FINAL STATEMENT OF REASONS

UPDATE OF INITIAL STATEMENT OF REASONS

The Office of the State Fire Marshal (SFM) has considered all relevant matters presented to it, updated the Initial Statement of Reasons and recommends approval of the proposed regulatory action.

Pursuant to Health and Safety Code Section 13110 with reference to 13110 Health and Safety Code, the State Fire Marshal shall adopt regulations and standards deemed necessary to ensure fire safety in all types of occupancies in California. Regulations shall include those related to construction, modification, installation, testing, inspection, labeling, listing, certification, registration, licensing, reporting, operation, and maintenance. In response, the SFM has proposed regulations for automatic fire extinguishing systems certification in CCR, Title 19, Division 1, Chapter 5.5. developing a certification and registration program and establishing a minimum statewide training standard for those who install or work on life safety fire suppression systems in California.

PUBLIC COMMENT PERIODS

The original text of proposed regulations was made available to the public for 45 days from February 12, 2016, through March 28, 2016. A public hearing was conducted on April 7, 2016. Modifications were made to the text of proposed regulations and made available for comment to the public for 15 days from July 27, 2016 to August 11, 2016. As a result of those public comments and staff comments, further minor and nonsubstantial modifications were made to the text of regulations and Forms AES 1005, AES 1005A and AES 1007. There were no further comment periods.

MODIFIED REGULATION TEXT AS A RESULT OF COMMENTS RECEIVED DURING 45-DAY COMMENT PERIOD:

During the 45-Day Notice period, the SFM responded in total to over 482 public comments from 164 individuals on the text as originally noticed. Upon review, the SFM determined that modifications were necessary and 92% of the modifications to the text of the proposed regulations were nonsubstantial. The nonsubstantial modifications were mainly grammatical changes and corrections that provided additional clarification to the respective sections.

The remaining 8% of the modifications were substantial and sufficiently related to the text, but did not change the intent of the regulations. The greatest changes were to the title and definition for Job Related Experience Program (JREP) and Section 946. The title and definition was amended to the “Job Related Training and Experience Review” (JRTER), which better describes its purpose. It is a means of validating time and experience and is not intended as a “training program”.

The SFM received public comments from 164 individuals during the 45-Day Notice period. In consideration of the comments received, the SFM determined that modifications were deemed necessary and corrections and typographical errors to the text and forms were made to add clarity to sections of the regulations and the referenced documents as noted below. As a result of the public comments received and staff comments modifications were made to Sections 923, 924, 924.1, 924.2, 924.3, 924.4, 924.5, 924.7, 924.9, 924.10, 924.11, 924.12, 925, 925.1, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 947.1, 947.2, 948, 948.1, 949 and 950. Also as part of the 15-Day Notice period of modifications, the SFM added materials to the rulemaking file as documents relied upon in addition to amended documents incorporated by reference as noted below.

- §923(a). For clarity the text on water storage tanks and tank heaters was deleted as it is not applicable to the section.
- §923 Exception (1). Format numbering requirement.
- §923 Exception (2). The regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. For clarity, text was added to point out the exclusion of particular operations as part of the scope's description so they are not inconsistent or in conflict with other state regulations.
- §923 Exception (3). Text added to point out the exclusion of particular operations as part of the Scope's description and provide further clarity (specifically pre-engineered water based fixed extinguishing systems already covered in other state regulations).
- §924(a). Text and grammar changes were made to further clarify definition.
- §924(b). Text and grammar changes clarifying the definition "Apprentice" and last sentence was removed as the JREP, renamed Job Related Experience Review (JRTER) during this revision process, is not a training program.
- §924.1(a). Text changes clarifying the definition "Certified Fire Sprinkler Fitter" by adding references to the CA Apprenticeship Program, certification card and formatting of text to show options 1 and 2. The removal of Sprinkler Fitter after Journeyman and the sentence regarding the necessity to meet training and experience prerequisites.
- §924.1(c). Text revisions made to sub-section for further regulation clarity.
- §924.2(a). Grammar change.
- §924.3(a). Text edits/additions were made for grammar and punctuation purposes clarify the intent of the regulation.
- §924.4(a). The word modification was changed to alteration because it was already defined in Article 2.
- §924.5(a). The definition JREP was changed to JRTER as a means of validating time and experience and is not intended to be a "training program"
- §924.5(b). "JRTER Participant" was added to the definition section for further clarity.
- §924.5(c). Text revision, grammar and formatting changes made to sub-section due to the addition of (b).
- §924.7(a). Text revisions for the purpose of grammar.
- §924.9(a). To clarify the documentation requirements for a Registered Fire Sprinkler Fitter.
- §924.10(a). Added language clarifying the definition "State Fire Marshal".

- §924.10(b). Added language clarifying the definition “State Fire Marshal Designee”.
- §924.11(a). Text was removed to provide consistency. Sections, when referenced, do not note the title in these definitions.
- §924.12(a). Text was added to include an additional type of Water-based Fire Protection System.
- §925(a). Text revisions were made to the sub-section to clarify the requirements of being certified/registered to install Water-based Fire Protection Systems.
- §925(b). Text revisions for the purpose of grammar.
- §925(c). Altered to reflect accurate information on fee payment methods.
- §925(d). Altered to reflect accurate information on fee payment methods.
- §925.1. Text revisions for the purpose of grammar.
- §925.1(5). Text was removed as expired certification or registration cannot be renewed in accordance with Section 935.
- §925.1(6). Renumber to (5) reflect removal of (5)
- §925.1(7). Renumber to (6) reflect removal of (5)
- §925.1(8). Renumber to (7) reflect removal of (5)
- §925.1(9). The text revision of JREP to JRTER and renumber to (8) reflect removal of (5).
- §925.1(10). Text revisions for the purpose of grammar and renumber to (9) reflect removal of (5).
- §926. Text and grammar changes were made to clearly identify the supervisory span of control as it relates to this regulation.
- §927. Text edits were made to identify “authority to govern” related to certification/registration violations, provide regulation consistency and to correct a reference to a specific Section.
- §928. Formatting changes were made for regulation consistency.
- §929. Punctuation revision implemented. Text edits were made to specify the “authority to” associated with violations outlined in this Article and to add a Section reference to provide regulation consistency.
- §930. Added the (a) to better define who is to receive reports from the AHJ. Editorial change replacing the word action with “violation” as it relates to a 15 day written requirement of reporting Fire Sprinkler Fitter violations.
- §930(b). Added to better define what the OSFM will do with specific reports that they receive from the AHJ.
- §930(c). Added to better define what the OSFM will do with specific reports that they receive from the AHJ.
- §931(a). Text revisions for the purpose of grammar and regulation consistency.
- §931(d). Text revisions for the purpose of grammar.
- §932(b). Text revisions for the purpose of grammar.
- §932(c)(2). Addition of text to specify who may perform an inspection as it relates to the Section.
- §932(c)(3). Text revisions for the purpose of grammar.
- §932(c)(4). Text revisions for the purpose of grammar.
- §932(c)(5). Text revisions for the purpose of grammar.
- §933. Reference to Section 903.1 deleted.
- §933(a). Text and punctuation revisions for the purpose of grammar.

- §933(b). Text revisions for the purpose of grammar.
- §933(c). Identify within the Section what constitutes a “deceptive practice”.
- §934. Text and grammar changes were made for the purpose of regulation clarity.
- §935. Text revisions for the purpose of grammar.
- §936. Text relocation, moved section for clarity purposes.
- §937. Text revisions for the purpose of grammar.
- §938. Addition of “Fitter” to Section Title.
- §938(a). Changes made to sub-section to clarify the definition “Fire Sprinkler Fitter” and JREP to JRTER.
- §938(b). Text revisions for the purpose of grammar and regulation clarity.
- §938(b)(1). Added text that replaced the existing verbiage, to clarify the requirements of a Fire Sprinkler Fitter Trainee. This includes methods of meeting necessary criteria and time limitations on the JRTER.
- §938(b)(2). Text change for regulation consistency.
- §938(b)(3). Text revisions for the purpose of grammar.
- §938(c). Added text regarding methods of meeting necessary criteria and time limitations on the JRTER.
- §939. Addition of “Fitter” to Section Title.
- §939(a). Formatting change made to sub-section text for clarity purposes.
- §939(b). Formatting change made to sub-section text for clarity purposes.
- §939(c). Text and formatting changes made to sub-section text for clarity purposes.
- §939(d). Text revisions for the purpose of grammar.
- §940. Addition of “Fitter” to Section Title.
- §940(a). Text revisions for the purpose of grammar.
- §940(b). Text revisions for the purpose of grammar.
- §940(c). Text revisions for the purpose of grammar and regulation clarity.
- §941(a). Text revisions for the purpose of grammar.
- §941(b). Text and formatting revisions made for further regulation clarity. Sub-section (b) and (c) were switched.
- §941(c). Text and formatting revisions made for further regulation clarity. Sub-section (b) and (c) were switched.
- §941(d). Text changes made to sub-section for clarity purposes.
- §941(d)(1). Text revisions for the purpose of grammar.
- §941(d)(2). Text revisions for the purpose of clarity.
- §941(d)(3). Text revisions for the purpose of grammar.
- §941(e). Text relocation, moved to Section 945(b).
- §941(f). Text relocation, moved to Section 946(f).
- §942. Text revisions were made for the purpose of regulation clarity
- §943. Text revisions were made for the purpose of regulation clarity
- §944. Text and punctuation revisions were made for the purpose of regulation clarity
- §945(b). Text revisions were made for the purpose of regulation clarity
- §945(c). Text revisions were made to further clarify the regulation.
- §946. Section Title changed for clarification purposes.

- §946(a). Sub-section added by relocating text from Section 936. Requires reformatting of section.
- §946(b). The reformatting of sub-section.
- §946(b)(1). The addition of CA CSLB licensing requirements were incorporated as well as changing sub-section references which changed due to reformatting. §946(b)(2). Text revision to specify the necessity of “meeting federal requirements”.
- §946(b)(3). JRTER replaced JREP.
- §946(c). The reformatting of sub-section.
- §946(c)(1). Text revisions for the purpose of grammar.
- §946(c)(2). Text revisions to sub-section references and the acronym JRTER replaced JREP to better describe the regulations purpose as a job training and experience review.
- §946(c)(3). Clarification of the necessity for reporting of experience and hours by the Fire Sprinkler Fitter’s employer.
- §946(d). The reformatting of sub-section.
- §946(d)(1). Text and punctuation revisions for the purpose of grammar.
- §946(d)(2). Text revisions to sub-section references and JRTER replaced JREP for regulation purposes.
- §946(d)(3). Clarification of the necessity for reporting of experience and hours by the Fire Sprinkler Fitter’s employer.
- §946(e). Formatting changes made to sub-section text references for clarity purposes.
- §946(f). Sub-section was moved from Section 941 for regulation clarity.
- §946(g). Added for coordination with DAS to be certain that Fire Sprinkler Fitter Apprenticeship standards are the same for all fire sprinkler fitters to insure consistency throughout the state.
- §947. Text and punctuation editing made to Section title.
- §947(a). Text revisions to sub-section references and JRTER replaced JREP for regulation purposes.
- §947.1(a). Text revisions and JRTER replaced JREP for regulation purposes.
- §947.1(a)(1)(A). Text addition for clarity purposes.
- §947.1(a)(1)(B). Text addition for clarity purposes.
- §947.1(a)(1)(C). Text revisions for further regulation clarification and consistency.
- §947.1(a)(1)(D). Text and punctuation revisions for regulation consistency.
- §947.1(a)(2)(A). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(B). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(C). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(D). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(E). Text replacement to identify a way of meeting Section “hours” requirement.

- §947.1(a)(2)(F). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(G). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(H). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(I). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(J). Text replacement to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(K). Text replacement and addition of punctuation to identify a way of meeting Section “hours” requirement.
- §947.1(a)(2)(L). Text replacement and addition of punctuation to identify a way of meeting Section “hours” requirement.
- §947.1(a)(3). Text replacement for regulation clarification.
- §947.1(a)(3)(A). Text replacement and punctuation added for regulation clarification.
- §947.1(a)(3)(B). Punctuation added for “list” style formatting purpose.
- §947.1(a)(3)(C). Punctuation added for “list” style formatting purpose.
- §947.1(a)(3)(D). Text and punctuation added to sub-section text for further clarity.
- §947.1(a)(4)(A). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(B). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(C). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(D). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(E). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(F). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(F)(i). Text and punctuation changes made to sub-section for clarity purposes and regulation consistency.
- §947.1(a)(4)(F)(ii). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(F)(iii). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(F)(iv). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(4)(F)(v). Text and punctuation addition for regulation consistency.
- §947.1(a)(4)(G). Formatting change made to sub-section text for clarity purposes.
- §947.1(a)(5). Text revision for regulation consistency.
- §947.1(a)(5)(A). Text revision for regulation consistency.

- §947.1(a)(5)(B). Text and punctuation addition for regulation consistency.
- §947.1(a)(6)(A). Text and punctuation changes made to sub-section for clarity purposes and regulation consistency.
- §947.1(a)(6)(B). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(6)(C). Text revision for regulation consistency and punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(6)(D). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(6)(E). Punctuation change made to sub-section for “list” style formatting purpose.
- §947.1(a)(6)(F). Text and punctuation addition for regulation consistency.
- §947.1(b). Text and punctuation revisions related to the “subject” requirements of Commercial certification.
- §947.1(c). Text revisions to clarify JRTER participant annual reporting requirement for renewal purposes. Eliminates exam upon completing every 2,000 hours.
- §947.1(d). Sub-section was removed as an examination is no longer applicable.
- §947.1(e). Reformatted sub-section 947.1(e) to 947.2(d) due to deletion of prior sub-section, validation added because reference to “program’ was removed and text changed for the purpose of grammar.
- §947.2. Punctuation added to Title.
- §947.2(a). Text and punctuation revisions made to sub-section text for clarity purposes, regulation consistency and the replacement of JREP with JRTER.
- §947.2(a)(3). Text added to sub-section for clarity purposes.
- §947.2(a)(4). Addition of sub-section as a means of achieving required hours for Multi-family Residential Certification.
- §947.2(a)(5). Formatting re-alignment made due to addition of sub-section (4).
- §947.2(a)(6). Formatting re-alignment made due to addition of sub-section (4).
- §947.2(a)(7). Formatting re-alignment made due to addition of sub-section (4).
- §947.2(b). Text revisions to clarify JRTER participant annual reporting requirement for renewal purposes.
- §947.2(c). Sub-section was removed as an examination is no longer applicable.
- §947.2(d). Reformatted sub-section 947.2(d) to 947.2(c) due to deletion of prior sub-section, validation added because reference to “program’ was removed and text changed for the purpose of grammar.
- §948. Text and punctuation revisions were made to distinguish between the necessity to complete three units vs. 24 hours of continuing education and the necessity for verification of those units at the time of renewal.
- §948.1. Text revisions made to the Section title for regulation clarity.
- §948.1(a). Formatting adjustments were made due to the movement of original sub-section (a) to (c) as well as text revisions for further regulation clarification and consistency.
- §948.1(b). Text and formatting changes made to sub-section for clarification of “Provider” purposes.

- §948.1(b)(1). Text changes made to sub-section for clarity and consistency of the regulation.
- §948.1(b)(2). Text changes made to sub-section for clarity and consistency of the regulation.
- §948.1(c). Formatting adjustments were made due to the movement of original sub-section (a) to (c) as well as text revisions for further regulation consistency.
- §949(a). Text revisions were made for regulation clarity.
- §949(a)(1). Text revisions and format removal was made to sub-section text for further regulation clarity and consistency.
- §949(a)(2). Numbering format revised from 949(a)(2) to 949(a)(1).
- §949(a)(1)(A). Punctuation change made to sub-section for "list" style formatting purpose.
- §949(a)(1)(A)(i)(a). Punctuation change made to sub-section for "list" style formatting purpose.
- §949(a)(2). Text revision for grammar consistency.
- §949(3). Text revision for grammar consistency.
- §949(4). Text revision for grammar consistency.
- §949(b). Text revision for grammar consistency.
- §950. Alpha revisions were made as it is not applicable in this instance. The development date of the forms was added and the lay-out was placed in a table format for further regulation clarity.

