



SMALL GENERATOR INTERCONNECTION APPLICATION

This Interconnection Application is made between Public Service Company of Colorado, d/b/a Xcel Energy, and Customer, dated _____.

To be completed by Customer. Application is made for permission to interconnect to the Xcel Energy Electric Distribution System as follows:

OWNER/APPLICANT INFORMATION			
Company:			
Representative:	Phone Number:	FAX Number:	
Title:	Email Address:		
Mailing Address:			
PROPOSED LOCATION OF GENERATING PLANT AND PROPOSED INTERCONNECTION			
Address:			
PROJECT DESIGN / ENGINEERING			
Company:			
Representative:	Phone:	FAX Number:	
Mailing Address:	Email Address:		
ELECTRICAL CONTRACTOR			
Company:			
Representative:	Phone:	FAX Number:	
Mailing Address:	Email Address:		
ESTIMATED LOAD INFORMATION			
The following information will be used to help properly design the Xcel-Customer interconnection. This information is not intended as a commitment or contract for billing purposes.			
Minimum anticipated load (generation not operating):		kVA:	Time:
Maximum anticipated load (generation not operating):		kVA:	Time:

Existing Electric Service:

Capacity: _____ Amperes Voltage: _____ Volts
Service Character: Single Phase Three Phase

Estimated In-Service Date: _____

Site Control Documentation: Documentation of site control must be submitted with the interconnection request as required by Code of Colorado Regulations, CCR 4 723-3, Rule 3665.

Site Control: Ownership of Site Option to Purchase Site Other – Specify _____



SMALL GENERATOR INTERCONNECTION APPLICATION

Energy Producing Equipment/Inverter Summary:

Manufacturer: _____
 Model No.: _____ Version No.: _____
 Synchronous Induction Inverter Other _____
 Rating: _____ kW Rating: _____ kVA
 Generator Connection: Delta Wye Ungrounded Wye Grounded
 Generator Voltage: _____ Volts
 System Type Tested (Total System): Yes No; attach product literature
 Equipment Type Tested: Yes (i.e. Inverter, Protection System) No; attach product literature
 (Type Tested per IEEE 1547.1 or IEEE 929; i.e., Pre-certified)

(Complete all applicable items, Copy this page as required for additional generators)			
SYNCHRONOUS GENERATOR DATA			
Unit Designation:		Total number of units with listed specifications on site:	
Manufacturer:			
Type:		Date of manufacture:	
Serial Number (each):			
Phases: 1 or 3	Speed:	RPM:	Frequency: Hz
Rated Output (each unit) Kilowatt:		kW Kilovolt-Ampere: kVA	
Rated Power Factor: %	Rated Voltage: V	Rated Current: A	
Field Voltage: V	Field Current: A	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 (X_s):	% on	kVA base	
Zero Sequence Reactance (X_o):	% on	kVA base	
Neutral Grounding Resistor (if applicable):	Yes No	Resistance:	Ohms
I^2t or K (heating time constant):			
Exciter data:			
Governor data:			
Additional Information:			
INDUCTION GENERATOR DATA			
Rotor Resistance (R_r):	Ohms	Stator Resistance (R_s):	Ohms
Rotor Reactance (X_r):	Ohms	Stator Reactance (X_s):	Ohms
Magnetizing Reactance (X_m):	Ohms	Short Circuit Reactance (X_d''):	Ohms
Design Letter:	Frame Size:		
Exciting Current:	Temp Rise (deg C°):		
Rated Output:	kW		
Reactive Power Required:	kVAr (no Load)		kVAr (full load)
For a wound-rotor machine, describe external equipment to be connected (resistor, rheostat, power converter, etc.) to rotor circuit, and circuit configuration. Describe ability, if any, to adjust generator reactive power output.			



SMALL GENERATOR INTERCONNECTION APPLICATION

PRIME MOVER (Complete all applicable items)			
Unit Designation:	Type:		
Manufacturer:			
Serial Number:		Date of Manufacture:	
H.P. Rated:	H.P. Max:	Inertia Constant:	lb.-ft. ²
Energy Source (hydro, steam, wind, etc.):			
Additional Information:			
Type of Interconnected operation			
Long term Parallel operation:	Yes	No	
Closed momentary transition:	Yes	No	Transition Closed Time: seconds
Other (describe):			
TRANSFORMER (If applicable)			
Manufacturer:		kVA:	
Date of Manufacture:		Serial Number:	
High Voltage:	V	Connection: k delta k wye	Neutral solidly grounded? Yes No
Low Voltage:	V	Connection: k delta k wye	Neutral solidly grounded? Yes No
Transformer Impedance (Z):		% on	kVA base
Transformer Resistance (R):		% on	kVA base
Transformer Reactance (X):		% on	kVA base
Neutral Grounding Resistor (if applicable)	Yes	No	Resistance: Ohms
Additional Information:			
INVERTER DATA (If applicable)			
UL Pre-certified per UL 1741 and IEEE 929?	Yes	No	Certification Number:
Manufacturer:		Model:	
Rated Power Factor (%):	Rated Voltage (Volts):	V	Rated Current (Amperes): A
Inverter Type (ferroresonant, step, pulse-width modulation, etc.):			
Type of Commutation: k forced k line	Minimum Short Circuit Ratio required:		
Minimum voltage for successful commutation:			
Current Harmonic Distortion:	Maximum Individual Harmonic (%):		
	Maximum Total Harmonic Distortion (%):		
Voltage Harmonic Distortion:	Maximum Individual Harmonic (%):		
	Maximum Total Harmonic Distortion (%):		
Describe capability, if any, to adjust reactive output to provide voltage regulation:			
Additional Information:			
NOTE: Attach all available calculations, test reports, and oscillographic prints showing inverter output voltage and current waveforms.			



SMALL GENERATOR INTERCONNECTION APPLICATION

POWER CIRCUIT BREAKER (if applicable)					
Manufacturer:			Model:		
Rated Voltage:		kV	Rated Ampacity (Amperes):		A
Interrupting Rating:		A	BIL Rating:		kV
Interrupting Medium (vacuum, oil, gas, etc.):			Insulating Medium (vacuum, oil, gas, etc.):		
Control Voltage (Closing):		(Volts)	k AC	k DC	
Control Voltage (Tripping):		(Volts)	k AC	k DC	k Battery k Charged Capacitor
Close Energy:	k Spring	k Motor	k Hydraulic	k Pneumatic	k Other
Trip Energy:	k Spring	k Motor	k Hydraulic	k Pneumatic	k Other
Bushing Current Transformers (Max. ratio):				Relay Accuracy Class:	
Multi Ratio?	k No	k Yes: (Available taps):			
Construction Schedule:	Start date:		Completion date:		
MISCELLANEOUS (Use this area and any additional sheets for applicable notes and comments)					

ADDITIONAL REQUIREMENTS: In addition to the items listed on this form, please attach:

- 1) Detailed One Line Diagram: o Yes
- 2) Installation Test Plan: o Yes
- 3) Site plan: o Yes
- 4) Major equipment (generators, transformers, inverters, circuit breakers, protective relays, isolation disconnect, etc.) specifications: oYes
- 5) Relaying detail: o Yes Date: _____
- 6) Metering telemetry: o Yes Date: _____
- 7) Test reports attached: o Yes Date: _____
- 8) Other applicable drawings or documents necessary for the proper design of the interconnection:
Describe _____

ACCEPTANCE	
The Customer agrees to provide Xcel Energy with any additional information required to complete the interconnection.	
_____	_____
Customer Signature	Date:
Please upload this signed document to the Solar*Rewards online application website, along with the Line Diagram and Site Plan.	