

CITY OF ESTHERVILLE

Application for Operation of Customer-Owned Generation

This application should be completed as soon as possible and returned to the City of Estherville Utility Office along with the \$500 application fee and the signed Interconnection Agreement in order to begin processing the request.

INFORMATION: *This application is used by the City of Estherville 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 or Company: _____
Mailing Address: _____
City: _____ County: _____ State: _____ Zip Code: _____
Phone Number: _____ Representative: _____

PROJECT DESIGN/ENGINEERING (ARCHITECT) (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: _____

DISTRIBUTED GENERATION FACILITY INFORMATION

Facility Address (on-site use only) _____

Account No. of Facility Site _____ Meter No. _____

Yes No Is the inverter lab-certified as that term is defined in Iowa Utilities Board Chapter 45 rules on Electric Interconnection of Distributed Generation (199 IAC 45.1)? (If yes, attach manufacturer's technical specifications and label information from a nationally recognized testing laboratory, e.g., UIL.)

Generation Facility Nameplate Rating (AC): _____ (kW) _____ (kVA) _____ (AC Volts)

Energy Source:

___ Wind ___ Solar ___ Biomass ___ Hydro ___ Diesel ___ Natural Gas ___ Fuel Oil

Other _____

If Solar: Number of Inverters ___ Number of Panels ___ Tilt (degrees) ___ Azimuth (180° is South facing) ___

Array Type: ___ Fixed ___ Single Axis ___ Dual Axis

Energy Converter Type:

___ Wind Turbine ___ Photovoltaic Cell ___ Fuel Cell ___ Reciprocating Engine ___ Other _____

Commissioning Test Date: _____ (If the Commissioning Test Date changes, the interconnection member-owner must inform the City of Estherville as soon as it is aware of the changed date.)

Disconnection Device: Identify type and location of disconnection device: _____

Is the generation facility a qualifying facility as defined under Pubic Utilities Regulatory Policy Act (18 CFR Part 292, Subpart B)?

Yes No

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ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION

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

Total Site Load _____ (kW)

Residential _____ Commercial _____ Industrial _____

Generator Rating _____ (kW) Annual Estimated Generation _____ (kWh)

Mode of Operation

Isolated _____ Paralleling _____ Power Export _____

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DESCRIPTION OF PROPOSED INSTALLATION AND OPERATION

Give a general description of the proposed installation, including a detailed description of its planned location and 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-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): _____

I₂²t or K (heating time constant): _____
Additional information: _____

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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.) _____

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GENERATOR TRANSFORMER (Complete all applicable items)

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

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INVERTER DATA (if applicable)

Manufacturer: _____ Model: _____

Type Commutation: ___ Forced ___ Line

Rated Output: _____ Watts _____ Volts

Efficiency _____ Power Factor _____ Inverter UL1741 Listed Yes No

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

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DC SOURCE/PRIME MOVER

Rating (kW) _____ Rating (kVA) _____ Rated Voltage _____

Open Circuit Voltage (if applicable) _____ Rated Current (Amps) _____

Short Circuit Current (Amps) (if applicable) _____

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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) _____

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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

