County of Santa Cruz

Department of Community Development and Infrastructure

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Residential
Comprehensive Standard Solar Photovoltaic Application Requirement Reference Information

- 2022 California Electrical Code (CEC)
- 2022 California Building and Residential Code (CBC & CRC)
- 2022 California Fire Code (CFC)

Exceptions for CRC & CFC: *Detached Group U and S non-habitable structures such as detached garages, parking shade structures, detached carports, solar trellises, detached storage buildings and similar type structures are not subject to the rooftop setback requirements.*

PV Online Application Submittal Link

SCC ePlan Home - SCCePlanReview Application (santacruzcounty.us)

Required Application Submittal Information

- Photovoltaic applications by other than property owners installing their own systems, shall be applied for, and installed by the following California licensed contractors:

  As listed by the California State Licensing Board (CLSB), a General contractor, Electrical contractor or Solar Photovoltaic contractor may apply and install Photovoltaic systems.

- Where a property owner will apply and install their Photovoltaic systems, the property owner shall not hire unlicensed individuals to install the system and the property owner shall qualify per the 2022 CEC Article 100 Definitions "*Qualified Person"* and Article 690.4(C) "*Qualified Person"*.

  This requires certification in the NFPA 70E-2018, *Standard for Electrical Safety in the Workplace*. This training certification shall be included in the Photovoltaic application for the property owner.

- Application submittals shall include a site map/parcel plan to show the location of the rooftop solar system or the ground mount solar system and all back-fed structure(s) on the associated parcel map.

- Provide a plan view for both roof-top mounted or ground mounted arrays to show the location and where required, fire setbacks, 2nd story bedroom emergency egress windows, all equipment locations, the point of utility inter-connection and the rapid shut down equipment.

- Provide a plan view for the array rack mounting attachment points. The roof mounted racking system shall include attachment and flashing details, along with the required rooftop fire rating in combination with the proposed module fire class "type" per Cal Fire requirements.

- Ground mount PV systems provide foundation and racking system details and include trenching details.

Required Application Submittal Information Continued

- State the required PV system design wind category and wind uplift mph which shall be per wind up lift requirements based on design wind load exposure zone and system design on the plan set cover page. 2022 CRC R324.4.1.2 Wind Load

- Include the contractors valid California license number, address and contact phone information on all plan set sheets.

- Include the current California Code cycle, 2022 CRC, CEC & CFC on the plan set cover sheet.

- Include the scope of work for equipment proposed on the plan set cover page to match the information provided on the form PLG-200 scope of work.

- Provide an electrical single-line diagram, which shall include all equipment proposed along with conductor types, sizes, and where present raceway installation heights less than 7/8" above the rooftop. Include all disconnecting means, overcurrent devices, utility inter-connection points and rapid shutdown equipment.

- Ground mount systems with combined areas greater than 500 square feet, include the following note on the site plan: "The property owner is responsible to maintain vegetation and natural drainage patterns in the vicinity of the solar panels."

- Ground mounted photovoltaic arrays shall comply with the following: Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground-mounted photovoltaic arrays. 2022 CRC R324.7.2
(Setbacks may apply: consult Zoning relative to height of array above grade relative to property lines.)

- Provide manufacturer's specification sheets for all electrical equipment proposed. Equipment shall be identified and listed for the application.

- Specify module (array) weight (including array racking) per square foot for roof loading evaluation.

- Include a detail for the roof framing layout specifying existing framing size, spacing and slope.

- State calculations for VOC with a correction factor of 1.14 minimum, (22 - 14°F). When open-circuit voltage temperature coefficients are provided in the instructions for listed PV modules, the adjustment calculation shall be based on the module stated temperature correction factor for the maximum PV system voltage instead of using Table 690.7(A) using 22°F (-5.55°C) as lowest average mean temperature for this region. 2022 CEC 690.7

- State calculations for the dc source circuit(s) and output circuit(s) ampacity and sizing based on module dc Isc values and inverter ac values to carry not less than the larger of 690.8(B) (1) or (2). 2022 CEC 690

- Provide dc & ac required labeling as applicable to system design. 2022 CEC 690, 705 & 706

- Where PV source and output circuits operating at voltages greater than 30 volts are installed in readily accessible locations the circuit conductors shall be guarded or installed in Type MC cable or raceway. CEC 690.31(A)

Required Application Submittal Information Continued

- PV system circuits installed on or in buildings shall include a rapid shutdown function to reduce shock hazard for emergency responders in accordance with 690.12 (A) through (D).

  Exception: *Ground-mounted PV system circuits that enter buildings, of which the sole purpose is to house PV system equipment, shall not be required to comply with 690.12 (A) through (D).*

Required CEC Photovoltaic Labeling as Applicable to System Design

- **Directory 2022 CEC 705.10**
  Include the required plaque/directory in the plan set submittal.
  A permanent plaque or directory shall be installed at each service equipment location, or at an approved readily visible location. The plaque or directory shall denote the location of each power source disconnecting means for the building or structure and be grouped with other plaques or directories for other on-site sources. The plaque or directory shall be marked with the wording "CAUTION MULTIPLE SOURCES OF POWER". Any posted diagrams shall be correctly oriented with respect to the diagram's location. The marking shall comply with 110.21(B).