15 DAY COMMENT PERIOD- MATERIALS ADDED TO THE RULEMAKING FILE - TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY OR REPORT OR SIMILAR DOCUMENT RELIED UPON

1. "*U.S. EXPERIENCE WITH SPRINKLERS"*, by John R. Hall, Jr. This study (dated June 2013) was to evaluate the effectiveness of Automatic Sprinkler systems from 2007-2011, published by the National Fire Protection Association (NFPA).
2. "Automatic Extinguishing Systems Certification Issue" Survey. This fire service survey presented on September 15, 2014 to the Automatic Extinguishing Committee. The survey was taken from July 1, 2014 thru August 1, 2014. The data collected came from the following areas.
   - Fire Service Survey
   - Contractors Survey
   - Complaints filed with OSFM & CSLB
   - Comments from the Public
   - Pictures provided by the Industry
3. California Licensed Contractor Article, Berrigan, Bob. "Fire Protection Systems Installers Licensed." *California Licensed Contractor, Official Publication of the Contractors State License Board,* Spring of 1990: page 5.
4. Union Wage and Benefit Support Document. This is a cost analysis of the "union" apprenticeship programs for the State of California. This document was provided by Randy Roxson, who represented the Sprinkler Fitters Association of California on the development workgroup for this proposed regulation package on August 13, 2015.

5. Non-union Fiscal Impact Document was a cost analysis of the “non-union” apprenticeship programs for the State of California. This document was provided by Tom McKinnon, who represented AFSA National Association on the development workgroup for this proposed regulation package on August 3, 2015
6. Automatic Extinguishing Systems (AES) Fire Sprinkler Fitter Certification Profile Flow Chart. This document gives some example profiles of certification tracks that may apply to particular individual circumstances.
7. In connection with the 15-Day modifications to the regulations, the Office of the State Fire Marshal consulted with The California Apprenticeship Council. These were conversations only, and there were no documents relied upon or added to the rulemaking file in connection with these consultations.

15 DAY COMMENT PERIOD - DOCUMENTS INCORPORATED BY REFERENCE
As incorporated by reference, Forms AES 1005 (dated Dec 4, 2015) and AES 1008 (dated Dec 4, 2015) were edited which resulted in creating additional Form AES 1005A (dated Dec 4, 2015) in order to simplify the application process for the apprentice/trainee registration.

MODIFIED REGULATORY TEXT AS A RESULT OF PUBLIC COMMENTS RECEIVED DURING THE 15 DAY COMMENT PERIOD:
As a result of the modified text of regulations made available to the public for 15 days from July 27, 2016 to August 11, 2016, the SFM had 15 individuals submit public comments and additional minor edits to the text and forms as well as renumbering were made as follows:

Renumbering of the original “Section 936 Minimum Ages” was deleted and moved to Section 945 to add clarity. Several sections were renumbered to put in sequential order to reflect the deletion of Section 936 from the initial Notice. Editorial and clarification modifications were made to Sections 923 Exception (3), 924.11, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 946(b), 946.1, 946.1(c), 946.2, 946.2(b), 947, 947.1, 948, 948.1, 949. in the text of regulations and minor editorial corrections to forms AES 1005, AES 1005A and AES 1007. There were no changes in regulatory effect for the proposed modifications.

§923 Exception (3). Section was amended to delete the words “where the number of components and their configurations” from the exception because it provides greater clarity and keeps with the intent of the proposed section.

§924.11. “T” Definitions. Section was amended to add the section reference “937” that was erroneously omitted at the end of the sentence to provide clarity.

§935. Section was amended to delete “Certification/Registration” and add the words “or a” after Registration and “Certified individual” to the title to read …“Registration or a Certified individual”… because it provides clarity to the affected applicant seeking a renewal which has expired.

§936. Section 937 was amended to delete the number “7” and replace with “6” to put in sequential order after original 936 was deleted and moved to Section 945. Text was amended to delete “Apprentice or Trainee Certification/Registration” and replace with “Certificate or Registration as defined in this Chapter” to clarify and keep with the intent of the proposed section.

§937. Section 938 was amended to delete the number “8” and replace with “7” to put in sequential order. Text was amended in subsection (a) to revise acronym “JREP” and replace with “JRTER” to better define the purpose and add in subsection (b)(3) “C-16” to better define the Contractors State License Board contractor as a “C-16” contractor for added clarity.

§938. Section 939 was amended to delete the number “9” and replace with “8” to put in sequential order. Text was amended in subsection (c) to spell out CSLB to say “Contractors State License Board” for added clarity.

§939. Section 940 was amended to delete the number “40” and replace with “39” to put in sequential order. Text was amended in subsection (c) to delete the word “license” and replace with “certification” because it was inaccurately worded and not consistent with the section.

§940. Section 941 was amended to delete the number “1” and replace with “0” to put in sequential order.

§941. Section 942 was amended to delete the number “2” and replace with “1” to put in sequential order.

§942. Section 943 was amended to delete the number “3” and replace with “2” to put in sequential order.

§943. Section 944 was amended to delete the number “4” and replace with “3” to put in sequential order.

§944. Section 945 was amended to delete the number “5” and replace with “4” to put in sequential order.

§945. Section 946 was amended to delete the number “6” and replace with “5” to put in sequential order. Text was amended to correct the Section numbers referenced in subsections (b)(1) and (2), (c)(1) and (d)(1) because of renumbering. Text in subsection (f) was amended to delete “Apprentice/Trainee certifications and registrations” with “Trainee and Apprentice Registrations and Certifications” to add clarity.

§946. Section 947 was amended to delete the number “7” and replace with “6” to put in sequential order. Text was amended in subsection (a) to correct the Section numbers referenced because of renumbering.

§946(b). Section 946(b) was amended to add the section reference, “meet the minimum required in Section 946.1 or 946.2” at the end of the sentence to provide clarity.

§946.1(c). Section 946.1(c) was amended to delete the requirement for obtaining and reporting hours annually as a result of eliminating apprentice program requirements in other sections of the regulations. Deleted in the first sentence “a minimum of 1000” before Proof and “annually” and replaced with “Proof of the minimum hours in accordance with Section 945(c)1…”.
Deleted in the second sentence “annual” before hours and “to retain registration status at the time of renewal” after Form, and replaced with:“The hours shall be reported to the OSFM on an AES 1009 Form”.

§946.1. Section 947.1 was amended to delete the number “7” and replace with “6” to put in sequential order.

§946.2. Section 947.2 was amended to delete the number “7” and replace with “6” to put in sequential order. Text was amended in subsection (a) to add the correct number of subjects referenced.

§946.2(b). Section 946.2(b) was amended to delete the requirement for obtaining and reporting hours annually as a result of eliminating apprentice program requirements in other sections of the regulations. Deleted in the first sentence “a minimum of 1000” before Proof and “annually” and replaced with “Proof of the minimum hours in accordance with Section 945(c)1…”.
Deleted in the second sentence “annual” before hours and “to retain registration status at the time of renewal” after Form, and replaced with:“The hours shall be reported to the OSFM on an AES 1009 Form”.

§947. Section 948 was amended to delete the number “8” and replace with “7” to put in sequential order.

§947.1 Section 948.1 was amended to delete the number “8” and replace with “7” to put in sequential order.

§948. Section 949 was amended to delete the number “9” and replace with “8” to put in sequential order.

§949. Section 950 was amended to delete the number “50” and replace with “49” to put in sequential order.

All the above changes are nonsubstantial modifications or editorial corrections that provide additional clarity to the respective sections, keeps with the intent of the proposed sections and has no regulatory effect. No additional changes were necessary.

MODIFIED REGULATORY TEXT AS A RESULT OF STAFF COMMENTS RECEIVED DURING 15-DAY COMMENT PERIOD:

§937. Section 937 (b),(c),(d) and (e) were amended to correct language and add clarity to the section and renumber to put in sequential order. The amended language was taken or reprinted from other sections (specifically Sections 940 and 945) of the text to consolidate requirements and add clarity stated as follows:
"…(b) To be registered as a trainee, an applicant shall meet the following requirements:
(1) Be 16 years of age or older;
(2) Complete an application and be accompanied by the fees prescribed in Section 925.1 of these regulations;
(3) Provide proof of employment with a licensed California Contractors State License Board C-16 contractor.
(4) Upon approval of 1 through 3, applicant will be issued a Registration Card. …"

§938. Section 938(a) was amended to correct language, add clarity to the section and renumber to put in sequential order. The amended language was reprinted or copied from other sections of the text to consolidate requirements and provide added clarity as follows:

"…(a) To be registered as an apprentice, an applicant shall meet the following requirements:
(1) Be 16 years of age or older;
(2) Complete an application and be accompanied by the fees prescribed in Section 925.1 of these regulations;
(3) Provide proof of acceptance into a State of California approved apprenticeship program;
(4) Provide proof of employment with a licensed California Contractors State License Board C-16 contractor.
(5) Upon approval of 1 through 4, Applicant will be issued a Registration Card.(b) The apprentice shall work under the direct supervision of a Certified Fire Sprinkler Fitter at all times. …"

§939(a) was amended to correct language, add clarity to the section and renumber to put in sequential order. The amended language was reprinted or copied from other sections of the text to consolidate requirements and provide added clarity as follows:
"…(a) To be certified, an applicant shall meet the following requirements:
(1) Be 16 years of age or older;
(2) Complete an application and be accompanied by the fees prescribed in Section 925.1 of these regulations;
(3) Provide one of the following:
(A) Proof of completion of a State of California or federally approved apprenticeship program or;
(B) Proof of a valid State of California Contractors State License Board Fire Protection Contractor (C-16) License or;

(C) Proof of JRTER certification;
(4) Pass a written examination;
(5) Upon approval for the above, applicant will be issued a Certification Card. …"

§945 (b),(d) edits were made to text to correct sentence structure, add clarity to the section and renumber to put in sequential order. Some of the amended text was reprinted from other sections to provide clarity.

§946(b),(c) edits were made to text to correct sentence structure, add clarity to the JRTER review in section (c) and renumber to put in sequential order.

All the above changes are nonsubstantial modifications or editorial corrections which add clarity to their respective sections, keeps with the intent of the proposed sections and has no regulatory effect. No additional changes to the text of regulations were necessary.

MODIFIED DOCUMENTS INCORPORATED BY REFERENCE AS A RESULT OF COMMENTS RECEIVED DURING 15-DAY COMMENT PERIOD:

Form AES 1005 was updated to change the exam days from 15 to 30 days to be consistent with Section 940(c).
Form AES 1005A was updated to remove the exam question because an apprentice/trainee does not take an exam for registration.
Form AES 1007 was edited to clarify the fee for a course registration to "per course", not per application.
All the above changes are nonsubstantial modifications or editorial corrections which add clarity to their respective sections and keep with the intent of the proposed sections. No additional changes to the documents incorporated by reference were necessary.

INCORPORATION BY REFERENCE
The proposed regulations incorporate by reference the following administrative forms consisting of the following documents: AES 1005, 1005A, 1006, 1007, 1008, and 1009 dated December 4, 2015. Any standards incorporated by reference in this action are formal publications reasonably available from a commonly known source, were available from the Office of the State Fire Marshal (OSFM) at any time during the rulemaking action and also available on the OSFM website or from the OSFM at any time during the rulemaking action. Neither the standards nor forms incorporated by reference in this action will be printed in the California Code of Regulations because to do so would be cumbersome, unduly expensive, and otherwise impractical.

SMALL BUSINESS EFFECTS
The State Fire Marshal has determined that the proposed regulations have no substantial effect to small business. The State Fire Marshal has not identified any alternatives that would lessen any adverse impact on small business and still allow the State Fire Marshal to effectively enforce the regulations. No commenter proposed an alternative to lessen any adverse economic impact on small business.

CONSIDERATION OF ALTERNATIVES

The State Fire Marshal has determined that no reasonable alternative it considered to the regulation or that has otherwise been identified and brought its attention would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action described in the Notice, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

ALTERNATIVES TO THE REGULATION

Set forth below are the alternatives which were considered and the reasons each alternative was rejected:

1. Require use of specific methods, approaches and format for assessing economic impact. This alternative was rejected because some agencies already have methods, approaches and information that yield valid results. To require them to adopt new methods and approaches for this one subset of regulations would not be cost-effective. The proposed regulation, which is not a major regulation, had an economic impact assessment prepared in accordance with Government Code 11346.3(b).

2. Require to revert back to the originally proposed text of regulations. This alternative was rejected because changes to the original text were made with consideration from the comments received from industry leaders after the 45 and 15-day comment periods.

3. Require a certification program based upon a minimum of two-years of experience in the field and a State administered certification exam. This alternative was rejected because it does not meet the industry standards through the Division of Apprenticeship Standards (DAS). The Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined the proposed 5-year apprenticeship program and hours of experience should be the minimum requirements to be consistent with what industry standards require allowing time to achieve 7,000 hours in 5 years. These hours are also consistent with Federal and other State agency programs for sprinkler fitters.

4. Require that, instead of a JRTER, have a training program offered through the Junior College system throughout the State that would be two-years in length and be without limitations as to pay scales and supervision ratios. This alternative was rejected because the JRTER is designed for the purpose of certifying work experience and training hours previously completed for an

individual performing the installation of fire suppression systems and, therefore, cannot be replaced by a training program that is not comparable. These proposed regulations recognize four state-wide apprenticeship programs by which an individual may obtain training. The OSFM has no control over development and approval of apprenticeship programs; however the OSFM has included the JRTER as an option which does not address pay scales. The proposed regulations are based on the Automatic Extinguishing Systems Advisory Committee recommendations to include a supervision ratio.

5. Require a certification program that tests for competency of individuals without requiring an apprenticeship program. This alternative was rejected because it does not meet the industry standards. Simply testing for competency without requiring that individuals possess the minimum experience and training to install automatic extinguishing systems will not ensure quality installations. The Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined that the requirement of minimum training, experience, and knowledge is necessary to ensure sprinkler fitters are installing automatic extinguishing systems correctly.

6. Require to allow for training and development through the participation in other specialized training programs offered by NFPA, National Institute for Certification of Engineering Technologies (NICET) or other accredited programs. This alternative was rejected because the AES workgroup deemed that the NICET did not cover the areas for installation, only design and maintenance. Other specialized training programs offered by NFPA or other accredited institutions may be used for CEUs but, in lieu of state or federally approved apprenticeship programs, would not be adequate in providing the amount of training, experience, and work hours compared to an apprenticeship program.

7. Require using nationally recognized testing organizations such as National Institute for Certification of Engineering Technologies (NICET) to evaluate for competency. This alternative was rejected because as part of the proposed regulations the OSFM is already looking into contracting a 3-rd party vendor to develop and administer the examinations to evaluate for competency.

8. Require that two half-day seminars, run by the OSFM, be given each year (one every 6-months) to keep fitters up-to-date with current industry codes, trends, and materials. This alternative was rejected because NFPA, NFSA and other organizations already provide updates and more frequently offered training for the industry. The requirement of a certified fire sprinkler fitter to complete three

units of OSFM approved continuing education is to keep in line with ever-changing National Standards and state building codes. This will ensure all fire sprinkler fitters are keeping up-to-date with industry codes, trends, and materials.

9. Require that fitters be registered instead of licensed or certified. This alternative was rejected because these regulations were created to ensure those individuals who install, alter, or repair water-based fire protection systems possess the knowledge, training, and experience to do so. A registration program does not accomplish this goal as a registration program will not certify that these individuals possess the qualifications necessary to adequately install, alter, or repair water-based fire protection systems.

ALTERNATIVES DETERMINATION
The State Fire Marshal staff has thoroughly reviewed this proposed regulatory action, including both the positive and negative impacts it will place upon the industry. No alternatives considered by the State Fire Marshal would be more effective in carrying out the purpose for which the action is proposed nor would they be as effective. They also would not be less burdensome to affected private persons or businesses than the proposed action, nor would they be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provisions of the law.

LOCAL MANDATE DETERMINATION
The proposed regulation does not impose any mandate on local agencies or school districts.

COORDINATION WITH FEDERAL LAW
The State Fire Marshal has determined that this proposed regulatory action neither conflicts with, nor duplicates, any federal regulation contained in the Code of Federal Regulations.

SUMMARY AND RESPONSE TO COMMENTS RECEIVED DURING THE INITIAL 45-DAY NOTICE PERIOD FROM February 12, 2016 THROUGH March 28, 2016. Includes Verbal Testimony Comments from Hearing conducted April 7, 2016.

COMMENT #1: Mr. Ken Whittle, Whittle Fire Protection, commented he already has an in-house training and in-house inspection program facilitating safe work practices and code compliant system installations.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Whittle's efforts in training and quality assurance however, not all companies have quality training programs or oversight of the installation process.

