

# Generator Supplement

## Michigan 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

Automatic Synchronizer  Manual Synchronizer

MODEL NO

Fuel Source:  Diesel  Petroleum  Natural gas  Biogas  Hydro  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)

For induction generators (kVA base)

Synchronous reactance \_\_\_\_\_ ( $X_d$  %) Locked rotor current \_\_\_\_\_ Amps

Transient reactance \_\_\_\_\_ ( $X_{d'}$  %) Stator leakage resistance \_\_\_\_\_ ( $R_s$  %)

Sub-transient reactance \_\_\_\_\_ ( $X_{d''}$  %) Rotor resistance \_\_\_\_\_ ( $R_r$  %)

Zero sequence reactance \_\_\_\_\_ ( $X_0$  %) Rotor leakage resistance \_\_\_\_\_ ( $R_l$  %)

Negative sequence reactance \_\_\_\_\_ ( $X_1$  %)

For induction machines, what is the inrush (startup) current \_\_\_\_\_ Amps

# Generator Supplement

## Michigan Standard Distributed Generation Application Form

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

M1	_____ (momentum constant)	Stator Reactance	_____ (X <sub>s</sub> %)
M2	_____ (momentum constant)	Rotor Reactance	_____ (X <sub>r</sub> %)
Field Voltage	_____ Volts	Magnetizing Reactance	_____ (X <sub>m</sub> %)
Field Current	_____ Amps	Short Circuit Reactance	_____ (X <sub>d</sub> %)

*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?

---



---



---



---