

## **Distributed Electric Generating Facilities General Description and Electrical Characteristics**

*This application is to be completed and returned to McDonough Power Cooperative. This application is used by the Cooperative to determine the required equipment configuration for the member interface. Every effort should be made to supply as much information as possible. This information is not intended as a commitment or contract for billing purposes.*

---

### **PART 1 APPLICANT INFORMATION**

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

Member Cooperative Account Number: \_\_\_\_\_

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

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

Phone Number: \_\_\_\_\_ Representative: \_\_\_\_\_

Email Address: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Address of generating facility (if different than mailing address): \_\_\_\_\_

Ownership of generating facility:  Member owned  Leased  Other: \_\_\_\_\_

---

### **DEVELOPER INFORMATION**

Representative Name: \_\_\_\_\_ Company: \_\_\_\_\_

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

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

Phone Number: \_\_\_\_\_ License/Registration No. (incl. state): \_\_\_\_\_

Email Address: \_\_\_\_\_ Fax Number: \_\_\_\_\_

---

### **PROJECT DESIGN/ENGINEERING (ARCHITECT) (as applicable)**

Company: \_\_\_\_\_ License/Registration No. (incl. state) \_\_\_\_\_

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

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

Phone Number: \_\_\_\_\_ Representative: \_\_\_\_\_

Email Address: \_\_\_\_\_ Fax Number: \_\_\_\_\_

# Attachment A

.....  
**ELECTRICAL CONTRACTOR (as applicable)**

Company: \_\_\_\_\_ License/Registration No. (incl. state) \_\_\_\_\_

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

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

Phone Number: \_\_\_\_\_ Representative: \_\_\_\_\_

Email Address: \_\_\_\_\_ Fax Number: \_\_\_\_\_

.....  
**TYPE OF GENERATOR (Choose One)**

- Photovoltaic       Wind       Microturbine       Other: \_\_\_\_\_  
 Diesel Engine       Gas Engine       Combustion Turbine      \_\_\_\_\_

.....  
**ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION**

The following information is necessary to help properly design the Cooperative member Interconnection.

TOTAL SITE LOAD: \_\_\_\_\_ (kW) AC      \_\_\_\_\_ (kW) DC

CHOOSE ONE:    Residential     Commercial     Industrial

Generator Rating: \_\_\_\_\_ (kW)      Annual Estimated Generation: \_\_\_\_\_ (kWh)

.....  
**DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION**

Provide a description of the proposed installation, including a detailed description of its planned location, the point of electrical interconnection, structure(s) to be served by the generator, and the date you plan to commence operation of the generator.

---

---

---

---

---

---

---

---

---

---

---

---

# Attachment A

## PART 2

(Complete all applicable items or provide spec sheets. Copy this page as required for additional generators)

### SYNCHRONOUS GENERATOR DATA

Unit Number: \_\_\_\_\_ Total number of units with listed specifications on site: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Type: \_\_\_\_\_ Date of manufacture: \_\_\_\_\_  
Serial Number (each): \_\_\_\_\_  
Phases: Single Three R.P.M.: \_\_\_\_\_ Frequency (Hz): \_\_\_\_\_  
Rated Output (for one unit): \_\_\_\_\_ Kilowatt \_\_\_\_\_ Kilovolt-Ampere  
Rated Power Factor (%): \_\_\_\_\_ Rated Voltage (Volts): \_\_\_\_\_ Rated Amperes: \_\_\_\_\_  
Field Volts: \_\_\_\_\_ Field Amps: \_\_\_\_\_ Motoring power (kW): \_\_\_\_\_  
Synchronous Reactance (Xd): \_\_\_\_\_ % on \_\_\_\_\_ KVA base  
Transient Reactance (X'd): \_\_\_\_\_ % on \_\_\_\_\_ KVA base  
Subtransient Reactance (X''d): \_\_\_\_\_ % on \_\_\_\_\_ KVA base  
Negative Sequence Reactance (Xs): \_\_\_\_\_ % on \_\_\_\_\_ KVA base  
Zero Sequence Reactance (Xo): \_\_\_\_\_ % on \_\_\_\_\_ KVA base  
Neutral Grounding Resistor (if applicable): \_\_\_\_\_  
I<sub>2</sub>t or K (heating time constant): \_\_\_\_\_  
Additional information: \_\_\_\_\_