COMMENT #1a: Mr. Ken Whittle, Whittle Fire Protection, commented that the materials installation process and final inspections are already being accomplished and enforced by the local Authority Having Jurisdiction (AHJ).
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Whittle's concerns. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #1b: Mr. Ken Whittle, Whittle Fire Protection, commented that fire sprinkler contractors are being singled out in the life safety business, which he perceives as an unfair bias.
RESPONSE: The Office of the State Fire Marshal understands Mr. Whittle's concern, however with the adoption of the International Building and Fire Codes and their reliance on sprinkler systems instead of prescriptive construction design requirements, the OSFM has a statutory responsibility to ensure the quality of the installation of fire protection systems, which ensures public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce, who with continued education in the installation of these systems can keep up with the ever changing national standards and new technology to protect life and property of the citizens of California. The OSFM also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #1c: Mr. Ken Whittle, Whittle Fire Protection, commented that there are costs associated with the program equivalent to three days payroll for employees to receive Continuing Education Units (CEU's) in addition to agency expenses.
RESPONSE: The Office of the State Fire Marshal understands Mr. Whittle's concern, however, the operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the expenditures of the staff and overhead to run such a program and the projected revenue from the approximately 8,000 certified or registered individuals in California. The derived figure is 1.2 million dollars.
In addition, individuals will be required to take 3 units of approved continuing education every three (3) years to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems.

COMMENT #1d: Mr. Ken Whittle, Whittle Fire Protection, commented that he opposes any changes to current fire regulations because he has determined that the economic impact on his business has potential for financial hardship with this regulatory action.

RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Whittle's financial concern, however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #2: Mr. Bob Brown, CR Fireline, asks "What is the role of our local AHJ?"
RESPONSE: The Office of the State Fire Marshal understands Mr. Brown's question, the role of the AHJ is to enforce fire protection systems to comply with all statutes, regulations and local ordinances.

COMMENT #2a: Mr. Bob Brown, CR Fireline, asks "When does a license or certification determine the quality of a fitter?"
RESPONSE: The Office of the State Fire Marshal supports these regulations as a mechanism to demonstrate that the actual fitter has the requisite knowledge and experience to work on these life safety systems. The development of an OSFM Certification and Registration program for fire sprinkler installers allows those who do not hold a C-16 Fire Protection Contractor's License from the CSLB, a path towards certification and qualified installation of life safety systems. Certification of knowledge and experience is a preventative measure designed to reduce the likelihood, or risk of a fire sprinkler system being improperly installed and not performing as required during a catastrophic fire incident. Furthermore, certification of knowledge and experience is designed to prevent the loss of life, whether it is a first responder or member of the public.

COMMENT #2b: Mr. Bob Brown, CR Fireline, asks "What is the $150.00 program fee used for, and how did this number come about?"
RESPONSE: The Office of the State Fire Marshal derived $150.00 per individual, based on staff and overhead expenditures to run the program for 8,000 projected certified or registered individuals in California.

COMMENT #2c: Mr. Bob Brown, CR Fireline, asks "What information shows this is needed?"
RESPONSE: The Office of the State Fire Marshal concludes that, based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #2d: Mr. Bob Brown, CR Fireline, asks "How will companies recoup these fees?"
RESPONSE: The Office of the State Fire Marshal understands Mr. Brown's concerns, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #2e: Mr. Bob Brown, CR Fireline, asks "What exactly is an insignificant cost?"

RESPONSE: The Office of the State Fire Marshal finds that any potential cost to persons or businesses are insignificant in comparison to the benefit of a properly installed fire sprinkler system, which saves lives, prevents injury, reduces the amount of destruction to property, and preventing unnecessary displacement of people and businesses. The impact of fire is significant. The catastrophic result of a fire spreading without containment substantially increases the likelihood of the loss of life, injury and property, and causes the displacement of business and people and many other collateral adverse effects. Similar regulations throughout the United States have shown that with training and education for individuals who install fire suppression systems it will reduce the likelihood of a catastrophic fire, and will ultimately lessen the adverse impact on people and businesses.

COMMENT #2f: Mr. Bob Brown, CR Fireline, asks "How will this benefit the health and welfare of residents, workers safety and the states environment?"
RESPONSE: The Office of the State Fire Marshal characterizes the benefit as achieving a trained and certified workforce, who with continued education in the installation of these systems can keep up with the ever-changing National Standards and new technology to protect life and property of the citizens of California. The Office of the State Fire Marshal also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #3: Mr. Burton Pederson, Majestic Fire Protection, Co. commented the OSFM mandated UL 300 automatic fire suppression systems in California and has never done anything to enforce it.
RESPONSE: The Office of the State Fire Marshal understands Mr. Pederson's concern, however, statute dictates the OSFM shall aid in the enforcement of laws, ordinances and regulations. Statute also states that OSFM jurisdictional authority is for state owned and state leased properties throughout California, whereas, the local AHJ is to enforce fire protection systems to comply with all statutes, regulations and local ordinances in their jurisdictional authority.

COMMENT #3a: Mr. Burton Pederson, Majestic Fire Protection, Co. commented the OSFM is collecting fees which are unwarranted.
RESPONSE: As stated in the response to Comment #2b, the Office of the State Fire Marshal disagrees with Mr. Pederson's comment. The fee structure of $150.00 per individual is based on staff and overhead expenditures to run the program for 8,000 projected certified or registered individuals in California.

COMMENT #3b: Mr. Burton Pederson, Majestic Fire Protection, Co. commented that all installation and repairs are done under the direct supervision of a C-16 license holder and these proposed regulations will not add any degree of safety or reliability in the permit or inspection process.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Pederson's comment however, not every C-16 license holder is overseeing every project. Therefore, a training and quality assurance program is needed and these proposed regulations meet that need.

COMMENT #4: Mr. Jack Thacker, Allan Automatic Sprinkler of So Cal, commented the regulation does not mention a Pipeline “C-34”, General Engineering “A” or General Building “B” Contractors having to comply with certification requirements.
RESPONSE: The Office of the State Fire Marshal does not intend for the C-34, C-36, General A and B Contractors to be certified to do underground work at this time.

COMMENT #4a: Mr. Jack Thacker, Allan Automatic Sprinkler of So Cal, states on page 13 of the "Text of Regulations", Item 3A of Section 947.1 of the Job Related Experience Program (JRTER), under 700 hours, underground piping is included. So does that require a C-34, Pipeline Contractor to comply?
RESPONSE: The Office of the State Fire Marshal does not intend for the JRTER Program to be a requirement for C-34, C-36, General A and B Contractors. Furthermore, the JRTER was renamed to Job Related Training and Experience Review (JRTER) and it was created for the general understanding and to mirror the apprenticeship programs for small businesses that are not in a state or federally approved program and still increases the possibility of successful certification and quality installations.

COMMENT #4b: Mr. Jack Thacker, Allan Automatic Sprinkler of So Cal, states on page 13, of the 'Text of Regulations", Item 5A includes the word "inspection". The word "Inspection" should be removed.
RESPONSE: The Office of the State Fire Marshal understands Mr. Thacker’s concern, however, the JRTER Program was designed to develop a well-rounded fire sprinkler fitter.

COMMENT #5: Mr. Steve Hicks, Hicks Mechanical Contractors, commented he believes that this is a misrepresentation of an installer, if not licensed, that the fire sprinkler system would not work.
RESPONSE: As stated in the response to Comment #1b, the Office of the State Fire Marshal disagrees with Mr. Hick’s concern. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems instead of prescriptive construction design requirements, the OSFM has a statutory responsibility to ensure the quality of the installation of fire protection systems, which ensures public safety throughout the State. Therefore, the best way to achieve this is to have a trained and certified workforce, who with continued education in the installation of these systems can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. This is an overall benefit to the citizens of California and their wellbeing and outweighs the cost of the program.

COMMENT #5a: Mr. Steve Hicks, Hicks Mechanical Contractors, commented about the cost to implement this program.
RESPONSE: As stated in the response to Comment #3a, the Office of the State Fire Marshal understands Mr. Hick’s concerns. However, the operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the expenditures of the staff and overhead to run such a program and the

projected revenue from the 8,000 certified or registered individuals in California. This equates to the fee structure of $150.00 per individual.

COMMENT #5b: Mr. Steve Hicks, Hicks Mechanical Contractors, has concerns about the cost to installers to attend a current non-existing apprenticeship program.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Hick's comment as there are currently four (4) state approved apprenticeship programs regionally located within the State of California.

COMMENT #5c: Mr. Steve Hicks, Hicks Mechanical Contractors, mentions the cost to current Fire Sprinkler businesses will rise due to wage increases.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hicks' concern, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company, however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #5d: Mr. Steve Hicks, Hicks Mechanical Contractors, commented about the fiscal impact on Fire Sprinkler businesses to recruit new employees or help current employees pay fees and education costs.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hicks' concern, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company., however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.
COMMENT #5e: Mr. Steve Hicks, Hicks Mechanical Contractors, commented about the impact on building owners who have to pay higher cost passed on to them.
RESPONSE: As stated in the response to Comment #1d, the Office of the State Fire Marshal understands Mr. Hick's concerns, however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #5f: Mr. Steve Hicks, Hicks Mechanical Contractors, commented about the impact of trying to enforce this regulation and collect penalties for those not able to comply.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hick's concerns, however, as stated in the response to Comment #2, it is the role of the AHJ to enforce that fire protection systems comply with all statutes, regulations and local ordinances. Furthermore, Article 4 of these proposed regulations addresses all enforcement procedures.

COMMENT #5g: Mr. Steve Hicks, Hicks Mechanical Contractors, commented about the impact of a possible lawsuit due to OSFM requiring an apprenticeship school when none are available.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hick's concern, however, when developing regulations the OSFM can't address hypothetical concerns. At this time, we know of no lawsuits relating to this regulations package.

COMMENT #6: Mr. Charles Smith, Lee Fire Protection Inc. commented he will have to increase staff and pay because of this regulatory requirement.
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith's concern, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.,

COMMENT #6a: Mr. Charles Smith, Lee Fire Protection Inc. commented $150.00 per year is excessive.
RESPONSE: As stated in the response to Comment #3a, the Office of the State Fire Marshal understands Mr. Smith's concerns. However, the operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the expenditures of the staff and overhead to run such a program and the projected revenue from the 8,000 certified or registered individuals in California. This equates to the fee structure of $150.00 per individual.

COMMENT #6b: Mr. Charles Smith, Lee Fire Protection Inc. states that, "as a California Licensed Contractor I already pay fees to another department for this. Does this mean that the Contractors State Licensing Board (CSLB) no longer has jurisdiction?"
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith's concern. This regulation does not negate the jurisdictional oversight of the license for the C-16, however, the development of an OSFM Certification and Registration program for fire sprinkler installers, allows those who do not hold a C-16 Fire Protection Contractor's License from the CSLB, a path towards certification and qualified installation of life safety systems. The C-16 would only be required to pay fees if they are doing the installing themselves.

COMMENT #6c: Mr. Charles Smith, Lee Fire Protection Inc. asks "is it the responsibility of the Contractors having the C-16 license and the Local AHJ to get this right"?
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith's question. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded, 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #6d: Mr. Charles Smith, Lee Fire Protection Inc. commented he believes there are no enforcement elements built into this regulation.
RESPONSE: As stated in the response to Comment #2, the Office of the State Fire Marshal understands Mr. Smith's concern, however, it is the role of the AHJ to enforce that fire protection systems comply with all statutes, regulations and local ordinances.

Furthermore, Article 4 of these proposed regulations addresses all enforcement procedures.

COMMENT #6e: Mr. Charles Smith, Lee Fire Protection Inc. commented, “This measure calls for CEUs for which no regulation exists and no curriculum readily available”.
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith’s concern. The intent of Sections 948 and 948.1 is to establish regulations concerning CEUs in the installation of fire suppression systems. In addition, Section 948.1 establishes a training standard that must be followed to meet the CEU requirement. Furthermore, NFPA, NFSA and NICET have existing courses that meet the standard.

COMMENT #6f: Mr. Charles Smith, Lee Fire Protection Inc. commented that with proposed fees for the issuance of a card, registering for CEU’s and the $150.00 certification fee, expenses for a new person in this industry would exceed $1000.00.
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith’s concern, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective fiscal model for any company or employee.

COMMENT #7: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented due to these market driven changes in product type, our workforce would need a significant amount of minimum residential certificates, which would be an economic disadvantage when bidding on single-family homes.
RESPONSE: The Office of the State Fire Marshal understands Mr. Benn’s concern, however, as it states in Section 923(b), one and two-family dwellings are not within the scope of this regulatory action.

COMMENT #7a: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. requested to be provided documentation of any failure caused by defective installation of a water-based fire protection system.
RESPONSE: As stated in the response to Comment #2c, the Office of the State Fire Marshal understands Mr. Benn’s concern, but concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #7b: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented he believes this regulation will cause a critical shortage of workers.
RESPONSE: The Office of the State Fire Marshal understands Mr. Benn’s concerns, however, there are no reports or statistical data in support of a shortage of fitters nationwide due to certification or licensing requirements.

COMMENT #7c: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented that Fire Departments across the state have shared stories describing faulty and inadequate work on fire suppression systems in their jurisdictions.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Benn's comment. As stated in the response to Comment #7a, the Office of the State Fire Marshal concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection.

COMMENT #7d: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: The Office of the State Fire Marshal understands Mr. Benn's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #7e: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented that the regulation will not allow him to use "helpers" any longer and as a result will have a substantial impact on his small business.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Benn's financial concern: The creation of the "trainee" position negates the necessity for helpers, interns and assistants ensuring qualified staff through the registration program; The overall

benefit to the citizens of California and their wellbeing outweighs the cost of the program, nor is the OSFM able to determine the most effective business model for any company.

COMMENT #7f: Training Programs. Mr. Benn commented that in his company most of the sprinkler fitters are Hispanic, do not speak English or have poor reading skills and would not qualify to enroll in an apprenticeship program when proof of high school graduation or GED would be required for a state ordered training or AFSA apprentice program.
RESPONSE: The Office of the State Fire Marshal understands the commenters concern. The regulations do not specify sprinkler fitters to enroll in an apprenticeship program. Sections 945(b)(3) and 946 of the regulations allow the sprinkler fitter's employer to certify employee experience and hours verified in writing on company letterhead and completion of an application Form AES 1008, Job Related Training and Experience Review (JRTER).

VERBAL TESTIMONY COMMENTS
Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented there is no data to support the Fire Service claim of faulty or inadequate installation.
RESPONSE: This comment was already addressed in Comment #7c. Based on a survey conducted in September 2014 with fire departments in California and noticed to the public, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: As stated in the response to Comment #7d, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate,

approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT: Mr. Fred Benn, Advanced Automatic Sprinkler, Inc. commented substantial impact on his small business.
RESPONSE: This comment was already addressed in Comment #7e. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program, nor is the OSFM able to determine the most effective business model for any company.
COMMENT: Mr. Fred Benn commented that in his company most of the sprinkler fitters are Hispanic, do not speak English or have poor reading skills and would not qualify to enroll in an apprenticeship program when proof of high school graduation or GED would be required for a state ordered training or AFSA apprentice program.
RESPONSE: This comment was already addressed in Comment #7f. The regulations do not specify sprinkler fitters to enroll in an apprenticeship program. Sections 945(b)(3) and 946 of the regulations allow the sprinkler fitter's employer to certify employee experience and hours verified in writing on company letterhead and completion of an application Form AES 1008, Job Related Training and Experience Review (JRTER).

COMMENT #8: Mr. John Hentsch, County of Los Angeles Fire Dept., commented on Section 927. Violations, suggesting "shall inspect" should be changed to "is authorized" as it pertains to inspections of project worksites.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Hentsch. After review of the above section, it was determined that the word "shall" is to be replaced with the word "authorized". This will keep with the intent of the proposed section.

COMMENT #9: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether the training, certification, examinations and continued education will be available in both English and Spanish.

RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. Presently examinations will be offered in English only. Our research found Colorado and Texas are the only states who currently offer a Spanish language exam option for tests related to fire suppression systems. Seeing as the manufacturer manuals and the National Standard are currently published only in English, a Spanish language examination option has not been developed at this time.

COMMENT #9a: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether an examination will be required for all installers regardless of their years of experience.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. Yes, except during the implementation period, which will be the first six months immediately following the effective date of these regulations, as stated in Section 949.

COMMENT #9b: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether there will be a formal educational requirement, such as a high school diploma, as part of the certification or continued education.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. Currently, the only requirement is to be at least 18 years of age, as stated in Section 936. However, the state and federally approved apprenticeship programs may have additional requirements not specified in the regulations.

COMMENT #9c: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether the training, certification, examinations and continued education will be available online.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. Training and CEUs will be provided by third parties who will establish their own business model, policies and examination locations. The OSFM sponsored JRTERJRTER program and examinations will be offered state-wide.

COMMENT #9d: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether the program will affect those workers installing NFPA 13-D systems in single family residences.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. However, as it states in Section 923(b), one and two-family dwellings are not within the scope of this regulatory action.

