KARNES ELECTRIC COOPERATIVE, INC.

Application for Operation of Backup 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.*

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)

Microturbine _____Diesel Engine _____ Gas Engine _____

Turbine Other _____

ESTIMATED LOAD INFORMATION

The following information will be used to help properly design the Cooperative customer interconnection. This information is not intended as a commitment or contract for billing purposes.

Total Site Load _____(kW) Total Backup Output_____ (kW)

Mode of Operation (check all that apply)

Isolated_____ Paralleling_____ Power Export _____

DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including when you plan to operate the generator.

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 Cº): _____

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^2

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: _____

Karnes Electric Cooperative, Inc.

Distributed Generation Rider

Application

Applicable to Distributed Generation Facilities smaller than 700 kW of connected generation connected in parallel operation to the Cooperative's electric system in accordance with the Cooperative's service rules and regulations and the Cooperative's *Distributed Generation Procedures and Guidelines Manual for Members* (available on request).

This rate is not applicable to temporary, shared, or resale service. This rate is applicable to service supplied at one point of delivery.

Sales to Member

Sales to a Distributed Generation Customer shall be consistent with the applicable retail rate tariff established by the Cooperative and in use by the Member as if there were no Distributed Generation installation.

Purchases from a Member – Facility classified as 50 kW of connected generation and smaller

Determination of billing shall be accomplished by interconnection through one meter with two registers capable of measuring in-flow and out-flow at the point of delivery of electric service.

When the energy supplied by the Cooperative exceeds the energy supplied by the Member during a billing period, the net energy (kWh) supplied by the Cooperative to the Member, shall be billed by the Cooperative in accordance with the rates and charges under the cooperative's applicable rate schedule.

When the energy supplied by the Member exceeds the energy supplied by the Cooperative during a billing period, the monthly charge and/or minimum of the retail rate schedule shall be billed, and the excess energy (kWh) generated by the Member and delivered back to the Cooperative, within the billing period, shall be credited to the Member at the Cooperative's Monthly Avoided Cost Rate provided by the Cooperative's wholesale power supplier. If credits for excess energy are greater than the member's monthly bill, the credit will be carried forward to the following billing period. If a credit balance remains at the end of the calendar year, a refund of the entire credit balance will be provided to the member.

Monthly banking of energy (kWh) supplied by the Member, exceeding the energy supplied by the Cooperative during a billing period, will not be allowed.

Any renewable energy credits (REC's) resulting from the operation of the DG are the property of the DG Member unless sold or otherwise transferred by the Member.

Purchases from a Member – Facility classified as greater than 50 kW and less than 700 kW of connected generation

Determination of billing shall be accomplished by interconnection through one meter with two registers capable of measuring in-flow and out-flow at the point of delivery of electric service.

All energy (kWh) supplied by the Cooperative to the Member, during the billing period, shall be billed by the Cooperative in accordance with the rates and charges under the cooperative's applicable rate schedule for the Member.

There will be no netting of energy (kWh). All excess energy (kWh) generated by the Member's qualifying facility during the billing period, not consumed instantaneously by the Member, and delivered back to the Cooperative within the billing period, shall be credited to the Member at the Cooperative's Monthly Avoided Cost Rate provided by the Cooperative's wholesale power supplier. If credits for excess energy are greater than the member's monthly bill, the credit will be carried forward to the following billing period. If a credit balance remains at the end of the calendar year, a refund of the entire credit balance will be provided to the member.

In addition to all other charges, the Cooperative may bill the Member for any additional facilities charges as determined by the Cooperative and appended to the Interconnection Agreement.

Any renewable energy credits (REC's) resulting from the operation of the DG are the property of the DG Member unless sold or otherwise transferred by the Member.

Contracts

An Interconnection Agreement between the Member and the Cooperative shall be required in all cases.