- **Point of Connection/Two Sources 2022 CEC 705.12(B)(3)(2)**
  A permanent warning label shall be applied to the distribution equipment adjacent to the back-fed breaker from the power source that displays the following or equivalent wording:
  (The label shall comply with 110.21(B)).

  WARNING:
  POWER SOURCE OUTPUT CONNECTION
  DO NOT RELOCATE THIS OVERCURRENT DEVICE

- **Point of Connection/Sum of Overcurrent Ampere Ratings 705.12(B)(3)(3)**
  The sum of the ampere rating of all overcurrent devices on panelboards, both load and supply devices, excluding the rating of the overcurrent device protecting the busbar, shall not exceed the ampacity of the busbar. The rating of the overcurrent device protecting the busbar shall not exceed the rating of the busbar. Permanent warning labels shall be applied to distribution equipment displaying the following or equivalent wording: (The marking shall comply with 110.21(B)).

  WARNING:
  THIS EQUIPMENT FED BY MULTIPLE SOURCES.
  TOTAL RATING OF ALL OVERCURRENT DEVICES
  EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE
  SHALL NOT EXCEED AMPACITY OF BUSBAR

- **PV System Disconnecting Means 2022 CEC 690.13**
  Means shall be provided to disconnect the PV system from all wiring systems including power systems, energy storage systems, and utilization equipment and its associated premises wiring.

  (1) Location
  The PV system disconnecting means shall be installed at a readily accessible location. Where disconnecting means of systems above 30 V are readily accessible to unqualified persons, any enclosure door or hinged cover that exposes live parts when open shall be locked or require a tool to open.

Required CEC Photovoltaic Labeling as Applicable to System Design Continued

(2) Marking

Each PV system disconnecting means shall plainly indicate whether in the open (off) or closed (on) position and be permanently marked **"PV SYSTEM DISCONNECT"** or equivalent.

Additional markings shall be permitted based upon the specific system configuration. PV system disconnecting means where the line and load terminals may be energized in the open position, the device shall be marked with the following words or equivalent:

WARNING
ELECTRIC SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD
SIDES MAY BE
ENERGIZED IN THE OPEN POSITION

- **DC Circuits on or in Buildings Marking and Labeling Required 2022 CEC 690.31(D)(2)**
  Unless located and arranged so the purpose is evident, the following wiring methods and enclosures that contain PV system dc circuit conductors shall be marked with the wording **"WARNING: PHOTOVOLTAIC POWER SOURCE"** by means of permanently affixed labels or other approved permanent markings:

  (1) Exposed raceways, cable trays, and other wiring methods
  (2) Covers or enclosures of pull boxes and junction boxes
  (3) Conduit bodies in which any of the available conduit openings are unused

- **DC PV Circuits 2022 CEC 690.53**
  A permanent readily visible label indicating the highest maximum dc voltage in a PV system, calculated in accordance with 690.7 shall be provided by the installer at one of the following locations:

  (1) DC PV disconnecting means
  (2) PV system electronic power conversion equipment
  (3) Distribution equipment associated with the PV system

- **Buildings with Rapid Shutdown 2022 CEC 690.56(C)**
  Buildings with PV systems shall have permanent label located at each service equipment location to which the PV systems are connected or at an approved readily visible location and shall indicate the location of rapid shutdown initiation devices. The label shall include a simple diagram of a building with a roof and shall include the following words:

SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION
TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK
HAZARD IN ARRAY

Required CEC Photovoltaic Labeling as Applicable to System Design Continued

- **Buildings with More Than One Rapid Shutdown Type 2022 CEC 690.56(C)**

(1) **Buildings with More Than One Rapid Shutdown Type**
Buildings with more than one rapid shutdown type or PV systems with no rapid shutdown, a detailed plan view diagram of the roof shall be provided showing each different PV system with a dotted line around areas that remain energized after the rapid shutdown initiated.

(2) **Rapid Shutdown Switch**
A rapid shutdown switch shall have a label that includes the following wording located on or no more than 1 m (3 ft) from the switch:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

The label shall be reflective, with all letters capitalized and having a minimum height of 9.5 mm (3/8 in) in white on red background.

