# Generator Supplement
# Wisconsin Standard Distributed Generation Application Form

## APPLICANT NAME

LAST NAME _____ FIRST NAME _____ MIDDLE NAME _____

## 1. ENGINE / GENERATOR INFORMATION

ENGINE / GENERATOR MANUFACTURER _____

MODEL NUMBER _____ NUMBER OF UNITS INSTALLED _____

Generation Type: ☐ Synchronous ☐ Induction ☐ Other (provide attachments to describe)

☐ Single-phase ☐ Three-phase

If three-phase, specify configuration ☐ 3-wire delta ☐ 3-wire wye ☐ 4-wire wye

**Interface Information: Generator Synchronizer**

MANUFACTURER _____ SWITCH RATING _____ **kVA**

MODEL NO _____ ☐ Automatic Synchronizer ☐ Manual Synchronizer

Fuel Source: ☐ Diesel ☐ Petroleum ☐ Natural gas ☐ Biogas ☐ Other (specify) _____

Generator Maximum Ratings

_____ **kW** _____ **kVA** _____ **Volts** _____ **Amps** _____ **Hertz** _____ **Power Factor %**

Power Factor Adjustment Range _____ **min** _____ **max**

Neutral Grounding System Used ☐ Ungrounded ☐ Solidly Grounded ☐ Grounding Impedance _____ **Z**

For synchronous generators (kVA base)

Synchronous reactance _____ **($X_d$ %)**

Transient reactance _____ **($X_{d'}$ %)**

Sub-transient reactance _____ **($X_{d''}$ %)**

Zero sequence reactance _____ **($X_o$ %)**

Negative sequence reactance _____ **($X_1$ %)**

For induction generators (kVA base)

Locked rotor current _____ **Amps**

Stator leakage resistance _____ **($R_s$ %)**

Rotor resistance _____ **($R_r$ %)**

Rotor leakage resistance _____ **($R_l$ %)**

For induction machines, what is the inrush (startup) current _____ **Amps**

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If the generator is > 1MW (category 4) provide the following:

| | | | |
|---|---|---|---|
| M1 | _____ **(momentum constant)** | Stator Reactance | _____ **($X_s$ %)** |
| M2 | _____ **(momentum constant)** | Rotor Reactance | _____ **($X_r$ %)** |
| Field Voltage | _____ **Volts** | Magnetizing Reactance | _____ **($X_m$ %)** |
| Field Current | _____ **Amps** | Short Circuit Reactance | _____ **($X_d$ %)** |

***If the system includes more than one type of engine/generator, include additional copies of this page as needed.***

### 2. SYSTEM TOTALS

System Total Maximum Ratings:

_____ **kW** _____ **kVA** _____ **Volts** _____ **Amps** _____ **Hertz** _____ **Power Factor %**

Total inrush (startup) current _____ **Amps**

### 3. INTERCONNECTION DISCONNECT SWITCH SHORT CIRCUIT CURRENT SPECIFICATIONS

3a) Total short circuit current contribution of the generating system (at point of interconnection)

_____ **Amps (single-phase)** _____ **Amps (three-phase symmetrical)** _____ **Amps (asymmetrical)**

3b) Load break capability rating of disconnection device (Must be greater than or equal to #3a above)

_____ **Amps (single-phase)** _____ **Amps (three-phase symmetrical)** _____ **Amps (asymmetrical)**

### 4. WILL APPLICANT INSTALL A DEDICATED TRANSFORMER?

☐ **Yes** ☐ **No** If yes, specify winding configuration: _____ **[HV winding]** _____ **[LV winding]**

If yes, provide the following and attach manufacturer specification data sheets

kVA rating _____ **kVA** Primary Volts _____ **V** Secondary Volts _____ **V** Impedance _____ **%**

If three-phase, specify connection configuration: ☐ 3-wire delta ☐ 3-wire wye ☐ 4-wire grounded wye

### 5. PROTECTIVE EQUIPMENT (THIS MAY BE DETERMINED BY THE ELECTRIC SERVICE PROVIDER). IF EQUIPMENT IS KNOWN, ATTACH MANUFACTURER SPECIFICATION DATA SHEETS.

### 6. WILL AN ENERGY STORAGE SYSTEM BE INSTALLED? (IF SO, FILL OUT ENERGY STORAGE SUPPLEMENT AND ATTACH SPECIFICATION SHEETS)

☐ Yes ☐ No ☐ If Yes, is specification sheet attached?

### 7. ANY ADDITIONAL COMMENTS?