

17 INTERCONNECTION APPLICATION INSTRUCTIONS

A Customer requesting to interconnect a GF to the APS System and not subject to FERC jurisdiction must do the following:

- (1) Complete the appropriate Interconnection Application (refer to table 17-1 of this Section). If Appendix A for Static Inverter installations, Appendix B for Rotating Machinery installations, or Appendix C for Separate Systems is to be completed, be sure to provide all required Supplementary Information in the relevant Appendix.
- (2) Provide a copy of the AHJ building permit, when requested/required, along with the Interconnection Application. Refer to Section 16.2 & 16.3 of this document for additional details regarding AHJ building permit and permitted diagrams. If the AHJ does not review diagrams or approve and grant permits for Generating Facilities, then provide a notarized copy of APS' Letter-in-Lieu of Electrical Clearance for the GF. Contact APS for a copy of the Letter-in-Lieu of Electrical Clearance form.
- (3) Forward required items (1) and (2) above to APS via the contact information noted below.
- (4) If general liability insurance is per Section 5 of the Interconnection Requirements, then proof of insurance must be provided to APS prior to the date of interconnected operation.
- (5) If the GF aggregate nominal nameplate rating is 1 MW or greater, and the exception specified in Section 3 of the Interconnection Requirements manual does not apply, then documentation as specified in Section 3 must be provided to APS prior to the date of interconnected operation.

APS will review the Customer provided documentation to determine if the design conforms to APS' requirements. APS reserves the right to require diagrams submitted to be stamped by Professional Engineer (Electrical) registered in the State of Arizona.

APS notification that the system design appears to be in conformance with APS' Interconnection Requirements does not represent APS' approval of system's design, nor is it an assurance that the system complies with all applicable electric codes, laws, regulations and requirements applicable to its installation and operation.

The APS Interconnection Site Inspection is in addition to, but not in place of, an AHJ inspection. Final drawings shall be provided by Customer per Section 17 of this document prior to APS scheduling and performing the Site Inspection.

It is important that GF not be interconnected (in parallel with the APS System) and/or operated until APS has inspected the GF and issues written notification (i.e. permission to parallel and/or operate) that the system design conforms to APS' requirements.

If you have any questions call 602-371-6160 for assistance.

Submit all documentation electronically in .pdf format to:

Commercial-Renewables@aps.com

Include Customer name in subject line of email.

INTERCONNECTION REQUIREMENTS FOR DISTRIBUTED GENERATION

Table 17-1 below shows the appropriate interconnection application to be completed for the GF being contemplated.

Production from a grid-tied generator must be associated with only one billing meter and be designed to offset the load associated with only that (billing) meter.

| | | |
|-------------------------------------|--|--|
| Non-Residential Applications | Wholesale Generation | <p style="text-align: center;">For FERC interconnections use the application located at APS' Oasis Website at:</p> <p style="text-align: center;">http://www.oatioasis.com/azps/index.html</p> <p style="text-align: center;">For Non-FERC interconnections, Use the appropriate application (Appendix A or B) available at:</p> <p style="text-align: center;">http://www.aps.com/dg</p> |
| | Behind the Meter 1 kW or greater | <p style="text-align: center;">Use the appropriate application (Appendix A, B, or C) available at:</p> <p style="text-align: center;">http://www.aps.com/dg</p> |
| | Behind the Meter less than 1 kW | <p style="text-align: center;">No APS application is required.</p> <p style="text-align: center;">Customer must still follow all code and local permitting requirements. Refer to Section 16.1 of the APS Interconnection Requirements</p> |
| Residential Applications | Separate System | <p style="text-align: center;">Use application (Appendix C) available at:</p> <p style="text-align: center;">http://www.aps.com/dg</p> |
| | Non Incentive-Interconnect Only Process 1 kW or greater | <p style="text-align: center;">Please review the process guide located at http://aps.com/dg under the residential tab to complete an application</p> |
| | Relocating system and participated in the APS Incentive Program 1 kW or greater | <p style="text-align: center;">Send email for transfer packet to renewables@aps.com – Subject: Transferring system to new location</p> |
| | Relocating system and participated in the Non Incentive – Interconnect Only Process 1 kW or greater | <p style="text-align: center;">Please review the process guide located at http://aps.com/dg under the residential tab to complete an application</p> |
| | Systems less than 1 kW | <p style="text-align: center;">No APS application is required.</p> <p style="text-align: center;">Customer must still follow all code and local permitting requirements. Refer to Section 16.1 of the APS Interconnection Requirements</p> |

