



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

Installation of a solar PV system with a maximum power output of 10 kW or less:

- Planning review is not required for solar PV installations of this size and type.
- Fire Department approval is required for solar PV installations of this size.

2. Submittal Requirements

a) **Completed permit application form**

This permit application form can be downloaded at www.cityofukiah.com/solar-permitting.

b) **Demonstrate compliance with the eligibility checklist for expedited permitting**

These criteria can be downloaded at www.cityofukiah.com/solar-permitting.

c) **A completed Standard Electrical Plan**

The Standard Electrical Plan may be used for proposed solar installations 10 kW in size or smaller and can be downloaded at www.cityofukiah.com/solar-permitting.

Provide an electrical plan 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)

- d) 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) A roof framing plan showing the items listed below is required unless the framing consists of pre-engineered factory built trusses with one roof covering and racking supports are staggered on alternating trusses 4 feet on center. If the conventional roof framing is determined inadequate to support the additional load of a solar array, then engineering will be required.

For non-qualifying systems, provide structural drawings and calculations stamped and signed by a 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 manufacturer 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

The California Solar Permitting Guidebook recommends that local jurisdictions adopt a prescriptive approach to establishing minimal structural requirements that avoids the need for structural calculations. A simple list of criteria is provided in this Guidebook (PV Toolkit Document #5). A full explanation of the methods and calculations used to produce these criteria can be found in the Structural Technical Appendix for Residential Rooftop Solar Installations:

http://www.opr.ca.gov/docs/Solar_Structural_Technical_Appendix.pdf

3. Plan Review

Expedited permit applications utilizing a Standard Electrical Plan may be approved “over-the-counter” via the following in-person submission location on Wednesday afternoons from 2:00 to 4:00 p.m. Permits not approved “over-the-counter” should be reviewed within 10 working days.

All other solar permit applications can be submitted to the City in one of the following ways:

In Person:

City of Ukiah Building Department
300 Seminary Avenue
Ukiah, CA 95482

Electronically:

planning@cityofukiah.com

300 SEMINARY AVENUE UKIAH, CA 95482-5400
Phone # (707)463-6200 Fax# (707)463-6204 Web Address: www.cityofukiah.com

4. Fees

Building permit fees are based on the cost of construction for the installation of the roof flashings, racking, and any structural work required. Electrical permit fees are based on items and depend on the size of the system. Permit costs typically range from \$350 to \$650 for these sized systems.

5. Inspections

Once all permits to construct the solar installation have been issued and the system has been installed, it must be inspected before final approval is granted for the solar system. On-site inspections can be scheduled by contacting the Building Department inspection request line by telephone at (707) 463-6739. Inspection requests received the day before are typically scheduled for the next business day. If next business day is not available, inspection should happen within a three day window.

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.
- Array is fastened and sealed according to attachment detail.
- Conductor's ratings and sizes match plans.
- Appropriate signs are properly constructed, installed and displayed, including 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
- 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 (e.g. many 600VDC switches require passing through the switch poles twice in a specific way).
 - 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 our departmental website at www.cityofukiah.com/building-services or contact the Building Department at (707) 463-6203.