# **PANORA MUNICIPAL ELECTRIC UTILITY** Application for Interconnection and Operation of Customer-Owned Generation

This Application for Interconnection and Metering of customer-owned distributed generation is considered complete when it provides all applicable and correct information required below. Additional information or clarification to evaluate the Application may be requested by the Utility.

#### **Processing Fee**

□ For systems with a rated output of 10 kW or fewer, a non-refundable processing fee of \$25 must accompany this Application.

□ For all other systems, a non-refundable processing fee of \$100 must accompany this Application.

PART 1			
CUSTOMER			
Name:			
Address:			
City:	State:	Zip:	
Telephone (Day):	(Evening):		
Fax:	E-Mail Address:		
<u>CONTACT</u> (if different from Customer) Name:			
Address:			
City:	State:	Zip:	
Telephone (Day):	(Evening):		
Fax:	E-Mail Address:		
Owner of the facility:			

# PROJECT DESIGN/ENGINEERING (ARCHITECT) (as applicable)

Company:	
Mailing Address:	
City: County:	State: Zip Code:
Phone Number: ( Representa	tive:
Email Address:	Fax Number: _()
ELECTRICAL CONTRACTOR (as applicable)	
Company:	
Mailing Address:	
City:County:	State:Zip Code:
Phone Number: () Represer	ntative:
Email Address:	Fax Number: <u>{</u>
Location (if different from above):	
Model	
Nameplate Rating: (kW) (kVA)	
System Design Capacity: (kW) (k	(VA)
Energy Source: Photovoltaic 🖵 Wind 🖵	Microturbine 🖵
Diesel Engine 🗖 🛛 🛛 Gas Engi	ne 🗖 Combustion Turbine 🗖
Other (describe)	
Is the equipment UL1741 Listed? Yes	10
If Yes, attach manufacturer's cut-sheet show	ring UL1741 listing
Estimated Installation Date: Esti	mated In-Service Date:
List components of the Small Generating Facility equ	ipment package that are currently certified:
Equipment Type	Certifying Entity
1	
2	

 3.
 \_\_\_\_\_\_

 4.
 \_\_\_\_\_\_

ESTIMATED LOAD, GENERATOR RATING AND MODE OF OPERATION INFORMATION

The following information is necessary to help properly design the Utility customer interconnection.

This information is not intended as a commitment or contract for billing purposes.

Total Site Load	_(kW)		
Residential	Cor	nmercial	Industrial
Generator Rating	(kW)	Annual Estimated Generation	(kWh)
Mode of Operation			
Isolated	Par	alleling	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.



#### DESCRIPTION OF BATTERY OR OTHER ENERGY STORAGE DEVICES

Give a general description of any proposed battery or other energy storage devices relating to, or which may be charged by, the Generating Facility or energy delivered by the Utility.

PART 2			
(Complete all applicable items. Copy	this PART 2 as nec	essary for additional generators	5)
SYNCHRONOUS GENERATOR DATA			
Unit Number:Total	number of units w	ith listed specifications on site:	
Manufacturer:			
Serial Number (each):	Date o	f manufacture:	
Phases: Single D Three D	R.P.M.:	Erequency (Hz):	
Rated Output (for one unit):	Kilo	watt	Kilovolt-Ampere
Rated Power Factor (%):	Rated Voltage (V	olts): Rated Ampe	_res:
Field Volts: Field Am		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 applic	able):		
I22t 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 Co):	
Reactive Power Required:	Va	rs (no load),	Vars (full load)

# Additional

information:\_\_\_\_\_\_

#### PRIME MOVER (Complete all applicable items)

Unit Number:	Туре:		
Manufacturer:			
Serial Number:		Date of manufacture:	
H.P. Rated:	H.P. Max.:	Inertia Constant:	lbft.2
Energy Source (hydro,	steam, wind, etc.)		