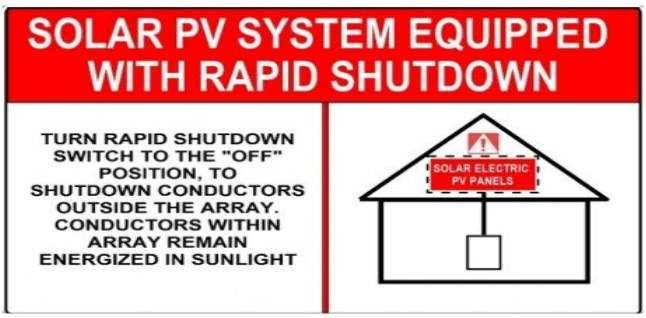


Figure 690.56(C) Label for Roof-Mounted Solar PV System Equipped with Rapid Shutdown

Partial 2022 CEC Articles 690 & 705 & CRC R324 for Installation

- **Installation & Use 2022 CEC 110.3(B)**
Equipment that is listed, labeled or both shall be installed and used in accordance with any instructions included in the listing or labeling.

Example: Service entrance supply side connection modifications shall be made using an approved and listed method and shall not void the manufacturer listing of equipment.

In lieu of a panel listing when modifying the supply side of existing service equipment, a field re-certification report for the existing service panel modifications shall be provided from a recognized NRTL such as UL, at the time of inspection.

- **Supplemental Electrode Required 2022 CEC 250.53(A)(2)**
A single rod, pipe, and plate electrodes shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). The supplemental electrode shall be permitted to be bonded to one of the following:

(1) Rod, pipe or plate electrode
(2) Grounding electrode conductor
(3) Grounded service entrance conductor
(4) Non-flexible grounded service raceway
(5) Any grounded service enclosure

Exception: *If a single rod, pipe or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.*

- **Locations of DC Conductors 2022 CRC R324.7.3**
  Conduit, wiring systems, and raceways for photovoltaic circuits shall be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities. Conduit runs between sub arrays and to DC combiner boxes shall be installed in a manner that minimizes the total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes shall be located such that conduit runs are minimized in the pathways between arrays. DC wiring shall be installed in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.

- **Raceways & Cables Exposed to Sunlight on Rooftops 2022 CEC 310.15(B)(2)**
  Raceways or cables exposed to direct sunlight on or above rooftops where the distance above the roof to the bottom of the raceway or cable is less than 23 mm (7/8 in.), a temperature adder of 33°C (60°F) shall be added to the outdoor temperature for application of the correction factors in Table 310.15(B)(1) or Table 310.15(B)(2). The Santa Cruz County dry bulb/high mean average temperature is 77°F.

- **Inverter Output Circuit Current 2022 CEC 690.8(A)(1)(2)(e)**
  State calculations for the ac conductor(s) ampacities and sizing based on central inverter or micro-inverter continuous output current rating times the continuous load factor 1.25%.

- **Arc-Fault Circuit Protection (Direct Current) 2022 CEC 690.11**
  Photovoltaic systems with PV system dc circuits operating at 80 volts dc or greater between any two conductors shall be protected by a listed PV arc-fault circuit interrupter or other system components listed to provide equivalent protection.

  Exception: *PV systems not installed on or in buildings, PV output circuits and dc-to-dc converter output circuits that are installed in metallic raceways, or metal-clad cables, or installed in enclosed metallic cable trays, or are underground shall be permitted without arc-fault circuit protection. Detached structures whose sole purpose is to house PV system equipment shall not be considered buildings according to this exception.*

- **Rapid Shutdown of PV systems on Buildings 2022 CEC 690.12**
  PV system circuits installed on or in buildings shall include a rapid shutdown function to reduce shock hazard for firefighters in accordance with 690.12(A) through (D).

  (B)(1) Outside the Array Boundary
  Controlled conductors located outside the boundary (more than 1 ft. from array) or more than 3 ft. from the point of entry inside a building shall be limited to not more than 30 volts within 30 seconds of rabid shutdown initiation. Voltage shell be measured between any two conductors and between any conductor and ground.

  (B)(2) Inside the Array Boundary
  PV system shall comply with one of the following:

  (1) A PV hazard control system listed for the purpose shall be installed in accordance with the instructions included with listing or field labeling. Where a hazard control system requires initiation to transition to a controlled state, the rapid shutdown initiation device required in 680.12(C) shall perform this initiation.

(2) Controlled conductors located inside the boundary shall be limited to not more than 80 volts within 30 seconds of rabid shutdown initiation. Voltage shall be measured between any two conductors and between any conductor and ground.

(3) PV arrays shall have no exposed wiring methods or conductive parts and be installed more than 2.5 mm (8 ft) from exposed grounded conductive parts or ground.

- **Methods Permitted 2022 CEC 690.31(A) Wiring Methods**
  Where PV source and output circuits operating at voltages greater than 30 volts are installed in readily accessible locations, circuit conductors shall be guarded or installed in Type MC cable or in raceway.

- **Ground–Fault Protection 2022 CEC 690.41(B)**
  PV system dc circuits that exceed 30 volts or 8 amperes shall be provided with dc ground-fault protection meeting the requirements of 690.41(B)(1) and (B)(2) to reduce fire hazard.

