INITIAL STATEMENT OF REASONS

FOR

PROPOSED BUILDING STANDARDS

OF THE

OFFICE OF THE STATE FIRE MARSHAL

REGARDING THE 2010 CALIFORNIA FIRE CODE

CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9

2010 ANNUAL 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 2009 International Fire Code and published as the 2010 California Fire Code.

The general purpose of this proposed action is principally intended to update the 2010 California Fire Code (California Code of Regulations, Title 24, Part 9) based upon updated information or recent actions of the SFM. This proposed action:

- Repeal certain amendments to the 2009 International Building 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 2010 California Fire Code that address inadequacies of the 2009 International Fire Code as they pertain to California laws.
- Codify non-substantive editorial and formatting amendments to the 2010 California Fire Code.

The specific purpose and rationale of each adoption, amendment, or repeal is as follows:

[Item No. 1. New California regulation or amendment necessary to address limitations and/or inadequacies of the adopted reference model code and SFM regulations relating to exit access travel distance and fire fighter operations in Group F-1 and S-1 occupancies]

910.1, 910.2.1, 910.3.2.2, 910.3.2.2.1, 910.3.2.2.2, 910.3.2.2.3
Table 1016.1, 1016.3
Table 2306.2
Chapter 47, Referenced Standards, NFPA 13, NFPA 13D, NFPA 13R
The SFM proposes to amend the above Sections and add additional building standards necessary to reinstate a 400 foot travel distances for large warehouse and large factory facilities. The following is the specific purpose and rationale based on work done by the Task Group 400. The attached report "*Report to the California State Fire Marshal on Exit Access Travel Distance of 400 Feet by Task Group 400 December 20, 2010*" (report) and subsequent "*Fire modeling Analysis Report*" (Appendix A to the report) provide the complete rationale as referenced (Attachment A).

Overview
The 2010 California Building Code and California Fire Code will became effective on January 1, 2011. Both of those codes have revised the allowable exit travel distance for large warehouse and large factory facilities. In the 2010 California Codes, warehouses and factories with non-combustible products are allowed an exit access travel distance of 400 feet; however, when those same buildings contain combustible materials, the exit access travel distance is being reduced to 250 feet.

The allowance of an exit travel distance of 400 feet has existed in the California Codes for warehouses and factories with non-combustible products since the early 1960's. The allowance of an exit travel distance of 400 feet for all warehouses and factories has existed in the California Codes for well over a decade. The report provides the basis and an evaluation of the re-inserting the allowance of 400 feet.

Task Group 400 recognized that the item was deleted from the 2009 International Building Code, which is the model code adopted by reference for the 2010 California Building Code. The ultimate goal is to revise the International Building Code, however a revision processed through the International Code Council Code change process will not appear in the code until the 2015 Edition (California adoption possible2017). "*The immediate goal of Task Group 400 is to submit a code change in the 2011 California Code Change process"*.

The following code change consists of Six Parts. This code change provides a sound solution to allowing an exit travel distance of 400 feet. This code change also considers the fact that firefighting operations are impacted when larger buildings are constructed where the exit access travel distance is allowed to be 400 feet. As a result, mitigation to the firefighting impact is included in the code change.

Specific Rationale for Code Changes

Part 1 [Table 1016.1 Footnote A and Section 1016.3]
Part 1 is the main body of the code change. Initially, a simple addition to Footnote A in Table 1016.1 is added to make a reference to a new Section 1016.3.

Section 1016.3 is added to provide the criteria for an increased exit access travel distance of 400 feet in Group F-1 and S-1 occupancies. The criteria for application of this section includes:

1. The travel distance increase is only applicable to areas of the building which are one story in height. The allowance for a travel distance of 400 feet in the 2007 CBC is limited to buildings which are one story in height, so this concept is carried forward.
   This would not preclude a building with a one story storage warehouses or factory area and a two story office or a mezzanine from also utilizing this section. The section is written so that the one story limitation is only applicable to the area where the 400 foot travel distance is utilized. The two story office building would still be limited to 300 feet as indicated in Table 1016.1.
2. The minimum height from floor to ceiling above, or the underside of the roof deck, must be 24 feet. The 24 feet is measured to the bottom of the roof or ceiling above. The height is specified as 'minimum'. It is not intended to be applied to an 'average' height, it is the minimum. It is assumed that beams and purlins will extend down below this height of 24 feet.
   The 24 feet of clearance is based on the "Fire Modeling Analysis Report" by Aon Fire Protection Engineering[1]
   The 24 feet ceiling is used to store the smoke during the fire event and provide time for egress.

