



City of Oceanside
Building Division
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EXPEDITED PV PERMITTING

Referenced Codes:

2013 edition of the California Code of Regulations (CCR); Title 24, (which is composed of 12 parts) referred to as the California Building Standards Code, and adopts the following model codes only with California Amendments:

- i. The 2012 International Building Code (IBC);
- ii. The 2012 International Fire Code (IFC);
- iii. The 2013 Building Energy Efficiency Standards
- iv. The 2012 Uniform Mechanical Code (UMC);
- v. The 2012 Uniform Plumbing Code (UPC); and,
- vi. The 2011 National Electrical Code (NEC).

For your information the California Building Standards Code is the name that refers to the building standards (12 parts) located in Title 24 of the California Code of Regulations as published by the California Building Standards Commission. The California Building Code is the name that refers to Part 2 of California Building Standards Code in Title 24 of the California Code of Regulations; the California Building Code should not be confused with the California Building Standards Code.

PRIOR TO INSTALLATION

- Prior to installation, plans shall be submitted reviewed and approved.

PLAN SUBMITTAL REQUIREMENTS

ALL INFORMATION LISTED BELOW MUST BE PROVIDED AT THE TIME OF PERMIT APPLICATION FOR PLAN REVIEW TO OCCUR.

- Obtain a Zoning Clearance from Planning for all photovoltaic panel arrays
- Provide three (3) complete sets of plans and specifications for the photovoltaic modules, panels, arrays and framing supports.
- Provide 11" X 17" Minimum size plan drawings
- Provide a plot plan showing the location on the property of the PV array in relationship to the property lot lines with required setbacks dimensions and location of all disconnects (amps), inverter (make and size) and existing electrical meter(s) (service size).
- All drawings are required to be signed by the designer, Architect or Engineer of record.
- Specify all conduit size, location (inside and outside the building), conductor type and AWG.
- Provide details for all roof mounted solar panel support and attachment. Specify roof dead load (PSF) and wind uplift values.
- Structural analysis is required if the dead load of the arrays exceed five (5) pounds per square foot.
- Provide details identifying the method of flashing and sealing of the roof penetrations.
- Provide The City of Oceanside "**Expedited PV System Electrical Diagram**" showing the number of PV panels with voltage and kilowatt outage ratings, the size of the main service electrical panel bussing in amperes, and size of PV circuit breaker in amperes.

<http://www.solarabcs.org/about/publications/reports/expedited-permit/forms/index.html> **All Plans must be submitted in the Expedited PV Permitting format to be considered for Over-The-Counter Plan Check. Plans not submitted with the Expedited PV Permitting format will be**

taken in at the counter and reviewed in the order it was received. Maximum PV permitting plan check for Residential systems is 5 working days and for commercial is 12 working days.

- Identify all means of grounding and bonding for all equipment and support systems.
- Show and specify the building directory signage required by CEC Article 225.37, 705.10
- Provide the manufacturer's information brochures for the inverter, the PV modules and mounting system.

REQUIRED INSPECTIONS

- Footings for ground mount support systems
- Structural attachment of racking system
- Underground conduit
- All conduit/wiring that enters the building
- Final

GENERAL REQUIREMENTS

- The plans, permit and installation instructions shall be on site at the time of the inspection.
- Field installations shall be per code/plan. Changes shall be submitted to the City of Oceanside Building Division for approval prior to inspection.
- All structural attachments must be inspected prior to covering.
- Where DC wiring is installed inside the structure shall be installed in metal raceways. CEC 690.31(E) and 690.31(D) (1-4).
- Where DC wiring enters the structure a rough electrical inspection is required.
- Installer shall have a ladder and be on site at the time of inspection. The ladder shall extend 36" above the roof and the ladder must be secured at roof.
- All equipment shall be open and ready for inspection.
- If using the WEEB system for grounding, a letter of acceptance from the module manufacturer, signed by their engineer, is required.
- For micro-inverters on the roof an AC disconnect is required on the roof.

