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**KARNES ELECTRIC COOPERATIVE, INC.**

**Application for Operation of Customer-Owned Generation**

This application should be completed as soon as possible and returned to the Cooperative Customer Service representative in order to begin processing the request. See *Distributed Generation Procedures and Guidelines Manual for Members* for additional information.

INFORMATION: *This application is used by the Cooperative to determine the required equipment configuration for the Customer interface. Every effort should be made to supply as much information as possible.*

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**PART 1  
MEMBER/APPLICANT INFORMATION**

Member: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ KEC Account #: \_\_\_\_\_  
Representative: \_\_\_\_\_

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

Company: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Representative: \_\_\_\_\_

**ELECTRICAL CONTRACTOR (as applicable)**

Company: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Representative: \_\_\_\_\_

**TYPE OF GENERATOR (as applicable)**

Photovoltaic \_\_\_\_\_ Wind \_\_\_\_\_ Microturbine \_\_\_\_\_  
Diesel Engine \_\_\_\_\_ Gas Engine \_\_\_\_\_ Turbine Other \_\_\_\_\_



**PART 2**

(Complete all applicable items. 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-Amper \_\_\_\_\_

Rated Power Factor (%): \_\_\_\_\_ Rated Voltage (Volts) \_\_\_\_\_ Rated Amperes: \_\_\_\_\_

Field Volts: \_\_\_\_\_ Field Amps: \_\_\_\_\_ Motoring power (kW): \_\_\_\_\_

Synchronous Reactance (X'd): \_\_\_\_\_ % 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): \_\_\_\_\_

$I_2^2t$  of 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 manufacturer: \_\_\_\_\_

H.P. Rates: \_\_\_\_\_ 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: \_\_\_\_\_

**INVERTER DATA** (if applicable)

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Rate 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 a detailed one-line diagram of the proposed facility, all applicable elementary diagrams, major equipment (generators, transformers, inverters, circuit breakers, protective relays, etc.), specifications, test reports, etc., and any other applicable drawings or documents necessary for the proper design of the interconnection.*

**SIGN OFF AREA**

The customer agrees to provide the Cooperative with any additional information required to complete the interconnection. The customer shall operate his equipment within the guidelines set forth by the Cooperative.

\_\_\_\_\_  
Applicant

\_\_\_\_\_  
Date

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

Cooperative contact: \_\_\_\_\_

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

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_