconnection Agreement.

Landowner Name(s): _____

Land Owner Contact information (Phone or e-mail): _____

Parcel _____ or PIN _____ Number: _____
County: _____

Site Address: _____

Number of Acres under Contract (state range, if applicable): _____

Date Contract was executed _____

Term of Contract _____

[signature]

[Authorized Signatory Name]

[Authorized Signatory Name], being first duly sworn, says that [he/she] has read the foregoing verification, and knows the contents thereof to be true to [his/her] actual knowledge.

Sworn and subscribed to before me this ____ day of _____, 201__.

[signature]

[Authorized Signatory Name]

[Title], [Developer Name]

[Signature of Notary Public]

Notary Public

Name of Notary Public [typewritten or printed]

My Commission expires _____

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 Application Form
for Interconnecting a Certified Inverter-Based
Generating Facility No Larger than 20 kW**

This Interconnection Request Application Form 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 Application Form.

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: _____

E-Mail Address: _____

Address: _____

City: _____ State: _____ Zip: _____

County: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

Contact (if different from Interconnection Customer)

Name: _____

E-Mail Address: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

Owner(s) of the Generating Facility: _____

Generating Facility Information

Facility Location (if different from above):

Address: _____

City: _____ State: _____ Zip: _____

County: _____

Utility: _____

Account Number: _____

Inverter Manufacturer: _____ Model _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)

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

Single Phase _____ Three Phase _____

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 20 kW Inverter Process is available only for inverter-based Generating Facilities no larger than 20 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:

Number	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 Application Form is true. I agree to abide by the Terms and Conditions for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 20 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 20 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 20 kW**

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

Interconnection Customer

Name: _____

Contact Person: _____

E-Mail Address: _____

Address: _____

City: _____ State: _____ Zip: _____

County: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

Location of the Generating Facility (if different from above)

Address _____

City: _____ State: _____ Zip: _____

County: _____

Electrician

Name: _____

Company: _____

E-Mail Address: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____

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):

Signature: _____

Print Name: _____ Date: _____

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

Utility Name: _____

Attention: _____

E-Mail Address: _____

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 20 kW.

Utility Signature: _____

Title: _____ Date: _____

**Terms and Conditions
for Interconnecting a Certified Inverter-Based
Generating Facility No Larger than 20 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 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.
- 7.3 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility greater than 250 kW, the required coverage shall be comprehensive general liability insurance with coverage in the amount of at least \$1,000,000 per occurrence.
- 7.4 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 Application Form within ten Business Days.

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

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, Dated _____ and received by the Utility 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 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 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.

5.0 If the Interconnection Customer modifies its Interconnection Request pursuant to Section 1.4.4 (Revised Interconnection Request) or Section 1.4.5 (Interdependent Customers) of the Interconnection Procedures, the time to complete the System Impact Study shall be governed by the Interconnection Procedures. If an affected Interdependent Customer's System Impact Study must be revised pursuant to Section 1.5 (Revised Upgrade and Interconnection Facility Charges Due to Events Outside of the Interconnection Customer's Control), the time to complete the study shall be governed by the Interconnection Procedures.

6.0 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.

7.0 The System Impact Study ~~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:

7.1. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

7.2. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;

7.3. Initial review of grounding requirements and electric system protection

8.0 The System Impact Study ~~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.

9.0 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.

- 10.0 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.
- 11.0 The System Impact Study will also include an analysis of distribution and transmission impacts as may be necessary to understand the impact of the proposed Generation Facility on electric system operation.
- 12.0 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.
- 13.0 The System Impact Study will provide the Preliminary Estimated Upgrade Charge, which is a preliminary indication of the cost and length of time that would be necessary to correct any System problems identified in those analyses and implement the interconnection
- 14.0 The System Impact Study will provide the Preliminary Estimated Interconnection Facilities Charge, which is a preliminary indication of the cost and length of time that would be necessary to provide the Interconnection Facilities.
- 15.0 A system impact study shall provide the information outlined in Section 1.2.3 of the Interconnection Procedures.
- 16.0 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.
- 17.0 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.
- 18.0 The Utility shall have an additional 15 Business Days from the time set forth in the System Impact Study Agreement to complete the dual scenario System Impact Study reports for a Project B.

19.0 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 –

19.1. Are directly interconnected with the Utility's electric system; or

19.2. Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and

19.3. Have a pending ~~higher~~-~~lower~~ queued Interconnection Request to interconnect with the Utility's electric system.

20.0 The System Impact Study shall be completed within a total of 65 Business Days if transmission system impacts are studied, and 50 Business Days if distribution system impacts are studied, but in any case, shall not take longer than a total of 65 Business Days unless the study involves Affected Systems per Section 17.0.

21.0 Any study fees shall be based on the Utility's actual costs and will be deducted from the Interconnection Facilities Deposit made by the Interconnection Customer at the time of the Interconnection Request. After the study is completed, the Utility shall deliver a summary of professional time.

