

Duke Energy Carolinas

North Carolina Interconnection Request Checklist

The North Carolina Utilities Commission issued *North Carolina Interconnection Procedures, Forms, And Agreements For State-Jurisdictional Generator Interconnections* (“North Carolina Interconnection Standard”) in Docket E-100, Sub 101 on June 9, 2008. This interconnection standard affects all new customer generation interconnections that are state jurisdictional, regardless of size or connection to the distribution or transmission grid. Information on the new interconnection standard is located on the Duke Energy Website at <http://www.duke-energy.com/customer-owned-generation/nc-main.asp>.

1. Interconnection Request:

Section 2 of the North Carolina Interconnection Standard (*Optional 10kW Inverter Process for Certified Inverter-Based Generating Facilities No Larger than 10kW*), is available for inverter-based generating facilities up to 10 kilowatts in size. Systems must meet the codes, standards, and certification requirements of Attachments 3 and 4 of the North Carolina Interconnection Standard.

Use **Attachment 5** of the North Carolina Interconnection Standard (*Interconnection Request for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 10 kW*) to submit an interconnection request for inverter based net metering or purchased power (“sell-all”) projects up to 10 kilowatts in size.

Use **Attachment 2** of the North Carolina Interconnection Standard (*North Carolina Interconnection Request*) to submit an interconnection request for net metering or purchased power (“sell-all”) projects larger than 10 kilowatts, or if the project is not inverter-based.

Interconnection Requests must be signed by the customer requesting service.

2. Application Fee: A non-refundable processing fee should accompany the *Interconnection Request*.

- For Generating Facilities up to 20 kW, the fee is \$100.
- For Generating Facilities larger than 20 kW up to 100 kW, the fee is \$250.
- For Generating Facilities larger than 100 kW up to 2 MW, the fee is \$500.

Checks should be made payable to **Duke Energy Carolinas**.

3. Electrical one-line diagram: An electrical one-line schematic diagram depicting the project and the equipment to be installed should accompany the *Interconnection Request*. The one-line diagram should include the project owner’s name, project name, project address, and model numbers and nameplate sizes of equipment, including number and nameplate electrical size information for solar panels, inverters, wind turbines, disconnect switches, etc.

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 delivery point requiring a separate meter. **Include equipment specification (product literature) information for the solar panels and inverter(s) that provide technical information and certification information for the equipment to be installed with the application.**

- 4. Disconnect Switch:** The National Electric Code and Duke Energy require the installation of a manual load-break AC disconnect switch or safety switch installed between the Utility System and the Interconnection Customer's equipment to be able to positively isolate the generation source from the grid when needed for emergency events, to perform maintenance, or assist in the restoration of service, etc. The switch must be able to provide a clear visible open point of disconnection, a clear visible indication of switch position, and have padlock provisions for locking the switch in the open position.

The switch must be installed on the Interconnection Customer's side of the electrical interconnection with the Utility's system, accessible to Utility personnel, and located in close proximity to the utility's electrical delivery point. 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.

- 5. North Carolina Utilities Commission ("NCUC") Certificate of Public Convenience And Necessity:** North Carolina state law requires that all sources of generation comply with the North Carolina Certificate of Public Convenience and Necessity process before construction on a project begins.

Renewable energy projects less than 2 MW (2,000 KW) in size are not required to obtain a "certificate"; however projects must report their proposed construction to the Commission and supply the information detailed in Commission Rule 8-65 before construction begins.

Information on this process can be found on the Duke Energy Carolinas Customer Generation Website at <http://www.duke-energy.com/customer-owned-generation/nc-certificate.asp> or directly on the North Carolina Utilities Commission website under Commission Rule 8-64 and Rule 8-65.

Please send a copy of the NCUC report to Duke Energy Carolinas with the *Interconnection Request*.

- 6. FERC Qualifying Facility Status:** A generating facility proposing to sell electricity to Duke Energy Carolinas under a Purchased Power Agreement on Rate Schedule PP-N(NC) or Schedule PP-H(NC) must be a "Qualifying Facility" as defined by the Public Utility Regulatory Policies Act of 1978 ("PURPA") and the Federal Energy Regulatory Commission ("FERC") regulations implementing PURPA. A "Qualifying Facility" is one that meets certain federal guidelines and qualifies to receive avoided cost payments from the utility (Rate Schedule PP-N or Schedule PP-H).

