NORTH CAROLINA
INTERCONNECTION REQUEST

Utility: Duke Energy Progress

Attention: Customer Owned Generation - Mail Code ST13A

Address: P.O. Box 1010  Charlotte, NC 28201

Telephone Number: 1-866-233-2290

Fax: 980-373-5244  E-Mail Address: customerownedgeneration@duke-energy.com

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

Preamble and Instructions

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

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

Processing Fee or Deposit

Fast Track Process – Non-Refundable Processing Fees

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

Study Process – Deposit

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

Change in Ownership – Non-Refundable Processing Fee

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

Legal Name of the Interconnection Customer (or, if an individual, individual’s name)
Name: ____________________________________________
Contact Person: ______________________________________
Mailing Address: ______________________________________
City: ___________ State: _______ Zip: __________
Facility Location (if different from above): __________________________
Telephone (Day): _______ Telephone (Evening): __________
Fax: ______________ E-Mail Address: ____________________

Alternative Contact Information (if different from the Interconnection Customer)
Contact Name: __________________________________________
Title: __________________________________________________
Address: ________________________________________________
______________________________
Telephone (Day): _______ Telephone (Evening): __________
Fax: ______________ E-Mail Address: ____________________

Application is for: ______ New Generating Facility
______ Capacity Addition to Existing Generating Facility
______ Transfer of Ownership of Existing Generating Facility

If capacity addition to existing Generating Facility, please describe: ______________
____________________________________
Will the Generating Facility be used for any of the following?

Net Metering? Yes _____ No _____

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

To Supply Power to the Utility? Yes _____ No _____

To Supply Power to Others? Yes _____ No _____

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

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

(Local Electric Service Provider*) (Existing Account Number*)

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

Contact Name: ________________________________

Title: ________________________________

Address: __________________________________

________________________________

Telephone (Day): ____________ Telephone (Evening): ____________

Fax: ________________________________ E-Mail Address: ________________________________

Requested Point of Interconnection: ________________________________

Interconnection Customer’s Requested In-Service Date: ________________________________

**Generating Facility Information**

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

Energy Source: Solar ___ Wind ___ Hydro ___ Hydro Type (e.g. Run-of-River): __________

Diesel ___ Natural Gas ___ Fuel Oil ___ Other (state type) __________

Prime Mover: Fuel Cell ___ Recip Engine ___ Gas Turbine ___ Steam Turbine ___

Microturbine ___ PV ___ Other __________
Type of Generator: Synchronous __ Induction __ Inverter __
Generator Nameplate Rating: _____ kW (Typical)   Generator Nameplate: _____ kVAR
Interconnection Customer or Customer-Site Load: ___________ kW (if none, so state)
Typical Reactive Load (if known): ________________
Maximum Physical Export Capability Requested: ___________ kW

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

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<tr>
<th>Equipment Type</th>
<th>Certifying Entity</th>
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Is the prime mover compatible with the certified protective relay package? Yes __ No __

Generator (or solar collector)
Manufacturer, Model Name, & Number: ____________________________
Version Number: ____________________________
Nameplate Output Power Rating in kW:  (Summer) ________  (Winter) ________
Nameplate Output Power Rating in kVA:  (Summer) ________  (Winter) ________
Individual Generator Power Factor
Rated Power Factor: Leading: ___________  Lagging: ___________

Total Number of Generators in wind farm to be interconnected pursuant to this Interconnection Request: ___________  Elevation: _____

Single phase __  Three phase __

Inverter Manufacturer, Model Name, & Number (if used): ____________________________
List of adjustable set points for the protective equipment or software: ________________

Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.
Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: ___________ Instantaneous ____ or RMS? ____
Harmonics Characteristics: __________________________________________________________
Start-up requirements: _______________________________________________________________

Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: ______________

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

Synchronous Generators:

Direct Axis Synchronous Reactance, Xd: ___________ P.U.
Direct Axis Transient Reactance, X'\textsubscript{d}: ___________ P.U.
Direct Axis Subtransient Reactance, X''\textsubscript{d}: ___________ P.U.
Negative Sequence Reactance, X\textsubscript{2}: ___________ P.U.
Zero Sequence Reactance, X\textsubscript{0}: ___________ P.U.
KVA Base: ________________________________________
Field Volts: ______________________________________
Field Amperes: ___________________________________

Induction Generators:

Motoring Power (kW): ____________________________
I\textsuperscript{2}t or K (Heating Time Constant): ____________
Rotor Resistance, Rr: ______________________________
Stator Resistance, Rs: ______________________________
Stator Reactance, Xs: ______________________________
Rotor Reactance, Xr: _______________________________
Magnetizing Reactance, Xm: _______________________
Short Circuit Reactance, Xd'': ______________________
Exciting Current: __________________________________
Temperature Rise: __________________________________
Frame Size: _______________________________________
Design Letter: _____________________________________
Reactive Power Required In Vars (No Load): __________
Reactive Power Required In Vars (Full Load): __________
Total Rotating Inertia, H: __________ Per Unit on kVA Base

Note: Please contact the Utility prior to submitting the Interconnection Request to determine if the specified information above is required.
Excitation and Governor System Data for Synchronous Generators Only

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

**Interconnection Facilities Information**

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

Will the transformer be provided by the Interconnection Customer? Yes __ No __

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

Is the transformer: Single phase __ Three phase __  
Size: ___________ kVA

Transformer Impedance: _______ % on ___________ kVA Base

If Three Phase:

Transformer Primary: ______ Volts _____ Delta _____ Wye _____ Wye Grounded
Transformer Secondary: ______ Volts _____ Delta _____ Wye _____ Wye Grounded
Transformer Tertiary: ______ Volts _____ Delta _____ Wye _____ Wye Grounded

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

(Attach copy of fuse manufacturer’s Minimum Melt and Total Clearing Time-Current Curves)

Manufacturer: ______________ Type: __________ Size: _____ Speed: ______

**Interconnecting Circuit Breaker (if applicable):**

Manufacturer: ___________________ Type: _____________________

Load Rating (Amps): ______ Interrupting Rating (Amps): ______ Trip Speed (Cycles): ______
Interconnection Protective Relays (if applicable):

If Microprocessor-Controlled:

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

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<th>Setpoint Function</th>
<th>Minimum</th>
<th>Maximum</th>
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If Discrete Components:

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

Manufacturer: _______ Type: ___ Style/Catalog No.:___ Proposed Setting:____
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Current Transformer Data (if applicable):

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

Manufacturer: __________________________________________________________
Type: _______________ Accuracy Class: _____ Proposed Ratio Connection: ___
Manufacturer: __________________________________________________________
Type: _______________ Accuracy Class: _____ Proposed Ratio Connection: ___
Potential Transformer Data (if applicable):

Manufacturer: _____________________________________________
Type: __________________ Accuracy Class: _____ Proposed Ratio Connection: ____

Manufacturer: _____________________________________________
Type: __________________ Accuracy Class: _____ Proposed Ratio Connection: ____

General Information

Enclose copy of site electrical one-line diagram showing the configuration of all Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer if the Generating Facility is larger than 50 kW.

Is One-Line Diagram Enclosed? Yes __ No __

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

Proposed location of protective interface equipment on property (include address if different from the Interconnection Customer’s address) ________________________________

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is Available Documentation Enclosed? Yes __ No __

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

Are Schematic Drawings Enclosed? Yes __ No __

Applicant Signature

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

For Interconnection Customer: _______________________________ Date:___________

Interconnection Request