



California State Fire Marshal Information Bulletin 12-004

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FIRE APPARATUS ACCESS ROADS PHOTOVOLTAIC POWER GENERATION FACILITIES

The purpose of this Information Bulletin is to provide clarification regarding Fire Apparatus Access Roads standards as it relates to photovoltaic panel system/array power generation facilities and further clarify the application of California Code of Regulations (CCR), Title 24, Part 9 – 2010 California Fire Code (CFC) Chapter 5, Section 503 Fire Apparatus Access Roads.

Sound rational judgment should be made if California Fire Code (CFC), Section 503 is to be applied to a solar generation facility. Not all conditions or facilities of similar type or function necessitate fire apparatus access roads and not all structures are subject to CFC Section 503.

Section 503 is specifically scoped to “buildings and facilities”. These power generation sites that utilize a ground mounted photovoltaic system/array would not be consider a building. However, they would be considered a facility as defined in Section 202 and are therefore subject to Section 503. It is important to note that Section 503 does provide exceptions for length, dimensions, and other specifications based on condition on terrain, climate conditions or other similar conditions. The CFC is not clear in its application or scope when applying Section 503 to equipment, specifically ground mounted photovoltaic systems/arrays. Consideration must be given to the purpose of fire apparatus access roads within these facilities and how the section would be applied.

Several issues arise when applying Section 503 to ground mounted photovoltaic systems/arrays. When considering the issues listed below, one should also consider other available code requirements that provide for appropriate hazard mitigation and risk reduction. Issues for consideration include:

1. Risk/hazard to be mitigated
2. Risk/hazard to firefighters or other emergency responders
3. Interest of public safety and welfare
4. Economics
5. Intended access use
6. Fuel load of the facility and adjacent areas that impact the facility
7. Array configuration (tightly spaced, access aisles, height)
8. Actual hazard to public safety and welfare

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A ground mounted photovoltaic panel system/array is also considered a structure as defined in CFC Section 202. Where ground mounted photovoltaic panel systems/arrays are mounted on a support structure and the support structure does not create or allow for a use below (e.g. parking, lunch/shade structures, etc.), the structure should be considered equipment. When other buildings or structures are located on the site, an evaluation and/or classification of the use may require fire apparatus access.

Currently CAL FIRE-Office of the State Fire Marshal (OSFM) is reviewing the 2012 International Fire Code (IFC) for adoption into the 2013 California Fire Code. Additional provisions for ground mounted solar have been incorporated into the IFC (section 605.11); however, such new provisions do not provide clear guidance regarding fire apparatus access roads. What has been included is vegetation clearances of 10 feet and clarification of setbacks. The OSFM, the Governor's Office of Research and Planning, other state agencies and affected stakeholders are currently working on many issues related to the implementation of solar installations. Additional guidelines, reference material and/or proposed regulations are currently being developed that may provide further clarification for these types of facilities.

For additional guidance and application concerning photovoltaic panel system/array power generation facilities located in the State Responsibility Areas (SRA) see the OSFM Information Bulletin IB0810 (issued September 7Z, 2010) regarding Fire Apparatus Roads and the SRA Fire Safe Regulations contained in CCR, Title 14, Sections 1270.00 – 1273.11

<http://osfm.fire.ca.gov/informationbulletin/pdf/2010/IBfireaccessroads09-07-2010.pdf>

For additional information regarding Solar Photovoltaic (PV) Systems please visit the State Fire Marshal's webpage at <http://osfm.fire.ca.gov/training/photovoltaics.php>

If you have questions regarding this Information Bulletin, please contact:

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