Photovoltaic Utility Disconnect Switch Requirements

APS requires a Photovoltaic Utility Disconnect Switch (on the AC side of the inverter) for all photovoltaic solar installations. This switch shall be in accordance with the requirements of section 8.2 of the APS "Interconnection Requirements for Distributed Generation" manual (http://www.aps.com/_files/SolarRenewable/InterconnectReq.pdf?source=dg).

The following list of requirements is based on section 8.2, and is provided as a service to APS customers.

Requirements:

1) ☐ The switch shall be "Visible Open" switch (Blades, Jaws and Air Gap Between them are visible to an operator).
2) ☐ The "visible open" components cannot be obscured by any dead-front, arc-shield, or other component (parts shall not be removed to create an un-obscured view).
3) ☐ The switch shall be lockable in the open position.
4) ☐ Switches for multi-phase systems shall be gang operated.
5) ☐ APS padlock shank (3/8") must fit on the cover hasp of the switch.
6) ☐ The switch shall not be modified to accommodate APS lock.
7) ☐ The switch will not be fused unless agreed upon by APS in order to meet fault current requirements of the local AHJ (city or municipal code authority). Please contact us at the email address or phone number above for approval if required.
8) ☐ The switch shall be installed in a location that will provide safe, unrestricted access to APS personnel on a 24-hour basis, typically within line of sight of the Customer's service entrance section (SES).
9) ☐ If the switch cannot be located within line of sight of the SES, then a placard or directory must be present at the SES with explicit directions to the location of the disconnect switch per NEC 705.10. The location of the switch is subject to APS approval.
10) ☐ If APS access is impeded to the switch, an APS provided lock box (at the customer's expense) must be installed by the customer within 36" of any door or gate. It must be located no less than 36" above grade and no more than 60" above grade.
11) ☐ The disconnect switch shall be located on the utility source side of the photovoltaic system meter.
12) ☐ Electrical conductors or cables entering the disconnect switch shall be kept physically separated and shall not be routed in the same raceway or share a common enclosure.
13) ☐ The switch enclosure shall be properly grounded.
14) ☐ The switch may not be used as a raceway for any conductors other than the phased conductors being switched and the associated grounded conductor (neutral) and grounding conductor (equipment ground).
15) ☐ Switch shall be rated for the voltage and current requirements of the generating facility and must be listed and conform to all applicable UL, ANSI and IEEE standards, and installed in accordance with the requirements of the NEC.
16) ☐ The switch shall be connected so that the blades are de-energized when the switch is in the open position in accordance with NEC 404.6(C).
17) ☐ The switch shall be located between 36" and 60" measured from the final grade to the center of the disconnect switch and shall include at least 36" by 36" clear working space in front of the switch.

Notes:

1) APS reserves the right to lock open the Photovoltaic Utility Disconnect Switch without prior notice to the Customer when interconnected operation of the Customer's generating facility with the APS' system could adversely affect APS' system or endanger life or property, or upon termination of the Interconnect Agreement.
2) The Photovoltaic Utility Disconnect Switch shall be placed under the operational jurisdiction of APS for all systems under 500V AC.
3) In situations where the disconnect switch is installed on a line at a voltage above 500V AC, APS has specific grounding requirements that must be incorporated. Please see the APS ESRM for more details.
4) APS will not accept a rack-out breaker for the visible open disconnect switch unless a switch is not commercially available at the ampacity required for the photovoltaic generating facility. See Section 8.2 of the interconnection requirements for more details.