  Solidly grounded PV source circuits with not more than two PV source circuits with not more than two modules in parallel and not on or in buildings shall be permitted without ground-fault protection.

- **Size of Equipment Grounding Conductors 2022 CEC 690.45**
  Equipment grounding conductors for PV system circuits shall be sized per CEC 250.122. Where no overcurrent protective device is used in the circuit, an assumed overcurrent device rated in accordance with 690.9(B) shall be used when applying Table 250.122.

- **Grounding Electrode System 2022 CEC 690.47(A)**
  Buildings or structures supporting a PV Array shall utilize a grounding electrode system installed in accordance with Part III of Article 250.

  PV array equipment grounding conductors shall be connected to a grounding electrode system in accordance with Part VII of Article 250. This connection shall be in addition to any other equipment grounding conductor requirements in 690.43(C). The PV array equipment grounding conductors shall be sized in accordance with 690.45. Specific PV system grounding configurations permitted in 690.41(A), one of the following conditions apply:

  (1) PV systems that are not solidly grounded**,** the equipment grounding conductor for the output of the PV system, where connected to associated distribution equipment connected to a grounding electrode system, shall be permitted to be the only connection to ground for the system.

  (2) Solidly grounded PV systems, as permitted in 690.41 (A)(5), the grounded conductor shall be connected to a grounding electrode system be means of a grounding electrode conductor sized in accordance with 250.166.

  Informational Note: Most PV systems are functionally grounded systems rather than solidly grounded systems as defined in this Code. Functional grounded PV systems with an interactive inverter output, the ac equipment grounding conductor is connected to associated grounded ac distribution equipment. This connection is most often the connection to ground for ground-fault protection and equipment grounding of the PV array.

- **Photovoltaic Systems Connected to Energy Storage Systems 2022 CEC 690.55**
  The PV system output circuit conductors shall be marked to indicate the polarity where connected to energy storage systems.

Partial 2022 CEC Articles 690 & 705 & CRC R324 for Installation Continued

- **Energy Storage Systems 2022 CEC 690.71**
  An energy storage system connected to a PV system shall be installed in accordance with Article 706.

- **Point of Connection Dedicated Overcurrent & Disconnect 2022 CEC 705.12(A)**
  Each source interconnection of one or more power sources installed in one system shall be made at a dedicated circuit breaker or fusible disconnecting means.

- **Bus or Conductor Ampere Rating 2022 CEC 705.12(B)**
  The power source output circuit current multiplied by 125% shall be used in ampacity calculations 705.12(B)(1) through (B)(3).

  Feeders calculate back-fed per 705.12(B)(1)
  Taps calculate back-fed per 705.12(B)(2)
  Busbars One of the methods that follows shall be used to determine the ratings of busbars in panelboards per 705.12(B)(3):

  (1) The sum of 125 percent of the power source(s) output circuit and the rating of the overcurrent device protecting the busbar shall not exceed the ampacity of the busbar.

  (2) Where two sources, one a primary source and the other another power source, are located at opposite ends of a busbar that contains loads, the sum of 125 percent of the power-source(s) output circuit current and the rating of the overcurrent device protecting the busbar shall not exceed 120% of the ampacity of the busbar. The busbar shall be sized for the loads connected in accordance with Article 220. A permanent warning label shall be applied to the distribution equipment adjacent to the back-fed breaker from the power source that displays the following or equivalent wording:

  WARNING:
  POWER SOURCE OUTPUT CONNECTION
  DO NOT RELOCATE THIS OVERCURRENT DEVICE.

  (3) The sum of the ampere ratings of all overcurrent devices on panelboards, both load and supply devices, excluding the rating of the overcurrent device protecting the busbar, shall not exceed the ampacity of the busbar. The rating of the overcurrent device protecting the busbar shall not exceed the rating of the busbar. Permanent warning labels shall be applied to distribution equipment displaying the following or equivalent wording:

  WARNING:
  THIS EQUIPMENT FED BY MULTIPLE SOURCES.
  TOTAAL RATING OF ALL OVERCURRENT DEVICES
  EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE
  SHALL NOT EXCEED AMPACITY OF BUSBAR.

  (4) A connection at either end, but not both ends, of a center-fed panelboard in dwellings shall be permitted where the sum of 125 percent of the power source(s) output circuit current and the rating of the overcurrent device protecting the busbar does not exceed 120 percent of the current rating of the busbar.

  (5) Connections shall be permitted on switchgear, switchboards, and panelboards in configurations other than those permitted in 705.12(B)(3)(1) through (B)(3)(4) where designed under engineering supervision that includes available fault current and busbar load calculations.

Partial 2022 CEC Articles 690 & 705 & CRC R324 for Installation Continued

(6) Connections shall be permitted on busbars of panelboards that supply lugs connected to feed-through conductors. The feed-through conductors shall be sized in accordance with 705.12(B)(1). Where an overcurrent device is installed at the supply end of the feed-through conductors, the busbar in the supplying panelboard shall be permitted to be sized in accordance with 705.12(B)(3)(1) through 705.12(B)(3)(3).