3. Protection by a fire sprinkler system designed in accordance with Section 903.3.1.1 (NFPA 13). This reference to NFPA 13 will include sprinkler systems designed with control mode sprinklers, ESFR sprinklers and any other design allowed by NFPA 13.

Again, the Fire Modeling Analysis Report demonstrates adequate time for evacuation when control mode sprinklers are utilized in buildings with 24 feet minimum to the underside of the roof deck or ceiling above. The control mode sprinkler was utilized in the fire modeling to demonstrate the more conservative approach. Certainly, ESFR or specialty sprinklers will provide more water than the control mode sprinkler and would therefore be more effective.

Part 2 [Section 910.1]
This part of the code change is now focused towards the installation of smoke/heat vents. Since the revision in Part 1 will allow an exit access travel distance of 400 feet, buildings will be larger. It can be demonstrated in this manner, if the occupant can travel 400 feet to the closest exit door, then the reverse of that means that a firefighter must drag hose 400 feet from that closest door back to the fire. Certainly this is the worst case, but it does show the point that the firefighting operation becomes more difficult, and more dangerous, with the increased exit access travel distance.

One of the most dangerous aspects of firefighting operations is working on the roof of a building when the fire is just below. Although it is frequently and routinely done, there are many dangers when working on the roof of a building which is burning. But ventilating the building, or exhausting the smoke, is a critical function. Releasing the smoke and heat from a building allows the firefighters to make entry and attack the fire in a safer environment. Releasing the smoke reduces property loss as a result of smoke damage during the fire.

Typical ventilation practices during a fire include creating openings in the roof to allow the hot gases and heated smoke to escape. Smoke/heat vents are one method of providing those openings in the roof. The proposed code change allows larger buildings based on sprinklers and ceiling height rather than on the installation of smoke/heat vents. Typically, ESFR sprinkler systems are installed without smoke/heat vents. One reason for this is that when the smoke/heat vents are open prior to the fire, the smoke/heat vents can delay the operation of the first fire sprinkler. Section 910.1 Exception 2 currently reads that smoke/heat vents are not required in buildings protected with ESFR sprinklers. Part 2 will modify Exception 2 to require smoke/heat vents when ESFR sprinkler systems are used in the following situations:

1. If the building is a state institution, smoke/heat vents will be installed in all cases even when ESFR sprinklers are installed.
2. If the building is a state-owned building or a state-occupied building, smoke/heat vents will be installed in all cases even when ESFR sprinklers are installed.
3. If the building is any occupancy regulated by the State Fire Marshal as indicated in Section 1.11 smoke/heat vents will be installed in all cases even when ESFR sprinklers are installed.
4. If the building is a Group F-1 or S-1 occupancy with an exit access travel distance in excess of 250 feet, smoke/heat vents will be installed in all cases even when ESFR sprinklers are installed.

As was mentioned previously, there is a concern with smoke/heat vents impacting the operation of ESFR sprinklers. To address this situation, revisions are also proposed to CFC and CBC Section 910.3.2.2 (Part 4) and Section 12.1.1.2 of NFPA 13 (Part 6).

Part 3 [Section 910.2.1]
The revision to 910.2.1 is mainly a clean-up item. This change adds Group F-1 aircraft hangars (manufacturing) to the already exempted Group S-1 aircraft hangars (repair). Currently the Group S-1 aircraft hangar is exempt from the requirement for smoke/heat vents. The Group F-1 aircraft hangar is of a similar construction and design. Essentially this code change will take the exception which applies to hangars where aircraft are repaired, and extend that same exception to the hangar where the same aircraft were built.

Part 4 [Section 910.3.2.2, 910.3.2.1, 910.3.2.2 and 910.3.2.3]
Section 910.3.2.2 is modified to specify the operating characteristics of smoke/heat vents in sprinklered buildings. This revision is formatted to provide a list of requirements.

Section 910.3.2.2.1 simply relocates the requirement for automatic operation of smoke/heat vents from the previous section.

