

RED RIVER VALLEY RURAL ELECTRIC ASSN.

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 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

OWNER/APPLICANT INFORMATION

Company: _____
Mailing Address: _____
City: _____ County: _____ State: _____ Zip Code: _____
Phone Number: _____ 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 _____ Micro turbine _____
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 DG 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.

SKETCH AREA

PART 2

(TO BE COMPLETED BY INSTALLER)

(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-Ampere _____
 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
 Sub transient 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.-ft²
 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 (Ferro resonant, 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 amps (*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 Cooperative Member 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: 1003 MEMORIAL DR. MARIETTA, OK. 73448

Phone: 580-276-3364

Fax: 580-276-4763