### INDUCTION GENERATOR DATA

Rotor Resistance (Rr): \_\_\_\_\_ ohms Stator Resistance (Rs): \_\_\_\_\_ ohms  
Rotor Reactance (Xr): \_\_\_\_\_ ohms Stator Reactance (Xs): \_\_\_\_\_ ohms  
Magnetizing Reactance (Xm): \_\_\_\_\_ ohms Short Circuit Reactance (Xd''): \_\_\_\_\_ ohms  
Design letter: \_\_\_\_\_ Frame Size: \_\_\_\_\_  
Exciting Current: \_\_\_\_\_ Temp Rise (deg C°): \_\_\_\_\_  
Reactive Power Required: \_\_\_\_\_ Vars (no load), \_\_\_\_\_ Vars (full load)  
Additional information: \_\_\_\_\_

### PRIME MOVER (Complete all applicable items)

Unit Number: \_\_\_\_\_ Type: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Serial Number: \_\_\_\_\_ Date of manufacture: \_\_\_\_\_  
H.P. Rated: \_\_\_\_\_ H.P. Max.: \_\_\_\_\_ Inertia Constant: \_\_\_\_\_ lb.-ft.<sup>2</sup>  
Energy Source (hydro, steam, wind, etc.) \_\_\_\_\_

### GENERATOR TRANSFORMER (Complete all applicable items)

TRANSFORMER (between generator and utility system)  
Generator unit number: \_\_\_\_\_ Date of manufacturer: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Serial Number: \_\_\_\_\_  
High Voltage: \_\_\_\_\_ KV, Connection: delta wye, Neutral solidly grounded?  
Low Voltage: \_\_\_\_\_ KV, Connection: delta wye, Neutral solidly grounded?  
Transformer Impedance(Z): \_\_\_\_\_ % on \_\_\_\_\_ KVA base.  
Transformer Resistance (R): \_\_\_\_\_ % on \_\_\_\_\_ KVA base.  
Transformer Reactance (X): \_\_\_\_\_ % on \_\_\_\_\_ KVA base.  
Neutral Grounding Resistor (if applicable): \_\_\_\_\_

# Attachment A

---

## INVERTER DATA (if applicable)

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_  
Rated Power Factor (%): \_\_\_\_\_ Rated Voltage (Volts): \_\_\_\_\_ Rated Amperes: \_\_\_\_\_  
Inverter Type (ferroresonant, step, pulse-width modulation, etc): \_\_\_\_\_

Type commutation: forced line  
Harmonic Distortion: Maximum Single Harmonic (%) \_\_\_\_\_  
Maximum Total Harmonic (%) \_\_\_\_\_

Note: Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.

---

## POWER CIRCUIT BREAKER (if applicable)

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_  
Rated Voltage (*kilovolts*): \_\_\_\_\_ Rated ampacity (*Amperes*) \_\_\_\_\_  
*Interrupting rating (Amperes)*: \_\_\_\_\_ BIL Rating: \_\_\_\_\_  
Interrupting medium / insulating medium (ex. Vacuum, gas, oil) \_\_\_\_\_ / \_\_\_\_\_  
Control Voltage (Closing): \_\_\_\_\_ (Volts) AC DC  
Control Voltage (Tripping): \_\_\_\_\_ (Volts) AC DC Battery Charged Capacitor  
Close energy: Spring Motor Hydraulic Pneumatic Other: \_\_\_\_\_  
Trip energy: Spring Motor Hydraulic Pneumatic Other: \_\_\_\_\_  
Bushing Current Transformers: \_\_\_\_\_ (Max. ratio) Relay Accuracy Class: \_\_\_\_\_  
Multi ratio? No Yes: (Available taps) \_\_\_\_\_

---

## ADDITIONAL INFORMATION

**In addition to the items listed above, please attach:**

- Detailed one-line diagram of the proposed facility
- All applicable elementary diagrams
- Major equipment specifications (generators, transformers, inverters, circuit breakers, protective relays, etc.)
- Test reports
- Any other applicable drawings or documents necessary for the proper design of the Interconnection
- Describe the project's planned operating mode (e.g., combined heat and power, peak shaving, etc.)
- Address or grid coordinates

**END OF PART 2**

---

# Attachment A

## SIGNATURES AND QUEUE DATE

The member agrees to provide the Cooperative with any additional information required to complete the Interconnection. The Member shall operate the equipment within the guidelines set forth by the Cooperative.

\_\_\_\_\_  
Applicant

\_\_\_\_\_  
Date

-----

### ELECTRIC COOPERATIVE CONTACT FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:

Cooperative contact: Kelly Hamm  
Title: Energy Services Manager  
Address: McDonough Power Cooperative  
1210 W. Jackson Street, P.O. Box 352  
Macomb, IL 61455  
Phone: (309) 833-2101  
Fax: (309) 833-2104  
e-mail: khamm@mcdonoughpower.com

.....

QUEUE DATE: \_\_\_\_\_ at TIME: \_\_\_\_\_

BY: \_\_\_\_\_ (Name and Title of Cooperative Employee)