

	CITY OF OCEANSIDE Building Division 300 N Coast Highway Oceanside, CA 92054 760-435-3950 www.ci.oceanside.ca.us	I.B. 118
		2022 California Codes
		1/1/2023-12/31/2025 <i>Effective Date</i>

Single Family Photovoltaic System Required

Informational Bulletin

All single-family residential buildings, including detached ADU’s, shall have a newly installed photovoltaic (PV) system or newly installed PV modules meeting the minimum qualification requirements specified in the 2022 California Energy code section 150, C.14 and Joint Appendix JA11.

The annual electrical output of the PV system shall be no less than the smaller of a PV system size determined using Equation 150.1-C, or the maximum PV system size that can be installed on the building’s Solar Access Roof Area (SARA).

A. SARA includes the area of the building’s roof space capable of structurally supporting a PV system, and the area of all roof space on covered parking areas, carports, and all other newly constructed structures on the site that are compatible with supporting a PV system per Title 24, Part 2, Section 1511.2.

B. SARA does NOT include:

i. Any roof area that has less than 70 percent annual solar access. Annual solar access is determined by dividing the total annual solar insolation, accounting for shading obstructions, by the total annual solar insolation if the same areas were unshaded by obstructions. For steep slope roofs only shading from existing permanent natural or manmade obstructions that are external to the dwelling, including but not limited to trees, hills, and adjacent structures, shall be considered for annual solar access calculations. For low slope roofs, all obstructions including those that are external to the dwelling unit, and obstructions that are part of the building design and elevation features shall be considered for the annual solar access calculations.

ii. Occupied roof areas as specified by CBC Section 503.1.4.

iii. Roof area that is otherwise not available due to compliance with other building code requirements if confirmed by the Chief Building Official.

EQUATION 150.1-C ANNUAL PHOTOVOLTAIC ELECTRICAL OUTPUT

$$kWPV = (CFA \times A)/1000 + (NDU \times B)$$

WHERE:

kWPV = kWdc size of the PV system

CFA = Conditioned floor area

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NDU = Number of dwelling units

A = CFA adjustment factor from Table 150.1-C

B = Dwelling unit adjustment factor from Table 150.1-C

Exception 1 to Section 150.1(c)14: For steep slope roofs, SARA shall not consider roof areas with a northerly azimuth that lies between 300 degrees and 90 degrees from true north. No PV system is required if the SARA is less than 80 contiguous square feet.

Exception 2 to Section 150.1(c)14: No PV system is required when the minimum PV system size specified by section 150.1(c)14 is less than 1.8 kWdc.

Exception 3 to Section 150.1(c)14: Buildings with enforcement-authority-approved roof designs, where the enforcement authority determines it is not possible for the PV system, including panels, modules and components and supports and attachments to the roof structure, to meet the requirements of the American Society of Civil Engineers (ASCE), Standard 7-16, Chapter 7, Snow Loads.

Exception 4 to Section 150.1(c)14: For buildings that are approved by the local planning department prior to January 1, 2020 with mandatory conditions for approval:

- a. Shading from roof designs and configurations for steep-sloped roofs, which are required by the mandatory conditions for approval, shall be considered for the annual solar access calculations; and
- b. Roof areas that are not allowed by the mandatory conditions for approval to have PVs, shall not be considered in determining the SARA.

EXCEPTION 5 to Section 150.1(c)14: PV system sizes determined using Equation 150.1-C may be reduced by 25 percent if installed in conjunction with a battery storage system. The battery storage system shall meet the qualification requirements specified in Joint Appendix JA12 and have a minimum usable capacity of 7.5 kWh.