Section 910.3.2.2.2 adds the requirement that the thermal element of smoke/heat vents shall have a higher temperature rating than the fire sprinklers. This will allow the sprinklers to operate before the smoke/heat vent operates. This is consistent with NFPA 13 Section 12.1.1.1 which states in part "…roof vents with operating elements that have a *higher*

temperature classification than the automatic sprinklers shall be permitted."[2] [emphasis added]

Section 910.3.2.2.2 adds the requirement that where an ESFR sprinkler system is installed, the thermal element of smoke/heat vents shall have a temperature rating of at least 100ºF above the sprinkler temperature and a minimum of 360ºF. This will allow the ESFR sprinklers to operate before the smoke/heat vent operates. This is consistent with NFPA 13 Section 12.1.1.2 which states in part"…ESFR sprinklers shall not be used in buildings with automatic heat or smoke vents *unless* the vents use a high-temperature rated, standard response operating mechanism."[3] [emphasis added]. This requirement is also consistent with the Factory Mutual Approval Standard for Smoke and Heat Vents, FM 4430 Section 4.8.1 which states in part "As an option, heat and smoke vents shall be permitted to be subjected to a modified fire test in order to determine if the product can be used in conjunction with ESFR sprinklers without adversely affecting their ability to activate. This shall be determined by assessing the dome's ability not to allow venting until a 360ºF (182ºC) fusible link has activated."[4]

Therefore, smoke/heat vents are required to be installed, and must be equipped with a fusible link that is above the sprinkler operating temperature. This will ensure that the sprinklers operate prior to the smoke/heat vent. It might also result in smoke/heat vents that do not open on their own during a fire situation. However, California is susceptible to earthquake activity. During a seismic event, the water system could be incapacitated. In that case, the sprinklers will be inoperative, but the smoke/heat vents will operate automatically.

Part 5 [Table 2306.2 Footnote J]
This part amends Footnote J on CFC Table 2306.2 by adding the requirement for smoke/heat vents when the exit access travel distance exceeds 250 feet. The revision also correlates the requirements in the footnote with the proposed changes to Section 910.1 in Part 2.

The reference is revised from "NFPA 13" to "Section 903.3.1.1" to be consistent with code format. Section 903.3.1.1 is the code section which references directly to NFPA 13.

Part 6 [CFC Chapter 47 (Chapter 35 CBC) NFPA Reference Standard]
This part adds amendments to NFPA 13. These revisions specifically address the temperature rating of the thermal element of smoke/heat vents when utilized with ESFR sprinkler systems. The 360ºF rating comes from the requirements in the FM 4430 Standard, and the 100ºF requirement simply provides a specific separation between the thermal element of the sprinkler and the thermal element of the smoke/heat vent.

1 "Fire Modeling Analysis Report", Aon Fire Protection Engineering, November 29, 2010.
2 "NFPA 13, Standard for the Installation of Sprinkler Systems" 2010 Edition, NFPA, Section 12.1.1.1.
3 "NFPA 13, Standard for the Installation of Sprinkler Systems" 2010 Edition, NFPA, Section 12.1.1.2.
4 "Approval Standard for Smoke and Heat Vents FM 4430", 2007 Edition, FM Approvals, Section 4.8.1.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13143, 13146 and 18949.2.

[Item No. 2. Antifreeze solutions in residential fire sprinkler systems – permanent emergency rulemaking]

Chapter 47, Referenced Standards, NFPA 13, NFPA 13D, NFPA 13R
The SFM proposes to make permanent the emergency regulations approved by the California Building Standards Commission October 19, 2010 with modification. The above sections amended as part of that emergency rulemaking and have no further modification proposed in this rulemaking to make permanent. This Rulemaking is submitted accordance with Government Code Section 11346.1(e).

The following information is evidence that the amendments to Title 24, Part 2, California Building Code (CBC), Part 2.5 California Residential Code (CRC) and Part 9 California Fire Code (CFC) – NFPA 13, 13D and 13R reference standards 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 relating to the design and construction of Group R occupancies and other dwelling unit applications where automatic fire sprinkler systems utilizing antifreeze solutions.

At the February 28 – March 1, 2011 meeting of the National Fire Protection Association (NFPA) Standards Council meeting a final decision was made to issue the tentative interim agreements (TIA) 1015, 1012, and 1013 on NFPA 13,

NFPA 13D and NFPA 13R, respectively to the use of antifreeze solutions within all NFPA 13D applications and within the dwelling unit portions of NFPA 13 and NFPA 13R sprinkler systems. The issuance of the TIAs was based on a detailed research project conducted by in the NFPA Research Foundation in conjunction with Underwriters Laboratories, Inc. The use of antifreeze additives to new residential fire sprinkler systems is estimated to only affect less than 5 percent of the total state-wide residential fire sprinkler installations.