COMMENT #9e: Ms. Joyce Moller, Fire Safety Systems, Inc. asked what the impact will be for installers who are unable to pass the examination. Will this eventually result in loss of employment in this field for that individual?
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. At this time, there is no limit to the number of times any individual can take the examination. The comment regarding eventual loss of employment in this field is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company or employee.

COMMENT #9f: Ms. Joyce Moller, Fire Safety Systems, Inc. asked when, how and by whom will the program be enforced in the field?

RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern, however, it is the role of the AHJ and the OSFM personnel to enforce fire protection systems statutes, regulations and local ordinances. Furthermore, Article 4 of these proposed regulations addresses all enforcement procedures.

COMMENT #9g: Ms. Joyce Moller, Fire Safety Systems, Inc. asked whether there will be a consequence to companies who do not require their installers to work toward certification.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. Yes. Article 4 of these proposed regulations addresses all enforcement procedures.

COMMENT #9h: Ms. Joyce Moller, Fire Safety Systems, Inc. asked for the timeframe for implementation of the training program, the certification examinations, and the continuing education program.
RESPONSE: The Office of the State Fire Marshal understands Ms. Moller's concern. The implementation timeframes are specified in Section 949. The certification examinations will be implemented six months after the effective date of these regulations. The CEUs will begin being required three years after the effective date of these regulations.

COMMENT #10: Mr. Matt Cetani, Northern California Fire Protection Services, Inc. commented that the history of fire sprinkler systems shows that common failures of fire sprinkler systems include problems because the water was shut off, the hazard did not meet the occupancy, lack of maintenance, insufficient water supply or obstruction in the system. He feels these issues are all addressed in the NFPA study and that inadequately trained or supervised sprinkler fitters or technicians was not mentioned as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cetani's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual

survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #10a: Mr. Cetani, Northern California Fire Protection Services, commented that he encourages the OSFM to withdraw the proposed regulations and focus on the important core mission of the office, and leave apprenticeship and contractor regulation to the two existing state agencies charged with their administration.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cetani's concern, however, the OSFM's core mission is to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code (HSC), has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM believes the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also believes the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #11: Mr. Jeff Bridges, JB Fire Protection Inc. commented he feels there is no documentation to support the existence of the proposed program.
RESPONSE: After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual

survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM believes the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also believes the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly

COMMENT #11a: Mr. Jeff Bridges, JB Fire Protection Inc. inquired during the public hearing conducted on April 7, 2016, as to whether a GED or High School diploma will be required.
RESPONSE: The Office of the State Fire Marshal understands Mr. Bridges' concern. Currently, the only requirement is to be at least 18 years of age, as stated in Section 936. However, the state and federally approved apprenticeship programs may have additional requirements not specified in the regulations.

COMMENT #11b: Mr. Jeff Bridges, JB Fire Protection Inc. commented that there is no Economic Impact Report to support the need for the proposed regulations.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Bridges' financial concern, however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program, nor is the OSFM able to determine the most effective business model for any company.

VERBAL TESTIMONY COMMENTS:
Mr. Jeff Bridges, JB Fire Protection, commented that the AHJ be required more training required for the AHJ.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Bridges' comment, however the training of the AHJ is not within the scope of these regulations.
Comment: Mr. Jeff Bridges, JB Fire Protection, commented he believes that the industry is too specialized and the subject requirements are too broad.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Bridges' comment, however believes that the experience hours are acceptable minimum for an industry standard.

COMMENT #12: Mr. Walter Brundy, Ruprecht Construction, commented he feels there is not enough documentation to support the need for registration or certification of sprinkler fitters.
RESPONSE: The Office of the State Fire Marshal understands Mr. Brundy's concern, but As stated in the response to Comment #2c, it concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #12a: Mr. Walter Brundy, Ruprecht Construction, suggested that better training be provided for fire sprinkler building inspectors and fire marshals, and that certification only is required for anyone maintaining fire sprinkler systems.
RESPONSE: The Office of the State Fire Marshal understands Mr. Brundy's concern, however, maintenance, building inspector and fire marshal training is not within the scope of this regulatory action. Maintenance is scheduled to be addressed later.

COMMENT #13: Mr. Terry Rye, Sunrise Fire Protection, asked whether the OSFM has confidence in the inspectors that have schooling and certificates to inspect fire sprinkler systems properly.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's concerns. It is the role of the AHJ to enforce that fire protection systems comply with all statutes, regulations and local ordinances. Therefore, the OSFM has complete confidence in their skills and abilities.

COMMENT #13a: Mr. Terry Rye, Sunrise Fire Protection, asked how many fire sprinkler systems installed throughout the state have failed.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's concern. There is currently no data to show how many systems have failed in the state. However, as stated in the response to Comment #2c, OSFM concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing

conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #13b: Mr. Terry Rye, Sunrise Fire Protection, asked are plumbers, electricians, framers or drywall installers required to obtain individual certificates
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's concern, however, the certification of these specialty contractors are not within the scope of this regulatory action.

COMMENT #13c: Mr. Terry Rye, Sunrise Fire Protection, comments that he disagrees with the disclosure regarding the proposed action that indicates there will be no additional costs associated with implementation of this requirement.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's financial concern, however, the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program, nor is the OSFM able to determine the most effective business model for any company.

COMMENT #13d: Mr. Terry Rye, Sunrise Fire Protection, asked how many on the advisory board have ever tried to run a small business fire sprinkler company.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's concern and 50% of the advisory committee is made up of industry representatives who own small businesses.

COMMENT #13e: Mr. Terry Rye, Sunrise Fire Protection, asked where are the statistics of improperly installed fire sprinkler systems that have not saved lives or property.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rye's concern.. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #13f: Mr. Terry Rye, Sunrise Fire Protection, asks who is going to police the field to check for all the certificates.
RESPONSE: Office of the State Fire Marshal understands Mr. Rye's concerns, it is the role of the OSFM's personnel and AHJs to enforce that fire protection systems comply with all statutes, regulations and local ordinances. Furthermore, Article 4 of these proposed regulations addresses all enforcement procedures.

COMMENT #14: Mr. Adam Helmick, Fahrenheit, asks will the new proposed regulations apply to owners also?
RESPONSE: The Office of the State Fire Marshal understands Mr. Helmick's concern, the regulation will apply to owners, but only those who are installing commercial or multi-family fire suppression systems.

COMMENT #15: Mr. Scott Crosby, Associate Builders and Contractors, Inc. commented that the NFPA study does not site inadequately trained fitters as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands Mr. Crosby's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #15a: Mr. Scott Crosby, Associate Builders and Contractors, Inc. commented that he encourages the OSFM to withdraw the proposed regulations and focus on the important core mission of the office, and leave apprenticeship and contractor regulation to the two existing state agencies charged with their administration.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cosby's concern, however, it is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #16: Mr. Lyle Hall, Western Fire Protection, Inc. commented that Section 947, JRTER, did not appear in the AES committee recommendations to the State Fire Marshal.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #16a: Mr. Lyle Hall, Western Fire Protection, Inc. asks why one and two-family dwellings are not addressed in the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however there are several owner, builder and exceptions in law which allows a home owner to build their residence and install these fire suppression systems. These exceptions would make a certification program for one and two-family dwellings unattainable at this time.

COMMENT #16b: Mr. Lyle Hall, Western Fire Protection, Inc. commented that the legislative record of AB 433 (Chapter 377 of 2013) that enacted §13110 shows absolutely no mention of a licensure scheme like the proposed Title 19.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #16c: Mr. Lyle Hall, Western Fire Protection, Inc. commented that the NFPA publishes data summarizing sprinkler system, but does not site inadequately trained fitters as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #16d: Mr. Lyle Hall, Western Fire Protection, Inc. commented that regarding Sections 923 and 924.12, it is his belief that these regulations intrude into the definition of specialty contractors, an authority granted to CSLB.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State.

COMMENT #16e: Mr. Lyle Hall, Western Fire Protection, Inc. commented that Sections 947 & 947.1 is an intrusion into apprenticeship programs.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #16f: Mr. Lyle Hall, Western Fire Protection, Inc. commented that he believes the emphasis of this regulation should focus on adequate design, performance and installation vs. monitoring individual qualifications of the workforce.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however, the design aspect of fire suppression systems was not the intent or within the scope of these regulations.

COMMENT #16g: Mr. Lyle Hall, Western Fire Protection, Inc. commented that the regulation claims the purpose of the program is to improve performance and reliability standards, but no evidence to support the claim is cited.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however, as stated in the response to Comment #2c, OSFM concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #16h: Mr. Lyle Hall, Western Fire Protection, Inc. commented the regulation claims "fire suppression systems in California are not installed in a safe

manner by qualified and trained persons" yet one and two-family residences are exempt. However, systems are either installed in a safe manner or not, so the regulation should apply universally.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however there are several owner, builder and exceptions in law, which allows a homeowner to build their residence and install these fire suppression systems. These exceptions would make a certification program for one and two-family dwellings unattainable at this time.

COMMENT #16i: Mr. Lyle Hall, Western Fire Protection, Inc. commented that the definition "Apprentice" is not defined as it is throughout the labor code and should be.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's comment because it is defining "apprentice" for the purpose of the proposed regulations of this chapter and not any other program or regulation of the state.

COMMENT #16j: Mr. Lyle Hall, Western Fire Protection, Inc. has determined the regulation is unclear in reference to an applicant who submits their job related experience must pay the fee as outlined in Section 925.1.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern. Section 925.1(8) is the fee schedule for those becoming certified through OJT and work experience. The OSFM JRTER Review Committee will review a completed application, and all supporting documentation. If the applicant is approved, he/she may take the exam if all other requirements are met in Section 939.

COMMENT #16k: Mr. Lyle Hall, Western Fire Protection, Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Hall. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #16l: Mr. Lyle Hall, Western Fire Protection, Inc. has voiced concerns that the "Stop Work Order" could shut down a project indefinitely and is unreasonable.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's comment on the basis that Section 929. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes.

COMMENT #16m: Mr. Lyle Hall, Western Fire Protection, Inc. asks, "What happens if the AHJ fails to submit the written report within the 15 day period?"
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, however, statute dictates the OSFM shall aid in the enforcement of laws, ordinances and regulations. Statute also states that OSFM jurisdictional authority is for state owned and state leased properties throughout California, whereas, the local AHJ is to

enforce fire protection systems to comply with all statutes, regulations and local ordinances in their jurisdictional authority.

COMMENT #16n: Mr. Lyle Hall, Western Fire Protection, Inc. commented that penalties associated with the proposed regulation are excessive and punitive.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Hall's concern, however the penalty section was taken from governing statutes, Health and Safety Code and Business and Professions Code of California.

COMMENT #16o: Mr. Lyle Hall, Western Fire Protection, Inc. states, "the regulation should provide a period in which an expired registration can be renewed without it being considered a new application".
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's concern as certificates and registrations are valid for one year and as with all documents with expiration dates, they must be renewed before they are expired or the process must be started again.

COMMENT #16p: Mr. Lyle Hall, Western Fire Protection, Inc. commented the regulations completely lack the ability for use of helpers, interns or assistant craft workers.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's comment. The creation of the "trainee" position negates the necessity for helpers, interns and assistants ensuring qualified staff through the registration program.

COMMENT #16q: Mr. Lyle Hall, Western Fire Protection, Inc. commented on the ability to develop testing and/or examination procedures within the timeframe of these regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that six (6) months is a sufficient amount of time to develop testing and/or examination procedures.

COMMENT #16r: Mr. Lyle Hall, Western Fire Protection, Inc. expressed concerns of IT breaches and identity theft.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern, and is working with CAL FIRE Information Technology Department to mitigate any chance of compromising an individual's personal information.

COMMENT #16s: Mr. Lyle Hall, Western Fire Protection, Inc. commented he is concerned the OSFM is unqualified to evaluate and approve out of state apprenticeship programs.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's concern. The OSFM does not evaluate out of state apprenticeship programs, but will evaluate the individual themselves through the examination and qualification requirements for certification.

COMMENT #16t: Mr. Lyle Hall, Western Fire Protection, Inc. commented the JRTER provision seems designed to make it virtually impossible for skilled workers to qualify under the JRTER, which would place an unfair employment constraint on minorities, women and veterans.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hall's concern. This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #16u: Mr. Lyle Hall, Western Fire Protection, Inc. commented he does not understand what "In accordance with an accredited institution" means.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's comment. Accredited institutions are defined in Section 948.1(a). An accredited institution is a community college, junior college, university, technical or vocational school or any private educational agency accredited by the International Association of Continuing Education and Training (IACET).

COMMENT #16v: Mr. Lyle Hall, Western Fire Protection, Inc. notes the timeframe for transition is insufficient and disagrees that 100% of fitters must be licensed at some operative date.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Hall's comment. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that eighteen (18) months is a sufficient amount of time. In order to have equitable application of the regulations the OSFM has determined that 100% of fitters must be certified/registered.

COMMENT #16w: Mr. Lyle Hall, Western Fire Protection, Inc. commented that new statutory enactments require a skilled and trained workforce and conform to those provisions.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Hall's comment as this is the intent of these proposed regulations to have a skilled and trained workforce for the installation of fire suppression systems.

COMMENT #17: Mr. Tracy Threlfall, PHCC of California, commented that the legislative record of AB 433 (Chapter 377 of 2013) that enacted §13110 shows absolutely no mention of a licensure scheme like the proposed Title 19.

RESPONSE: The Office of the State Fire Marshal understands Mr. Threlfall's concern, however, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

> *(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.*

COMMENT #17a: Mr. Tracy Threlfall, PHCC of California, commented that the NFPA published data summarizing sprinkler system does not site inadequately trained fitters as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands Mr. Threlfall's concern.After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #17b: Mr. Tracy Threlfall, PHCC of California commented that regarding Sections 923 and 924.12, it is his belief that these regulations intrude into the definition of specialty contractors, an authority granted to CSLB.

RESPONSE: The Office of the State Fire Marshal understands Mr. Threlfall's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State.

COMMENT #17c: Mr. Tracy Threlfall, PHCC of California commented that Sections 947 & 947.1 is an intrusion into apprenticeship programs.
RESPONSE: The Office of the State Fire Marshal understands Mr. Threfall's concern. This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #17d: Mr. Tracy Threlfall, PHCC of California commented that he believes the emphasis of this regulation should focus on adequate design, performance and installation vs. monitoring individual qualifications of the workforce.
RESPONSE: The Office of the State Fire Marshal understands Mr. Threfall's concern, however, the design aspect of fire suppression systems was not the intent or within the scope of these regulations. The intent of the proposed regulation does in fact address the performance and installation of fire suppression systems through this certification program.

COMMENT #18: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented he feels neither the workgroup nor the advisory committee had input on the JRTER program.
RESPONSE: The Office of the State Fire Marshal understands Mr. Roxson's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #18a: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented clarification is needed as it relates to the continuing education hours vs. units portion of the regulations.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Roxson's comment after further review of Section 948. The proposed text has been revised to reflect units as opposed to hours.

COMMENT #18b: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the majority of contractors already abide by the rules and regulations, but because it is not a requirement, there are contractors who do not hold themselves to this standard. Therefore, the proposed rulemaking is needed.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Roxson's comment.

COMMENT #18c: Mr. Randy Roxson, Sprinkler Fitter Association of California, recommends the JRTER be removed from the regulation package due to the fact that the necessity for the program has not been established.
RESPONSE: The Office of the State Fire Marshal understands Mr. Roxson's concern. This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

however the program was developed to increase the quality of the installation of water-based systems by expanding available options for certification to those who are not in a state or federally approved program and still increases the possibility of successful certification and quality installations.

COMMENT #18d: Mr. Randy Roxson, Sprinkler Fitter Association of California, states, "a C-16 having hands-on experience at the journey-level, them not being trainees, and must equate to four years of experience, etc."
RESPONSE: The Office of the State Fire Marshal understands Mr. Roxson's comment, however, the ISOR states "*Although those who hold a C-16 Fire Protection Contractor's License from the Contractor's State License Board (CSLB), have hands-on experience at a journey-level by completing an apprenticeship program or are experienced workers, they are not trainees, and must equate four years of practical experience in one trade. This practical experience is verified by a person who has firsthand knowledge of their experience during the time period covered. Their completed work has been observed and thus are qualified fitters licensed with the CSLB."* This section of the ISOR was taken from the California Code of Regulations (CCR), Title 16, Contractor's State License Board, Section 825. This section outlines the qualifications of the C-16. The

necessity to provide this information in the ISOR was to show that not every fire sprinkler fitter in the industry has to meet the requirements of a licensee for the CSLB.