22.0 The Interconnection Customer must pay any study costs that exceed the Interconnection Request Deposit without interest within 20 business days of receipt of the invoice. If the deposit exceeds the invoiced fees and the Interconnection Customer withdraws the Interconnection Request, the Utility shall refund such excess within 40 business days of the notification of termination without interest.

23.0 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.

24.0 Amendment

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

25.0 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.

26.0 Waiver

26.1. 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.

26.2. 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.

27.0 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.

28.0 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.

29.0 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.

30.0 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.

30.1. 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.

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

31.0 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 Interconnection Request, 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 Application Form completed by the Interconnection Customer, Dated _____ and received by the Utility 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 construction time required to complete the 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 is required from the Interconnection Customer. If the unexpended portion of the Interconnection Facilities Deposit made for the Interconnection Request exceeds the estimated cost of the facilities study, no payment will be required of the Interconnection Customer.
- 7.0 In cases where Upgrades are required, the facilities study must be completed within 45 Business Days of the Utility's receipt of this Agreement, or completion of the Facilities Study for an Interdependent Project A whichever is later. 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 deducted from the Interconnection Request Deposit made by the Interconnection Customer at the time of the Interconnection Request. After the study is completed the Utility shall deliver a summary of professional time.
- 10.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 20 Business Days of receipt of the invoice. If the deposit exceeds the invoiced fees, and the Interconnection Customer withdraws the Interconnection Request, the Utility shall refund

such excess within 20 Business Days of the notification of termination 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 ConstructionDate: _____

Generator step-up transformersDate: _____
receive back feed power

Generation TestingDate: _____

Commercial Operation _____ Date:

Attachment 8

**NORTH CAROLINA
INTERCONNECTION AGREEMENT**

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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 20 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 or the range established by the Utility that applies to all similarly situated generators in the control area. 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 ten (10) 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 (3) Business Days after initial start-up of the unit. In addition, the

Interconnection Customer shall notify the Utility at least five (5) 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 (10) 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, including any remaining term requirements for payment of Charges that are billed under a monthly payment option as prescribed in Article 6.

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 (5) 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 (5) 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, on-going operations, maintenance, repair, and replacement, 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, on-going operations, maintenance, repair, and replacement shall be borne by the Interconnection Customer.

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

6.1 Billing and Payment Procedures and Final Accounting ~~(Section Needs to be revised)~~

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The Interconnection Customer shall pay ~~100% of the required~~ Upgrade, Interconnection Facilities, and ~~any~~ other charges required by the Interconnection Agreement ~~Milestones Appendix 2 and Appendix 6, in accordance with the milestone payment schedule set out in Appendix 4.~~ Upon receipt of ~~100% of the~~ foregoing pre-payment charges, ~~the payments is are~~ not refundable due to ~~cancellation termination~~ of the Interconnection ~~Request Agreement~~ or mandatory withdrawal. ~~(need to introduce the term "termination" in place of "deemed withdrawn")~~

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- 6.1.1 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 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 20 Business 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 20 Business Days of the final accounting report.

~~6.1.2 The Utility shall also bill the Interconnection Customer for the costs associated with operating, maintaining, repairing and replacing the Utility's System Upgrades, as set forth in Appendix 6 of this Agreement. (this is the System Upgrade O&M Charge) see Appendix 6.~~

Comment [A18]: From our understanding there are no ongoing O&M charges on the System Upgrades, the ongoing O&M charges are typically only on the Interconnection Facilities.

~~6.1.36.1.2~~ The Utility shall bill the Interconnection Customer for the costs of providing the Utility's Interconnection Facilities including the costs 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 or additional facilities charges, as set forth in Appendix 2 of this Agreement, such monthly charges to continue throughout the entire life of the interconnection. ~~(this is the Monthly Interconnection Facilities Charge) see Appendix 2~~

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 mutual agreement, except for timing for Payment or Financial Security-related requirements set forth in the milestones. 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) the delay will materially affect the schedule of another Interconnection Customer with subordinate Queue Position, (3) attainment of the same milestone has previously been delayed, or (4) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

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6.3 Financial Security Arrangements

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Pursuant to the Interconnection Agreement Milestones Appendix 4, if the Interconnection Customer and Utility elect to delay a portion of the payment for the costs for constructing, designing, procuring, and installing the applicable portion of the Utility's Interconnection Facilities and Upgrades, then the Interconnection Customer shall provide the Utility a letter of credit or other financial security arrangement that is reasonably acceptable to the Utility and is consistent with the Uniform Commercial Code of North Carolina, for any portion

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of such payment that is not made upfront. 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~~ If financial security is required:

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Comment [A19]: Clarification according to our understanding of how this will be applied.

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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 must be issued by a financial institution or insurer reasonably acceptable to the Utility and must specify a reasonable expiration date.