The SFM concurs with the NFPA recommendations and is proposing the modifications contained in this proposed emergency rulemaking 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. This emergency rulemaking would require that only pre-mixed antifreeze solutions in concentrations not to exceed 40% propylene glycol and concentrations of glycerin not exceeding 50% in residential occupancies and other dwelling units be permitted for the protection of sprinkler pipe in freezing conditions where no other alternative to freeze protection is available. The research did not test the performance of diethylene glycol-water or ethylene glycol-water mixtures. As no performance information is available through the research study, the SFM proposes prohibiting their use within dwelling unit portions of the sprinkler system.

These proposed building standards are being submitted to the California Building Standards Commission (CBSC) to continue the emergency adoption approved October 19, 2010 with the effective date of January 1, 2011, with additional modification. The emergency building standards will expire June 29, 2011 without continuation or completion of the certification of compliance submitted to the CBSC. With staff resources, timelines of the 2010 interim rulemaking cycle and the dedication of completing rulemaking packages for the 2010 California Building Standards Codes interim supplement, OSFM does not foresee the conclusion of the certification of compliance phase for the April 2011 CBSC meeting. Thus, the OSFM requests a re-approval and re-adoption on an emergency basis the SFM EF 01/10, 02/10 and 03/10 emergency rulemaking that was approved by the CBSC on October 19, 2010 with additional modification.

Furthermore, the SFM is providing modification to NFPA 13D Section 4.1.4.1.1 (TIA 1012) to maintain voluntary annual testing and inspection provisions. Until further research through the SFM Automatic Extinguishing Advisory Committee and statutory analysis is made, voluntary testing and maintenance for one- and two-family dwelling fire sprinkler systems with antifreeze will be maintained. This modification has no change in regulatory effect and will not affect the testing and maintenance requirements for other residential occupancies or provisions found in the California edition of NFPA 25. The SFM recommends and encourages testing and inspection be done on a annual basis.

The SFM 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 panic in accordance with Health and Safety Code 13100.1 that foster, promote and develop ways and means of protecting life and property against fire and panic.

Background

Automatic fire sprinkler systems with antifreeze solutions have more than 60 years of successful use in commercial applications and an equally successful experience since they have been in use in residential applications. Most fire fatalities occur in the home, and when home sprinklers are present, the risk of dying in a home fire decreases by 83%. The Office of the State Fire Marshal supports and urges the expanded use of residential sprinkler systems as the most effective way to prevent fire injury and death in the home and other residential occupancies. While OSFM emphasizes that residential sprinkler systems are and remain reliable and effective, a recent fire incident involving a sprinkler system that contained a high concentration antifreeze solution has raised concerns about the combustibility of antifreeze solutions in residential sprinkler systems. The incident involved a grease fire in a kitchen where a sprinkler system with a reported 71.2% concentration of antifreeze deployed. The fire resulted in a single fatality and serious injury to another person. (Recently, NFPA received a report of another incident, this time in a living room, which may have been exacerbated by the presence of an antifreeze solution.) Following the first incident, NFPA initiated a research project with the Fire Protection Research Foundation (Foundation) and an initial set of fire tests was also conducted by Underwriters Laboratories. Based on information learned from these efforts, NFPA issued an interim safety alert and recommendations in July 2010 and began additional research to gain further information on antifreeze solution performance under various fire scenarios. The Foundation has completed this additional research in a report entitled "Antifreeze Solutions in Home Fire Sprinkler Systems: Phase II Research Interim Report" (2010), and NFPA is providing updated safety information and guidance based on the test results.

Key findings of fire tests:

- Both the 40% propylene glycol and 50% glycerin solutions demonstrated similar performance to that of water alone for fire control throughout the series of tests.

- Antifreeze solutions with concentrations of propylene glycol exceeding 40% and concentrations of glycerin exceeding 50% have the potential to ignite when discharged through automatic sprinklers.
- Based on the results of this research, antifreeze solutions of propylene glycol exceeding 40% and glycerin exceeding 50% are not appropriate for use in residential fire sprinkler systems.
- Consideration should be given to reducing the acceptable concentrations of these antifreeze solutions by an appropriate safety factor.