COMMENT #18e: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the JRTER portion of this proposed rulemaking should be deleted.
RESPONSE: The Office of the State Fire Marshal understands Mr. Roxson's concern, however, this was previously addressed in Comment #18c. JRTER was developed to increase the quality of the installation of water-based systems by expanding available options for certification to those who are not in a state or federally approved program and still increases the possibility of successful certification and quality installations.

COMMENT #18f: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented there weren't any conversations, data or information concerning the added JRTER.
RESPONSE: The Office of the State Fire Marshal understands Mr. Roxson's concern, however, this was previously addressed in Comment #18, This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #18g: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the "Economic Impact Analysis and Assessment" is a conflict with the fee stated ($500.00), and that in the text of the proposed regulation in Section 925.1(7) and (8) (Fee Schedule) the amount is $150.00.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Roxson's comment. The ISOR's Economic Impact Analysis and Assessment and the proposed text were not consistent. The correct amount is $150.00.

COMMENT #18h: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the JRTER Apprentice is neither a California or federally approved apprenticeship program.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Roxson's comment. because the Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a training program.

COMMENT #18i: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented “those individuals not subject to the same standard for ratios are those who are self-certified through the JRTER program.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Roxson’s. This formula was too confusing and C-16 Holders employing persons not in an apprenticeship program have an unfair advantage. *“A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants.”*

COMMENT #18j: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the OSFM does not provide justification or necessity for the JRTER.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Roxson’s comment as no specific suggestion is made for the revision of the regulation. In addition, this was already addressed in Comment #18c. This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #18k: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented within the Text of Regulations, at Page 1, Section 923(a), second sentence "A Certified Fire Sprinkler Fitter shall install piping and valves associated with water storage tanks and tank heaters for fire suppression systems." This sentence belongs in definitions for Water-Based Fire Protection Systems and not in the Scope.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Roxson’s comment and Certified Fire Sprinkler Fitter reference has been removed from the Scope.

COMMENT #18l: Mr. Randy Roxson, Sprinkler Fitter Association of California, suggests the addition of the word “authorized” before government official in 924.1(c).
RESPONSE: The Office of the State Fire Marshal accepts Mr. Roxson’s comment and the proposed text was revised to reflect AHJ.

COMMENT #18m: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented Section 933. Deceptive Practices, should be deleted in its entirety because it does not relate to a sprinkler fitter.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Roxson’s comment. The section has been added in accordance with Sections 17200 and 17500 of the Business and Professions Code, Section 17500 states *“It is unlawful for any person, firm,*

corporation or association, or <u>any employee thereof</u> with intent directly or indirectly to dispose of real or personal property or to perform services, professional or otherwise, or anything of any nature whatsoever or to induce the public to enter into any obligation relating thereto, to make or disseminate or cause to be made or disseminated before the public in this state, or to make or disseminate or cause to be made or disseminated from this state before the public in any state…" A Certified and/or Registered individual are considered an employee of a business, therefore, the Business and Professions Code applies to these regulations.

COMMENT #18n: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented, "Those individuals not subject to the same standard for ratios are those who are self-certified through the JRTER program.
RESPONSE: These comments were already addressed in Comments #16k and 18i. This formula was too confusing and C-16 holders employing persons not in an apprenticeship program have an unfair advantage, as stated: *"A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #18o: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented we should edit the text from "continuous work" to "accumulated time".
RESPONSE: The Office of the State Fire Marshal understands the comment. After further review of Section 945(c), the Office of the State Fire Marshal decided continuous is appropriate and is not revising the proposed text.

COMMENT #18p: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented that we should utilize the term "hours" instead of "units". This should be units so not to conflict with other sections of the proposed rulemaking using the term "hours".
RESPONSE: The Office of the State Fire Marshal understands the comment and after further review of Section 945(c) the proposed text has been revised to reflect units as opposed to hours in Section 948.

COMMENT #18q: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented the SFM does not justify or establish "need" for such an "in lieu of" program outside of the established DAS state-approved and federally approved sprinkler fitter apprentice programs.
RESPONSE: The Office of the State Fire Marshal rejects the comment as no specific suggestion is made for the revision of the regulation. In addition, this was already addressed in Comment #18c, JRTER was developed to increase the quality of the installation of water-based systems by expanding available options for certification to those who are not in a state or federally approved program and still increase the possibility of successful certification and quality installations.

COMMENT #18r: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented that within Section 948.1 the OSFM should reference "hours' and not "units".
RESPONSE: The Office of the State Fire Marshal understands the comment after further review of Section 948.1. The proposed text has been revised to reflect units as opposed to hours in Section 948.

COMMENT #18s: Mr. Randy Roxson, Sprinkler Fitter Association of California, asks: Why is the SFM compelled to add JRTER, which is merely a loophole to the rest of the requirements of this proposed regulation?
RESPONSE: The Office of the State Fire Marshal rejects the comment as no specific suggestion is made for the revision of the regulation. In addition, this comment was already addressed, see Comment #18, the JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of the regulations to be another apprenticeship program. JRTER applications and supporting documentation will be reviewed and approved by the OSFM JRTER review committee chaired by the OSFM.

VERBAL TESTIMONY COMMENTS: Mr. Randy Roxson, Sprinkler Fitter Association of California, commented he supports the OSFM for standardizing training for the industry.
RESPONSE: The Office of the State Fire Marshal accepts the comment.

COMMENT: Mr. Randy Roxson, Sprinkler Fitter Association of California. commented the national standard requires knowledge and experience for the design and installation of fire protection systems.
RESPONSE: This comment was already addressed see Comment #160

COMMENT #19: Mr. Peter Hulin, Superior Automatic Sprinkler Co., commented that the supervisor ratio is outside the industry practice and apprenticeship guidelines.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Hulin. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants.*"

COMMENT #19a: Mr. Peter Hulin, Superior Automatic Sprinkler Co., commented that he does not see any information on the requirement and curriculum as a minimum standard knowledge for the JRTER.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hulin's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program. the Division of Apprenticeship Standards (DAS), and the California Joint Apprenticeship Committee (JAC) advised us that this

appeared to be an underground apprenticeship program. That was not the intent of the JRTER and therefore it was revised to Job Related Training and Experience Review, (JRTER). In taking their advice, the written examination every 2,000 hours was removed.

VERBAL TESTIMONY COMMENT: Mr. Peter Hulin, Superior Automatic Sprinkler Company,commented that the supervision ratio is too high.
RESPONSE: This comment was already addressed in Comment #24l the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants.*"

COMMENT #20: Tom K., Fire Chief Fire Protection Enterprise, Inc. commented that he is in support of the regulation package. He believes anyone who is interested in going into the trade should go through the same rigorous training and certification program as a fire sprinkler contractor has.
RESPONSE: The Office of the State Fire Marshal accepts his comment of support of the proposed regulations.

COMMENT #21: Mr. Dave Balakhaneh, RFP, Inc. has concerns that the regulation will pay favor only to those contractors who are certified in specialty categories and will limit work for all C-16 contractors.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Balakhaneh's comment. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems instead of prescriptive construction design requirements, the OSFM has a statutory responsibility to ensure the quality of the installation of fire protection systems, which ensures public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce, who with continued education in the installation of these systems can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #21a: Mr. Dave Balakhaneh, RFP, Inc. has concerns that unless you are part of the program, you will not be selected as a preferred contractor.
RESPONSE: The Office of the State Fire Marshal rejects his comment, as there is not a specific suggestion made for revision of the regulation.

COMMENT #21b: Mr. Dave Balakhaneh, RFP, Inc. is concerned about C-16 contractors will not participate in the program.
RESPONSE: The Office of the State Fire Marshal rejects his comment, as there is not a specific suggestion made for revision to the regulation.

COMMENT #21c: Mr. Dave Balakhaneh, RFP, Inc. has concerns about the time, training and cost associated with becoming a C-16 contractor.

RESPONSE: The Office of the State Fire Marshal rejects his comment, as there is not a specific suggestion made for revision to the regulation. The OSFM has no authority over the California Contractor's State Licensing Board requirements.

COMMENT #21d: Mr. Dave Balakhaneh, RFP, Inc. states that a C-16 license is governed by the CSLB regulations, whose guidelines are the same for all contractors.
RESPONSE: The Office of the State Fire Marshal accepts his comment.

COMMENT #22: Mr. Todd W. Golden, Sprinkler Fitters Local 709, commented that he is in support of the State Fire Marshal Tonya Hoover, and her effort to establish this much needed regulation designed to improve the training and safety of those who install automatic fire sprinkler systems.
RESPONSE: The Office of the State Fire Marshal agrees and accepts Mr. Golden's comment.

COMMENT #22a: Mr. Todd W. Golden, Sprinkler Fitters Local 709, commented that he is in support of the historical recognition, Section 949.
RESPONSE: The Office of the State Fire Marshal agrees and accepts Mr. Golden's comment.

COMMENT #22b: Mr. Todd W. Golden, Sprinkler Fitters Local 709, commented he is in support of the removal of the JRTER.
RESPONSE: The Office of the State Fire Marshal understands Mr. Golden's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience.

VERBAL TESTIMONY COMMENT: Mr. Todd W. Golden, Sprinkler Fitters Local 709, Commented that he is in support of the State Fire Marshal Tonya Hoover, and her effort to establish this much needed regulation designed to improve the training and safety of those who install automatic fire sprinkler systems. This comment was already addressed in Comment #22. The OSFM agrees and accepts Mr. Golden's comment. He commented he is in support of the removal of the JRTER. This comment was already addressed in Comment #22b. This section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience.

COMMENT #23: Ms. Jill McCarty, A-1 Fire Protection, Inc. commented that she is in support of the State Fire Marshal Tonya Hoover, and her effort to establish this much needed regulation designed to improve the training and safety of those who install automatic fire sprinkler systems.
RESPONSE: The Office of the State Fire Marshal agrees and accepts Ms. McCarty's comment.

COMMENT #23a: Ms. Jill McCarty, A-1 Fire Protection, Inc. is discouraged with language 947 thru 947.2, Job Related Experience Program (JRTER) and its insertion.

RESPONSE: The Office of the State Fire Marshal understands Ms. McCarty's concern, however, the JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #23b: Ms. Jill McCarty, A-1 Fire Protection, Inc. commented that supervision ratio gives an unfair advantage to contractors to circumvent training essentials in the industry.
RESPONSE: The Office of the State Fire Marshal agrees with Ms. McCarty. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a Califor*nia *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #23c: Ms. Jill McCarty, A-1 Fire Protection, Inc. commented she is in support of the removal of the JRTER.
RESPONSE: The Office of the State Fire Marshal understands Ms. McCarty's concern however, this was already addressed in Comment # 23a the JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #24: Mr. Allen Quirk, CalSafe, commented there is lack of viable data to support the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide

data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #24a: Mr. Allen Quirk, CalSafe, commented he believes there is evidence that current checks and balances are already in place and are effective.
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #24b: Mr. Allen Quirk, CalSafe, has concerns about inappropriate incorporation of State apprenticeship requirements.
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern. The topics and hours were taken from the California Apprenticeship Council Pipe Trade Industry Sprinklers Fitter Advisory Committee's Sprinkler Fitter Revision 09/29/10. This allows those who have gained the experience and hours through numerous years as a fire sprinkler fitter, and who are not in a state or federally approved program a minimum standard with the possibility and opportunity of successful certification. After consulting with The Department of Industrial Relations (DIR) and members of the Apprenticeship Council, Section 947 of the proposed text has been revised to reflect that is not a apprenticeship or training program. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours.

COMMENT #24c: Mr. Allen Quirk, CalSafe, has concerns with the impact and cost of the proposed regulations.
RESPONSE: The Office of the State Fire Marshal recognizes that there is an economic impact however, it has been determined the overall safety benefits to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #24d: Mr. Allen Quirk, CalSafe, commented that the proposed regulations do not address the impact on the enforcement community.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Quirk, the role of the AHJ is to enforce fire protection systems to comply with all statutes, regulations and local ordinances.

COMMENT #24e: Mr. Allen Quirk, CalSafe, commented this would have an impact on the creation of new businesses and elimination of existing businesses.

RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern and has determined that the economic impact will be minimal and should not have a significant impact on the creation of new businesses or the elimination of existing businesses.

COMMENT #24f: Mr. Allen Quirk, CalSafe, commented that repairs needs to be removed from Section 922 Scope.
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern however, the issue of repairs will be further addressed during the next regulatory action covering testing and maintenance.

COMMENT #24g: Mr. Allen Quirk, CalSafe, commented the definition of "Apprentice" can't be used in public work projects.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Quirk's comment. The proposed definition has been revised to define "apprentice" as an individual enrolled in an apprenticeship program.

COMMENT #24h: Mr. Allen Quirk, CalSafe, commented that C-16 license holders should be exempt from the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understand Mr. Quirk's comment, however, a C-16 business license holder has no continuing education requirement and therefore would not meet the requirements of these regulations as an installer.

COMMENT #24i: Mr. Allen Quirk, CalSafe, disagrees with the definition of "Repair".
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern however, the issue of repairs will be further addressed during the next regulatory action covering testing and maintenance.

COMMENT #24j: Mr. Allen Quirk, CalSafe, commented the definition "Licensee" restricts the definition to only those C-16 license holders. This regulation will impact other trades such as the as A-General Engineering, C-34 Pipeline, C-36 Plumbing and Engineers/Architects who also install portions of the sprinkler systems such as the underground piping. It also eliminates the ability of an OSFM A license holder who is not a C-16 license holder who performs work that is under the $500.00 Contractor State License Board limit that requires a contractor's license from performing any of the defined work on a water based fire protection system that they may otherwise be able to do if they employed Certified Sprinkler Fitters.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Quirk's comment that it does restrict the definition to only those holding a C-16 license. The OSFM understands that certain portions of a fire suppression system are similar in nature to other types of installations, such as underground water mains. It is not the intent to eliminate these trades from completing their portion of the work. In accordance with current CSLB interpretation, a C-16 license is required if an activity results in the repair or replacement of any components of the system. The $500.00 limitation is not applicable to fire protection installations. In other words, a contractor's license (C-16) is still required even if a fire protection installation is less than $500.00.

COMMENT #24k: Mr. Allen Quirk, CalSafe, commented that he disagrees with the definition of "Water Base Fire Protection Systems".
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State.

COMMENT #24l: Mr. Allen Quirk, CalSafe, commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Quirk. After review of the above section, the proposed text has been revised to state, *"A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #24m: Mr. Allen Quirk, CalSafe, is concerned Section 928(a), the Notice of Violation Correction Order, will not be provided notification of said violation.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. It is up to the individuals who are violated to notify their employer. In addition, Section 934 of these proposed regulations specifies that it is the employer's responsibility to ensure that the individuals on the job site are certified and/or registered.

COMMENT #24n: Mr. Allen Quirk, CalSafe, commented he believes that the Stop Work Order is beyond the scope of these proposed regulations.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Quirk's concern. Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the Authority Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes.
COMMENT #24o: Mr. Allen Quirk, CalSafe, commented he would like clarification on the SFM Designee.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Quirk's comment. In Section 13103 of the California Health and Safety Codeit states the following; "*The State Fire Marshal may appoint those assistant or deputy state fire marshals…"* The SFM designee is anyone of those individuals that is appointed by the State Fire Marshal.

COMMENT #24p: Mr. Allen Quirk, CalSafe, commented that the OSFM should delete Section 929. Stop Work Order.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. This was already addressed in Comment #24n, Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to

correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the Authority Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes. As previously stated by the OSFM in Comment #24m, it is the employer's responsibility to ensure regulations are not violated.
COMMENT #24q: Mr. Allen Quirk, CalSafe, is concerned that 15 days is too long for the AHJ to report a violation.
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's concern, In Section 930 of these proposed regulations it specifies the AHJ's must report Certification/Registration violations to the OSFM. This report allows the OSFM to conduct additional enforcement actions as deemed necessary and for the tracking of individual violators.

COMMENT #24r: Mr. Allen Quirk, CalSafe, questions why the SFM Designee has the authority to revoke or suspend a certification or registration.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. The SMF Designee comment has been addressed in #24o, Section 13103 of the California Health and Safety Code. it states the following; *"The State Fire Marshal may appoint those assistant or deputy state fire marshals…"* The SFM designee is anyone of those individuals that is appointed by the State Fire Marshal. In addition, that designee of the OSFM has the authority to deny, revoke or suspend violators per Health and Safety Code, Section 13197.6.

COMMENT #24s: Mr. Allen Quirk, CalSafe, believes that 30 days for an investigation is too long and will cause undue hardship to an employee who is in violation of the regulations.
RESPONSE: The Office of the State Fire Marshal understand Mr. Quirk's concern, however, the OSFM's authority comes from a precedence set by other statutory authority. In order to maintain consistency with all other licensing and certification programs it has been determined that a maximum of 30 days is acceptable for a pending investigation of the violation.