Projects smaller than 1 MW (1,000 KW) are no longer required to file an FERC Form 556 to obtain QF status as long as they meet the QF requirements. To determine if you are exempt from the requirement to file a Form 556 for your facility, based on the small size of your facility, download the Form 556 from the FERC website and complete section 7. If the value you obtain in line 7g is less than or equal to 1,000 KW, then your facility is exempt from the Form 556 filing requirement.

Although facilities smaller than 1 MW are exempt from the requirement to file, there is no prohibition against filing the Form No. 556 application either for self-certification or Commission certification for these facilities.

Facilities larger than 1 MW (1,000kW) in size as defined by maximum net power production capacity must file a FERC Form No. 556 either as a self-certification (or self-recertification) or as an application for Commission certification.

Instructions for completing this simple, self-registration process with the FERC are found on the Duke Energy Carolinas Customer Generation Website under *Obtaining FERC Qualifying Facility Status* or directly on the Federal Energy Regulatory Commission's website located at www.ferc.gov.

Please send a copy of the FERC QF Certificate filing to Duke Energy Carolinas with the *Application to Interconnect* if you are required to file Form 556.

7. **Insurance Certificate:** Residential customers are required to demonstrate liability insurance coverage maintained with an insurer authorized to do business in North Carolina. The required coverage shall be a standard homeowner's insurance policy with liability coverage in the amount of at least \$100,000 per occurrence.

Non-residential customers are required to demonstrate liability insurance coverage maintained with an insurer authorized to do business in North Carolina. The required coverage shall be comprehensive general liability insurance with coverage in the amount of at least \$300,000 per occurrence.

Please send an insurance certificate from the insurer to Duke Energy Carolinas with the *Interconnection Request*

8. **Purchased Power Agreement:** If the projects intends to sell its production to Duke Energy Carolinas on Rate Schedule PP-N(NC) or Schedule PP-H(NC), Duke Energy Carolinas will prepare a Purchased Power Agreement based on the interconnection request information and mail to the customer for signature.
9. **Contingent Approval to Interconnect:** For Projects that use Attachment 5, Duke Energy Carolinas will return a copy of the Interconnection Request granting contingent approval to install the facility. Please note that interconnection of the Generating Facility will be approved contingent upon the Terms and Conditions for Interconnecting a Certified Inverter-Based Generating Facility No Larger than 10 kW of the North Carolina Interconnection Standard.
10. **Certificate of Completion and Inspection:** Attachment 5 of the NC Interconnection Standard includes a *Certificate of Completion* form to be returned to Duke Energy when the project installation is complete and has been inspected by the local electrical inspection authority. Submission of this document signifies that the project is ready for Duke Energy's final inspection. Please include a copy of the local electrical inspection approval document with the *Certificate of Completion*.

If the interconnection request was submitted using Attachment 2, there is no separate completion document to submit. However, please send a copy of the local electrical

inspection approval document to Duke Energy Carolinas when the installation of the project is complete and has been inspected by the local electrical inspection authority.

Submission of any remaining documents and Duke Energy's field inspection is required before final approval can be granted.

When submitting an application for interconnection, please include all required documents with the *Interconnection Request*. The *Interconnection Request* must be signed by the requesting customer. All documents, including the electrical one-line drawing, equipment specification sheets, insurance information, etc., are required to be submitted before processing can begin. Omitting documents that are required or submitting documents with incomplete or inconsistent information will delay the processing of an application.

Mail complete interconnection request packages to:

Duke Energy Corporation
Customer Prototype Lab
Mail Code: EY500
139 East Fourth Street
PO Box 960
Cincinnati, OH 45202

Phone: (866) 233-2290

Fax: (513) 287-2718

Email: customerownedgeneration@duke-energy.com

Please contact the Customer Prototype Lab if you have any questions regarding rate options or the interconnection process.

NOTE: If your goal is to complete your new solar photovoltaic, wind, or micro-hydro generation project by December 31, you must submit a complete Interconnection Request in time to reach Duke Energy Carolinas prior to December 1. It is Duke Energy's goal to process interconnection requests as quickly as possible and help projects become operational by year end; however, holiday schedules, the threat of inclement weather, and other unforeseen system emergencies may prevent Duke Energy from inspecting and approving interconnection requests and installing any necessary interconnection equipment and metering in late December for any request that is not submitted prior to December 1, or for any Interconnection Request that is submitted with incomplete information or missing documents..

Project construction should be completed and inspected by the local electrical inspector in time to permit Duke's field inspection to be completed before December 15.

Good luck with the development of your project.

Updated May 17, 2011