Based on the detailed evaluation of the NFPA research report, the SFM maintains pre-mixed antifreeze solutions in concentration not to exceed 40% propylene glycol and concentration of glycerin not exceeding 50% and research showed that these concentrations performed in the same manner as water. The research did not test the performance of diethylene glycol-water or ethylene glycol-water mixtures. As no performance information is available through the study, the SFM proposes prohibiting their use within dwelling unit portions of the sprinkler system. The use of antifreeze solutions is one measure for the protection of residential sprinkler pipe in freezing conditions, shall only be used as a last method for protection, consideration given to recorded prolonged temperatures, and approved by the authority having jurisdiction.

Background and summary from NFPA Standards Council decision on Tentative Interim Amendments (TIA) 1015 (NFPA 13), 1012 (NFPA 13D) and 1013 (NFPA 13R)

In August of 2010, the Standards Council voted to issue three Tentative Interim Amendments (TIAs), the effect of which, pending further technical committee consideration, was to prohibit the use of antifreeze within the dwelling unit portions of sprinkler systems. In doing so, the Council took the unusual step of issuing TIAs without the full support of the responsible sprinkler committees. This was because the Council was presented with an unusual and compelling situation in which the status quo in the existing sprinkler documents was no longer tenable, and in which the circumstances required emergency action. (See Standards Council Decision #10-10 [August 5, 2010]). In its decision, the Council stressed that its action was strictly an interim measure that would remain in place "unless and until the responsible technical committees, after due consideration and any correlation by the [Technical Correlating Committee], reach consensus on a different approach." The Council, moreover, stressed that "it is not undertaking to make any final technical determination about the correct course of action that may eventually emerge. The technical issues concerning the content of NFPA codes and standards are generally for the responsible consensus-based technical committees to determine, and the same should be true in this case." In turning the matter back to the sprinkler committees, the Council noted that the TIAs all involved standards that address the design and installation of new sprinkler systems. It asked the technical committees to examine the important question of what should be done to address antifreeze in existing residential sprinkler systems. Finally, the Council noted that the TIAs did not address antifreeze in nonresidential commercial applications and suggested the need for further research and consideration of the treatment of nonresidential commercial applications as well. (See Standards Council Decision #10-10).

The sprinkler committees have now completed the review and consideration of the antifreeze issues as anticipated in Standards Council Decision #10-10. The technical committees have developed and reached consensus on three new TIAs related to the use of antifreeze in sprinkler systems that proposed to supersede the TIAs previously issued on an interim basis by the Council.

The new TIAs, which were presented to the Council at its meeting of February 28 – March 1, 2011 are: TIA Nos. 1015, 1012 and 1013 on the 2010 editions, respectively, of NFPA 13, Standard for the Installation of Sprinkler Systems, NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two- Family Dwellings and Manufactured Homes, and NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height. Also considered by the Council at the meeting was an appeal relating to the TIAs from Dana Haagensen, Massachusetts Department of Fire Services. The appeal requested that the Council not issue the new TIAs and that the three existing TIAs issued in Standards Council Decision D#10-10, and which would be superseded by the new TIAs, remain in place. The existing TIAs, for new installations, prohibit the use of antifreeze solutions within all NFPA 13D applications and within the dwelling unit portions of NFPA 13 and NFPA 13R sprinkler systems.

As suggested above, the new TIAs replace the complete prohibition on the use of antifreeze in the dwelling unit portions of new sprinkler systems. Described in general terms, TIA Nos. 1015, 1012 and 1013, taken together: limit the antifreeze solutions used in sprinkler systems to manufacturer premixed antifreeze solutions only; limit the use of antifreeze in sprinkler systems to specified volume concentrations based on one of the types of permitted solutions; provide additional provisions based on the type of sprinkler for NFPA 13 sprinkler systems; and provide additional requirements for NFPA 13D systems including provisions for annual testing and provisions based on whether the NFPA 13D system is new or existing. The TIAs do not address existing systems designed to NFPA 13 or 13R, however, another TIA on NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, that is being issued concurrently with these TIAs and that has not been the subject of an appeal, does address antifreeze concentrations for

these systems. (See Minute Item 11-3-6, Standards Council Meeting of February 28-March 1, 2011; see also Minute Item 11-3-7, for another TIA on NFPA 25, which did not pass ballot and has not been appealed.) The individual TIAs must, of course, be consulted for the precise terms of the provisions they contain.