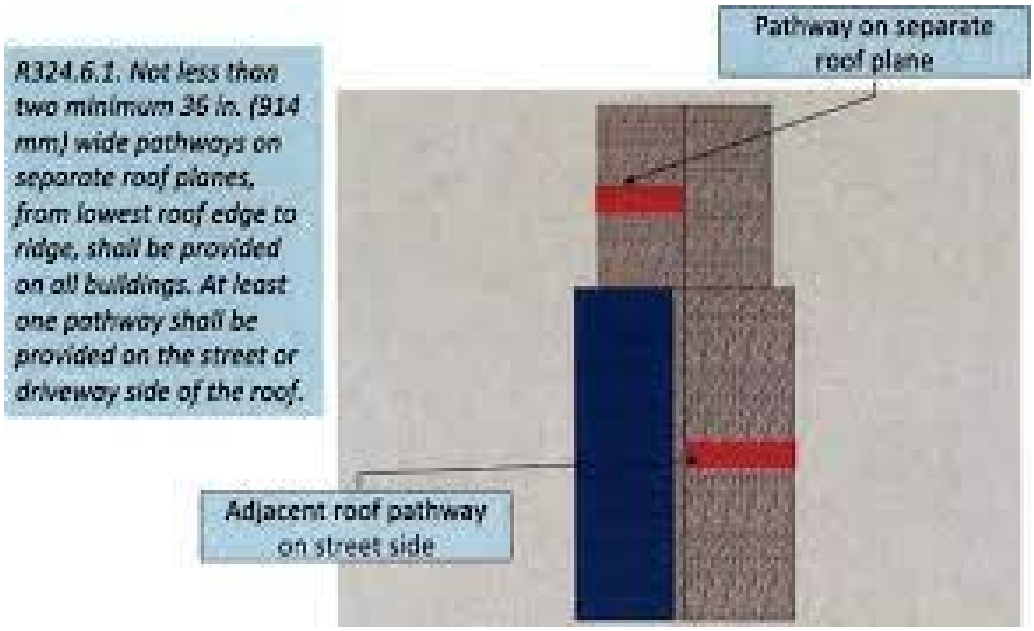
Rooftop Setback Requirements Per 2022 CRC R324.6

- **R324.6 Roof Access and Pathways.**
  Roof access, pathways, and setback requirements shall be provided in accordance with Sections R324.6. 1 through R324.6.2.1. Access and minimum spacing shall be required to provide emergency access to the roof, to provide pathways to specific areas of the roof, to provide for smoke ventilation opportunity areas, and to provide emergency egress from the roof.

  Exceptions:
  (1) Detached, non-habitable structures, including but not limited to detached garages, parking shade structures, carports, solar trellises, and similar structures, shall not be required to provide roof access.
  (2) Roof access, pathways, and setbacks need not be provided where fire code official has determined that rooftop operations will not be employed.
  (3) These requirements shall not apply to roofs with slopes of2 units vertical in 12 units horizontal (2:12) or less.
  (4) BIPV systems listed in accordance with Section 690.12(B)(2) of the California Electrical Code, where the removal or cutting away of portions of the BIPV system during fire-fighting operations has been determined to not expose a fire fighter to electrical shock hazards.

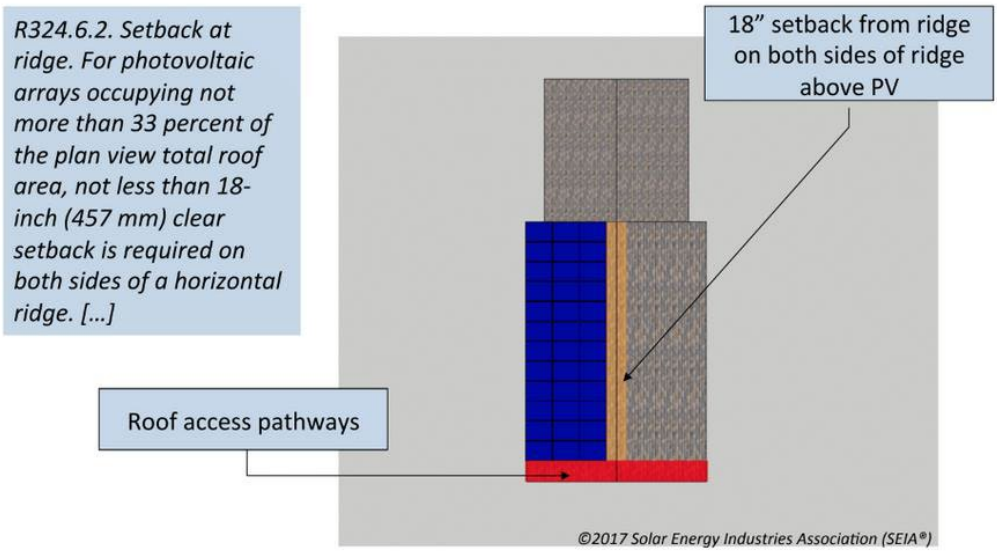
- **R324.6.1 Pathways**
  Not less than two minimum 36-inch-wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. At least one pathway shall be provided on the street or driveway side of the roof. Each roof plane with a photovoltaic array, a minimum 36-inch- wide (914 mm) pathway from the lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.