Table 17-1

APPENDIX A

INTERCONNECTION APPLICATION FOR STATIC INVERTERS ONLY

| | |
|-----------------------------------|-------------|
| | For APS use |
| APS Reservation # (if applicable) | |
| APS Installation # | |

CUSTOMER OF RECORD AND SITE SPECIFIC INFORMATION

APS Customer Account Holders Name(s): _____

Customer Contact Person's Name: _____

Telephone (day): _____ E-mail: _____

Generating Facility Address: _____

Customer Contact Mailing Address: _____

APS Account Number: _____ APS Meter #: _____

Is there an existing Generator interconnected behind this meter? (Yes or No): _____

If Yes, provide kW size and type of existing Generator: _____

Is there an existing Generator connected behind a different meter at this site? (Yes or No): _____

If Yes, provide kW size and type of existing Generator: _____

Is this GF being interconnected behind a sub-meter constituting a Totalized Metering arrangement?

(Yes or No): _____ If Yes, provide the APS sub-meter # feeding the GF: _____

Is the Customer of record a federally owned entity? (Yes or No): _____

STATIC INVERTER INFORMATION (for DC coupled PV + Battery or PV only)

A. Manufacturer: _____ Model #: _____

B. Inverter nameplate continuous AC power output rating [kW/kVA] _____

No. of Units: _____ Total System Nameplate AC rating [kW/kVA]: _____

Max kW/kVA based on 0.90 pf: _____

C. Tested and Certified to UL 1741/UL 1741 SA? (Yes or No): _____

If No, explain: _____

D. Voltage regulating capabilities in accordance with Section 8.7(A)(12) of the APS Interconnection Requirements Manual?

(Yes or No): _____

E. Energy Source (photovoltaic, thermal solar, wind, etc.): _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

F. Is this a DC coupled/hybrid inverter containing a battery source?: (Yes or No): _____
 (if Yes, fill out the "Battery Unit" information noted below)

G. Prime Mover for Thermal Solar (concentrating dish, solar trough, with Sterling Engine, etc.): _____

H. Are the Inverter(s) Non-Isolated (Transformer-less) (Yes or No): _____

PHOTOVOLTAIC SYSTEM INFORMATION

A. PV Module Manufacturer: _____ Model #: _____ # of Modules _____

B. Total PV Module DC rating [kW]: _____

C. PV Modules Tested and Certified to UL 1703? (Yes or No): _____

UTILITY DISCONNECT SWITCH INFORMATION

A. Utility Disconnect Switch Manufacturer: _____ Model #: _____

B. Meter Disconnect Switch Manufacturer: _____ Model #: _____
 (Common for grid tie PV systems coupled with Energy Storage/Batteries)

BATTERY SYSTEM INFORMATION

Total kW/kVA AC output of the Battery System: _____

Battery Unit Information

A. Battery Unit Manufacturer: _____ Model #: _____ # of Units _____

B. Usable Energy [kWh]: _____

C. Maximum output power per battery [kW/kVA AC]: _____

D. **Battery Modules** Tested and Certified to UL 1973? (Yes or No): _____
 Include Battery Spec Sheet with Interconnection Application

E. Lithium Batteries Tested and Certified to UL 1642? (Yes, No or N/A): _____
 Include Battery Spec Sheet with Interconnection Application

F. Energy Storage Systems and Equipment Tested and Certified to UL 9540? (Yes, No or N/A): _____
 Include Energy Storage Systems Spec Sheet with Interconnection Application

G. **Battery unit outdoor maximum temperature rating (in °F) before derating or shutoff:** _____

Battery Inverter Information (for AC Coupled Only)