The three new TIAs were balloted through the responsible Technical Committees (TC) – the Technical Committee on Sprinkler System Installation Criteria for NFPA 13, and the Technical Committee on Residential Sprinklers for NFPA 13D and NFPA 13R – as well as the Technical Correlating Committee on Automatic Sprinkler Systems (the TCC). Balloting was completed in accordance with the NFPA Regulations Governing Committee Projects, to determine if it had the necessary three-fourths majority support on technical merit and emergency nature in favor of issuance. All three TIAs passed the ballots of the TCs and the TCC on both technical merit and emergency nature. One public comment was received.

The appeal requests that the Council overturn the action recommended by the NFPA codes and standards development process and not issue the TIAs. On appeal, the Standards Council accords great respect and deference to the codes and standards development process. In conducting its review, the Council will overturn the result recommended through that process, only where a clear and substantial basis for doing so is demonstrated. The Council has reviewed the entire record concerning this matter and has considered all the arguments raised in this appeal. In the view of the Council, this appeal does not present any clear and substantial basis on which to overturn the result recommended by the NFPA codes and standards development process. Accordingly, the Council has voted to deny the appeal and issue TIA Nos. 1015, 1012 and 1013.

As indicated above, the Council's previous action in limiting the use of antifreeze in sprinkler systems was intended as an interim measure to allow the sprinkler committees the time and opportunity to review the available information and research and make the final consensus determination about what should or should not be contained in the sprinkler standards concerning the antifreeze issues. The sprinkler committees have now processed the issues and reached a consensus, meeting in each case the demanding threequarter majority vote. The committees have reviewed and considered the available information, including the research presented in the Fire Protection Research Foundation report, "Antifreeze Solutions in Home Fire Sprinkler Systems, Phase II Research Final Report" issued in 2010. Moreover, and importantly, the TIAs address the use of antifreeze in nonresidential commercial applications and in existing installations, subjects that were not able to be addressed in the previous TIAs. The committees have arrived at reasonable conclusions based on the available information and the many considerations that must be weighed in arriving at consensus judgments. Since absent compelling circumstances were not presented here, the Council must defer to the consensus judgments of the committees.

In voting to issue these TIAs, the Council stresses that the sprinkler committees' consideration of issues related to antifreeze is not at an end. The sprinkler standards are in the Annual 2012 revision cycle, and that the content of the new TIAs will be considered as Proposals during the process. The Fire Protection Research Foundation report discussed areas where future research might be needed, as, for example, in the area of commercial applications. It is anticipated that further research will be conducted and information developed that will aid the sprinkler committees in their continuing consideration of issues raised by the use of antifreeze in sprinkler systems. In the meantime, the Council is requesting, both in aid of the committees' work and for the Council's information, that the sprinkler committees, representatives of the relevant sprinkler industries, the Fire Protection Research Foundation, and any other parties with relevant information provide reports to the Council at its next meeting identifying research needs, planned or ongoing research, and any other activities or developments related to the use of antifreeze in sprinkler systems. Council Member Roland Huggins recused himself during the deliberation and vote on the issue.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[Item No. 3. Amendments for further clarification, correction and consistency with other SFM regulations]

2404.2 (CBC 3102.3.1)

The SFM is correlating the provisions of the CBC and CFC with existing regulations contained in CCR, Title 19 Division 1, Chapters 2 and 8 for flame resistance standards in accordance with Health and Safety Code Section 13115. During the adoption of the 2010 CBC and CFC the SFM replaced prior provisions contained in Chapter 31E of the 2007 CBC with the 2009 International Building and Fire code provisions contained in Chapter 31 and 24 respectively. However, the repeal of

Chapter 31E and moving modifications into CBC Chapter 31 and CFC Chapter 24 the coordination with CCR, Title 19, Division 1, Chapters 2 and 8 was omitted. This modification corrects those omissions. The modifications proposed have no change in regulatory effect.

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 2010 California Building and Fire Code pursuant to Health and Safety Code Section 13115, and 18949.2.

Chapter 47, Referenced Standards, NFPA 25
The SFM is proposing editorial modification to correct the NFPA 25 edition adopted by CCR Title 19 for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems. This modification has no change in regulatory effect.

[Item No. 4. Modifications that have no change in regulatory effect or repeal of amendments that are no longer necessary]

907.2.11.4
The SFM is making editorial modification to remove duplicative text.

1011.3
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 4**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating to tactile exit signage.

1011.7
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 4**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating to path marking.

1025.5
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 4**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating to path marking.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[Item No. 5. Statutory modification and/or correction of existing regulation]

202 General Definitions - Bedridden Person
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 5**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating to care facilities.