COMMENT #24t: Mr. Allen Quirk, CalSafe, commented Section 933. Deceptive Practices, Sections 17200 and 17500 of the Business and Professions Code, has no place in these regulations.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. The section has been added in accordance with Sections 17200 and 17500 of the Business and Professions Code, Section 17500 states *"It is unlawful for any person, firm, corporation or association, or <u>any employee thereof</u> with intent directly or indirectly to dispose of real or personal property or to perform services, professional or otherwise, or anything of any nature whatsoever or to induce the public to enter into any obligation relating thereto, to make or disseminate or cause to be made or disseminated before the public in this state, or to make or disseminate or cause to be made or disseminated from this state before the public in any state…"* A Certified and/or Registered individual is considered an employee of a business, therefore, the Business and Professions Code applies to these regulations.

COMMENT #24u: Mr. Allen Quirk, CalSafe, suggests that program documents should be available, uploaded and processed in an electronic format.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Quirk's comment, however, the OSFM currently does not have that capability and is working to rectify this concern.

COMMENT #24v: Mr. Allen Quirk, CalSafe, commented we should edit the text from "continuous work" to "accumulated time".
RESPONSE: The Office of the State Fire Marshal understands Mr. Quirk's comment. After further review of Section 945(c), The Office of the State Fire Marshal is not going to revise the proposed text.

COMMENT #24w: Mr. Allen Quirk, CalSafe, commented that these regulations do not allow for those who work for A- General Engineering, C-34 Pipeline, C-36 Plumbing and Engineers/Architects to work on water-based fire protection systems.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. Water-based Fire Protection Systems are to be installed by C-16 Contractors. In addition, to clarify the scope these regulations were not intended to include fitters of underground piping not within the definition of water-based fire protection systems in Section 924.12. When "These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…." it must be clearly understood and recognized in these regulations that under CA Contractors State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

It is further noted in CA B&P Code, Section 6737.4, it states and referenced in the Contractor's License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: *"A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of*

contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person."

COMMENT #24x: Mr. Allen Quirk, CalSafe, commented he believes that certification and/or registration should only be available electronically for the benefit of the employee and AHJ.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. Sections 942, 943, 944 all require the individual to carry their card with them while working within the scope of these regulations and to maintain consistency with all other licensing and certification programs of the OSFM. In addition, it has been determined that this mechanism ensures the integrity of the certification/registration for the purpose of AHJ requirements, much like the necessity for the possession of a valid driver's license being needed to operate a vehicle.

COMMENT #24y: Mr. Allen Quirk, CalSafe, has concerns regarding Section 946(a)(3) examination requirements and providing proof of the JRTER validation.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. No specific suggestion is made for the revision of the regulation Section 946(a)(3). In addition, the JRTER is one of three (3) mechanisms an individual may use to enter the examination process.

COMMENT #24z: Mr. Allen Quirk, CalSafe, commented military service should be considered as a source of experience.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Quirk's comment. As stated, the accumulation of required hours can come from any certifiable source which meets the criteria outlined in Section 947.

COMMENT #24aa: Mr. Allen Quirk, CalSafe, commented there should be a way to "test out" of the JRTER.
RESPONSE: The Office of the State Fire Marshal understands the intent of "test out", however, an individual must be enrolled in the JRTER to successfully pass the examination.

COMMENT #24bb: Mr. Allen Quirk, CalSafe, commented that the elements of the JRTER resemble apprenticeship training program standards for California and believes these regulations were not intended to be an apprenticeship program.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Quirk's comment. This section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and

make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #24cc: Mr. Allen Quirk, CalSafe, commented that we should utilize the term "hours" instead of "units". This should be units so not to conflict with other sections of the proposed rulemaking using the term "hours".
RESPONSE: The Office of the State Fire Marshal accepts Mr. Quirk's comment after further review of Section 945(c). The proposed text has been revised to reflect units as opposed to hours in Section 948.

COMMENT #24dd: Mr. Allen Quirk, CalSafe, commented that 949(a) provides for the provisions of the section to supersede parts of the regulation for six months, but it does not state six months from what point in time.
RESPONSE: The Office of the State Fire Marshal understands his concern, however, Section 949(a) pertains to the examination procedures. Whereas 949(b) states that no examination is required within 180 days (6 months) of the effective date of these regulations.

COMMENT #24ee: Mr. Allen Quirk, CalSafe, commented that he feels that no certification card should be required on the job site for eighteen (18) months after the effective date of this regulation.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice the OSFM deems that this is a sufficient amount of time.

COMMENT #24ff: Mr. Allen Quirk, CalSafe, commented that he feels that there are existing strong penalties and fines to correct failures of fire sprinklers.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quirk's comment. Failure of installation is already addressed in Comment #24a. In addition, the fines and penalties for the proposed regulations are for those that do not comply with the certification/registration program.

VERBAL TESTIMONY COMMENTS: Mr. Allen Quirk, CalSafe, commented there is lack of viable data to support the proposed regulations.
RESPONSE: This comment was already addressed in Comment #24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In

California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.
COMMENT : Mr. Allen Quirk, CalSafe, commented He also has concerns with the impact and cost of the proposed regulations.
RESPONSE: This comment was already addressed in Comment #24c. The Office of the State Fire Marshal recognizes that there is an economic impact however, it has been determined the overall safety benefits to the citizens of California and their wellbeing outweighs the cost of the program.
COMMENT: He also has concerns that have been obtained through military service or other similar type programs will not be acknowledged.
RESPONSE: This comment was already addressed in Comment #18, the JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience.

COMMENT #25: Mr. John Butcher, Millennium Fire Protection, commented that Section 926, supervision should be uniform across all programs.
RESPONSE: The Office of the State Fire Marshal rejects the comment. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #25a: Mr. John Butcher, Millennium Fire Protection, commented that there should be no "Stop Work Orders" for unauthorized persons for lost, late or non-renewed certification.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Butcher's concern. Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the

Agency Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes. As previously stated by the OSFM in Comment #24m, it is the employer's responsibility to ensure regulations are not violated.

COMMENT #25b: Mr. John Butcher, Millennium Fire Protection, commented civil penalties and misdemeanors should not be pursued.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Butcher's comment. The OSFM has the authority to deny, revoke or suspend violators per Health and Safety Code (HSC), Section 13197.6, in addition to HSC Section 13199 which states, *"any person who violates any provisions of this chapter or any regulation or building standard adopted by the State Fire Marshal pursuant to Section 13195 is guilty of a misdemeanor punishable by a fine…"* as well as to the misdemeanors and civil penalties per HSC Section 13112.

COMMENT #25c: Mr. John Butcher, Millennium Fire Protection, commented he believes that employers should have two weeks to notify the OSFM for an employee set in a "trainee" status.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Butcher's comment based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice the OSFM deems that this is a sufficient amount of time.

COMMENT #25d: Mr. John Butcher, Millennium Fire Protection, asks what are the conditions that the OSFM will or will not validate the JRTER?
RESPONSE: The Office of the State Fire Marshal understands Mr. Butcher's concern. As stated, the accumulation of required hours can come from any certifiable source which meets the criteria outlined in Section 947, specifically paragraph (b).

COMMENT #25e: Mr. John Butcher, Millennium Fire Protection, commented he is in support of the JRTER option in these proposed regulations.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Butcher's comment.

COMMENT #26: Mr. James Charrette, Allan Automatic Sprinkler of So Cal, is discouraged with language 947 thru 947.2, Job Related Experience Program (JRTER) and its insertion.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Charrette comment. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems.

COMMENT #26a: Mr. James Charrette, Allan Automatic Sprinkler of So Cal, commented that supervision ratio gives an unfair advantage to contractors to circumvent training essentials in the industry.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Charrette. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their*

Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #26b: Mr. James Charrette, Allan Automatic Sprinkler of So Cal, commented why is there a need for an alternative, watered down program for the minority of contractors to avoid safety and training.
RESPONSE: See Comment #26.

COMMENT #26c: Mr. James Charrette, Allan Automatic Sprinkler of So Cal, commented the unrealistic alternative that does not include an instructor, classroom criteria or curriculum examinations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Hulin's concern however; this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #26d: Mr. James Charrette, Allan Automatic Sprinkler of So Cal, commented he is in support of the removal of the JRTER.
RESPONSE: The Office of the State Fire Marshal understands Mr. Charrette's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #27: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented there is no valid documentation to support the need for these regulations.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Schissel's comment. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or

an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #27a: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented that supervision ratio gives an unfair advantage to contractors to circumvent training essentials in the industry.
RESPONSE: The Office of the State Fire Marshal agrees with Ms. Schissel. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #27b: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented she feels neither the workgroup or the advisory committee had input on the JRTER program.
RESPONSE: The Office of the State Fire Marshal understands Ms. Schissel's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic

Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #27c: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented that there will be no cost savings to State agencies, local agencies and school districts.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Schissel's comment because no specific suggestion was made for revision of these regulations.

COMMENT #27d: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented she feels that there may be adverse economic impacts for California businesses competing with businesses from out of state.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Schissel's comment because no specific suggestion was made for revision of these regulations. Out of state businesses will have to meet these regulation to install fire protection systems in California. . In addition the OSFM finds that any potential cost to persons, businesses, schools and agencies are insignificant in comparison to the benefit of a properly installed fire sprinkler system, which saves lives, prevents injury, reduces the amount of destruction to property, and preventing unnecessary displacement of people and businesses. The impact of fire is significant. The catastrophic result of a fire spreading without containment substantially increases the likelihood of the loss of life, injury and property, and causes the displacement of businesses and people and many other collateral adverse effects. Similar regulations throughout the United States have shown with training and education for individuals who install fire suppression systems will reduce the likelihood of a catastrophic fire, and will ultimately lessen the adverse impact on people and business. The overall benefit to the citizens of California and their wellbeing outweighs the financial concerns and cost of the program.

COMMENT #27e: Ms. Tamara Schissel, Tyco SimplexGrinnell, believes that contractors already providing continuous in-house training is acceptable and is more cost effective than relying on outside providers.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Schissel's comment because no specific suggestion was made for revision of these regulations. However, The OSFM has duty to protect life and property. As improvements within the industry occur, the OSFM must ensure knowledge and abilities of those employed in the industry are properly trained. Individuals will be required to take 3units of approved continuing education over a three (3) years period to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. All training courses for CEU's must meet the International Association of Continuing Education and Training (IACET) Standard. Any organization can become an accredited provider through IACET.

COMMENT #27f: Ms. Tamara Schissel, Tyco SimplexGrinnell, commented she feels that if the proposed regulations must move forward she supports the July 22, 2015 text version agreed upon by the AES Advisory Committee not the current proposed text. **RESPONSE:** The Office of the State Fire Marshal understands Ms. Schissel's comment, however the Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #28: Mr. Willard McCune, Tyco SimplexGrinnell made the same remarks as Commented by Tamara Schissel, commented there is no valid documentation to support the need for these regulations. **RESPONSE:** This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements,

the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #29: Mr. Robert Ciereck, Tyco SimplexGrinnell made the same remarks as Commented by Tamara Schissel, commented there is no valid documentation to support the need for these regulations.
RESPONSE: This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

VERBAL TESTIMONY COMMENT: Mr. Robert Ciereck, Tyco SimplexGrinnell**,** commented there is no valid documentation to support the need for these regulations. **RESPONSE:** This comment was already addressed in Comment #27. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

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the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

He believes that contractors already providing continuous in-house training is acceptable and is more cost effective than relying on outside providers. This comment was already addressed in Comment #27e. The OSFM has duty to protect life and property. As improvements within the industry occur, the OSFM must ensure knowledge and abilities of those employed in the industry are properly trained. Individuals will be required to take 3 unitsof approved continuing education over a three (3) years period to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. All training courses for CEU's must meet the International Association of Continuing Education and Training (IACET) Standard. Any organization can become an accredited provider through IACET.

COMMENT #30: Mr. James L. Faltemier, Tyco SimplexGrinnell made the same remarks as Commented by Tamara Schissel, commented there is no valid documentation to support the need for these regulations.
RESPONSE: This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #31: Mr. Brian Pipkin, Tyco SimplexGrinnell made the same remarks as Commented by Tamara Schissel, commented there is no valid documentation to support the need for these regulations.
RESPONSE: This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

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California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #32: Misters Dale O'Dell, Kevin Watson, Chuck Frame, Road Sprinkler Fitters Local Union No. 669, commented they feel neither the workgroup nor the advisory committee had input on the JRTER program.
RESPONSE: The Office of the State Fire Marshal understands Road Sprinkler Fitters Local Union No. 669's concerns, however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #32a: Misters Dale O'Dell, Kevin Watson, Chuck Frame, Road Sprinkler Fitters Local Union No. 669, commented that supervision ratio gives an unfair advantage to contractors to circumvent training essentials in the industry.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. O'Dell, Watson and Frame. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #32b: Misters Dale O'Dell, Kevin Watson, Chuck Frame, Road Sprinkler Fitters Local Union No. 669, commented he is in support of the removal of the JRTER.
RESPONSE: The Office of the State Fire Marshal rejects their comment. The JRTER was already addressed in Comment # 23c. The JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #33: Mr. Michal Wojtowicz, Mike Fire Protection Inc. commented that the materials installation process and final inspections are already being accomplished and enforced by the local Authority Having Jurisdiction (AHJ).

RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Wojtowicz' concerns. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #33a: Mr. Michal Wojtowicz, Mike Fire Protection Inc. commented he believes this regulation will cause a critical shortage of workers.
RESPONSE: The Office of the State Fire Marshal understands Mr. Wojtowicz' concerns, however, there are no reports or statistical data in support of a shortage of fitters nationwide due to certification or licensing requirements.

COMMENT #34: Mr. John Schleicher, Hangtown Fire Control, Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: Office of the State Fire Marshal understands Mr. Scheicher's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #34a: Mr. John Schleicher, Hangtown Fire Control, Inc. commented that Section 926, supervision should be uniform across all programs.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Schleicher comment. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #34b: Mr. John Schleicher, Hangtown Fire Control, Inc. commented he feels neither the workgroup nor the advisory committee had input on the JRTER program.
RESPONSE: The Office of the State Fire Marshal understands Mr. Schleicher's concern however, the JRTER was already addressed in Comment # 23c. The JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #34c: Mr. John Schleicher, Hangtown Fire Control, Inc. made the same remarks as Commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

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COMMENT #35: Mr. Eduardo Moreno, LSE Fire Protection, Inc. made the same remarks as commented by James Charrette, Allan Automatic Sprinkler of SoCal.
RESPONSE: The JRTER was already addressed in Comment # 26. The JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #36: Mr. Bruce Wick, CALPASC, commented there is no evidence of fire suppression systems failing to perform as designed due to improper installation.
RESPONSE: The Office of the State Fire Marshal understands Mr. Wick's concern, however, based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #36a: Mr. Bruce Wick, CALPASC, commented that Section 926, supervision should be uniform across all programs.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Wick comment. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees. Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants.*"

COMMENT #36b: Mr. Bruce Wick, CALPASC, commented that he believes an apprentice should be able to supervise a trainee.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Wick's comment based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice the OSFM deems that the trainee's direct supervision should be by the certified fitter only.

COMMENT #36c: Mr. Bruce Wick, CALPASC, commented he believes that the Stop Work Order is beyond the scope of these proposed regulations.
RESPONSE: The Office of the State Fire Marshal rejects with Mr. Wick's comment. Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the Agency Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes. As previously stated by the OSFM in Comment #24m, it is the employer's responsibility to ensure regulations are not violated.

COMMENT #36d: Mr. Bruce Wick, CALPASC, commented civil penalties and misdemeanors should not be pursued.
RESPONSE: This comment was already addressed in Comment #25b. The OSFM has the authority to deny, revoke or suspend violators per Health and Safety Code (HSC), Section 13197.6, in addition to HSC Section 13199 which states, *"any person who violates any provisions of this chapter or any regulation or building standard adopted by the State Fire Marshal pursuant to Section 13195 is guilty of a misdemeanor punishable by a fine…"* as well as to the misdemeanors and civil penalties per HSC Section 13112.

COMMENT #36e: Mr. Bruce Wick, CALPASC, commented he is support of the JRTER but, he wants to see a text change that the SFM "shall" validate any submitted program that meets the requirement of 947.1 and 947.2.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Wick's comment. In Section 947(b), it states, "*Employment experience and hours shall be verified by letter on company letterhead, certifying the experience and hours from the fire sprinkler fitter's employer."* This information will be validated by the OSFM.