A. Battery Inverter Manufacturer: _____ Model #: _____

B. Inverter nameplate continuous AC power output rating [kW/kVA] _____

No. of Units: _____ Total System Nameplate AC rating [kW/kVA]: _____

Max kW/kVA based on 0.90 pf: _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

C. Tested and Certified to UL 1741/UL 1741 SA? (Yes or No): _____

If No, explain: _____

D. Voltage regulating capabilities in accordance with Section 8.7(A)(12) of the APS Interconnection Requirements Manual?

(Yes or No): _____

E. Is the Inverter capable of full AC kW nameplate export? (Yes, No or N/A): _____

F. Are the Inverter(s) Non-Isolated (Transformer-less) (Yes or No): _____

G. Inverter Maximum Temperature before derating (in °F): _____

PROPOSED OPERATION

A. Specify whether the inverter will be programmed to operate in parallel with the utility, in backup (“battery charger”) mode only, or Peak Shaving:

_____ Parallel mode

_____ Backup mode

_____ Peak Shaving with Backup capability (battery system)

B. If the inverter will operate in parallel with the utility, specify which one of the following options you desire:

_____ RCP - Resource Comparison Proxy Export Rate

_____ EPR-2 - Net billing (\leq 100 kW-ac)

_____ EPR-6 - Net metering

_____ E-56 R - Net billing (>100 kW-ac)

_____ Sell excess energy to APS under a Power Purchase Agreement (PPA)

_____ None of the above. Specify: _____

C. Provide the anticipated project in-service date: _____

D. Is an electrical permit and/or inspection required by the Authority Having Jurisdiction?

(Yes or No): _____ If No, explain: _____

E. Is access by APS personnel to the Utility Disconnect Switch, the facility SES and any utility-required inverter production metering in any way restricted or impeded (e.g. fences, locks, gates, walls, animals, etc.)?

(Yes or No): _____ If Yes, explain how APS will have 24/7 unrestricted access: _____

F. If the GF aggregate generation nominal nameplate AC rating is 1MW or greater, and is not installed in a Behind the Meter application, is documentation (including FERC Form 556) confirming the GF has achieved QF status included with this Interconnection Application? (Refer to Section 3 of the APS Interconnection Requirements).

(Yes, No or N/A): _____ If No, explain: _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

- G. If the GF aggregate generation nominal nameplate AC rating is 1 MW or greater, and is installed in a Behind the Meter application, does Customer warrant that, to the best of Customer's knowledge, even when considering the expected degradation of the power rating over its expected life and future potential increased electrical load needs of Customer, the GF is not expected to produce more energy over the 12 month period between January 1 and December 31 of any given year than what Customer consumes behind the APS bi-directional billing meter.

(Yes, No or N/A): _____ If No, explain _____

- H. Is general liability insurance required per Section 5 of the Interconnect Requirements?

(Yes or No): _____ If Yes, explain when proof of insurance will be provided to APS: _____

- I. Is the production metering enclosure CT Rated (e.g. Secondary Service > 200A, Primary Service, etc.)?

(Yes or No): _____

If Yes, shop drawings must be submitted by equipment manufacturer to the APS Meter shop for Review and Approval via e-mail to submittals.metershop@apsc.com. Reference the type of system (wind, photovoltaic solar, etc.) on the submittal in addition to the GF Site Address.

- J. Is the system connection a supply side connection or load side tap in accordance with Section 8.1(F) or 8.1(G) of the APS Interconnection Requirements?

(Yes or No): _____

If Yes, please provide required documentation as specified in Section 8.1 therein.

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

IMPORTANT NOTE:

APS requires disclosure of the transaction that Customer is undertaking with the installation of the interconnected GF on its premises.