#### GENERATOR TRANSFORMER (Complete all applicable items)

TRANSFORMER (between gen	erator and utility syst	em)		
Generator unit number: Date of manufacturer:			manufacturer:	
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):			

#### **INVERTER DATA (if applicable)**

Manufacturer:	Model:
Rated Power Factor (%):	Rated Voltage (Volts): Rated Amperes:
Inverter Type (ferroresona	nt, step, pulse-width modulation, etc):
Type commutation: force	d line
Harmonic Distortion: M	aximum Single Harmonic (%)
M	aximum Total Harmonic (%)
Note: Attach all available	valculations, test reports, and oscillographic prints showing inverter output y

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 m	edium / i	nsulating m	nedium (ex. V	'acuum, ga	is, oil	)		/
Control Voltag	e (Closing	g):		(Volts)	AC	DC		
Control Voltag	e (Trippin	g):		_ (Volts)	AC	DC	Battery	Charged Capacitor
Close energy:	Spring	Motor	Hydraulic	Pneumat	ic (	Other:	:	
Trip energy:	Spring	Motor	Hydraulic	Pneumat	ic (	Other	:	
Bushing Current Transformers:			_ (Max. rat	tio) R	elay A	Accuracy C	Class:	
Multi ratio?	No	Yes: (Ava	ilable taps) _					

#### ADDITIONAL INFORMATION

In addition to the items listed above, please provide the following information:

- 1. 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.
- 2. Describe the project's planned operating mode (e.g., combined heat and power, peak shaving, etc.), and its address or grid coordinates.

#### **Customer Signature**

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to provide the Utility with any additional information which may be requested or required to complete the interconnection. I agree to abide by the terms and conditions of the Utility's Interconnection Standard and will return the Certificate of Completion when the Generating Facility has been installed.

Signature: Date:					
	Utility L	Jse			
Conti	ngent Approval to Interconn	ect the Ger	nerating Facility		
Interconnection of the Generat Utility's Interconnection Standa	ing Facility is approved cont Ird and upon return of the C	ingent upor Certificate o	n the terms and conditions of the f Completion.		
Utility Signature:					
Title:	D	ate:	Application:		
Date Rec'd:	Utility Account #:		Initial:		
Initial Filing Fee: \$25.00	Method of Payment:		Date Paid:		

### Part 5. INTERCONNECTION AND METERING AGREEMENT

Application No. \_\_\_\_\_

Once the Customer and the Utility have identified and mutually agreed on the scope of the overall project including the Generating Facility, system upgrades and estimated costs, the Customer and the Utility shall execute the Interconnection Agreement in the form attached hereto. Notwithstanding the foregoing, the form and content of the Interconnection Agreement may be modified by the Utility on a case by case basis with respect to a customer-owned generation facility with output rated at more than 10 kW or a Qualifying Facility not covered by this Interconnection Standard.

# Part 6. CERTIFICATE OF COMPLETION

		Application No
PA	NORA MUNICIPAL ELECTRIC UTIL	ITY
Is the Generating Facility installed,	tested and ready for operation? Yes	No
Customer:		
Address:		
Telephone (Day): _()	(Evening):	
Fax:	E-Mail Address:	
Location of the Generating Facility	(if different from above):	
Electrician/Service Company:		
Name:		
Address:		
City/State/ZIP:		
Telephone (Day):	(Evening):	
Fax:	E-Mail Address:	
License number:		
Inspection: Generating Facility installed in c	ompliance with applicable electrical co	odes. 🛛 Yes 🔍 No
A copy of the signed electrical insp	ection form is attached.	Yes No
Proof of liability insurance provided	d as specified in agreement.	Yes No
<b>Customer Signature</b> I hereby certify that, to the best of true. I agree to provide the Utility by the terms and conditions of the	my knowledge, the information provided with any additional information which ma Utility's Interconnection Standard.	in this Certificate of Completion is y be requested. I agree to abide
Signature:	Date:	
Office use only		
Date Rec'd:	Utility Account #:	Initial:
Interconnect Fee: \$325.00	Method of Payment:	Date Paid:

# Part 7. APPROVAL TO ENERGIZE GENERATING FACILITY

Application No. \_\_\_\_\_

## PANORA MUNICIPAL ELECTRIC UTILITY

The Utility, having entered into an Interconnection Agreement for the facility described in the Application noted by number above and having received a Certificate of Completion with proper documentation of the electrical inspection hereby authorizes the Generating Facility to be energized:

Utility Signature: \_\_\_\_\_

www.cityofpanora.com Panora Municipal Electric (641)755-2164