FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

Electric Utility Contact Information

Indiana Michigan Power
Interconnection Coordinator - Shari Konger

1 Riverside Plaza

Columbus OH 43215-2373

Interconnection Hotline: 614-716-4020

Interconnection Email: dgcoordinator@aep.com

For Office Use Only
Application #:
Date & Time Application Received:

Required Information for	or all Projects Types
Electric Utility Customer Information: (As shown on utility bill)	
	Г
Customer Name (Last, First, Middle):	
Customer Mailing Address:	
Customer Phone Number:	
Customer E-Mail Address: (optional)	
Project Developer/Single Point of Contact	
	<u> </u>
Name:	
Address:	
Phone Number:	
Fax Number:	
E-Mail Address:	
Project Site Address:	
Generation System Information	
Generation System information	
Project Type (Base load, peaking, intermediate)	
Energization Date for Project Interconnection Facilities	
First Parallel Operation Date for Testing	
Project Commercial Operation Date	
Estimated Project Cost	
Operation Mode	Flow-Back Non-Flow-Back
Operation wood	Now Back Non Now Back
Isolating Transformer(s) between Generator(s) and Utility	
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Transformer Model Number:	
Transformer Manufacturer:	
Rated kV and connection (delta, wye, wye-gnd) of each winding	
kVA of each winding	
BIL of each winding	
Fixed taps available for each winding	
Positive/Negative range for any LTC windings	
%Z impedance on transformer self cooled rating	
Percent Excitation current at rated kV	
Load Loss Watts at full load or X/R ratio	

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

Required Documentation for all Project Types

Qear MPSC Order in Case No. U-15787 - Customer must maintain a minimum of \$1,000,00 General Liability Insurance.)	1. Customer's Proof of General Liability In	noutarios for a filliminari of \$1,000,000	Page #
3. Attached Electrical One-Line Drawing: (Per MPSC Order in Case No. U-15787, the one-line diagram must be signed and sealed by a licensed professional engineer, licensed in the State of Michigan) 4. Attached Electrical Three-Line Drawing: 5. Attached Specification for Equipment 6. Applicable Technical Appendix (A-C) ote: The following information on these system components shall appear on the preliminary Detail One-Line. See Sample One-Line diagram in Appendix D- • Breakers - Rating, location and normal operating status (open or closed) • Buses - Operating voltage • Capacitors - Size of bank in KVAR • Circuit Switchers - Rating, location and normal operating status (open or closed) • Current Transformers - Overall ratio, connected ratio • Fuses - normal operating status, rating (Amps), type • Generators - Capacitry rating (KVA), location, type, method of grounding • Grounding Resistors - Size (orapacity rating (KVA), location, impedance, voltage ratings, primary and secondary connections and method of grounding • Potential Transformers - Ratio, connection • Reactors - Ohms/phase • Relays - Types, quantity, IEEE device number, operator lines indicating the device initiated by the relation of the state of my knowledge, all the information provided in this Application Form is complete and correct.	(Per MPSC Order in Case No. U-15787 - Cu	stomer must maintain a minimum of \$1,000,00 General Liability Insurance.)	
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4. Attached Electrical Three-Line Drawing: 5. Attached Specification for Equipment 6. Applicable Technical Appendix (A-C) Dete: The following information on these system components shall appear on the preliminary Detail One-Line. See Sample One-Line diagram in Appendix Dete: The following information on these system components shall appear on the preliminary Detail One-Line. See Sample One-Line diagram in Appendix Dete: The following information on these system components shall appear on the preliminary Detail One-Line. See Sample One-Line diagram in Appendix Dete: The following information on these system components shall appear on the preliminary Detail One-Line. See Sample One-Line diagram in Appendix Details and the state of the second of the preliminary Detail One-Line. See Sample One-Line diagram in Appendix Details Det	3. Attached Electrical One-Line Drawing:		Page #
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Customer Signature Contractor Signature (if applicable)			
		Contractor Signature (if applica	able)
	Customer Signature		
	Customer Signature		

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX A

Synchronous Generators

Generator Information

x. Station Power load when generator is off-line, Watts, pf

y. Station Power load during start-up, Watts, pf z. Station Power load during operation, Watts, pf

a. Generator Nameplate Voltage	a.
b. Generator Nameplate Watts or Volt-Amperes	b.
c. Generator Nameplate Power Factor (pf)	C.
d. RPM	d.
Technical Information	
e. Minimum and Maximum Acceptable Terminal Voltage	e.
f. Direct axis reactance (saturated)	f.
g. Direct axis reactance (unsaturated)	g.
h. Quadrature axis reactance (unsaturated)	h.
i. Direct axis transient reactance (saturated)	i.
j. Direct axis transient reactance (unsaturated)	j.
k. Quadrature axis transient reactance (unsaturated)	k.
I. Direct axis sub-transient reactance (saturated)	l.
m. Direct axis sub-transient reactance (unsaturated)	m.
n. Leakage Reactance	n.
o. Direct axis transient open circuit time constant	0.
p. Quadrature axis transient open circuit time constant	p.
q. Direct axis subtransient open circuit time constant	q.
r. Quadrature axis subtransient open circuit time constant	r.
s. Open Circuit saturation curve	S.
t. Reactive Capability Curve showing overexcited and underexcited limits (Reactive Information if non-synchronous)	t.
u. Excitation System Block Diagram with values for gains and time constants (Laplace transforms)	u.
v. Short Circuit Current contribution from generator at the Point of Common Coupling	v.
w. Rotating inertia of overall combination generator, prime mover, couplers and gear drives	w.

