

### 13. Expedited/Standard Interconnection Application Process

**Instructions for Application** *(please do not submit this page)*

**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 (not including this page of instructions). Once complete, please sign, attach the supporting documentation requested and enclose an application fee of \$3/kW (minimum of \$300 and maximum of \$10,000).

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

**Generating Facility Information:** Please locate a copy of your monthly bill, this will provide the correct Account Number and Meter Number for this application. If the facility is to be installed in a new location, prior to submittal of this application an account for service must be created. One can do so at our Main Office, visit 100 Elm Street, Westfield, MA, 01085, or contact our Customer Service Line #413-572-0100 for more information, or visit our website [www.wgeld.org](http://www.wgeld.org) to submit a request for service.

**UL 1741 Listed** The standard UL 1741, "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 UL 1741. 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.

**Mail all materials to:**

**Attn: Energy Supply Manager, Westfield Gas and Electric**

**100 Elm Street, P.O. Box 990**

**Westfield, MA 01085**

## Generating Facility Expedited/Standard Interconnection Application and Agreement

**Date Prepared:** \_\_\_\_\_

**Contact Information:** *(Legal Name and address of Interconnecting Customer or Company Name, where applicable)*

Customer or Company Name (print): \_\_\_\_\_

Contact Person, if Company: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Facsimile Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Alternative Contact Information:** *(e.g., system installation contractor or coordinating company, where applicable)*

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Facsimile Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Electrical Contractor Contact Information:** *(where applicable)*

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Office): \_\_\_\_\_ (Mobile): \_\_\_\_\_

Facsimile Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

License Number: \_\_\_\_\_

**Ownership Information:** The Customer must fully own the Facility. Massachusetts General Laws prohibit a third-party from selling energy within the service territory of a municipal light department, such as WG&E. A third-party cannot maintain ownership or lease distributed generation equipment to a Customer of WG&E, instead WG&E's Customer must own the equipment outright. Any sale of energy to a Customer must be between WG&E and the Customer.

**Please attach documentation which confirms customer ownership of solar equipment such as copies of sales receipt and/or loan agreement.**

### **Generating Facility Information**

Address of Facility: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Account Number: \_\_\_\_\_ Meter Number: \_\_\_\_\_

|                                             |                                                    |                                               |                                        |
|---------------------------------------------|----------------------------------------------------|-----------------------------------------------|----------------------------------------|
| Type of Generating Unit: (check applicable) | <input type="checkbox"/> Synchronous               | <input type="checkbox"/> Inverter             | <input type="checkbox"/> Induction     |
| Manufacturer:                               |                                                    | Model:                                        |                                        |
| Nameplate Rating:                           | (kW)                                               |                                               | (kVAr)                                 |
|                                             | (Volts)                                            |                                               |                                        |
|                                             | <input type="checkbox"/> Single Phase              | <input type="checkbox"/> Three Phase          |                                        |
| System Design Capacity:                     | (kW)                                               |                                               | For Solar PV System, DC-STC rating:    |
|                                             | (kVA)                                              |                                               | (kW)                                   |
| Prime Mover: (check applicable)             | <input type="checkbox"/> Photovoltaic              | <input type="checkbox"/> Reciprocating Engine | <input type="checkbox"/> Steam Turbine |
|                                             | <input type="checkbox"/> Fuel Cell                 | <input type="checkbox"/> Gas Turbine          | <input type="checkbox"/> Microturbine  |
|                                             | Other (Specify)                                    |                                               |                                        |
| Energy Source: (check applicable)           | <input type="checkbox"/> Solar                     | <input type="checkbox"/> Wind                 | <input type="checkbox"/> Fuel Oil      |
|                                             | <input type="checkbox"/> Hydro                     | <input type="checkbox"/> Natural Gas*         | <input type="checkbox"/> Diesel        |
|                                             | Other (Specify)                                    |                                               |                                        |
| IEEE 1547.1 (UL 1741) Listed ?              | <input type="checkbox"/> YES                       | <input type="checkbox"/> NO                   |                                        |
| Need an Air Quality Permit from DEP ?       | <input type="checkbox"/> YES                       | <input type="checkbox"/> NO                   | <input type="checkbox"/> NOT SURE      |
| If "YES", have you applied for it ?         | <input type="checkbox"/> YES                       | <input type="checkbox"/> NO                   |                                        |
| Planning to Export Power ?                  | <input type="checkbox"/> YES                       | <input type="checkbox"/> NO                   |                                        |
| A Cogeneration Facility ?                   | <input type="checkbox"/> YES                       | <input type="checkbox"/> NO                   |                                        |
| Anticipated Export Power Purchaser:         |                                                    |                                               |                                        |
| Export Form: (check applicable)             | <input type="checkbox"/> Buy All / Sell All        |                                               |                                        |
|                                             | <input type="checkbox"/> Purchased Power Agreement |                                               |                                        |
|                                             | Other (Specify)                                    |                                               |                                        |

***\*If the energy source is Natural Gas, please contact the WG&E Engineering Department as additional forms and information will be required during the application process.***