Rooftop Setback Requirements Per 2022 CRC R324.6 Continued



- **R324.6.2 Setback at Ridge**
  Photovoltaic arrays occupying not more than 33 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear set back is required on both sides of a horizontal ridge. Photovoltaic arrays occupying more than 33 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear set back is required on both sides of a horizontal ridge.

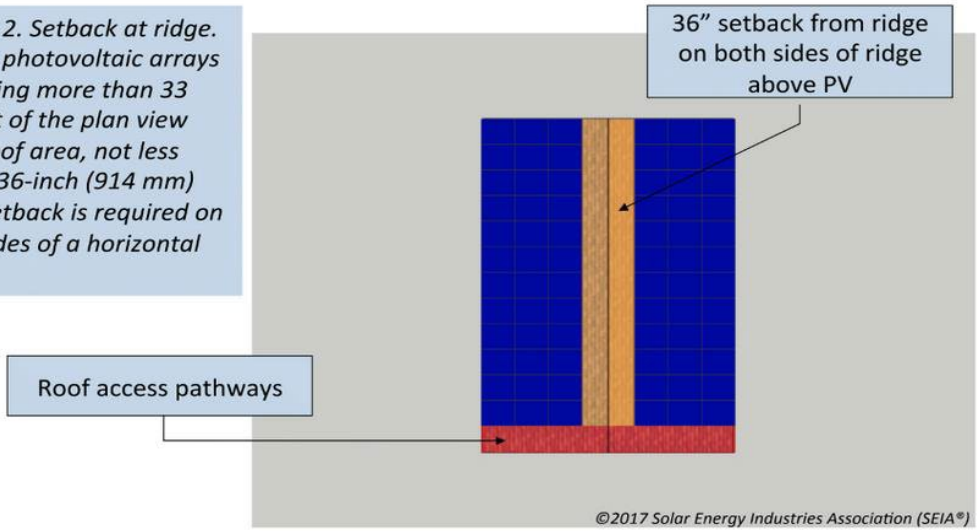
Ridge Setbacks – Not Sprinkled, <33% Total Roof Area ~~2019 CA Intervening Code Cycle (Supplement)~~



Rooftop Setback Requirements Per 2022 CRC R324.6 Continued

Ridge Setbacks – Not Sprinkled, >33% Total Roof Area ~~2016 CA Intervening Code Cycle (Supplement)~~

R324.6.2. Setback at ridge. […] For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

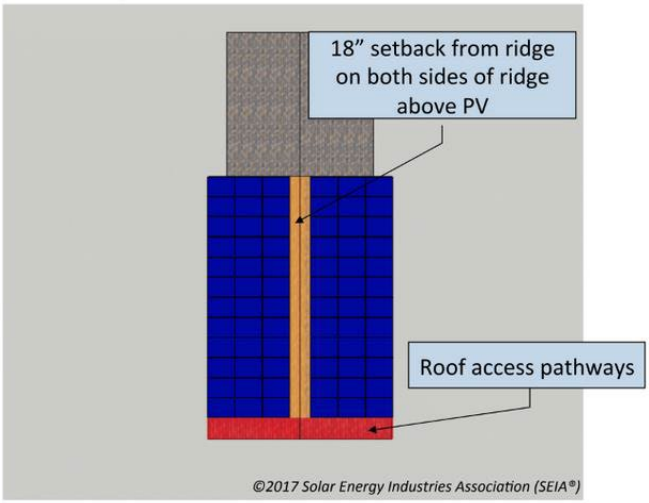


- **R324.6.2.1 Alternative Setback at Ridge**
  Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D setbacks at ridges shall conform with one of the following:

  (1) Photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge.

Ridge Setbacks – Sprinkled, <66% Total Roof Area ~~2016 CA Intervening Code Cycle (Supplement)~~

R324.6.2.1. Alternative setback at ridge. Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section P2904, setbacks at ridges shall conform with one of the following:
1. For photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge.