COMMENT #37: Assemblyman Travis Allen, Assembly California Legislature, rejects the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Assemblyman Allen's concerns. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of

fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #38: Mr. Todd Immoos, Immoos Fire Protection Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.

RESPONSE: The Office of the State Fire Marshal understands Mr. Immoos' concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
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COMMENT #39: Mr. Zare Babayan, Apex Fire Protection, made the same remarks as commented by James Charrette, Allan Automatic Sprinkler of SoCal.
RESPONSE: The JRTER was already addressed in Comment # 26. The JRTER was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program.

COMMENT #40: Mr. Charlie Quickert, Sure Fire Protection Co. Inc. commented he feels that the new certification requirements will disqualify individuals with learning disabilities from obtaining work where they may be fully successful in the hands-on application, but unable to complete or pass an apprenticeship program.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Quickert's comment because no specific suggestion was made for revision of these regulations. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program. The proposed regulations do not discriminate and are intended to certify that individuals installing fire suppression systems possess the training, knowledge, and qualifications to do so. A person who does not meet the requirements will not be certified. Additionally, completion of an apprenticeship program is not the only means of

certification, the addition of the JRTER is an example of a method an individual with the experience and training to become certified.

COMMENT #40a: Mr. Charlie Quickert, Sure Fire Protection Co. Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance.
RESPONSE: This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #41: Mr. Maurice Singleton, Singleton Fire Protection, Inc. commented he opposes the new regulations because he feels there is no statistical data supporting the requirement and the cost of implementing such a program which out-weighs the negative impact on the industry.
RESPONSE: The Office of the State Fire Marshal understands Mr. Singleton's concern, This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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In addition, based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did

not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #42: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that the five-year apprenticeship program is too lengthy (takes longer to complete than a Bachelor's degree would). They recommend a certification based upon two-years of experience in the field and an OSFM certification exam, such as is used in Nevada.
RESPONSE: The Office of the State Fire Marshal understands Ms. Sabah and Mr. Kapis' concern, however, the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined that these should be the minimum requirements. These hours are also consistent with Federal and other State agency's programs for sprinkler fitters.

COMMENT #42a: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that the number of apprenticeship program options is limited, and participation in the existing programs require the employer to sign an agreement to a set pay scale based on program participation as opposed to work performance. They recommend a program offered through the Junior College system throughout California that would be two years in length and be without set pay scales and supervision ratios.
RESPONSE: The Office of the State Fire Marshal understands with Ms. Sabah and Mr. Kapis' comments however, these proposed regulations recognize five programs by which an individual may obtain their certification. The OSFM has no control over development and approval of apprenticeship programs, however the OSFM has included the JRTER as an option which does not address pay scales. The proposed regulations are based on the Automatic Extinguishing Systems Advisory Committee recommendations to include a supervision ratio.

COMMENT #42b: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that there is no empirical data to support the need for this certification requirement.
RESPONSE: The Office of the State Fire Marshal understands Ms. Sabah and Mr. Kapis' concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component

damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #42c: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that the regulations package references that "most fire protection contractors already operate in accordance with the proposed regulations." If this statement is true does this mean that only a small number of contractors are not following these standards, and those could be dealt with by the CSLB rather than the implementation of additional regulations and certification requirements?
RESPONSE: The Office of the State Fire Marshal understands Ms. Sabah and Mr. Kapis' concerns, however the OSFM has determined that all installations of water-based fire suppression systems must meet the minimum installation requirements as set forth in these regulations. The CSLB addresses only the C-16 holder and does not set any training requirements for the holder's individual employees who install automatic fire suppression systems. The legislature has designated the OSFM as the authority to establish the minimum training requirements for certified fire sprinkler installers.

COMMENT #42d: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that the installation process and final inspections are already being accomplished and enforced by the local AHJ.
RESPONSE: The Office of the State Fire Marshal understands Ms. Sabah and Mr. Kapis' concern, however, based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and Inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #42e: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that the apprenticeship programs are not cost-effective to contractors and recommend other accreditation programs such as NICET be used.
RESPONSE: The Office of the State Fire Marshal understands Ms. Sabah and Mr. Kapis' concern, however, during the development of these proposed regulations the AES Workgroup deemed that NICET did not cover the areas for installation, only design and maintenance, which are not part of the scope of these regulations. Furthermore, the AES Committee concurred with that recommendation.

COMMENT #42f: Ms. Michele Sabah and Mr. Jon Kapis, SABAH International, commented that they recommend that the certification be limited to the installation of fire sprinklers only.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Sabah and Mr. Kapis' comment. The second and third phase workgroups have not been established at this time and there has not been a determination as to whether it will be needed. Comments by the industry for this proposed regulation, along with statistical data from the NFPA study, show that the maintenance of these systems does need to be addressed.

VERBAL TESTIMONY RESPONSE: Mr. Jon Kapis, SABAH International This comment was already addressed in Comment #42**:** The five-year apprenticeship program is too lengthy (takes longer to complete than a Bachelor's degree would). and recommend a certification based upon two-years of experience in the field and an OSFM certification exam, such as is used in Nevada. The Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined that these should be the minimum requirements. These hours are also consistent with Federal and other State agency's programs for sprinkler fitters.

This comment was already addressed in Comment #42a. The number of apprenticeship program options is limited, and participation in the existing programs require the employer to sign an agreement to a set pay scale based on program participation as opposed to work performance. They recommend a program offered through the Junior College system throughout California that would be two years in length and be without set pay scales and supervision ratios. These proposed regulations recognize five programs by which an individual may obtain their certification. The OSFM has no control over development and approval of apprenticeship programs, however the OSFM has included the JRTER as an option which does not address pay scales. The proposed regulations are based on the Automatic Extinguishing Systems Advisory Committee recommendations to include a supervision ratio.

This comment was already addressed in Comment #42b. There is no empirical data to support the need for this certification requirement. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe

sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

COMMENT #43: Mr. Doug Brozovich, Baker Company Constructors, Inc. commented the NFPA 2013 Report states in their statistics failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: The Office of the State Fire Marshal understands Mr. Brozovich's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #44: Mr. Paul Cogburn, Fireguard Extinguisher Service, Inc. commented he opposes a certification program that creates a one size fits all solution to the installation of water based systems, such as underground water mains, the fire pumps, foam systems and dry systems.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cogburn's concern, however, these regulations were not intended to include fitters of underground piping not within the definition of water-based fire protection systems in Section 924.12. When "These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…." it must be clearly understood and recognized in these regulations that under CA Contractors State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

It is further noted in CA B&P Code, Section 6737.4 it states and referenced in the Contractor's License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: *"A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person."*

COMMENT #44a: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented he opposes the certification program because in the Initial Statement of Reasons (ISOR) the OSFM asserts that the employees of a licensed contractor are not held to the same standards of the licensed contractor.
RESPONSE: The Office of the State Fire Marshal concurs with Mr. Cogburn's statement. The licensed contractor's employees are not held to the same standard. The employees of the Contractor's State Licensing Board licensee is not required to demonstrate any training, experience, or qualifications as a Journeyman to install fire suppression systems in the State of California. In addition, not every C-16 license holder is overseeing every project. Therefore, a training and quality assurance program is needed and these proposed regulations meet that need.

COMMENT #44b: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented that the materials installation process and final inspections are already being accomplished and enforced by the local AHJ.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Cogburn's concerns. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #44c: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented that throughout the ISOR that water based fire protection systems are failing due to improper installation, testing and/or maintenance because of untrained fitters. Furthermore the NFPA 13, 2013 Fact Sheet proves 91% of all structure fires large enough to active fire sprinklers, excluding buildings under construction and buildings without sprinklers, operated successfully. It also states that the biggest majority of failures occurred from improper maintenance.
RESPONSE: The Office of the State Fire Marshal concurs with Mr. Cogburn's statement. The licensed contractor and their employees are not held to the same standard. The employees of the Contractor's State Licensing Board licensee is not required to demonstrate any training, experience, or qualifications as a Journeyman to install fire suppression systems in the State of California.

COMMENT #44d: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cogburn's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #44e: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented he would like clarification on the SFM Designee.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Cogburn's comment. In Section 13103 of the CA HSC it states the following; "*The State Fire Marshal may appoint those assistant or deputy state fire marshals…"* The SFM designee is anyone of those individuals that is appointed by the State Fire Marshal.

COMMENT #44f: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented civil penalties and misdemeanors should not be pursued.
RESPONSE: This comment was already addressed in Comment #25b. The OSFM has the authority to deny, revoke or suspend violators per Health and Safety Code (HSC), Section 13197.6, in addition to HSC Section 13199 which states, *"any person who violates any provisions of this chapter or any regulation or building standard adopted by the State Fire Marshal pursuant to Section 13195 is guilty of a misdemeanor punishable by a fine…"* as well as to the misdemeanors and civil penalties per HSC Section 13112.

COMMENT #44g: Mr. Cogburn, Fireguard Extinguisher Service, Inc commented he believes that the Stop Work Order is beyond the scope of these proposed regulations.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Cogburn's concern. Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the Agency Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes. As previously stated by the OSFM in Comment #24m, it is the employer's responsibility to ensure regulations are not violated.

COMMENT #44h: Mr. Cogburn, Fireguard Extinguisher Service, Inc commented Section 933. Deceptive Practices, should be deleted in its entirety because it does not relate to a sprinkler fitter.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Cogburn's comment. The section has been added in accordance with Sections 17200 and 17500 of the Business and Professions Code, Section 17500 states *"It is unlawful for any person, firm, corporation or association, or <u>any employee thereof</u> with intent directly or indirectly to dispose of real or personal property or to perform services, professional or otherwise, or anything of any nature whatsoever or to induce the public to enter into any obligation relating thereto, to make or disseminate or cause to be made or disseminated before the public in this state, or to make or disseminate or cause to be made or disseminated from this state before the public in any state…"* A Certified and/or Registered individual is considered an employee of a business, therefore, the Business and Professions Code applies to these regulations.

COMMENT #44i: Mr. Cogburn, Fireguard Extinguisher Service, Inc. commented clarification is needed as it relates to the continuing education hours vs. units portion of the regulations.

RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Cogburn's comment after further review of Section 948. The proposed text has been revised to reflect units as opposed to hours.

COMMENT #45: Mr. Thomas Mau, So Cal Fire Protection Inc. made the same remarks as commented by James Charrette, Allan Automatic Sprinkler of SoCal.
RESPONSE: See Comment #26

COMMENT #46: Mr. James Feld, University of California Berkeley, commented that "repairs" needs to be removed from Section 922. Scope.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern, however, the issue of repairs will be further addressed during the next regulatory action covering testing and maintenance.

COMMENT #46a: Mr. James Feld, University of California Berkeley, commented that the language concerning OSFM Training Program being consistent with the rest of the regulation.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Feld's comment. The text of the regulation reflects the change made to stay consistent throughout the regulations.
COMMENT #46b: Mr. James Feld, University of California Berkeley commented that the language of a certified fitter does not match the requirements in Section 946.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Feld's comment. The text of the regulation reflects the change in Section 946 (a)(1) stating *"…Apprenticeship Program or State of California Contractor State License Board Fire Protection Contractor (C-16) license".*

COMMENT #46c: Mr. James Feld, University of California Berkeley, commented the definition of a Registered Fire Sprinkler Fitter includes the requirement for a "registration card", but the Certified Fire Sprinkler Fitter does not.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Feld's comment. The text of the regulation reflects the change in Section 921.4(a) stating "…or possess a Sprinkler Fitter Certification Card…"

COMMENT #46d: Mr. James Feld, University of California Berkeley, commented does the certified fire sprinkler fitter designation apply to those installing fire service mains, water storage tanks and fire pumps?
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State. When "These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…." it must be clearly understood and recognized in these regulations that under CA Contractor's State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

“The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
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Pipeline Contractors (C-34)”

It is further noted in CA B&P Code, Section 6737.4 it states and referenced in the Contractor’s License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: *“A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person.”*

COMMENT #46e: Mr. James Feld, University of California Berkeley, commented 924.3(a) that the words apprentice and trainee be removed from the definition.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld’s comment. The sprinkler fitter definition encompasses all individuals in the sprinkler fitter trade. The specifics of each level is defined in other areas of these proposed regulations.

COMMENT #46f: Mr. James Feld, University of California Berkeley, commented since “modification” is in the definition of “Installation” that it should be defined as well.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld’s comment as it is already defined in the definition “Alteration”.

COMMENT #46g: Mr. James Feld, University of California Berkeley, commented that the definition “Trainee” should include “Fire Sprinkler Fitter”.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld’s comment. The sprinkler fitter definition encompasses all individuals in the sprinkler fitter trade. The specifics of each level is defined in other areas of these proposed regulations. In

addition, Section 938 is specific to the individual trainee performing within these regulations.

COMMENT #46h: Mr. James Feld, University of California Berkeley, commented the necessity to add "water spray system" to Water-Based Fire Protection System definition.
RESPONSE: The Office of the State Fire Marshal agrees Mr. Feld's comment. The text of the regulation reflects the change in Section 924.12(a) stating "…water spray systems…"

COMMENT #46i: Mr. James Feld, University of California Berkeley, commented that the text: "…submitting an application, applicable fees, and required documents demonstrating compliance with the training and experience requirements…" should be replaced with: "…without first being certified or registered…"
RESPONSE: The Office of the State Fire Marshal accepts Mr. Feld's comments. The text of the regulation reflects the change in Section 925 stating "...without first being certified or registered…"

COMMENT #46j: Mr. James Feld, University of California Berkeley, commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Feld. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #46k: Mr. James Feld, University of California Berkeley, commented that Section 934, Employer responsibility does not relate to Article 4 - Enforcement and should be relocated.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld's comment. Section 933 of Article 4 talks about deceptive practices and the actions of the employees being the employer's responsibility, therefore, Section 934 will stay in its current location.

COMMENT #46l: Mr. James Feld, University of California Berkeley, commented Section 936 is a "qualification" and should be moved to a more appropriate section.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment after further review of Section 936. The proposed text section has been moved to Section 925(b) of the proposed regulations

COMMENT #46m: Mr. James Feld, University of California Berkeley, commented that Section 938, Fire Sprinkler Trainee should include "Fitter" in the title.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Feld's comment. The text of the regulation reflects the change in Section 938 to add *"fitter"* in the title.

COMMENT #46n: Mr. James Feld, University of California Berkeley, commented that trainees should not only apply for, but "be accepted into" an apprenticeship program.

RESPONSE: The Office of the State Fire Marshal accepts Mr. Feld's comment. The text of the regulation reflects the change in Section 938(b)(1) stating "Apply for and be accepted into…"

COMMENT #46o: Mr. James Feld, University of California Berkeley, commented we should edit and refine the text from "continuous work."
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment and after further review of Section 938(c) the proposed text has been revised to state, *"If the trainee is not accepted into an apprenticeship program or has failed to file an application for the SFM JRTER within one (1) year of their date of hire the individual shall no longer be classified as a "Trainee", nor will they be allowed to work within the scope of these regulations."*

COMMENT #46p: Mr. James Feld, University of California Berkeley, commented the word "task" is not defined in these regulations and believes that the word infers there is some type of limitation.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld's comment. The word "task" is defined in the Merriam Webster Dictionary as "usually assigned a piece of work often to be finished within a timeframe". The OSFM has deemed the scope of work itself as the "task" and all construction projects have timeframes.

COMMENT #46q: Mr. James Feld, University of California Berkeley, asks how those who fail an examination will be notified.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's question. Those that take the examination will have results at the end of the testing period.

COMMENT #46r: Mr. James Feld, University of California Berkeley, asks is there a commitment on the SFM's part to return the exam within a certain amount of time?
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's comment however, the OSFM does not return examinations. Examination results will be provided in a timely manner.

COMMENT #46s: Mr. James Feld, University of California Berkeley, asks how often the examination will be offered and will the examination be the same each time.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's questions. The timeframes for the examinations will be based on the number of applications received, however, not less than once a month. This will be a standardized examination.

COMMENT #46t: Mr. James Feld, University of California Berkeley, asks does one who has failed an examination have to receive a "Notice of Eligibility" before re-taking an examination.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's question. To clarify, all examinations require a Notice of Eligibility before an examination can be scheduled. Notice of Eligibility's will not be issued unless fees and applications are processed.

COMMENT #46u: Mr. James Feld, University of California Berkeley, has concerns regarding timeframes as they pertain to examination results, examination review and question validity.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern however, in order to maintain consistency with all other licensing and certification programs it has been determined that these timeframes have been tried and tested and found to work effectively.

COMMENT #46v: Mr. James Feld, University of California Berkeley, commented Section 941(e) is not an examination issue and needs to be moved to a more appropriate section.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment after further review of Section 941(e) the proposed text section has been removed from the proposed regulations.

