



:: Interconnection Application Process Guide ::

Thank you for your interest in the APS Interconnection Application Program! Interconnecting a Distributed Energy Resource (DER), including a solar photovoltaic (PV) electric system, to the APS grid is an easy process.

Each DER system is a power plant, not an appliance, and it is important to get the interconnection right! We keep customers and installers informed throughout the process by sending email communications every time an application reaches a milestone.

Application Process

Installers apply online using our [PowerClerk Application](#).

Customers may view or initiate an application by logging into aps.com and selecting the 'Interconnecting to the grid' tab, then click 'View existing applications'.

1. Installer completes the interconnection application and uploads the following required documents:

- Executed Contract (if applicable)
- Disclaimer (if applicable)
- Consumer Acknowledgement
- Site Plan Diagram
- Electrical Three-Line Diagram (Or One-Line Diagram for residential, single phase, load side connection only)
- Authorization Form (DocuSign required)
- Interconnection Agreement (DocuSign required)

Additional documents may be required, see Document Guide below.

2. APS will review and either request revisions (necessary changes to system design for safety or access reasons) or approve the interconnection application and the system can be built.

3. After the system is built, the installer provides the necessary final documents:

- Green tag/permit clearance
- Proof of APS approval of Current Transformer (CT) rated enclosure (if applicable)
- A letter from the Underwriter's Laboratories Inc. (UL) authorized inspector on site stating the tap is UL and code compliant and a photo of the UL sticker placed on site. A full list of authorized Nationally Recognized Testing Laboratory (NRTL) program providers can be located at <https://www.osha.gov/dts/otpca/nrtl/nrtllist.html>. (if applicable)

4. APS will review the final documents and request the inspection/meter set.

When APS arrives to set the meters, we verify the field conditions match the approved diagrams on the application.

5. If APS can provide permission to operate (PTO), APS will leave a door hanger and send a confirmation email. If PTO cannot be issued, APS will explain the reason on the door hanger and inform the installer of the items to be addressed. Once the installer notifies APS that the repairs are complete, APS will reschedule the inspection/meter set.

For your safety, do not operate the system prior to receiving PTO.

Need help? Email renewables@aps.com with your address or application ID in the subject line.

:: Document Guide ::

Forms and sample diagrams are available at [aps.com/dg](https://www.aps.com/dg).

Capitalized terms used below shall have the meanings specified in Section 3 of the APS Interconnection Requirements Manual.

DOCUMENT	SYSTEM TYPE & REQUIREMENTS	DESCRIPTION
Authorization Form	All systems requiring an interconnection application with APS. The form must be signed by the APS customer of record and property owner, if different.	Authorization for an installer/dealer to submit an application and act on behalf of the Property Owner and the APS customer of record throughout the interconnection process.
Consumer Acknowledgement	All consumers buying, financing, or leasing a solar distributed energy generation system. Consumer must sign and submit (provide) a copy of the consumer acknowledgement form.	Acknowledgement that customer has read Table 1, A.R.S § 44-1763 Contract Requirements and been given the opportunity to review the contract documentation for the purchase or lease of the System to ensure that it contains all the required information set forth on Table 1, A.R.S § 44-1763 Contract Requirements.
Disclaimer	Customers installing a rooftop solar system. Customer shall submit a signed copy of the disclaimer form.	Acknowledgement that customer has read and understands the possible future rules and/or rate changes that may affect rooftop solar systems.
Electric clearance and/or green tag	All DER systems interconnecting with APS. If an electrical permit and/or inspection is not required by the Authority Having Jurisdiction (AHJ) the APS Letter-in-Lieu of Electric Clearance form is required.	Electrical Clearance must include: <ul style="list-style-type: none"> o City/county o Site address o Technology o Passed, final or approved o Date of inspection <p>An APS Letter in Lieu form must be notarized and reference site address.</p>