SYSTEM OWNER

If the GF is owned by a person or entity, including Customer's grantee or lessee, other than Customer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

SYSTEM LESSEE

If the GF is not owned by Customer, but is instead leased, identify the lessee and the lessor:

Lessee:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

Lessor:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

SYSTEM OPERATOR

If the GF is to be operated and/or maintained by a person or entity other than Customer, including the System Owner or Lessee, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

PROPERTY OWNER

If Customer does not own the property upon which the GF is located, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

LANDLORD

If Customer is a tenant upon the property at which the GF is located, provide the following information on the landlord:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

INTERCONNECTION PROCESS PRIMARY CONTACT

If the Primary Contact for coordinating the interconnection process is a person or entity other than Customer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

INSTALLER INFORMATION

If the installer is not the Primary Contact for the interconnection process, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

SYSTEM DESIGN OR ENGINEERING FIRM INFORMATION

If the system is being designed by an entity or person other than the installer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

CUSTOMER CERTIFICATION

This Application is complete and accurate to the best of my knowledge, and as the APS Customer of Record, I hereby grant APS permission to coordinate the interconnection process with the person or entity specified as the Primary Contact in the Interconnection Process Primary Contact Section above, if such Section is completed.

- I understand that I will be required to sign off on a rate disclaimer per Section 10 of the APS Interconnection Requirements. **Failure to submit the disclaimer form may delay processing of your application (Residential Only).**

I further understand that APS will not accept any drawings that are copyrighted, proprietary, or contain confidential material. APS reserves the right to reject any Interconnection Application which it deems illegible or does not meet the mandatory requirements set forth in the APS Interconnection Requirements or the APS sample drawings.

Name: _____

Signature: _____ Date: _____

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)**SUPPLEMENTARY INFORMATION**

Diagrams specified below must be submitted along with a copy of the building permit, when requested/required, issued by the AHJ for Static Inverter based systems with an aggregate generator nominal AC nameplate rating of less than 1 MW and interconnecting at less than 12 kV, and are to be submitted in pdf format. Diagrams shall be stamped by a Professional Engineer (Electrical) registered in the State of Arizona for all Commercial Applications. In addition, a copy of the building permit issued by the AHJ may also be required. Refer to Section 16.2, 16.3 & 16.4 of the APS Interconnection Requirements for additional information. **APS will not accept any copyrighted, proprietary or confidential drawings. Drawings must be site specific regarding the information requested below, without extraneous information and must be prepared for APS' use. All electrical connections to equipment must be shown –“block diagrams” will be rejected. Diagrams are to be professionally drawn, using only black print on white paper, and are not to be in color or shaded. Free hand drawn, faxed diagrams and drawings that are otherwise difficult to read will not be accepted by APS.** All diagrams must include the project name and street address and include any updated diagram revision numbers and dates. If the required information is not provided on the drawings, application and/or supplemental information, then APS will require clarifying information. Clarifying information may include requesting manufacturers cut sheet(s) or the UL certification documents for the device/equipment in question.

APS has prepared several sample diagram sets that indicate the general layout, level of detail, keyed notes, and other information, with the quality required by APS for typical inverter-based systems. These diagrams are located at:

www.aps.com/dg

Standard industry electrical symbols shall be used on the diagrams and must be legible when printed on 11"x17" paper.

(a) Electrical One-Line Diagram:

Diagram(s) must show all generation sources (e.g. photovoltaic panels, wind generator, etc.), associated DC electrical components, inverter(s), combiner panels, metering, Utility Disconnect Switch, as well as the electric service entrance. The utility meter, connection points of facility loads, and all other associated electrical components must be shown including any required dedicated metering phone lines, transfer trip communication path(s) along with the associated relaying and trip circuits, and any APS required Remote Terminal Unit (RTU) with associated communication channels and trip/block close/close permissive circuitry (refer to Section 11.4 of the APS Interconnection Requirements). The electrical ratings of the wire and equipment including all back-fed breakers or fuses and any subpanels, and associated keyed notes/labels must be indicated.

(b) Electrical Three-Line Diagram:

Diagram(s) must show detailed phase wiring of all electrical equipment as specified in the Electrical One-Line Diagram, as well as all neutral, equipment ground and grounding electrode equipment (G.E.C.) conductors and connections. For commercial only, a supplemental array diagram shall be provided.