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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.

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

7.1 Assignment

7.1.1 The Interconnection Customer shall notify the Utility of the pending sale of an existing Generation Facility in writing. The Interconnection Customer shall provide the Utility with information regarding whether the sale is a change of ownership of the Generation Facility to a new legal entity, or a change of control of the existing legal entity.

7.1.2 The Interconnection Customer shall promptly notify the Utility of the final date of sale and transfer date of ownership in writing. The purchaser of the Generation Facility shall confirm to the Utility the final date of sale and transfer date of ownership in writing

7.1.3 This Agreement shall not survive the transfer of ownership of the Generating Facility to a new legal entity 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.

7.1.4 This Agreement shall survive a change of control of the Generating Facility' legal entity owner, where only the contact information in the Interconnection Agreement must be modified. The new owner must complete a new Interconnection Request and submit it to the Utility within 20 Business Days of the change of control and provide the new contact information. 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.

7.1.5 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.

7.1.6 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 40 five (5) Business Days from receipt of the Default notice within which to cure such Default.
- 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 commercial comprehensive general liability insurance with coverage in the amount of at least \$300,000 per occurrence.
 - 8.1.3 For an Interconnection Customer that is a non-residential customer of the Utility proposing to interconnect a Generating Facility greater than 250 kW, the required coverage shall be commercial comprehensive general liability insurance with coverage in the amount of at least \$1,000,000 per occurrence.
 - 8.1.4 An Interconnection Customer of sufficient credit-worthiness may propose to provide this insurance via a self-insurance program if it has a self-insurance program established in accordance with commercially acceptable risk management practices, and such a proposal shall not be unreasonably rejected.
- 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.

All information pertaining to a project will be provided to the new owner in the case of a change of control of the existing legal entity or a change of ownership to a new legal entity.

9.1.3

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 20 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, sent by first class mail, postage prepaid, or sent electronically to the person specified below:

If to the Interconnection Customer:

Interconnection Customer: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

E-Mail Address: _____

Phone: _____ Fax: _____

If to the Utility:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

E-Mail Address: _____

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: _____

E-Mail Address: _____

If to the Utility:

Utility: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

E-Mail Address: _____

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: _____

Print Name: _____

Title: _____

Date: _____

For the Interconnection Customer

Name: _____

Print 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. If required applicable, the Letter of Credit may be drawn upon to pay for the upfront Interconnection Facilities charges.

Charges for the ongoing operation and maintenance expenses associated with the Interconnection Facilities and metering equipment will begin on the In-Service Date specified in the Milestones in Appendix 4, regardless of whether the Generating Facility is interconnected or generating. ~~If required, the Letter of Credit may be drawn upon to pay for the Interconnection Facilities charges.~~

~~Need paragraph on Interdependent Projects if B is allowed to move forward without A paying all prepayment charges.~~

~~Need paragraph on A's prepayment being non-refundable upon payment.~~

Comment [A20]: This is in the Interconnection Agreement.

~~Need paragraph saying LOC used for monthly payments for monthly charges if facility late.~~

Comment [A21]: Need to clarify - LOC only required if upgrade charges are delayed and is not required for ongoing O&M charges if initial upgrade costs are paid upfront.

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

This agreement will incorporate by reference the one-line diagram submitted by the Customer on _____, dated _____, with file name "_____" as part of the Interconnection Request, or as subsequently updated and provided to the Company.

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Milestones

Upgrade In-Service Date: _____

Interconnection Facilities In-Service Date _____

Critical milestones and responsibility as agreed to by the Parties:

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

	Milestone	Completion Date	Responsible Party
(1)			
(2)			
(4)			
(5)			
(6)			
(7)			
(8)			
(9)			
(10)			

Agreed to by:

For the Utility _____ Date _____

Print Name: _____

For the Interconnection Customer _____ Date _____

Print Name: _____

~~Need m~~The milestone schedule shall include ~~milestoness~~ for prepayment, start of construction, upgrade in-service date and interconnection facilities in-service date.

Comment [A22]: Clarifying language inserted.

**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~~.

Comment [A23]: The upgrade costs do not typically include an O&M component.

~~Charges for the costs associated with operating, maintaining, repairing and replacing the Utility's System Upgrades will begin on the In-Service Date specified in the Milestones in Appendix 4, regardless of whether the Generating Facility is interconnected or generating. If required, the Letter of Credit may be drawn upon to pay for the charges.~~

~~Need paragraph on Interdependent Projects if B is allowed to move forward without A paying all prepayment charges.~~

~~Need paragraph on A's prepayment being non-refundable upon payment.~~

Comment [A24]: This is already in the IA.

~~Need paragraph saying LOC used for monthly payments for monthly charges if facility late.~~

Comment [A25]: letter of credit is not required for ongoing monthly O&M charges.

