

EDGECOMBE-MARTIN COUNTY EMC

Application for Operation of Member-Owned Generation

This application should be completed and returned to the Cooperative Customer Service representative in order to begin processing the request.

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

Owner/Customer

Name: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

Email Address: _____ Fax Number: _____

PROJECT DESIGN/ENGINEERING (ARCHITECT) (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

Email Address: _____ Fax Number: _____

ELECTRICAL CONTRACTOR (as applicable)

Company: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Representative: _____

Email Address: _____ Fax Number: _____

TYPE OF GENERATOR (as applicable)

Photovoltaic _____ Wind _____ Microturbine _____

Diesel Engine _____ Gas Engine _____ Combustion Turbine _____

Other _____

.....
ESTIMATED GENERATION, GENERATOR RATING AND MODE OF OPERATION INFORMATION

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

Total Site Generation _____ (kW)
Residential _____ Commercial _____ Industrial _____
Generator Rating _____ (kW) Annual Estimated Generation _____ (kWh)

Mode of Operation

Isolated _____ Paralleling _____ Power Export _____

.....
DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including a detailed description of its planned location, the date you plan to operate the generator, the frequency with which you plan to operate it and whether you plan to operate it during on or off-peak hours.

STANDBY AND SUPPLEMENTARY SERVICE REQUIREMENTS

If standby or supplementary service will be required for the generation facility, please indicate the following as detailed in the "Standby Service Rate Rider"

Standby Service load _____ (kW) Supplementary Service load _____ (kW)
Total Contract demand _____ (kW)

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-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_2^2t 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.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: _____
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 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. Also describe the project's planned operating mode (e.g., combined heat and power, peak shaving, etc.), and its address or grid coordinates.

END OF PART 2

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: Mike Johnson
 Title: VP of Engineering & Operations
 Address: Edgecombe-Martin County EMC
 PO Box 188
 Tarboro, NC 27886
 Phone: 252-823-2171
 Fax: 252-563-1080
 e-mail: mike.johnson@ememc.com