(c) AC & DC Control Schematics:

For systems greater than 1MW only (unless required otherwise by APS), Diagram(s) must show the detailed phase wiring of all electrical equipment as specified for the Electrical One-Line Diagram, including protective relaying, associated instrument transformers, breaker control circuitry, and additional control schemes. Include control power source and all associated AC and DC connections.

(d) Plant Location Diagram: Note (1)

Diagram must show major cross streets and location of facility. Include a North arrow.

(e) Site Plan:

Diagram must clearly show the major GF equipment individual components and their locations, including the electric Service Entrance Section and utility meter, location of the inverter(s), Utility Disconnect Switch and any lock-boxes, etc. Include building structure location and any walls, fences and gates etc., to clearly indicate unobstructed access to APS equipment, including any required special metering and the Utility Disconnect Switch. Include a North arrow.

APPENDIX A: INTERCONNECTION APPLICATION FOR STATIC INVERTERS (cont'd)

(f) Relay Setting Sheet(s) and Commissioning Plan (as required):

For systems greater than 1MW only (unless required otherwise by APS), setting sheet(s) for the APS-required minimum protective relay functions must show the trip set points and times. Settings and Commissioning Plan may be provided after the initial APS review, once the final system configuration has been determined.

(g) Battery Specification Sheet(s):

Shall identify DC voltage ratings, amp-hour ratings, efficiency and applicable UL listing(s).

(h) Disclaimer Form (Residential Only):

Customer shall submit a signed copy of the disclaimer form available on the APS Website.

(i) Consumer Acknowledgement Form:

Customer shall submit a signed copy of the consumer acknowledgement form available on the APS Website.

Note 1: A Plant Location Diagram will not be required for residential systems.

APPENDIX B

INTERCONNECTION APPLICATION FOR ROTATING MACHINERY ONLY

| | |
|--|--------------------|
| | For APS use |
| APS Reservation # (if applicable) | |
| APS Installation # | |

CUSTOMER OF RECORD AND SITE SPECIFIC INFORMATION

APS Customer Account Holders Name(s): _____

Customer Contact Person's Name: _____

Telephone (day): _____ E-mail: _____

Generating Facility Address: _____

Customer Contact Mailing Address: _____

APS Account Number: _____ APS Meter #: _____

Is there an existing Generator interconnected behind this meter? (Yes or No): _____

If Yes, provide kW size and type of existing Generator: _____

Is there an existing Generator connected behind a different meter at this site? (Yes or No): _____

If Yes, provide kW size and type of existing Generator: _____

Is this GF being interconnected behind a sub-meter constituting a Totalized Metering arrangement?

(Yes or No): _____ If Yes, provide the APS sub-meter # feeding the GF: _____

Is the Customer of record a federally owned entity? (Yes or No): _____

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

GENERATOR INFORMATION

A. Manufacturer: _____ Model #: _____

B. Generator Type (Synchronous, Induction): _____

C. Generator Nameplate Rating:

Voltage: _____ Single or Three Phases: _____

Power Factor: _____ Continuous Power kW: _____

No. of Units: _____ Total System kW: _____

D. Generator Electrical Characteristics (on the machine base, for above 50 kW):

Synchronous Reactance (X_d): _____

Transient Reactance (X'_d): _____

Subtransient Reactance (X''_d): _____

Stator Resistance (R_a): _____

Zero Sequence Reactance (X_0): _____

Zero Sequence Resistance (R_0): _____

Negative Sequence Reactance (X_2): _____

Negative Sequence Resistance (R_2): _____

E. Generator Neutral Grounding (for above 300 kW):

Specify whether the generator neutral will be solidly grounded or grounded through a neutral resistor:

If grounded through a neutral resistor, specify the resistance: _____

PRIME MOVER

A. Manufacturer: _____ Model #: _____

B. Fuel Source (Natural Gas, Landfill Gas, etc.): _____

C. Is useful heat recovered from the prime mover? (Yes or No): _____

D. Will the installation be certified as a Qualifying Facility (QF)? (Yes or No): _____

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

INTERFACE EQUIPMENT AND PROTECTIVE RELAY INFORMATION

(Complete all applicable items; attach a separate sheet if necessary).