Occupancy Classification
Group I-4, day-care facilities – Adult day-care facility
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 5**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating

to care facilities.

4603.7.2, 4603.7.3, 4603.7.5, 4603.7.5.1
The SFM proposes to make permanent the emergency regulations proposed to the California Building Standards Commission April 19, 2011. The above sections amended as part of that emergency rulemaking and have no further modification proposed in this rulemaking to make permanent. This Rulemaking is submitted accordance with Government Code Section 11346.1(e).

The SFM is proposing to reinstate and relocate two exceptions contained in the base 2009 International Residential Code (IRC) that relate to certain exemptions for alterations, repairs and exterior work. These two exceptions exist in the 2009 IRC Section R314.3.1 and were removed for the 2010 CRC for compliance with Health and Safety Code 13113.8. These two exceptions if maintained in section R314.3.1 would have exempted any installation of a smoke alarm in existing dwellings undergoing certain alterations, repairs and exterior work and would violate the statute. This proposal reinstates the two exceptions but limits them to the power source (Section R314.4) and interconnection (Section R314.5) only without creating a conflict with statute.

These modifications are also proposed to Section 4603.7.2 and 4603.7.3 of the CFC to correlate and correct the provisions for power supply and interconnection for all other Group R occupancies. Additional editorial modification to CFC Section 4603.7.5 and 4603.7.5.1 and CBC Section 907.2.11.5 correct the reference to Group R-3 occupancies to all Group R occupancies.

These proposed regulations would correct the regulations to allow for smoke alarms to be battery powered in existing buildings undergoing certain alterations, repairs, additions or exterior work. This emergency modification reinstates provisions that had been contained in previous editions of the California Building Code and maintains the intent of Health and Safety Code 13113.7 and 13113.8 to allow for battery operated smoke alarms.

The following information is evidence that the amendments to Title 24, Part 2, California Building Code (CBC), Part 2.5 California Residential Code (CRC) and Part 9 California Fire Code (CFC) as proposed by the Office of the State Fire Marshal (SFM) are necessary for the immediate preservation of the public peace, health and safety or general welfare of the public relating to alterations, repairs, additions or exterior work on existing Group R occupancies and other dwelling unit applications where smoke alarms are required.

The SFM is proposing to reinstate and relocate two exceptions contained in the base 2009 International Residential Code (IRC) that relate to certain exemptions for alterations, repairs and exterior work. These two exceptions exist in the 2009 IRC Section R314.3.1 and were removed for the 2010 CRC for compliance with Health and Safety Code 13113.8. These two exceptions if maintained in section R314.3.1 would have exempted any installation of a smoke alarm in existing dwellings undergoing certain alterations, repairs and exterior work and would violate the statute.

However, the omission of these two exceptions has created an unintended problem relating to the power source and interconnection. Dwellings undergoing minor alteration, repair of certain exterior work as specified would in most cases require additional permits, inspections and other contracting obligations for specified trades to do electrical work associated with the power source, whereas, the statute would allow battery operated smoke alarms.

Appendix Chapter 4
425.3.2
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 2 California Building Code (CBC) Item No. 5**. The SFM is correlating amendments for Part 9 California Fire Code (CFC) which are derived from the amendments proposed to the CBC relating to care facilities.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[Item No. 6. Modifications for elevator standards and correlation with CCR, Title 8, Division 1, DOSH Elevator Safety Orders]

508.1.5
607.1
The SFM is deleting all references to ASME, A17.1 /CSA B44 *Safety Code For Elevators and Escalators* and instead referencing; California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, *Elevator Safety Orders* for correlation and to resolve conflicts with California Division of Occupational Health and Safety (DOSH) adoption and amendments to A17.1

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

607.5
The SFM proposed to correct the NFPA 72 Section referenced. This modification is a result of the adoption of the 2010 edition of NFPA 72 where sections have been relocated in the latest standard.

607.5.1, 607.5.2, 607.5.3, 607.5.4, 607.5.5
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 9 California Fire Code (CFC) Item No. 6**. The SFM is correlating amendments for Part 2 California Building Code (CBC) which are derived from the amendments proposed to the CFC relating to elevators.

903.3.1.1.1, Chapter 47 Referenced Standard NFPA 13 - 8.15.5.6
For the specific purpose and rationale for each section containing California regulation, modification, amendment or repeal **see the Initial Statement of Reasons for Part 9 California Fire Code (CFC) Item No. 6**. The SFM is correlating amendments for Part 2 California Building Code (CBC) which are derived from the amendments proposed to the CFC relating to elevators.

