



EXPEDITED/STANDARD PROCESS **INTERCONNECTION APPLICATION INSTRUCTIONS**

General Information

If you wish to submit an application to interconnect your generating facility using the Expedited or Standard Process, please fill out all pages of the attached application form. Once complete, please sign and attach the supporting documentation requested.

Contact Information: You must provide as a minimum the contact information of the legal applicant. If another party is responsible for interfacing with the Company (utility), you may optionally provide their contact information as well.

Ownership Information: Please enter the legal names of the owner or owners of the generating facility. Include the percentage ownership (if any) by any electric service company (utility) or public utility holding company, or by any entity owned by either.

Confidentiality Statement: In an ongoing effort to improve the interconnection process for Interconnecting Customer-owned generating facilities, the information you provide and the results of the application process will be aggregated with the information of other applicants and periodically reviewed by a DG Collaborative of industry participants that has been organized by the Massachusetts Department of Telecommunications and Energy (DTE). The aggregation process mixes the data together so that specific details for one Interconnecting Customer are not revealed. In addition to this process, you may choose to allow the information specific to your application to be shared with the Collaborative by answering “Yes” to the Confidentiality Statement question on the first page. Please note that even in this case your identification information (contact data) and specific generating facility location will not be shared.

Generating Facility Information – IEEE 1547 / UL1741 Listed? This standard (“Inverters, Converters, and Controllers for Use in Independent Power Systems”) addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers choose to submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This “listing” is then marked on the equipment and supporting documentation.

DEP Air Quality Permit Needed? A generating facility may be considered a point source of emissions of concern by the Massachusetts Department of Environmental Protection (DEP). Therefore, when submitting this application please indicate whether your generating facility will require an Air Quality Permit. You must answer these questions, however, your specific answers will not affect whether your application is deemed complete. Please contact the DEP to determine whether the generating technology planned for your facility qualifies for a DEP waiver or requires a permit.



EXPEDITED/STANDARD PROCESS INTERCONNECTION APPLICATION

Date Prepared: _____

Contact Information:

Legal Name and address of Interconnecting Customer applicant (or, if an Individual, Individual's Name)

Company Name: _____ Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Alternative Contact Information (if different from Applicant)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Ownership (include % ownership by any electric utility): _____

Confidentiality Statement: "I agree to allow information regarding the processing of my application (without my name and address) to be reviewed by the Massachusetts DG Collaborative that is exploring ways to further expedite future interconnections." Yes ___ No ___

Generating Facility Information

Location (if different from above): _____

Electric Service Company: _____ Account Number (if available): _____

Type of Generating Unit: Synchronous _____ Induction _____ Inverter _____

Manufacturer: _____ Model: _____

Nameplate Rating: _____ (KW) _____ (kVAR) _____ (Volts) Single ___ or Three ___ Phase

Prime Mover: Fuel Cell ___ Recip Engine ___ Gas Turb ___ Steam Turb ___ Microturbine ___ PV ___ Other ___

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

IEEE 1547.1 (UL 1741) Yes ___ No ___

Need an air quality permit from DEP? Yes ___ No ___ Not Sure ___

If "yes", have you applied for it? Yes ___ No ___

Is there other electrical work being done in the facility? Yes ___ No ___



Planning to Export Power? Yes ___ No ___ A Cogeneration Facility? Yes ___ No ___

Anticipated Export Power Purchaser: _____

Export Form? Simultaneous Purchase/Sale ___ Net Purchase/Sale ___ Net Metering ___ Other _____
(Specify)

Est. Install Date: _____ Est. In-Service Date: _____ Agreement Needed By: _____

Application Process

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true:

Interconnecting Customer Signature: _____ Title: _____ Date: _____

The information provided in this application is complete:

Company Signature: _____ Title: _____ Date: _____

Generating Facility Technical Detail

List components of the generating facility that are currently certified and/or listed to national standards

	Equipment Type	Manufacturer	Model	National Standard
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

