



TECHNICAL BULLETIN
Community Development & Planning, Building Inspections
TOPIC:
Solar Photovoltaic Installations, Roof Mounted Systems
June 26, 2009

This Technical Bulletin describes the minimal information necessary to apply for a permit and general inspection information for a roof mounted solar photovoltaic (PV) system. Ground mounted collectors are not considered at this time. Applications to install a Solar PV roof mounted system will be either a **CP-Commercial Remodeling Permit** or a **RP-Residential Remodeling Permit**, dependent on the use of the property. An electrical permit must be issued to a registered electrical contractor after the building permit is issued.

Permit Application - submit with a completed building permit application:

1. Scaled & dimensioned plan view of all roof mounted PVs
2. Details of the means of attachment of the roof mounted PVs with typical side view detail
3. If weight distribution of the Array exceeds 5 lbs per square foot, then an engineer's design is required for the structural mounting and support
4. Battery storage cut sheet info and site location (if used)
5. Data cut sheets for inverters and collectors that provides listing by Nationally Recognized Testing Laboratory
6. Engineered stamped one line diagram, PV equipment manufacturer's engineered one line; or, one line prepared by master electrician licensed by TDLR that includes:
 - a. PV array with listed UL 1703 modules
 - b. Size combiner j-box
 - c. PV power source disconnect and overcurrent protection size
 - d. Service panel main circuit breaker/fuse ampere rating and the PV source C.B./fuse ampere rating
 - e. Storage batteries, if used
 - f. DC/AC inverter listed UL Std. 1741, with ground fault detection and interruption
 - g. Inverter output AC disconnect and overcurrent protection size
 - h. Utility disconnect with overcurrent protection required at the electric service location
 - i. Circuit diagram with conduit, wire type and sizes and/or cable type and wire sizes listed and labeled for use in PV applications
 - j. Equipment grounding conductors
 - k. PV output readout at DC/AC inverter

Inspections –

1. Approved plans on site shall match the installation
2. Plug connectors shall be polarized with a noninterchangeable receptacle configuration and shall be latching or locking type requiring a tool for opening

3. Sum of overcurrent devices supplying power to the busbar of a service panel shall not exceed 120% of the rating of the busbar
4. Warning labels are installed on equipment or at a visible location indicating electric shock hazard when ground fault indicated
5. Signage identifying the PV system DC and AC disconnects
6. Permanent plaque or directory denoting all available electric power sources on the premises
7. Access to attic may be required.