PHOTOVOLTAIC SYSTEMS
ELECTRICAL

ALL WORK SHALL COMPLY WITH THE 2013 CALIFORNIA ELECTRICAL CODE

1. Provide the following information for the electrical portion of the Photovoltaic System on 11 x 17 minimum sheets:

a) Scope of the project, including system KW rating.
b) Complete single line diagram of the electrical system including PV system as well as any other means of power production.
c) Clearly show on plans where the main electrical OCPD and PV back fed OCPD are located in the electrical service panel.
d) Site plan, including location of all system components. This would include, but not be limited to, location of solar modules, all disconnects, junction boxes, combiner boxes, conduit runs (interior or exterior), inverters, sub panels and electrical service.
e) Type of system (i.e. Alternating-Current Modules, Bipolar, grounded, ungrounded, Hybrid, isolated, interactive, stand-alone, etc).
f) Utility service operating voltage.
g) The size (AWG) and type of insulation on all conductors that are a part of this system.
h) Indicate type, size, material and general location of all raceways.
i) If main electrical OCPD is to be reduced, provide code compliant load calculations for the electrical service for the premises.
j) When the main OCPD is located in the center of the main electrical panel (center fed), the ampere sum of all OCPD's supplying power to the buss bar or conductor shall not exceed 100%.
k) All calculations for determining overcurrent protection and conductor sizing. (Temperature correction factor for Fullerton is .71 (Tables 310.15[B]).
l) Clearly show the listings for all materials and devices installed to be a part of this system.

2. Provide the following information for the PV system:

a) Number of series connected modules in every PV source circuit.

b) Number of parallel connected modules in PV source circuits for each array or PV power source.
c) Equipment Grounding Conductor (EGC) landing at each module at the manufacturers recommended location with a lug listed for that purpose. (Minimum #8 AWG cu.)

3. Provide the manufacturer's specification sheets for the PV modules (or panels), including manufacturer's name, catalog numbers and complete electrical information.

4. Provide the manufacturer's specification sheets for the inverters, converters, charge controllers, and AC modules, indicating all electrical characteristics.

5. The circuit conductors and overcurrent protective devices shall be sized to carry not less than 125% of the maximum current

6. The overcurrent protection of output circuits with internal current limiting devices shall be not less than 125% of the maximum limited current of the output circuit.

7. Provide a disconnecting means for all current carrying conductors of PV sources from all other conductors in the building or other structure. This disconnecting means shall be installed at a readily accessible location either on the outside of the building or structure or inside nearest the point of entrance of the PV system conductors.

8. All signage shall have red background with white lettering.

9. Provide signage on all photo voltaic raceways stating CAUTION: SOLAR CIRCUIT every 10 feet and on each side of any building component penetration.

10. Provide all signage required by CEC 690 and 705.