Total Number of Generating Units in Facility? _____

Generator Unit Power Factor Rating: _____

Max Adjustable Leading Power Factor? _____ Max Adjustable Lagging Power Factor? _____

Generator Characteristic Data (for all inverter-based machines)

Max Design Fault Contribution Current? _____ Instantaneous ___ or RMS? _____

Harmonics Characteristics: _____

Start-up power requirements: _____

Generator Characteristic Data (for all rotating machines)

Rotating Frequency: _____ (rpm) Neutral Grounding Resistor (If Applicable): _____

Additional Information for Synchronous Generating Units

Synchronous Reactance, Xd: _____ (PU) Transient Reactance, X'd: _____ (PU)

Subtransient Reactance, X''d: _____ (PU) Neg Sequence Reactance, X₂: _____ (PU)

Zero Sequence Reactance, X₀: _____ (PU) KVA Base: _____

Field Voltage: _____ (Volts) Field Current: _____ (Amps)



Additional information for Induction Generating Units

Rotor Resistance, Rr: _____ Stator Resistance, Rs: _____
 Rotor Reactance, Xr: _____ Stator Reactance, Xs: _____
 Magnetizing Reactance, Xm: _____ Short Circuit Reactance, Xd'': _____
 Exciting Current: _____ Temperature Rise: _____
 Frame Size: _____
 Total Rotating Inertia, H: _____ Per Unit on KVA Base: _____
 Reactive Power Required In Vars (No Load): _____
 Reactive Power Required In Vars (Full Load): _____

Additional information for Induction Generating Units that are started by motoring

Motoring Power: _____ (KW) Design Letter: _____

Interconnection Equipment Technical Detail

Will a transformer be used between the generator and the point of interconnection? Yes ___ No ___
 Will the transformer be provided by Interconnecting Customer? Yes ___ No ___

Transformer Data (if applicable, for Interconnecting Customer-Owned Transformer):

Nameplate Rating: _____ (kVA) Single ___ or Three ___ Phase
 Transformer Impedance: _____ (%) on a _____ KVA Base
 If Three Phase:
 Transformer Primary: _____ (Volts) ___Delta ___ Wye ___ Wye Grounded ___ Other
 Transformer Secondary: _____ (Volts) ___Delta ___ Wye ___ Wye Grounded ___ Other

Transformer Fuse Data (if applicable, for Interconnecting Customer-Owned Fuse):

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

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer: _____ Type: _____ Load Rating: _____ Interrupting Rating: _____ Trip Speed: _____
 (Amps) (Amps) (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: _____

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Current Transformer Data (if applicable):

(Enclose copy of Manufacturer’s Excitation & Ratio Correction Curves)

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

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Potential Transformer Data (if applicable):

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

General Technical Detail

Enclose 3 copies of site electrical One-Line Diagram showing the configuration of all generating facility equipment, current and potential circuits, and protection and control schemes with a Massachusetts-registered professional engineer (PE) stamp.

Enclose 3 copies of any applicable 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 Application Address)

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

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

Please enclose any other information pertinent to this installation.



Certificate of Completion for Expedited/Standard Process Interconnections

Installation Information:

Check if owner-installed

Customer or Company Name (print): _____ Contact Person, if Company: _

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

Address of Facility (if different from above): _____

Electrical Contractor's Name (if appropriate): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Facsimile Number: _____ E-Mail Address: _____

License number: _____

Date of approval to install Facility granted by the Company: _____

Application ID number: _____

Inspection:

The system has been installed and inspected in compliance with the local Building/Electrical Code of _____
(City/County)

Signed (Local Electrical Wiring Inspector, or attach signed electrical inspection):

Name (printed): _____

Date: _____

As a condition of interconnection you are required to send/fax a copy of this form along with a copy of the signed electrical permit to the person listed below at NSTAR Electric:

Name: Joe Feraci
Company: NSTAR Electric
Mail 1:One NSTAR Way
Mail 2:SUMSW360
City, State ZIP: Westwood, MA 02090
Fax No.: 781-441-8721