

**INITIAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL
REGARDING THE 2013 CALIFORNIA RESIDENTIAL CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2.5
2013 INTERIM RULEMAKING CYCLE**

The Administrative Procedure Act requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE AND RATIONALE

(Government Code Section 11346.2)

The specific purpose of this rulemaking effort by the Office of the State Fire Marshal (SFM) is to act in accordance with Health and Safety Code section 18928, which requires all proposed regulations to specifically comply with this section in regards to the adoption by reference with amendments to a model code within one year after its publication.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies addressed in the 2012 International Residential Code and published as the 2013 California Residential Code.

The general purpose of this proposed action is principally intended to update the 2013 California Residential Code (California Code of Regulations, Title 24, Part 2.5) based upon updated information or recent actions of the SFM. This proposed action:

- Repeal certain amendments to the 2012 International Residential Code and/or California Building Standards not addressed by the model code that are no longer necessary nor justified pursuant with Health and Safety Code 18930(a)(7).
 - Adopt and implement additional necessary amendments to the 2013 California Residential Code that address inadequacies of the 2012 International Residential Code as they pertain to California laws.
 - Codify non-substantive editorial and formatting amendments to the 2013 California Residential Code.
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The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

[Item 1. Clarification and coordination of residential fire sprinkler backflow requirements of the model code.]

Sections:

R313.3.1

R313.3.1.1

R313.3.1.2

R313.3.3.1.1

R313.3.5.3

R313.3.5.3.1

R313.3.8.1

Reason: The proposed revision clarifies the code by coordinating the requirements in Sections R313.3.1 with R313.3.5.3. The allowance to omit backflow protection for certain stand-alone systems currently permitted by Section R313.3.1 was not previously correlated with Section R313.3.5.3, which has caused confusion in applying the code. The proposed text further improves usability of the code by placing a complete backflow preventer exception in the proposed Section R313.3.5.3 rather than the current approach, which covers multipurpose systems in Section R313.3.5.3 and standalone systems in Section P2904.1.

The proposed revision also makes it clear that the permissible exception to backflow protection applies to systems installed to either Section R313 or NFPA 13D, and it corrects an oversight in the current code text related to fire department connections, making it clear that backflow protection may not be omitted on any system, stand-alone or multipurpose, that is provided with a fire department connection. Although fire department connections aren't required by Section R313 and aren't ordinarily installed on home fire sprinkler systems, the possibility that such a connection might be voluntarily provided must be addressed.

Additional modifications to Sections correct Section reference numbering.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the California Building Standards Codes pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, 18949.2 and California Education Code Section 17070.

[Item 2. Clarification and coordination of residential fire sprinkler systems, antifreeze and NFPA 13D.]

Amendments to NFPA 13D in Chapter 44

Rationale: The SFM proposed to correct the Matrix Table by removing the reference to NFPA 92a-12 which is no longer adopted by the SFM or produced by NFPA and it has been incorporated into NFPA 92-12. The adoption of NFPA 502 as proposed in section 429 (Item 5 above) is reflected in the Matrix Table and the Referenced Standards Chapter of the Code.

The SFM further proposes to align the California Building Standards Codes with the most recent NFPA 13 Standards (2013 edition) and repeal existing modifications. At the National Fire Protection Association (NFPA) Standards Council meeting August 2013, a final decision was made to issue the tentative interim agreement (TIA) 13-1, TIA Log #1067, on NFPA 13D 2013 edition, respectively to address to the use of antifreeze solutions within all NFPA 13D applications (One- and Two-Family Dwellings). This information is available for review on the NFPA website at <http://www.nfpa.org/antifreeze>. These existing SFM modifications are no longer necessary as a result in the approval and ratification of TIA 13-1 made to the 2013 edition of NFPA 13.

Additional editorial modifications are proposed the correct section references and the edition of the California NFPA 25 standard.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the California Building Standards Codes pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, 18949.2 and California Education Code Section 17070.

[Item 3. Correlation of regulations regarding smoke alarms and statutory changes made by SB 1394 (2012) and SB 745 (2013)]

Sections:

R314.3

R314.3.2

R314.3.3

R314.3.3

Rationale: The SFM proposes to correct provisions relating to smoke alarms in accordance with revisions made to Health and Safety Code 13113.7, 13113.8 and 13114 after the initial rulemaking for the 2013 California Building Standards Code (Senate Bill 1394 (2012) and Senate Bill 745 (2013)). The legislative revisions to the statute make these amendments no longer necessary, furthermore these regulations conflict with both the intent of the statute and California Code of Regulations Title 19, Division I.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the California Building Standards Codes pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, 18949.2 and California Education Code Section 17070.

