CITY OF MISSION VIEJO
BUILDING DIVISION
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MISSION VIEJO, CA 92691
949 470-3054
www.cityofmissionviejo.org

2013 CALIFORNIA CODES
CODE CYCLE

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EFFECTIVE DATE

Submittal Requirements Bulletin – Solar Photovoltaic Installations 10 kW or Less in One- and Two-Family Dwellings

This information bulletin is published to guide applicants through a streamlined permitting process for solar photovoltaic (PV) projects 10 kW in size or smaller. This bulletin provides information about submittal requirements for plan review, required fees and inspections.

1. Approval Requirements

The following permits are required to install a solar PV system with a maximum power output of 10 kW or less:

a) A building permit is required.

Note: Planning Division review is required.

2. Submittal Requirements

a) One copy of the completed permit application form specifying the kilowatts, number of modules, inverters or micro-inverters, disconnects, circuits, lineal feet of conduit and the electric utility company. This permit application form can be downloaded from our departmental website at www.cityofmissionviejo.org.

b) Demonstrate compliance by completing the eligibility checklist for expedited permitting. These criteria can be downloaded at www.cityofmissionviejo.org .

c) Three copies of a completed Standard Electrical Plan. The standard plan may be used for proposed solar installations 10 kW in size or smaller and can be downloaded at www.cityofmissionviejo.org.

- *If standard electrical plans are not provided for use, an electrical plan should be submitted that includes the following.*
- *Locations of main service or utility disconnect*
- *Total number of modules, number of modules per string and the total number of strings*
- *Make and model of inverter(s) and/or combiner box if used*
- *One-line diagram of system*
- *Specify grounding/bonding, conductor type and size, conduit type and size and number of conductors in each section of conduit*
- *If batteries are to be installed, include them in the diagram and show their locations and venting*

- *Equipment cut sheets including inverters, modules, AC and DC disconnects, combiners and wind generators*
- *Labeling of equipment as required by CEC, Sections 690 and 705*
- *Site diagram showing the arrangement of panels on the roof or ground, north arrow, lot dimensions and the distance from property lines to adjacent buildings/structures (existing and proposed)*
- *Evidence the solar system has been tested by an approved testing agency.*

d) Three copies of a roof plan showing roof layout, PV panels and the following fire safety items: approximate location of roof access point, location of code-compliant access pathways, PV system fire classification and the locations of all required labels and markings. Examples of clear path access pathways are available in the State Fire Marshal Solar PV Installation Guide. **http://osfm.fire.ca.gov/pdf/reports/solarphotovoltaicguideline.pdf.**

e) One copy of the completed expedited Structural Criteria along with required documentation. Structural Criteria can be downloaded at www.cityofmissionviejo.org

For non-qualifying systems, provide structural drawings and calculations stamped and signed by a Registered California-licensed Civil or Structural Engineer, along with the following information.

- The type of roof covering and the number of roof coverings installed
- Type of roof framing, size of members and spacing
- Weight of panels, support locations and method of attachment
- Framing plan and details for any work necessary to strengthen the existing roof structure
- Site-specific structural calculations
- Where an approved racking system is used, provide documentation showing manufacture of the rack system, maximum allowable weight the system can support, attachment method to the roof or ground and product evaluation information or structural design for the rack system

f) One copy of the executed **Home Owner Awareness Form** to qualify for the Energy Efficiency Fee Waiver program (EEFW). See Fees in item 4 below. THIS FORM MUST BE SUBMITTED AT TIME OF THE INITIAL SUBMITTAL TO QUALIFY! This form will not be accepted after the initial submittal.

3. Plan Review

Permit applications are submitted in person to the Building Division at City of Mission Viejo.

Permit applications utilizing standard plan may be approved “over the counter” at the Building Division.

Permits not approved “over the counter” should be reviewed within 3 working days from the date of the initial submittal. Re-submittals are reviewed over the counter.

4. Fees

As part of the Energy Efficiency Fee Waiver program (EEFW) residential solar plan review and permit fees may be waived with the submittal of the executed Home Owner Awareness form at the time of the initial submittal. This form will only be accepted upon the initial submittal. Applications submitted without this form will be subject to the customary plan check fee of $132 and $188.00 inspection fee with additional electrical and administrative fees.

5. Inspections

Once all permits to construct the solar installation have been issued and the system has been installed, a final inspection for the solar system may be scheduled by contacting the Building Division by telephone at (949) 222-4694. Inspection requests are typically scheduled for the next business day.

The following is required:

- Ladders shall be OSHA approved and secured to the structure for inspection purposes.
- Contractors must be present for all inspections.

Permit holders must be prepared to show conformance with all technical requirements in the field at the time of inspection. The inspector will verify that the installation is in conformance with applicable code requirements and with the approved plans.

The inspection checklist provides an overview of common points of inspection that the applicant should be prepared to show compliance. If not available, common checks include the following.

- Number of PV modules and model number match plans and specification sheets number match plans and specification sheets.
- Array conductors and components are installed in a neat and workman-like manner.
- PV array is properly grounded.
- Electrical boxes are accessible and connections are suitable for environment.
- All electrical panels, disconnects, inverters and junction boxes shall be opened for inspection.
- Array is fastened and sealed according to attachment detail.
- Conductors ratings and sizes match plans.
- Appropriate signs are property constructed, installed and displayed, including but not limited to the following:
  - Sign identifying PV power source system attributes at DC disconnect
  - Sign identifying AC point of connection
  - Sign identifying switch for alternative power system
  - Signs written with markers are not acceptable.
- Equipment ratings are consistent with application and installed signs on the installation, including the following.

- Inverter has a rating as high as max voltage on PV power source sign.
- DC-side overcurrent circuit protection devices (OCPDs) are DC rated at least as high as max voltage on sign.
- Switches and OCPDs are installed according to the manufacturer's specifications (i.e., many 600VDC switches require passing through the switch poles twice in a specific way).
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- Inverter is rated for the site AC voltage supplied and shown on the AC point of connection sign.
- OCPD connected to the AC output of the inverter is rated at least 125% of maximum current on sign and is no larger than the maximum OCPD on the inverter listing label.
- Sum of the main OCPD and the inverter OCPD is rated for not more than 120% of the bus bar rating.

6. Departmental Contact Information

For additional information regarding this permit process, please consult the city of Mission Viejo's Building Division's website page at www.cityofmissionviejo.org or contact Building Division at (949) 470-3054.