FINDING EMERGENCY

FOR

PROPOSED BUILDING STANDARDS

OF THE

OFFICE OF THE STATE FIRE MARSHAL

REGARDING UL 1703 FIRE CLASSIFICATION PROVISIONS

IN THE 2013 CALIFORNIA RESIDENTIAL CODE,

CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2.5

EMERGENCY RULEMAKING

Government Code section 11346.1 mandates that any finding of emergency shall include a written statement which contains the information required by paragraphs (2) to (6), inclusive, of subsection (a) of Section 11346.5 and a description of the specific facts showing the need for immediate action.

FINDING OF EMERGENCY

The following information is evidence that the amendments to Title 24, Part 2, California Building Code (CBC) and Part 2.5 California Residential Code (CRC) relating to a delayed effective date of January 1, 2015 for the application of fire classification provisions for solar photovoltaic systems on roofs as contained in UL 1703 standard, as proposed by the Office of the State Fire Marshal (OSFM) are necessary for the immediate preservation of the public peace, health and safety or general welfare of the public.

On January 1, 2014 the 2013 California Building Standards Code, California Code of Regulations (CCR), Title 24, became effective. As part of the 2013 California Building Standards Code, Part 2 and Part 2.5 provisions for the fire classification of roof mounted photovoltaic panels/modules [systems] were updated to comply with the most recent edition of Underwriters Laboratories Inc. (UL) 1703 *Standard for Flat-Plate Photovoltaic Modules and Panels* published in October 2013.

The Office of the State Fire Marshal (OSFM) was recently informed by industry that presently there is an insufficient supply of UL 1703 compliant Class A, Class B or Class C fire rated tested and listed photovoltaic panels/modules [systems] to meet present demand. This circumstance may prohibit the permitting of projects to install solar photovoltaic systems on roofs, which in turn curtails efforts to meet current sustainability goals. The issuance of the most recent edition of UL 1703 and its adoption into the 2013 California Building Code (CBC), specifically Section 1505.9 and California Residential Code (CRC) Section R902.4 necessitates the need for additional time from the OSFM on this matter. These sections read in part:

> *"Rooftop mounted photovoltaic panels and modules [systems] shall be tested, listed and identified with a fire classification in accordance with UL 1703…"*

In view of the effective date of the 2013 California Buildings Standards Codes (CBC and CRC) identified above, and to provide suitable time for the testing and listing of photovoltaic panels/modules [systems] to meet the current UL 1703 standard, the Office of the State Fire Marshal is proposing this emergency rulemaking to delay the application UL 1703 fire classification of photovoltaic panels/modules [systems]. This proposal is based on the photovoltaic testing that was done during the past five years by UL and Solar America Board for Codes and Standards (Solar ABCs) and is discussed in the "Background and Justification" below.

Background and Justification:

The 2013 California Building and Residential Code as noted above are primarily based on national model codes promulgated and published by the International Code Council and in turn adopted by reference into Title 24 Parts 2 and 2.5. The promulgation of these model codes provided the basis for the provisions relating to PV in the California Codes. The 2012 International Building Code (IBC) Section 1509.7.2 includes requirements for fire classification of rooftop mounted photovoltaic (PV) *systems* and the 2012 International Residential Code (IRC) Section M2302.2.1 includes requirements for noncombustible or fire-retardant materials. A key objective of the adopted code requirement

is that the installation of PV does not diminish the minimum fire safety requirements for the roof. Roof systems have long received fire classification ratings. These ratings are based on the ability to prevent a fire from penetrating through the roof and the ability to minimize the spread of a fire along the roof surface.

The requirements of the IBC Section 1509.7.2 will need careful examination in its application. The language of this section states that the fire classification of PV *systems* must match the minimum required fire classification of the roof assembly over which they are mounted as required in IBC Section 1505. With any rooftop structure, the PV structure should not degrade the fire resistance properties of the roof, so as not to place the building and its inhabitants at an unanticipated risk. However, straightforward implementation of this requirement is not possible for the following reason(s).

PV *modules* are a component of a rooftop mounted PV system and, although PV *modules* can receive a fire classification rating in accordance with UL 1703, there are currently no PV *systems* with a fire classification rating. Thus, as currently written, Section 1509.7.2 refers to the fire classification rating of a system, and this exact approach is not yet achievable.

In the absence of a PV *system* fire rating, it may seem appropriate to substitute the PV *module* fire classification rating in order to achieve the desired result, which is the preservation of the roof assembly's original fire classification. However, simply using the PV module fire classification rating may not provide the desired result in most cases.

Over the past five years, rigorous testing by UL and Solar ABCs revealed that the performance of a *system (*which includes PV modules on standoff mounted racks) exposed to fire or flame is not the same as that of a *module* alone. Currently, modules receive a fire classification rating based on testing the module alone, not as part of a PV system. The results of these tests show that actual performance of a rack-mounted PV system exposed to fire or flame is strongly dependent on the mounting geometry of the PV array and properties of the components that make up the specific PV module type, but the results are not necessarily dependent on the fire classification rating of the module. (A summary of this research is published in a Solar ABCs report available at:
http://www.solarabcs.org/about/publications/reports/flammability-testing/index.html)

As a result of this testing and in consideration of the current requirements of IBC Section 1509.7.2, a working group composed of representatives from the PV industry, the roofing industry, standards development, the building and fire enforcement community, and government laboratory experts developed and proposed a new test methodology to determine fire classification ratings for PV systems. The new test methodology was adopted by the ANSI/UL 1703 Standard Technical Panel, and was published October 25, 2013, with an October 25, 2016 effective date, to provide time for manufacturers to design and testing laboratories to test the PV systems. It is anticipated that PV systems with a fire classification rating will be available after June 1, 2014.