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX B

Induction Generators

Generator Information

aa. Station Power load during start-up, Watts, pfbb. Station Power load during operation, Watts, pf

a. Generator Nameplate Voltage	a.
b. Generator Nameplate Watts or Volt-Amperes	b.
c. Generator Nameplate Power Factor (pf)	C.
d. RPM	d.
Technical Information	
e. Synchronous Rotational Speed	e.
f. Rotation Speed at Rated Power	f.
g. Slip at Rated Power	g.
h. Minimum and Maximum Acceptable Terminal Voltage	h.
i. Motoring Power (kW)	i.
j. Neutral Grounding Resistor (If Applicable)	j.
k. I ₂ ² t or K (Heating Time Constant)	k.
I. Rotor Resistance	l.
m. Stator Resistance	m.
n. Stator Reactance	n.
o. Rotor Reactance	0.
p. Magnetizing Reactance	p
q. Short Circuit Reactance	q.
r. Exciting Current	r.
s. Temperature Rise	s.
t. Frame Size	t.
u. Design Letter	u.
v. Reactive Power Required in Vars (No Load)	v.
w. Reactive Power Required in Vars (Full Load)	W.
x. Short Circuit Current contribution from generator at the Point of Common Coupling	x.
y. Rotating inertia, H in Per Unit on kVA Base, of overall combination generator, prime mover, couplers and gear drives	y.
z Station Power load when generator is off-line Watts of	7

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX C

Inverter Generators

Generator Information

a. Generator Nameplate Voltage	a.
b. Generator Nameplate Watts or Volt-Amperes	b.
c. Generator Nameplate Power Factor (pf)	c.
d. RPM	d.

Technical Information

- e. Generator Nameplate Voltage

 f. Generator Nameplate Watts or Volt-Amperes

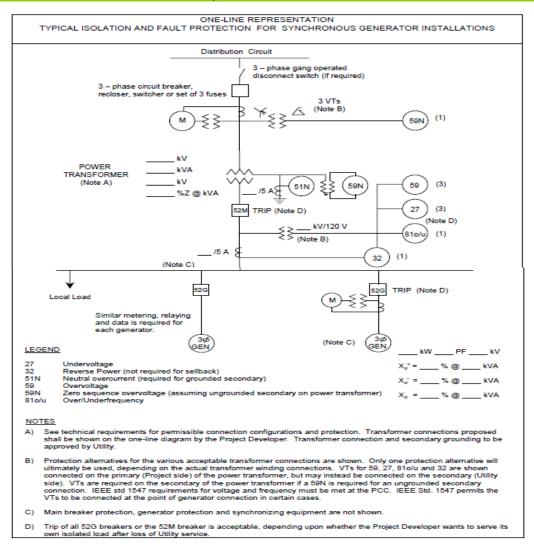
 g. Generator Nameplate Power Factor (pf)
- h. Minimum and Maximum Acceptable Terminal Voltage
 i. Reactive Capability Curve showing overexcited and underexcited limits (Reactive Information if non-synchronous)
- j. Short Circuit Current contribution from generator at the Point of Common Coupling
- k. Station Power load when generator is off-line, Watts, pf
- I. Station Power load during start-up, Watts, pf
- m. Station Power load during operation, Watts, pf

e.			
e. f.			
g. h.			
h.			
i.			
j.			
j. k.			
I.			
m			

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX D

Synchronous Generators



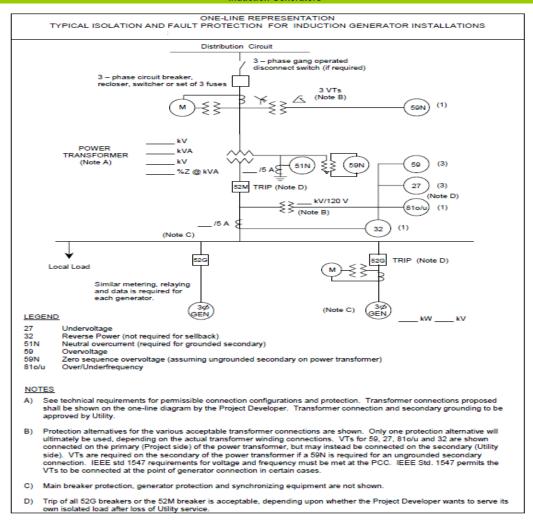
One - Line Diagram

Name of the Professional Engineer ________
PE License Number ______
Address ______
Signature______

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX E

Induction Generators



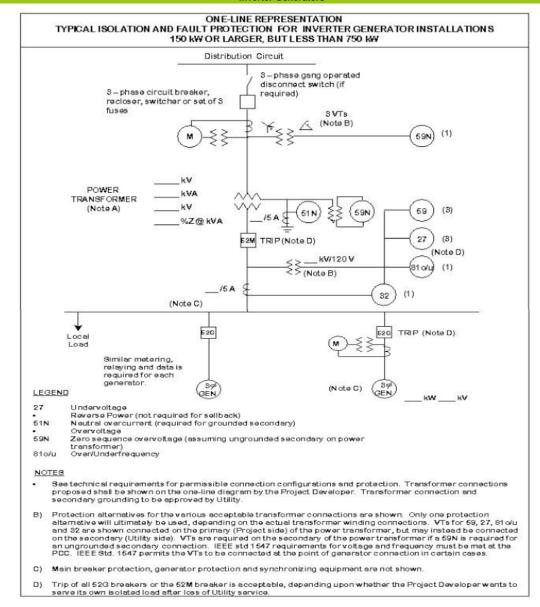
One - Line Diagram

Name of the Professional Engineer	
PE License Number	
Address	
Signature	

FOR ALL PROJECTS WITH AGGREGATE GENERATOR OUTPUT OF MORE THAN 2 MW

APPENDIX F

Inverter Generators



One - Line Diagram