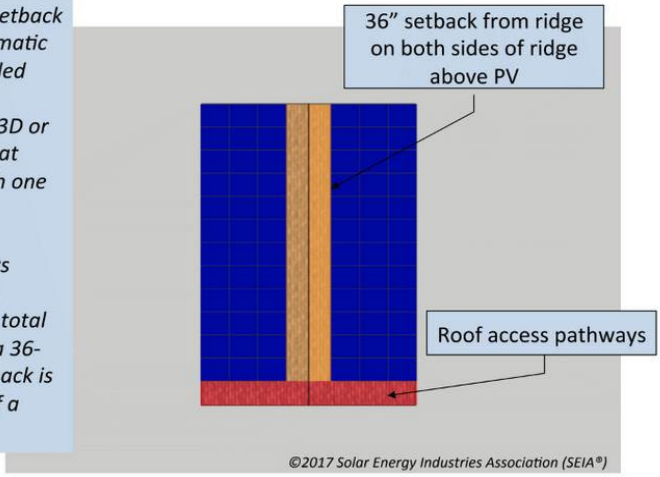


Rooftop Setback Requirements Per 2022 CRC R324.6 Continued

(2) Photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

Ridge Setbacks – Sprinkled, >66% Total Roof Area ~~2016 CA Intervening Code Cycle (Supplement)~~

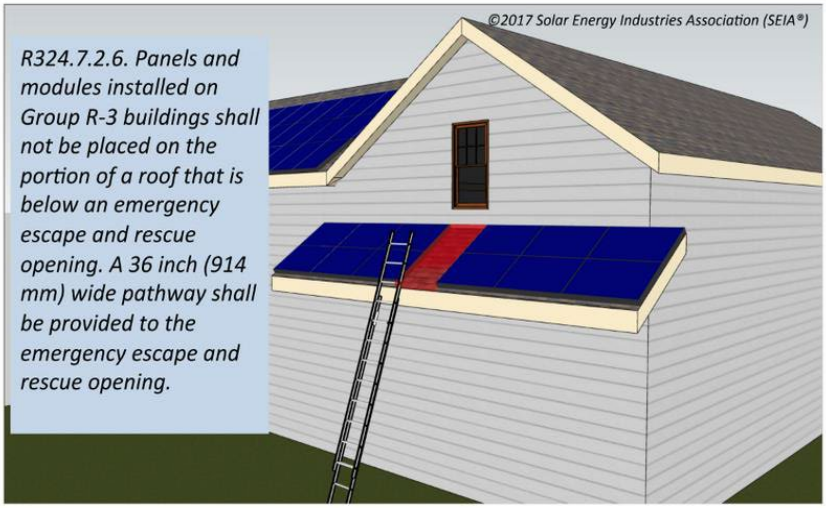
R324.6.2.1. Alternative setback at ridge. Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section P2904, setbacks at ridges shall conform with one of the following:
[…]
2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.



- **R324.6.4 Emergency Escape and Rescue Opening**
  Panels and modules installed on dwellings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A 36-inch-wide (914 mm) pathway shall be provided to the emergency escape and rescue opening.

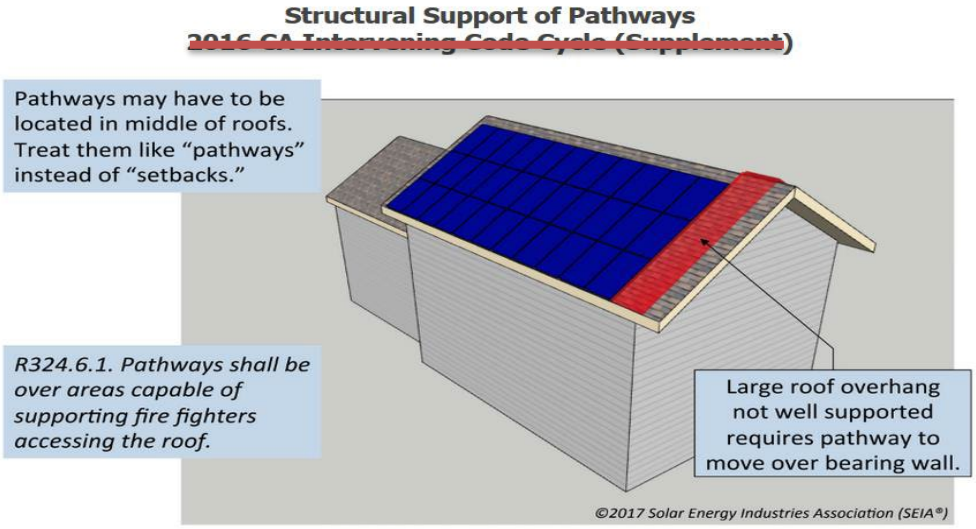
Emergency Escape & Rescue Opening ~~2016 CA Intervening Code Cycle (Supplement)~~