<p>Executed Contract</p>	<p>Residential consumers buying, financing, or leasing a DER generation system must provide a copy of their contract.</p> <p>The contract must be signed by the APS customer of record or system owner and installer/dealer associated with the application.</p>	<p>Document on company letterhead from party associated to the application, providing details of the transaction.</p> <p>Contract must include:</p> <ul style="list-style-type: none"> o APS customer of record or system owner o Site address o Equipment o Total system cost (including permit) <p>Please note: self-installers may provide an invoice containing the above information. This must include the cost of the permit.</p>
<p>Interconnection Agreement</p>	<p>All systems interconnecting with APS.</p> <p>The agreement must be signed by the APS customer of record and system owner, if different.</p>	<p>Agreement that the Generating Facility will operate in accordance with all APS Requirements (i.e. ESRM and Interconnection Requirements for Distributed Generation).</p>
<p>Electrical One-Line Diagram</p>	<p>Static Inverter Systems, Rotating Machinery, and Separate Service Generators.</p> <p>For Commercial Systems, Electrical drawings stamped by a Professional Engineer (Electrical) registered in the State of Arizona.</p> <p>For Residential Systems, when specifically required by Utility in writing.</p> <p>APS will not accept any copyrighted, proprietary, or confidential drawings.</p> <p>Refer to Section 16.2 & 16.3 of the APS Interconnection Requirements for additional information.</p>	<p>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 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. *See information below for details required for other technology types.</p>

Electrical Three-Line Diagram	<p>All systems that contain Static Inverter(s). For Commercial Systems, Electrical drawings stamped by a Professional Engineer (Electrical) registered in the State of Arizona.</p> <p>For Residential Systems, when specifically required by Utility in writing, Electrical drawings stamped by a Professional Engineer (Electrical) registered in the State of Arizona OR may provide a copy of the building permit issued by the AHJ (for applications with no AHJ plan review, refer to Section 16.4 for additional details).</p> <p>APS will not accept any copyrighted, proprietary, or confidential drawings.</p>	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 grounding, bonding and grounding electrode equipment (G.E.C.) conductors and connections. For commercial only, a supplemental array diagram shall also be provided.
Plant Location Diagram	Commercial inverter based and Rotating Machinery systems.	Diagram must show major cross streets and location of facility. Include a North arrow.
Site Plan Diagram	<p>All systems except Separate Service Generators.</p> <p>APS will not accept any copyrighted, proprietary, or confidential drawings.</p>	Diagram must clearly show the individual components of the major GF equipment and their locations, including the electric Service Entrance Section and utility meter, 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.
Battery Specification Sheet(s)	Energy Storage Systems.	Specification shall identify DC voltage ratings, amp-hour ratings, efficiency, and applicable UL listing(s).

AC & DC Control Schematic	Static Inverter Systems greater than 1MW only (unless required otherwise by APS) or Rotating Machinery.	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.
Connection Agreement	All non-parallel Generators in accordance with Section 4.2 of the APS Interconnection Requirements Manual that do not qualify as a Separate System as defined in Section 4.1.	Agreement that the Generating Facility will Operate in open transition mode utilizing a control scheme as depicted in Section 13.1(B) of the APS Interconnection Requirements Manual.
Generator and Transfer Switch Specification Sheets	Separate service Generators only	Attach specification sheets for the proposed Generator and Transfer Switch showing ratings and UL listings.
Relay Setting Sheet(s) and Commissioning Plan (as required)	Rotating Machinery or for Static Inverter 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.
Sequence of Operations	Rotating Machinery or for Static Inverter Systems greater than 1MW only (unless required otherwise by APS)	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.
Pre-Application Form	A pre-application form is highly recommended for all proposed systems interconnecting DER at an aggregate kW-AC system size of 500kW or greater and is to be completed and submitted prior to submitting a formal interconnection application in PowerClerk.	A Pre-Application Form details the proposed interconnection system size, location, and other preliminary information. 21 days following receipt of completed Pre-Application Form, a Pre-Application Report will be provided to the customer detailing possible challenges and any appropriate interconnection studies per ACC DGIR Rules.

***Rotating Machinery: 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 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, grounding details and associated keyed notes/labels must be indicated.

***Separate Service Generators: 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, grounding details and associated keyed notes/labels must be indicated.