A. Synchronizer for Synchronous Generator:

Manufacturer: _____ Model #: _____

Automatic or Manual Synchronizer: _____

B. Manufacturer's name and model number for each protective device (Refer to Section 8):

C. Proposed settings (trip set point and time) for each protective device (Refer to Section 8):

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

PROPOSED OPERATION

A. Specify the mode in which the Generator will operate:

- Open Transition
- Continuous Parallel
- Smooth Parallel Transition (normally 5-15 seconds)
- Momentary Parallel Transition (normally 1/6 second)

B. If the Generator will operate in continuous parallel with the utility, specify which one of the following Rate Rider options you desire:

- EPR-2 - Net billing (\leq 100 kW-ac)
- EPR-6 - Net metering
- E-56-R - Partial Requirements Service (>100 kW-ac)
- E-56 - Partial Requirements Service (>100 kW-ac)
- Sell excess energy to APS under a Power Purchase Agreement (PPA)
- None of the above.

Specify: _____

C. Provide the anticipated project in-service date: _____

D. Is an electrical permit and/or inspection required by the Authority Having Jurisdiction?

(Yes or No): _____ If No, explain: _____

E. Is access by APS personnel to the Utility Disconnect Switch, the facility SES, and any utility-required generation metering in any way restricted or impeded (fences, locks, gates, walls, animals, etc.)?

(Yes or No): _____ If Yes, explain how APS will have 24/7 unrestricted access _____

F. If the GF (other than Backup Generation) aggregate generation nominal nameplate AC rating is 1 MW or greater, and is not installed in a Behind the meter application, is documentation (including FERC Form 556) confirming the GF has achieved QF status included with this Interconnection Application? (Refer to Section 3 of the APS Interconnection Requirements).

(Yes, No or N/A): _____

If No, explain: _____

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

G. If the GF aggregate generation nominal nameplate AC rating is 1 MW or greater, and the GF is installed in a Behind the Meter application, does Customer warrant that, to the best of Customer's knowledge, even when considering the expected degradation of the power rating over its expected life and future potential increased electrical load needs of Customer, the GF is not expected to produce more energy over the 12 month period between January 1 and December 31 of any given year than what Customer consumes behind the APS bi-directional billing meter.

(Yes, No or N/A): _____ If No, explain _____

H. Is general liability insurance required per Section 5 of the Interconnect Requirements?

(Yes or No): _____ If Yes, explain when proof of insurance will be provided to APS: _____

I. Is the production metering enclosure CT Rated (e.g. Secondary Service > 200A, Primary Service, etc.)?

(Yes or No): _____

If Yes, shop drawings must be submitted by equipment manufacturer to the APS Meter shop for Review and Approval via e-mail to submittals.metershop@apsc.com. Please reference the type of system (Induction wind Turbine, Synchronous Backup Generator, Induction Back-feed GF, etc.) on the submittal in addition to the GF Site Address.

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

IMPORTANT NOTE:

APS requires disclosure about the transaction that Customer is undertaking with the installation of the interconnected GF on its premises.

SYSTEM OWNER

If the GF is owned by a person or entity, including Customer's grantee or lessee, other than Customer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

SYSTEM LESSEE

If the GF is not owned by Customer, but is instead leased, identify the lessee and the lessor:

Lessee:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

Lessor:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

SYSTEM OPERATOR

If the GF is to be operated and/or maintained by a person or entity other than Customer, including the System Owner or Lessee, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

PROPERTY OWNER

If Customer does not own the property upon which the GF is located, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

LANDLORD

If Customer is a tenant upon the property at which the GF is located, provide the following information on the landlord:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

INTERCONNECTION PROCESS CONTACT INFORMATION

If the primary contact for interconnection process is to be coordinated by someone other than Customer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

APPENDIX B: INTERCONNECTION APPLICATION FOR ROTATING MACHINERY (cont'd)

INSTALLER INFORMATION

If the installer is not the primary contact for interconnection process, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

SYSTEM DESIGN OR ENGINEERING FIRM INFORMATION

If the system is being designed by an entity or person other than the installer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

CUSTOMER CERTIFICATION

This Application is complete and accurate to the best of my knowledge, and as the APS Customer of Record, I hereby grant APS permission to coordinate the interconnection process with the person or entity specified as the Primary Contact in the Interconnection Process Primary Contact Section above, if Section is completed.