[Item 4 Clarification and editorial modifications for photovoltaic solar systems.]

R331.1 through R331.3

Rationale: The OSFM is proposing the above modifications based on proposals (F62-13) approved for the 2015 IFC Section 605.11 that is also in Section 3111 of the California Building Code. These modifications are primarily editorial and provide additional clarification. The following is the rationale by the original proponent that proposed the modifications. This code proposal has been heard and accepted by the ICC Fire Code Committee at the ICC Code Hearings held April-May, 2013 in Dallas, TX. Final Action of these modifications was approved in October 2013, in Atlantic City, NJ. The SFM is bringing these proposals forward in part to further implement the State's Renewable Portfolio Standard (RPS) and provide necessary tools for enforcement officials, building owners, manufacturers and the construction industry.

The following is the Rationale for support of the proposed modifications:

Original proponent's reason: This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

This proposal is primarily an editorial clarification to Section 605.11.3. There is only one section which contains new text, it is Section 605.11.3.2.1. The sections and their revisions are noted below:

605.11 Exc: This exception eliminates all requirements for solar PV systems located on Group U structures. This exception inadvertently eliminates the requirements for listing of components, marking and location of disconnects. This exception is relocated to Section 605.11.3 so that it only eliminates the requirements for access and pathways which will then retain the listing and marking requirements.

605.11.3 Exc 1: This exception is actually a requirement; it is not an exception. Therefore, the exception is deleted and the text has been relocated to Section 605.11.3.2.1.

605.11.3 Exc 2: This is an exception based on the need for the ability to vertically ventilate smoke through the roof. Section 605.11.3.2.5 (renumbered from 605.11.3.2.4) deals with smoke ventilation. The exception is intended to apply to a specific set of requirements regarding smoke ventilation. If the exception is left in this section, it exempts these systems from all of the requirements in this entire section. Therefore this exception has been relocated to Section 605.11.3.2.5.

605.11.3.2: The title of this section is revised to correlate with the text of the section. The text only applies to one- and two-family dwellings so the term "residential" is removed from the title.

Also, the section is revised by deleting the reference to 'access' since the subsections deal with more than access, and additional access requirements are found in 605.11.3.1.

605.11.3.2.1: This section originates from 605.11.3 Exception 1. It is relocated to the section which applies to dwellings and is inserted as a requirement.

Additionally, the 2nd sentence is added as a new requirement. The current requirements limit the size of each PV array but provide no guidance as to the required separation between multiple PV arrays. This requirement fills that void by requiring a 3 foot separation between PV arrays. The 3 foot distance is the same spacing requirement found around PV arrays to the edge of roof or to the ridge of the roof, and provides for access around the arrays.

605.11.3.2.2: Renumbered from 605.11.3.2.1. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.

605.11.3.2.3: Renumbered from 605.11.3.2.2. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.

605.11.3.2.4: Renumbered from 605.11.3.2.3. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.

605.11.3.2.5: Renumbered from 605.11.3.2.4. The text is revised to correlate with the previous sections regarding one- and two-family dwellings.

Additionally, the exception is added which was previously located in Section 605.11.3. This exception is based on the need for the ability to vertically ventilate smoke through the roof, and Section 605.11.3.2.5 deals with smoke ventilation.

605.11.3.3: The text is revised to correlate with the previous revisions regarding one- and two-family dwellings.

605.11.3.3.1: This exception is reworded into an actual exception which states that the required clearance is allowed to be reduced to 4', rather than requiring a clearance of 4'.

605.11.1 The language in these sections relate to the installation of the electrical system for photovoltaic systems. They do not belong in the fire code. The language in this section is similar to that of the NEC. They are already included in the National Electrical Code (NEC), NFPA 70 Article 690.31. The NEC is already referenced in Chapter 27 of the IBC. It states "Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of NFPA 70". Section 102.4 of the IFC states that the design and construction of buildings shall comply with the IBC. Therefore, the requirements are duplicative and are not needed in the IFC. By having similar requirements in two different codes, there is a great potential for conflicts.

Final Action Hearing modifications

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). This ICC committee was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes or portions thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the Fire-CAC has held 6 open meetings and numerous Regional Work Group and Task Group meetings and conference calls which included members of the committees as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the FAC website at: <http://www.iccsafe.org/cs/CAC/Pages/default.aspx>.

Proposals F62-13, F64-13, F69-13, F72-13, F73-13, F74-13 and RM96-13 all made revisions to Section 605.11 requirements for solar photovoltaic power systems. Most of the revisions accepted by the committee worked well together, with a few exceptions that need coordination/clarification.

