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**Alternate Power Sources**  
**Salinas Fire Department**  
**Salinas Municipal Code, Chapter 13, Article II**  
**2010 California Fire Code (CFC) Amendments**

**CFC Section 605.12 - Alternate Power Sources.** All permanent installations of electrical generators, wind generators, solar cell, or other power sources shall be approved by the building code official. All applicable provisions of the National Electrical Code, the Uniform Fuel Gas Code, the California Building Code, and this Code shall be followed for any such installation. Permanent engraved and affixed signage, red in color, reading **“WARNING – This premise is provided with an Alternate Power Source. Disconnection of commercial power may not disable the electrical power source”**. Lettering shall be contrasting to the background and shall be a minimum of ½” tall and shall be permanently affixed on each electrical panel subject to back-feed from alternate power sources. Any and all power disabling switches shall be clearly labeled.

**Exception:** Detached Group U non-habitable structures such as parking shade structures, carports, solar trellises, and similar type structures are not subject to the requirements of this section.

**CFC Section 605.12.1 Marking.** Marking is required on all interior and exterior dc conduit, enclosures, raceways, cable assemblies, junction boxes, combiner boxes, and disconnects.

**CFC Section 605.12.1.1 Materials.** The materials used for marking shall be reflective, weather resistant and suitable for the environment. Marking as required in sections 605.12.1.1 through 605.12.1.4 shall have all letters capitalized with a minimum height of 3/8 inch (9.5 mm) white on red background.

**CFC Section 605.12.1.2 Marking content.** The marking shall contain the words **“WARNING: PHOTOVOLTAIC POWER SOURCE”**.

**CFC Section 605.12.1.3 Marking.** Marking shall be placed on all interior and exterior dc conduit, raceways, enclosures and cable assemblies every 10 feet (3048 mm) within 1 foot (305 mm) of all turns or bends and within 1 foot (305 mm) above and below all penetrations of roof/ceiling assemblies and all walls and/or barriers.

**CFC Section 605.12.1.4 Main service disconnect.** The marking shall be placed adjacent to the main service disconnect in a location clearly visible from the location where the disconnect is operated.

**CFC Section 605.12.2 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 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 run in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.

**CFC Section 605.12.3 Access and pathways.** Roof access, pathways and spacing requirements shall be provided in order to ensure access to the roof; provide pathways to specific areas of the roof; provide for smoke ventilation operations; and to provide emergency egress from the roof.

**Exceptions:**

1. Requirements relating to ridge, hip, and valleys do not apply to roofs slopes of two units vertical in twelve units horizontal (2:12) or less.
2. Residential structures shall be designed so that each array is no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in either axis.
3. The fire chief may allow panels/modules to be located up to the ridge when an alternative ventilation method acceptable to the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.

**CFC Section 605.12.3.1 Roof access points.** Roof access points shall be defined as an area that does not place ground ladders over openings such as windows or doors, and are located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.

**CFC Section 605.12.3.2 Residential systems for one- and two-family residential dwellings.** Access shall be provided in accordance with Sections 605.12.3.2.1 through 605.12.3.2.4.

**CFC Section 605.12.3.2.1 Residential buildings with hip roof layouts.** Panels /modules shall be located in a manner that provides a 3 foot (914 mm) wide clear access pathway from the eave to the ridge on each roof slope where panels/modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

**CFC Section 605.12.3.2.2 Residential buildings with a single ridge.** Panels/modules shall be located in a manner that provides two 3 foot (914 mm) wide access pathways from the eave to the ridge on each roof slope where panels/modules are located.

**CFC Section 605.12.3.2.3 Hips and Valleys:** Panels/modules shall be located no closer than 18 inches (457 mm) to a hip or a valley if panels/modules are to be placed on both sides of a hip or valley. If the panels are to be located on only one side of a hip or valley that is of equal length then the panels shall be permitted to be placed directly adjacent to the hip or valley.

**CFC Section 605.12.3.2.4 Smoke Ventilation.** Panels/modules shall be located no higher than 3 feet (914 mm) below the ridge in order to allow for fire department smoke ventilation operations.

**CFC Section 605.12.3.3 All other occupancies.** Access shall be provided in accordance with Sections 605.12.3.3.1 through 605.12.3.3.3.

**Exception:** Where it is determined by the fire code official that the roof configuration is similar to a one- or two-family dwelling, the fire code official may approve the residential access and ventilation requirements provided in 605.12.3.2.1 through 605.12.3.2.4.

**CFC Section 605.12.3.3.1 Access.** There shall be a minimum 6 foot (1829 mm) wide clear perimeter around the edges of the roof.

**Exception:** If either axis of the building is 250 feet (76 200 mm) or less, there shall be a minimum 4 foot (1290 mm) wide clear perimeter around the edges of the roof.

**CFC Section 605.12.3.3.2 Pathways.** The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:

1. The pathway shall be over areas capable of supporting the live load of fire fighters accessing the roof.
2. The center line axis pathways shall be provided in both axis of the roof. Center line axis pathways shall run where the roof structure is capable of supporting the live load of firefighters accessing the roof.
3. Shall be straight line not less than 4 feet (1290 mm) clear to skylights and/or ventilation hatches.
4. Shall be straight line not less than 4 feet (1290 mm) clear to roof standpipes.

5. Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.

**CFC Section 605.12.3.3.3 Smoke Ventilation.** The solar installation shall be designed to meet the following requirements:

1. Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for smoke ventilation operations.
2. Smoke ventilation options between array sections shall be one of the following:
  - 2.1. A pathway 8 feet (2438 mm) or greater in width,
  - 2.2. A 4 feet (1290 mm) or greater in width pathway and bordering roof skylights or smoke and heat vents,
  - 2.3. A 4 feet (1290 mm) or greater in width pathway and bordering 4 foot (1290 mm) x 8 foot (2438 mm) “venting cutouts” every 20 feet (6096 mm) on alternating sides of the pathway.