I understand that I will be required to sign off on a rate disclaimer per Section 10 of the APS Interconnection Requirements. **Failure to submit the disclaimer form may delay the processing of your application.**

I further understand that APS will not accept any drawings that are copyrighted, proprietary, or contain confidential material. APS reserves the right to reject any Interconnection Application which it deems illegible or does not meet the mandatory requirements set forth in the APS Interconnection Requirements or the APS sample drawings.

Name: _____

Signature: _____ Date: _____

SUPPLEMENTARY INFORMATION

Diagrams and information specified below are to be specifically prepared for APS' use, and to be submitted in pdf format for all rotating machinery based projects. **APS will not accept any copyrighted, proprietary or confidential drawings. Drawings must be site specific regarding the information requested below, without extraneous information and must be prepared for APS' use. All electrical connections to equipment must be shown – “block diagrams” will be rejected. Diagrams are to be professionally drawn, using only black print on white paper; and are not to be in color or shaded.** Free hand drawn, faxed diagrams and drawings that are otherwise difficult to read will not be accepted by APS. All diagrams must include the project name and street address and include any updated diagram revision numbers and dates. If the required information is not provided on the drawings, application and/or supplemental information, then APS will require clarifying information. Clarifying information may include requesting manufacturers cut sheet(s) or the UL certification documents for the device/equipment in question.

Standard industry electrical symbols shall be used on the diagrams and must be legible when printed on 11"x17" paper.

(a) Electrical One-Line Diagram:

Diagram(s) must show generators and all major associated electrical components including protective relaying and associated trip paths, any interlocks and control functions, as well as the electric service entrance, utility meter, connection points of facility loads, any transformers, generator metering, and Utility Disconnect Switch including any required dedicated metering phone lines, transfer trip communication path(s) along with the associated relaying and trip circuits, and any APS required Remote Terminal Unit (RTU) with associated communication channels and trip/block close/close permissive circuitry (refer to Section 11.4 of the APS Interconnection Requirements). Any interlocks or permissive functions and / or control paths shall be clearly indicated on the drawing (e.g. as dashed lines). The electrical ratings of the equipment and associated keyed notes/labels must be indicated.

(b) AC & DC Control Schematics:

Diagram(s) must show the detailed phase wiring of all electrical equipment as specified for the Electrical One-Line Diagram, including protective relaying, associated instrument transformers, breaker control circuitry, and additional control schemes. Include control power source and all associated AC and DC connections.

(c) Plant Location Diagram:

Diagram must show major cross streets and location of facility. Include a North arrow.

(d) Site Plan:

Diagram must clearly show the individual major GF equipment components and their locations, including the electric Service Entrance Section and utility meter, location of generator(s), interface equipment, Utility Disconnect Switch and location of any lock-boxes, etc. Include building structure location and any walls, fences and gates etc., to clearly indicate unobstructed access to APS equipment including any required special metering and the Utility Disconnect Switch. Include a North arrow.

(e) Relay Setting Sheet(s):

Setting sheet(s) for the APS-required minimum protective relay functions must show the trip set-points and times. Settings may be provided after the initial APS review, once the final system configuration has been determined.

(f) Sequence of Operations:

Customer shall submit a description of any sequence of operations or other operational controls of a particular system or control scheme. Customer may also provide a one-line block diagram depicting any/all parallel paths, breaker schemes (e.g. main-tie-tie-main or main-tie-main) as well as identifying any interlocks, normal open points, and transfer schemes.

(g) Disclaimer Form (Residential Only):

Customer shall submit a signed copy of the applicable disclaimer form available on the APS Website if required.