MAIN ELECTRIC SERVICE

- All service upgrades are required to provide an SDG&E Service Upgrade Work Order.
- Verify utility point of interconnection (circuit breaker) is per plan and does not exceed 120% of the bus rating CEC 705.12 **NOTE:** All connections to the supply side of the service disconnect will require 3rdparty certification.
- Circuit breakers shall be the same manufacturer as the main electrical service.
- Verify grounding electrode system from inverter to ground rod then bonded to existing AC grounding electrode or provide grounding electrode conductor directly from inverter to existing grounding electrode with separate attachment.
- If there is not an existing AC grounding electrode, the PV contractor shall install ground rod(s) at the main electrical service. CEC 250.52(A)(5)

CALIFORNIA FIRE CODE ROOFTOP SOLAR ACCESS REQUIREMENTS

Pursuant to regulations established by the Office of the State Fire Marshal, the 2013 version of Parts 2, 2.5 and 9 of Title 24 now include requirements for the installation of rooftop solar photovoltaic systems. These regulations cover the marking, location of DC conductors, and access and pathways for photovoltaic systems. They apply to residential and nonresidential buildings regulated by Title 24 of the California Building Standards Codes.

Layout of the PV system meets the California State Fire Marshal Guidelines for Fire Department Roof Access requirements:

- a. Panels shall not be installed closer than 3 ft. from ridges for Fire Dept. smoke ventilation operation.
- b. For roofs sloped greater than 2:12 and installed with panels –
 - i. Hip Roof – provide a 3 ft. access pathway from eave to ridge.
 - ii. Single Ridge Roof – provide TWO 3 ft. access pathways from eave to ridge.
 - iii. Hips & Valleys Roof – provide 18” clear on each side of hips

Installers shall refer directly to the relevant sections of Title 24 (most currently Part 2.5 Section R331, Part 9 Section 605.11 and Part 2: Section 3111,) for detailed requirements.

SIGNAGE

MAIN ELECTRICAL SERVICE

- Buildings or Structures with both utility service and a photovoltaic system shall have a permanent plaque or directory providing the location of the service disconnecting means and the photovoltaic system disconnecting means if not located at the same location. CEC 690.56(b)
- A permanent phenolic plaque shall be placed at the point of interconnection stating the **MAXIMUM AC OUTPUT OPERATING CURRENT** and the **OPERATING AC VOLTAGE**. CEC 690.54

AC DISCONNECT

- Provide permanent phenolic plaques at all ac disconnects; **“PHOTOVOLTAIC ARRAY AC DISCONNECT SWITCH”**. CEC 690.14© (2)
- Load centers used as photovoltaic combiner boxes shall be labeled...**“PHOTOVOLTAIC CIRCUITS ONLY. NO ADDITIONAL CIRCUITS ALLOWED”**.

DC DISCONNECT

- Provide a permanent phenolic plaque at all dc disconnects; **“PHOTOVOLTAIC ARRAY DC DISCONNECT SWITCH”** CEC 690.14© (2). **ADDITIONAL SIGNAGE** is required at dc disconnects providing **OPERATING CURRENT AND VOLTAGE, MAXIMUM SYSTEM VOLTAGE AND SHORT CIRCUIT CURRENT**. CEC 690.53

INVERTERS

- Where inverters are located other than at the main electrical service locations, a permanent phenolic plaque or directory denoting all electrical power sources shall be installed. CEC 690.14(d), 705.10. See <http://www.sandiego.gov/development-services/industry/elecnews.shtml> for additional local plaque specifications.

ALL PLACARDS SHALL BE RED PHENOLIC OR METAL WITH WHITE LETTERING

- At the AC and DC disconnect means: **WARNING ELECTRICAL SHOCK HAZARD DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDE MAY BE ENERGIZED IN THE ON POSITION**. CEC 690.17(4)
- Main electrical service panel. **THIS ELECTRICAL SYSTEM IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM**. CEC 705.10