Estimated Install Date: \_\_\_\_\_ Estimated In-Service Date: \_\_\_\_\_

Agreement Needed By: \_\_\_\_\_

**Interconnecting Customer Signature:**

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

Signature: \_\_\_\_\_ (Print Name): \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**Department Acknowledgement of Completed Application:** (For Department use only)

The information provided in this application is complete:

Proof that the WG&E customer is the sole owner of the solar system. Yes \_\_\_\_

Department Signature: \_\_\_\_\_ (Print Name): \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Application Number: \_\_\_\_\_

**Generating Facility Technical Detail**

Date: \_\_\_\_\_

Information on components of the generating facility that are currently Listed:

| 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: \_\_\_\_\_

Harmonic 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,  $X_d$ : \_\_\_\_\_ (PU) Transient Reactance,  $X'_d$ : \_\_\_\_\_ (PU)Subtransient Reactance,  $X''_d$ : \_\_\_\_\_ (PU) Neg. Sequence Reactance,  $X_2$ : \_\_\_\_\_ (PU)Zero Sequence Reactance,  $X_0$ : \_\_\_\_\_ (PU) kVA Base: \_\_\_\_\_

Field Voltage: \_\_\_\_\_ (Volts) Field Current: \_\_\_\_\_ (Amps)

**Additional Information for Synchronous Generating Units**Rotor Resistance,  $R_r$ : \_\_\_\_\_ Stator Resistance,  $R_s$ : \_\_\_\_\_Rotor Reactance,  $X_r$ : \_\_\_\_\_ Stator Reactance,  $X_s$ : \_\_\_\_\_Magnetizing Reactance,  $X_m$ : \_\_\_\_\_ Short Circuit Reactance,  $X_d''$ : \_\_\_\_\_

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 Motor Started**

Motoring Power: \_\_\_\_\_ (kW) Design Letter: \_\_\_\_\_

**Interconnection Equipment Technical Detail**

Date: \_\_\_\_\_

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)

|                               |                        |                    |                 |
|-------------------------------|------------------------|--------------------|-----------------|
| <b>Nameplate Rating:</b>      | <b>Single Phase or</b> | <b>Three Phase</b> | <b>(kVA)</b>    |
| <b>Transformer Impedance:</b> | <b>(%) on a</b>        |                    | <b>kVA Base</b> |
| <b>If Three Phase:</b>        |                        |                    |                 |
| <b>Transformer Primary:</b>   | <b>(Volts)</b>         |                    | <b>Delta</b>    |
|                               | <b>Wye Grounded</b>    | <b>Wye</b>         | <b>Other</b>    |
| <b>Transformer Secondary:</b> | <b>(Volts)</b>         |                    | <b>Delta</b>    |
|                               | <b>Wye Grounded</b>    | <b>Wye</b>         | <b>Other</b>    |

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

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

Manufacturer Speed: \_\_\_\_\_ Type: \_\_\_\_\_ Size: \_\_\_\_\_

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

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Load Rating: \_\_\_\_\_ (Amps)

Interrupting Rating: \_\_\_\_\_ (Amps) Trip Speed: \_\_\_\_\_ (Cycles)

**Interconnecting Circuit Breaker:** (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. _____          | - _____ | - _____ |

If discrete components; Enclose copy of any proposed Time-Overcurrent Coordination Curves:

|             |             |                          |                      |
|-------------|-------------|--------------------------|----------------------|
| Mfg.: _____ | Type: _____ | Style/Catalog No.: _____ | Prop. Setting: _____ |
| Mfg.: _____ | Type: _____ | Style/Catalog No.: _____ | Prop. Setting: _____ |
| Mfg.: _____ | Type: _____ | Style/Catalog No.: _____ | Prop. Setting: _____ |
| Mfg.: _____ | Type: _____ | Style/Catalog No.: _____ | Prop. Setting: _____ |
| Mfg.: _____ | Type: _____ | Style/Catalog No.: _____ | Prop. Setting: _____ |

**Current Transformer Data:** (if applicable)

Enclose copy of Manufacturer's Excitation &amp; Ratio Correction Curves.

|             |             |                       |                          |
|-------------|-------------|-----------------------|--------------------------|
| Mfg.: _____ | Type: _____ | Accuracy Class: _____ | Prop. Ratio Conn.: _____ |
| Mfg.: _____ | Type: _____ | Accuracy Class: _____ | Prop. Ratio Conn.: _____ |

**Potential Transformer Data:** (if applicable)

|             |             |                       |                          |
|-------------|-------------|-----------------------|--------------------------|
| Mfg.: _____ | Type: _____ | Accuracy Class: _____ | Prop. Ratio Conn.: _____ |
| Mfg.: _____ | Type: _____ | Accuracy Class: _____ | Prop. Ratio Conn.: _____ |

**General Technical Detail****Date:** \_\_\_\_\_

Enclose 3 copies of site electrical One-Line and Three-Line Diagrams showing the configuration of all generating facility equipment, current and potential circuits, and protection and control schemes, including DC schematics, 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).

Enclose a copy of all relay settings for both the inverters and utility grade relay and any other pertinent devices showing all set points, primary and secondary CT ratios, primary and secondary relay voltages, currents and time delay settings where applicable. For digital relays, enclose a copy or attach a file of the relay programmed settings and logic statements.

Please enclose any other information pertinent to this installation.