907.4.3
1007.4
Chapter 47, Referenced Standards, ASME A17.1
The SFM is deleting all references to ASME, A17.1 /CSA B44 *Safety Code For Elevators and Escalators* and instead referencing; California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, *Elevator Safety Orders* for correlation and to resolve conflicts with California Division of Occupational Health and Safety (DOSH) adoption and amendments to A17.1

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[Item No. 7. Editorial modification correcting code references to the appropriate California Code]

102.3, 102.4, 102.5,
304.1.3, 306.1, 308.3, 311.1.1, 311.3, 313.1
408.7.2
504.1
607.3
704.1
Table 914.8.2
1104.6, 1106.17, 1107.1, 1107.4
1203.3, 1204.2.1, 1205.3, 1207.1
1604.5
2402.1, 2403.8.4
3006.2
4006.4

4601.2, 4601.3, 4604.5, 4604.18, 4604.18.1. Table 4604.18.2
Appendix A - A101.1
Appendix D - D101.1, D107.1, D108 Referenced Standards
Appendix E - E101.1, E102.1.1, E102.1.8.1, E103.2, E104 Referenced Standards
Appendix F - F101.1, F102 Referenced Standards
Appendix J - J103.2.2, J103.3.2, J104 Referenced Standards
The SFM is amending the above sections to correctly reference the appropriate California Code edition. There is no change in regulatory effect.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

[Item No. 8. Reprint and/or modification of various provisions of California Code of Regulations, Title 19, Division 1 provisions following the CFC Sections noted below.]

1.11.2, 1.11.2.1, 1.11.2.1.1
[California Code of Regulations, Title 19, Division 1, §1.11] Enforcement of Regulations.
[California Code of Regulations, Title 19, Division 1, §3.12] Enforcement Agency.

1.11.2.2
[California Code of Regulations, Title 19, Division 1, §1.08] Report of Arrest.
[California Code of Regulations, Title 19, Division 1, §1.13] Penalty.

1014.4
[California Code of Regulations, Title 19, Division 1, §3.06(a)] Bonding of Chairs and Spacing of Tables.

1028.12
[California Code of Regulations, Title 19, Division 1, §3.06(a)] Bonding of Chairs and Spacing of Tables.

1029.4
[California Code of Regulations, Title 19, Division 1, §4.2] Labeling.
[California Code of Regulations, Title 19, Division 1, §4.3(a) through (c)] Warning Information.

The SFM proposes to make changes without regulatory effect for various Sections of existing Title 19, California Code of Regulations (CCR) to be brought forward and reprinted or referenced into the 2010 California Fire Code (CFC). The SFM has worked with the California Fire Prevention Officers Association, a section of the California Fire Chiefs Association, and identified those code Sections of Title 19, CCR that local fire authorities enforce and requested to have identified for daily use in the CFC. This project is an important piece to the California fire service by providing cohesion for enforcement provisions with a single “inspector friendly” code document.

The SFM further proposes to also reference the Title 19 Section in brackets below the appropriate CFC Section to clarify to the enforcement agency where the original Section derived. The above Sections containing California regulations are brought forward with editorial modification only. These amendments do not create a change in regulatory effect.

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 2009 International Fire Code and published as the 2010 California Fire Code pursuant to Health and Safety Code Section 13108, 13113, 13114, 13131.5, 13143, 17921, and 18949.2.

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:
(Government Code Section 11346.2(b)(2)

[Item 1] Report to the California State Fire Marshal on Exit Access Travel Distance of 400 Feet by Task Group 400 December 20, 2010 (Attachment A). Including:

Fire Modeling Analysis Report", Aon Fire Protection Engineering, November 29, 2010 (Appendix A),
NFPA 13, Standard for the Installation of Sprinkler Systems 2010 Edition,
Approval Standard for Smoke and Heat Vents FM 4430, 2007 Edition.

The SFM did not rely on any other 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.

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 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 of an electrical 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 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.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS
(Government Code Section 113465.2(b)(5)

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

Attachment A (file name Part-9_ISOR_Attachment_A_20101221.pdf)

- *Report to the California State Fire Marshal on Exit Access Travel Distance of 400 Feet by Task Group 400 December 20, 2010*" (report)
- "*Fire modeling Analysis Report*" (Appendix A to the report)