APPENDIX C

**INTERCONNECTION APPLICATION FOR SEPARATE SERVICE GENERATORS ONLY
AS DEFINED IN SECTION 4.1 OF THE APS INTERCONNECTION REQUIREMENTS FOR
DISTRIBUTED GENERATION**

| For APS use | |
|-----------------------------------|--|
| APS Reservation # (if applicable) | |
| APS Installation # | |

CUSTOMER OF RECORD AND SITE SPECIFIC INFORMATION

APS Customer Account Holders Name(s): _____

Customer Contact Person's Name: _____

Telephone (day): _____ E-mail: _____

Generating Facility Address: _____

Customer Contact Mailing Address: _____

APS Account Number: _____ APS Meter #: _____

GENERATOR INFORMATION

A. Manufacturer: _____ Model #: _____

B. Generator Nameplate Rating:

Voltage: _____ Single or Three Phases: _____

No. of Units: _____ Total System kW: _____

C. Is there an existing Generator interconnected behind this meter? (Yes or No): _____

If Yes, provide kW size and type of existing Generator: _____

TRANSFER SWITCH INFORMATION

A. Is the transfer switch manual or automatic? _____

B. If automatic, is the transfer switch an Open Transition, i.e. "break before make"? (Yes, No or NA): _____

If Yes, is the transfer switch UL 1008/UL 1008A listed? (Yes or No): _____

APPENDIX C: INTERCONNECTION APPLICATION FOR SEPARATE SERVICE GENERATORS (cont'd)

SERVICE ENTRANCE SECTION INFORMATION

A. Is the existing Service Entrance Section being modified or replaced for this project? (Yes or No): _____

If yes, is it to accommodate the generator connection? (Yes or No): _____

If no, will it be moved? _____

Explain: _____

B. If any part of A. is answered as "Yes", e-mail the on-line diagram and shop drawings of the Service Entrance Section to: submittals.metershop@apsc.com.

INTERCONNECTION PROCESS CONTACT INFORMATION

If the primary contact for interconnection process is to be coordinated by someone other than Customer, complete the following:

Name: _____ Company: _____

Mailing Address: _____

Phone: _____ E-mail: _____

CUSTOMER CERTIFICATION

This Application is complete and accurate to the best of my knowledge, and as the APS Customer of Record, I hereby grant APS permission to coordinate the interconnection process with the person or entity specified as the Primary Contact in the Interconnection Process Primary Contact Section above, if Section is completed.

I understand that I will be required to sign off on a rate disclaimer per Section 10 of the APS Interconnection Requirements. **Failure to submit the disclaimer form may delay the processing of your application.**

I further understand that APS will not accept any drawings that are copyrighted, proprietary, or contain confidential material. APS reserves the right to reject any Interconnection Application which it deems illegible or does not meet the mandatory requirements set forth in the APS Interconnection Requirements or the APS sample drawings.

Name: _____

Signature: _____ Date: _____

APPENDIX C: INTERCONNECTION APPLICATION FOR SEPARATE SERVICE GENERATORS (cont'd)

SUPPLEMENTARY INFORMATION

Diagrams and information specified below are to be specifically prepared for APS' use, and to be submitted for all rotating machinery based projects. **APS will not accept any copyrighted, proprietary or confidential drawings. Drawings must be site specific regarding the information requested below, without extraneous information and must be prepared for APS' use. All electrical connections to equipment must be shown –“block diagrams” will be rejected.** If the required information is not provided on the drawings, application and/or supplemental information, then APS will require clarifying information.

Standard industry electrical symbols shall be used on the diagrams and must be legible when printed on 11"x17" paper.

(a) Electrical One-Line Diagram:

Diagram(s) must show generators and all major associated electrical components including protective relaying and associated trip paths, any interlocks and control functions, as well as the electric service entrance, utility meter, connection points of facility loads, any transformers, generator metering, and transfer switches. The electrical ratings of the equipment and associated keyed notes/labels must be indicated.

(b) Specification Sheets:

Attach specification sheets for the proposed generator and transfer switch showing ratings and UL listings.