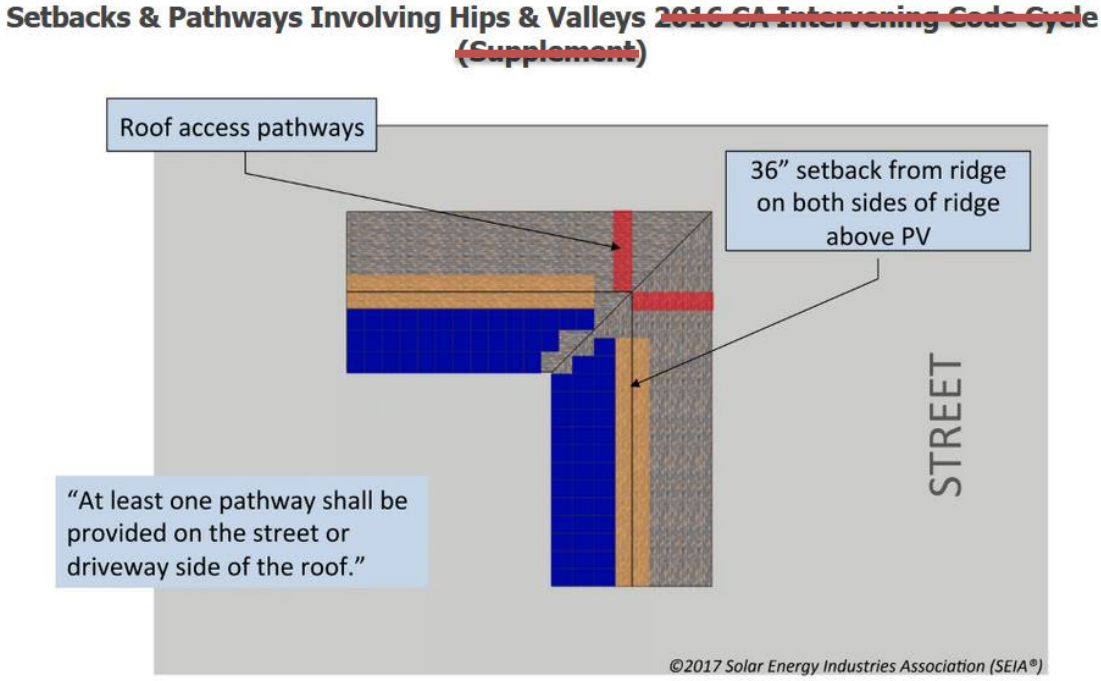
R324.7.2.6. Panels and modules installed on Group R-3 buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A 36 inch (914 mm) wide pathway shall be provided to the emergency escape and rescue opening.



Rooftop Setback Requirements Per 2022 CRC R324.6 Continued

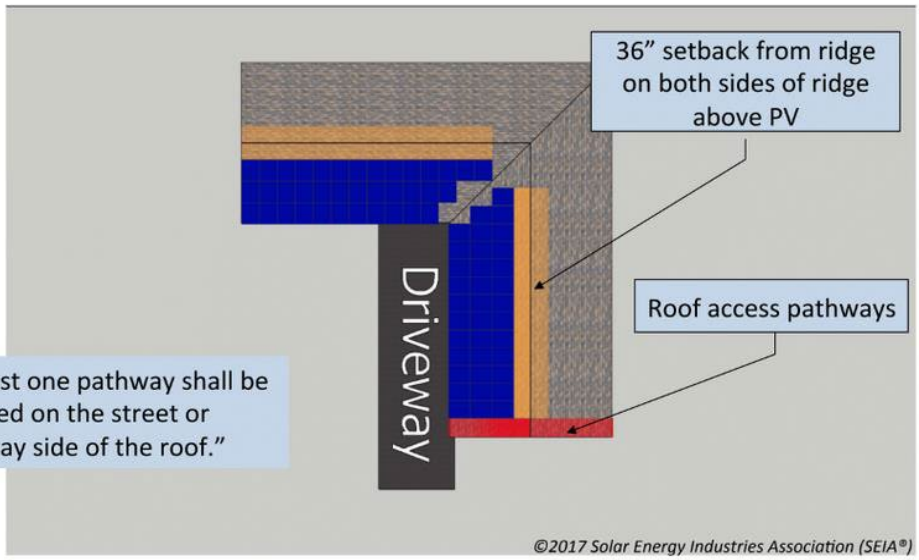
- **R324.7.3 Locations of DC Conductors**
  Conduit, wiring systems, and raceways for photovoltaic circuits shall be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities. Conduit runs between sub arrays and to DC combiner boxes shall be installed in a manner that minimizes the total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes shall be located such that conduit runs are minimized in the pathways between arrays. DC wiring shall be installed in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.





Rooftop Setback Requirements Per 2022 CRC R324.6 Continued

Setbacks & Pathways Involving Driveways ~~2016 CA Intervening Code Cycle (Supplement)~~



Setbacks & Pathways with Hips, Valleys & Driveways ~~2016 CA Intervening Code Cycle (Supplement)~~

R324.6.1 Pathways. […]
For each roof plane with a photovoltaic array, at least one 36 in. (914 mm) wide pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, or on an adjacent roof plane, or straddling the same and adjacent roof planes.