AUTHORITY AND REFERENCE

The CBSC proposes to adopt these building standards under the authority granted by Health and Safety Code Section 18949.2 (a)

The purpose of these building standards is to implement, interpret, and make specific the provisions of Health and Safety Code section 13108, 13110, 13143, 13201, 17921(b), 18928(a) and 18949.2(b) and (c).

Authority:

- Health and Safety Code Sections 13108, 13110, 13143, 13201, 17921(b), 18928(a) and 18949.2(b) and (c).

Reference:

- Health and Safety Code Sections 13108, 13110, 13211, 17921(b) and 18949.2(b) and (c).

INFORMATIVE DIGEST

Summary of Existing Laws

Health and Safety Code Section 13108 (a) The State Fire Marshal shall prepare and adopt building standards related to the means of egress, the installation of fire alarms and fire extinguishing systems in any state-owned building or in any state-occupied building.

Health and Safety Code Section 13110 Existing law authorizes the State Fire Marshal to propose, adopt, and administer regulations that he or she deems necessary in order to ensure fire safety in buildings and structures within this state including regulations related to construction, modification, installation, testing, inspection, labeling, listing, certification, registration, licensing, reporting, operation, and maintenance.

Health and Safety Code Section 13143 Existing law requires the State Fire Marshal to prepare and adopt regulations establishing minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school, or any similar occupancy of any capacity, and in any assembly occupancy where 50 or more persons may gather.

Health and Safety Code Section 13210 Existing law defines high-rise structures as: 1) "Existing high-rise structure" as a high-rise structure, of which is construction commenced or completed prior to July 1, 1974, 2) "High-rise structure" means every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access, except buildings used as hospitals, as defined in Section 1250 and 3) "New high-rise structure" means a high-rise structure, the construction of which is commenced on or after July 1, 1974.

Health and Safety Code Section 13211 – Existing law requires the State Fire Marshal to prepare and have adopted regulations establishing minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in high-rise structures.

Health and Safety Code Section 17921(b) The State Fire Marshal shall adopt, amend, or repeal and submit building standards for approval pursuant to the provisions of Chapter 4 (commencing with Section 18935) of Part 2.5, and the State Fire Marshal shall adopt, amend, and repeal other rules and regulations for fire and panic safety in all hotels, motels, lodging houses, apartment houses and dwellings, buildings, and structures accessory thereto. These building standards and regulations shall be enforced pursuant to Sections 13145 and 13146; however, this section is not intended to require an inspection by a local fire agency of each single-family dwelling prior to its occupancy.

Health and Safety Code Section 18928 (a) requires each state agency adopting or proposing adoption of a model code, national standards, or specification shall reference the most recent edition of applicable model codes, national standards, or specifications.

Health and Safety Code Section 18949.2 (b) – This law provides that the State Fire Marshal shall remain the state agency responsible for the developing building standards to implement the state's fire and life safety policy. (c) This section of Health and Safety Code § 18949.2 provides that the state's fire and life safety building standards, as developed by the State Fire Marshal and adopted by the Commission, shall be continued to be based on the state's fire and life safety policy goals and mandates.

Summary of Existing Regulations

The SFM currently amends and adopts through the California Building Standards Commission, California Code of Regulations, Title 24, Part 2 CBC and Part 2.5 CRC with to UL 1703 referenced standard relating to regulations that establish minimum requirements for the prevention of fire and for the protection of life and property against fire and in any building or structure used or intended for use as defined in each of the Health and Safety Code references shown above. These regulations contain provisions for the fire classification roof top mounted photovoltaic panels/modules [systems] for all structures regulated by the CBC and CRC.

Summary of Effect

These propose emergency regulations would delay the effective date to January 1, 2015 for the application of fire classification provisions for solar photovoltaic systems on roofs as contained in UL 1703 standard and to provide suitable time for the testing and listing of photovoltaic panels/modules [systems] to meet the current UL 1703 standard

Comparable Federal Statue or Regulation

The OSFM has determined that there are not comparable federal regulations or statutes that address these specific provisions found in the 2013 California Building Standards Code.

Policy Statement Overview

The functions of the office shall be to foster, promote and develop ways and means of protecting life and property against fire and panic. The broad objective of these proposed emergency regulations are to establish minimum standards for installation of residential fire sprinklers in areas prone to prolong freezing conditions while maintaining the highest level of public safety through the installation of residential fire sprinklers.

The SFM further proposes where necessary to ensure that the regulations of the California Building Standards Code, establish and or maintain minimum requirements for the prevention of fire and for the protection of life and property against fire and in any building or structure used or intended for use as defined in each of the Health and Safety Code references shown above in the summary of existing laws.

MATTERS PRESCRIBED BY STATUTE APPLICABLE TO THE AGENCY OR TO ANY SPECIFIC REGULATION OR CLASS OF REGULATIONS

The SFM has determined that there are no other matters prescribed by statute applicable to the agency or to any specific regulation or class of regulation.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

The SFM has determined that the proposed regulatory action would not impose a mandate on local agencies or public school districts.

FISCAL IMPACT STATEMENT

A. Cost or Savings to any state agency: **No**
B. Cost to any local agency required to be reimbursed under Part 7(commencing with Section 17500) of Division 4: **No**
C. Cost to any school district required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4: **No**
D. Other non-discretionary cost or savings imposed on local agencies: **No**
E. Cost or savings in federal funding to the state: **No**