This public comment to F62-13 shows what Section 605.11 will look like if all of the approved proposals are adopted. The changes included in this proposal accomplish the following:

1. Editorially show the new numbering system that results from F94-13 deleting Sections 905.11.1 through 905.11.2. (Note - ICC staff ultimately decide the numbering system to be used)
2. In new Section 605.11.1, proposal F62-13 removed what is shown as exception 2, but this section was modified by F69-13. This exception was retained.
3. In new Section 605.11.1.2 the exception was added by proposal RM96-13.
4. In new Section 605.11.1.3 both F62-13 and F72-13 (as modified) added wording which resulted in the title of the section reading "Other than one- and two-family dwellings Group R-3 buildings". This title was revised to only include "Group R-3 buildings". In addition the text in this section was editorially revised to clarify that it applies to buildings, other than those containing Group R-3 occupancies. In addition references to "one- and two-family dwellings" was changed to "Group R-3 buildings" in Sections 605.11.1.2.2, 605.11.1.2.3, 605.11.1.2.4 and 605.11.1.2.5 for consistency.
5. New Section 605.11.2 deleted referenced to previous Section 605.11.2 since this section was deleted by proposal F64-13.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the California Building Standards Codes pursuant to Health

and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, 18949.2 and California Education Code Section 17070.

[Item 5. 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.]

R902.4

Rationale: The OSFM is proposing this modification to correlate with the emergency rulemaking submitted to the CBC for their April 22, 2014 hearing. This item was not heard by the Code Advisory Committee due to submittal timing. The following is the purpose and rationale based on the 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 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 CBC, specifically Section 1505.9 and 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.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the California Building Standards Codes pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, 18949.2 and California Education Code Section 17070.

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:

(Government Code Section 11346.2(b)(2))

The SFM did not rely on any technical, theoretical, and empirical study, report, or similar documents outside of those contained in this rulemaking in proposing that CBSC adopt said model code as a reference standard for the placement of existing SFM regulatory amendments for the California Building Standards Codes.

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:

(Government Code Section 11346.2(b)(4))

Health and Safety Code Section 18941 requires consistency with state and nationally recognized standards for building construction in view of the use and occupancy of each structure to preserve and protect the public health and safety. The SFM is statutorily required to adopt by reference model building codes, which contain prescriptive standards. Prescriptive standards provide the following: explicit guidance for certain mandated requirements; consistent application and enforcement of building standards while also establishing clear design parameters; and ensure compliance with minimum health, safety and welfare standards for owners, occupants and guests. Performance standards are also contained in both SFM amendments and the referenced model codes for the design, construction, use, occupancy and maintenance of building where demonstrated to the satisfaction of the enforcing agency.

CONSIDERATION OF REASONABLE ALTERNATIVES

(Government Code Section 11346.2(b)(3)(A))

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption and amendment of this code.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

(Government Code Section 11346.2(b)(3)(B))

The SFM has determined that no alternative available would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, no alternatives have been identified or that have otherwise been identified and brought to the attention of the SFM that would lessen any adverse impact on small business.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.

(Government Code Section 11346.2(B)(4))

The SFM has made a determination that this proposed action will not have a significant adverse economic impact on business. Health and Safety Code Section 18928 requires the SFM, when proposing the adoption of a model code, national standard, or specification shall reference the most recent edition of the applicable model code, national standard, or specification. Therefore, there are no other facts, evidence, documents, testimony, or other evidence on which the SFM relies to support this rulemaking.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

(Government Code Section 11346.2(b)(6)(B))

The OSFM does not anticipate a cost of compliance with most of the proposed building standards, however, clear benefits are included in the purpose and rationale and further noted below. Items proposed in this rulemaking provide the following:

- Item 1 correlates regulations for clarity and consistency with newly enacted California legislation no cost of compliance or benefit as the statute is currently being applied.
- Items 2, and 4 are proposals that add clarity to existing regulations, correct publication errors and missing standards adopted. No cost of compliance associated, benefit is provided by having clear, concise, complete and update text of the regulations and standards.
- Item 5 has no cost of compliance as these provisions are currently being met by alternates as provided for by the OSFM through Information Bulletin 14-002. The benefit of this delay 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.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

(Government Code Section 11346.2(b)(5))

The SFM has determined that this proposed rulemaking action does not unnecessarily duplicate or conflict with federal regulations contained in the Code of Federal Regulations that address the same issues as this proposed rulemaking.