COMMENT #46w: Mr. James Feld, University of California Berkeley, commented Section 941(f) is not an examination issue and needs to be moved to a more appropriate section.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld's comment. After further review of Section 941(f), the OSFM feels this is the appropriate location for this information. However, the proposed text section has been revised to reflect Section 940(e).

COMMENT #46x: Mr. James Feld, University of California Berkeley, commented "Examination Requirements" is misplaced in a Section on Qualifications. Section 941 deals with "Examination Procedures". Section 946 should be re-titled.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment and after further review of Section 946 the proposed text section has been revised to reflect Section 946 "Certification Qualifications" for the proposed regulations.

COMMENT #46y: Mr. James Feld, University of California Berkeley, commented that in Section 947.1(a)(1)(C) "Sprinkler Head" is redundant and "Sprinkler" is the correct terminology.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment and after further review of Section 947.1(a)(1)(C) the proposed text section has been revised to reflect "Sprinkler" for the proposed regulations.

COMMENT #46z: Mr. James Feld, University of California Berkeley, commented Section 947.1(a)(1)(B) should include pipe cutting, welding, threading, and grooving and Seismic bracing.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment and after further review of Section 947.1(a)(1)(B) the proposed text section has been revised to reflect "Pipe cutting, welding, threading, and grooving… Seismic bracing and restraints" Sprinkler" for the proposed regulations.

COMMENT #46aa: Mr. James Feld, University of California Berkeley, commented that 947.1(a)(2)(B) “Fire Cycle” should be removed because it a proprietary name and should be more generic.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld’s comment and after further review of Section 947.1(a)(2)(B), the proposed text section has been revised.

COMMENT #46bb: Mr. James Feld, University of California Berkeley, commented that Section 947.1(a)(3) Underground Piping/Systems Supply be replaced with Fire Service Mains.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld’s comment and after further review of Section 947.1(a)(3) the proposed text section has been revised.

COMMENT #46cc: Mr. James Feld, University of California Berkeley, commented that in Section 947.1(a)(4) Sub-Section (vi) should be under a Paragraph (G) and not a subsection of “(F) green Practices.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld’s comment and after further review of Section 947.1(a)(4)(F). The proposed text section has been revised.

COMMENT #46dd: Mr. James Feld, University of California Berkeley, commented that Section 947.1(a)(5) should be removed.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld’s concern. The Office of the State Fire Marshal believes that this section should be addressed in staying consistent with the industry standards and the basic knowledge and understanding of maintenance for water-based systems.

COMMENT #46ee: Mr. James Feld, University of California Berkeley, commented the 7,000 hours needs to be clarified.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld’s comment and after further review of Section 947.1(b) the proposed text section has been revised to state “…make up the difference in hours totaling the 7,000 hours…”

COMMENT #46ff: Mr. James Feld, University of California Berkeley, commented he believes Section 947.1(c) should be in the renewal section.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Feld’s comment. After further review of Section 947.1(c), the OSFM feels this is the appropriate location for this information.

COMMENT #46gg: Mr. James Feld, University of California Berkeley, commented that Underground Piping/Systems Supply be replaced with Fire Service Mains.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld’s comment and after further review of Section 947.1(a)(3) the proposed text section has been revised.

COMMENT #46hh: Mr. James Feld, University of California Berkeley, asks what does "completion" mean in Section 947.1(d) An exam shall be administered every 2000 hours of completion.
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment and has removed this section from the proposed regulations.

COMMENT #46ii: Mr. James Feld, University of California Berkeley, commented Section 948.1 needs more detail. He wants to know how will the course providers keep track of those in the classes, and what instrument will they use to convey this information to the OSFM.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern however, this comment is not within the scope of this regulatory action. The OSFM has determined that these questions are not covered under these proposed regulations, but policy and procedures.

COMMENT #46jj: Mr. James Feld, University of California Berkeley, commented he believes Section 949 Implementation Period and Historical Recognition are two distinctly different issues and should be separated into two different sections.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's comment, however the OSFM has determined Section 949 needs to have both Implementation and Historical Recognition because they will both "sunset" (cease to have effect) eighteen (18) months from the effective date of these proposed regulations. In addition, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deems this is a sufficient amount of time.

COMMENT #46kk: Mr. James Feld, University of California Berkeley, asked if it was the intent for Section 949(a)(1) provisions to supersede the examination and certification or registration requirements of Sections 926 and 946 for a period of 6 months.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's question. Yes, it is the OSFM's intent the supervision ratio's and examinations will not be required for all installers regardless of their years of experience during the implementation period, which will be the first six months immediately following the effective date of these regulations, as stated in Section 949.

COMMENT #46ll: Mr. James Feld, University of California Berkeley, commented by including "individuals" in this section, a building maintenance worker may show 10,000 hours worked over 5 years where he/she replaced a few sprinklers, fixed a hanger or two, tightened a bolt to stop a leak, and closed a sprinkler control valve. Would this person be eligible for "Historic Recognition" and not be required to take an examination?
RESPONSE: The Office of the State Fire Marshal accepts and agrees with Mr. Feld's comment. After further review of Section 949(a)(1) the proposed text section has been revised to state "…individual sprinkler fitters …" Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #46mm: Mr. James Feld, University of California Berkeley, commented Section 949(a)(3) implies those qualifying under the Historical Recognition Program would receive a "Certification Card" without taking an examination.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern. As previously stated by the OSFM in Comment #46kk, examinations will not be required for certification during the implementation period.

COMMENT #46nn: Mr. James Feld, University of California Berkeley, commented Section 949(a)(3) implies that those in this category are not required to have a certification card for 1 year.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's question. The OSFM's intent is to allow for implementation of the program before enforcement begins. The grace period was added as a method to allow for program implementation, as was done in other certification programs, and so as not to interfere with current work or create a shortfall of qualified labor.

COMMENT #46oo: Mr. James Feld, University of California Berkeley, asked if an individual seeking certification for commercial systems only, would be required to have multi-family experience as well.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern. Per the definition in Sections 924.1(b), Commercial Certification allows individuals to perform installation in any occupancy, and Section 924.7(a), Multi-Family Residential Certification allows individuals to perform installation in residential occupancies only.

COMMENT #46pp: Mr. James Feld, University of California Berkeley, asked if an individual seeking certification for multi-family systems only, would be required to have commercial experience as well.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern. Per the definition in Sections 924.1(b), Commercial Certification allows individuals to perform installation in any occupancy, and Section 924.7(a), Multi-Family Residential Certification allows individuals to perform installation in residential occupancies only.

COMMENT #46qq: Mr. James Feld, University of California Berkeley, asked if an individual seeking to qualify for historical recognition would be required to have both multi-family and commercial system experience.
RESPONSE: The Office of the State Fire Marshal understands Mr. Feld's concern. There is no difference between the historical recognition and the standard requirement. Please reference Comment #46oo and #46pp.

COMMENT #46rr: Mr. James Feld, University of California Berkeley, commented that he has seen improper installations in the field. Only C-16 Contractors hold the license but cannot be on every job site at the same time to inspect and supervise all work performed.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Feld's comment, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony

stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the systems are installed properly.

VERBAL TESTIMONY COMMENTS: Mr. James Feld, University of California Berkeley, commented jurisdictions don't have time to do thorough inspections of these systems and must rely on the sprinkler fitter to do a good and responsible job.
RESPONSE: The Office of the State Fire Marshal thanks and accepts his comment.
COMMENT: Mr. James Feld, University of California Berkeley, commented he could go on for hours on all the examples of improper installation in the field.
RESPONSE: The Office of the State Fire Marshal thanks and accepts his comment.
COMMENT : Mr. James Feld, University of California Berkeley, commented a C-16 contractor is only one person who is the license holder. He cannot be on every job site, supervise every employee and inspect everyone's work. That is why supports the OSFM for standardizing training for the industry.
RESPONSE: This comment was already addressed in Comment # 160. The OSFM accepts Mr. Feld's comment.

COMMENT #47: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented that the history of fire sprinkler systems show common failures of fire sprinkler systems include problems such as; because the water was shut off, the hazard did not meet the occupancy, lack of maintenance, insufficient water supply or obstruction in the system. He feels these issues are all addressed in the NFPA study and that inadequately trained or supervised sprinkler fitters or technicians were not mentioned as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands Mr. Wolf's concern, however after analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire

departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #47a: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented that the expense of the proposed certification fee at $150.00 plus CEU fees for a new person in this industry is excessive.
RESPONSE: The Office of the State Fire Marshal understands Mr. Wolf's concern, however, his comment application fees are $150 for cetifying individuals. The CEU fees are for registering CEU course providers not an individual person working within the industry. Therefore it is only $150 for an applicant in the industry.

COMMENT #47b: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Wolf. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #47c: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented it is his belief that Sections 923 and 924.12 of these regulations intrude into the definition of "Specialty Contractors", an authority granted to CSLB.
RESPONSE: The Office of the State Fire Marshal understands Mr. Wolf's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State. When "*These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…."* it must be clearly understood and recognized in these regulations that under CA Contractor's State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

It is further noted in CA B&P Code, Section 6737.4 it states and referenced in the Contractor's License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: "A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person."

COMMENT #47d: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. questions the authority of the OSFM to implement these regulations.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Wolf's comment. HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #47e: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. states that a C-16 license is governed by the CSLB regulations whose guidelines are the same for all contractors.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Wolf's comment. It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified

workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

VERBAL TESTIMONY COMMENTS: Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: This comment was already addressed in Comment # 47b. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*
COMMENT : Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc. commented it is his belief that Sections 923 and 924.12 of these regulations intrude into the definition of "Specialty Contractors", an authority granted to CSLB.
RESPONSE: This comment was already addressed in Comment # 47c. It is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State. When "*These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…."* it must be clearly understood and recognized in these regulations that under CA Contractor's State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
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It is further noted in CA B&P Code, Section 6737.4 it states and referenced in the Contractor's License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: "A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of

contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person."

COMMENT #48: Gene C., Fire Engineer, commented he supports the OSFM in the development and implementation of this certification requirement.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Gene's comment.

COMMENT #48a: Gene C., Fire Engineer, asks why one and two-family dwellings are not addressed in the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Gene's concern, however there are several owner, builder and exceptions in law, which allow a home owner to build their residence and install these fire suppression systems. These exceptions would make a certification program for one and two-family dwellings unattainable at this time.

COMMENT #49: Mr. Al and Mike Saia, Fire Safety First, commented that the history of fire sprinkler systems shows that common failures of fire sprinkler systems include problems because the water was shut off, the hazard did not meet the occupancy, lack of maintenance, insufficient water supply or obstruction in the system. He feels these issues are all addressed in the NFPA study and that inadequately trained or supervised sprinkler fitters or technicians was not mentioned as a cause of poor performance.
RESPONSE: The Office of the State Fire Marshal understands the Saia's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #49a: Mr. Al and Mike Saia, Fire Safety First, commented that the materials installation process and final inspections are already being accomplished and enforced by the local Authority Having Jurisdiction (AHJ).
RESPONSE: The Office of the State Fire Marshal understands the Saia's concern. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #50: Mr. Kirk Page, KPS Fire Sprinklers, Inc. commented that Section 926, supervision should be uniform across all programs.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Page comment. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

COMMENT #50a: Mr. Kirk Page, KPS Fire Sprinklers, Inc., commented that there should be no "Stop Work Orders" for unauthorized persons for lost, late or non-renewed certification.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Page's concern. Article 4 of these proposed regulations is setup for progressive disciplinary action. Step 1 of this process is a verbal warning to correct the issue. Step 2 is a Notice of Violation Correction Order and Step 3 would be Stop Work Order. It is up to the discretion of the Agency Having Jurisdiction to make the determination. Stop Work Order is in line with the parameters set forth in the California Building and Fire Codes. As previously stated by the OSFM in Comment #24m, it is the employer's responsibility to ensure regulations are not violated.

COMMENT #50b: Mr. Kirk Page, KPS Fire Sprinklers, Inc., commented civil penalties and misdemeanors should not be pursued.
RESPONSE: This comment was already addressed in Comment #25b. The OSFM has the authority to deny, revoke or suspend violators per Health and Safety Code (HSC), Section 13197.6, in addition to HSC Section 13199 which states, *"any person who violates any provisions of this chapter or any regulation or building standard adopted by the State Fire Marshal pursuant to Section 13195 is guilty of a misdemeanor punishable by a fine…"* as well as to the misdemeanors and civil penalties per HSC Section 13112.

COMMENT #50c: Mr. Kirk Page, KPS Fire Sprinklers, Inc., commented the text should be clarified so that violations cannot be retroactive.
RESPONSE: The Office of the State Fire Marshal understands Mr. Page's concern, however, the violations are not retroactive, but the regulations cover the period of time in which a violation has occurred.

COMMENT #50d: Mr. Kirk Page, KPS Fire Sprinklers, Inc., commented he believes that employers should have two weeks to notify the OSFM of an employee set in a "trainee" status.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Page's comment based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice the OSFM deems that this is a sufficient amount of time.

COMMENT #50e: Mr. Kirk Page, KPS Fire Sprinklers, Inc., asks what are the conditions that the OSFM will or will not validate the JRTER?
RESPONSE: The Office of the State Fire Marshal understands Mr. Page's concern. As stated, the accumulation of required hours can come from any certifiable source which meets the criteria outlined in Section 946, specifically paragraph (b).

COMMENT #51: Mr. Randall Cazier, RJ Fire Sprinkler Systems Inc. commented he objects to the proposed regulations because he feels there are no statistics to support the need for the requirement.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cazier's concern, however, after analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the

displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #51a: Mr. Randall Cazier, RJ Fire Sprinkler Systems Inc. commented that continuing education for plan checkers and fire inspectors are needed more than the proposed certification requirements.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Cazier's comment, as education requirements for plan checkers and fire inspectors does not fall within the scope of this regulatory action.

COMMENT #51b: Mr. Randall Cazier, RJ Fire Sprinkler Systems Inc. commented $150.00 per year is excessive.
RESPONSE: As stated in the response to Comment #3a, the Office of the State Fire Marshal understands Mr. Cazier's concerns. However, the operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the expenditures of the staff and overhead to run such a program and the projected revenue from the 8,000 certified or registered individuals in California. This equates to the fee structure of $150.00 per individual.

COMMENT #51c: Mr. Randall Cazier, RJ Fire Sprinkler Systems Inc. commented that the CEU requirements will necessitate fitters spending their "free time" attending classes and studying in order to maintain certification as a requirement of employment.
RESPONSE: The Office of the State Fire Marshal understands Mr. Cazier's concern. However, individuals will be required to take 3 units of approved continuing education over a three (3) years period to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. All training courses for CEU's must meet the International Association of Continuing Education and Training (IACET) Standard. Any organization can become an accredited provider through IACET.

COMMENT #52: Mr. Rigoberto Vazquez, Advanco Fire Protection, commented that the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.

RESPONSE: The Office of the State Fire Marshal understands Mr. Vazquez's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #52a: Mr. Rigoberto Vazquez, Advanco Fire Protection, commented that he questions the authority of OSFM to implement these regulations.
RESPONSE: This comment was already addressed in Comment HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

> *(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.*

VERBAL TESTIMONY COMMENT: Mr. Rigoberto Vazquez, Advanco Fire Protection, commented what right does the Office of the State Fire Marshal have telling him how to pay employees.
RESPONSE: The Office of the State Fire Marshal rejects the comment. This comment was already addressed in Comment #151b. This comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #53: Mr. Ron Aday, AFSA San Diego Chapter, commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: The Office of the State Fire Marshal understands Mr. Aday's concern, however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #54: Mr. Stanley Smith, Sprinkler Fitters and Apprentices Local 483, commented he that he is in support of the State Fire Marshal Tonya Hoover, and her effort to establish this much needed regulation designed to improve the training and safety of those who install automatic fire sprinkler systems.
RESPONSE: The Office of the State Fire Marshal agrees and accepts Mr. Smith's comment.

COMMENT #54a: Mr. Stanley Smith, Sprinkler Fitters and Apprentices Local 483, commented he is in support of the removal of the JRTER, because it was not part of the original proposed language approved by the workgroup and committee.
RESPONSE: The Office of the State Fire Marshal understands Mr. Smith's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving the AES program.

COMMENT #54b: Mr. Stanley Smith, Sprinkler Fitters and Apprentices Local 483, commented that we should utilize the term "hours" instead of "units". This should be units so not to conflict with other sections of the proposed rulemaking using the term "hours".
RESPONSE: The Office of the State Fire Marshal accepts Mr. Smith's comment after further review of Section 945(c). The proposed text has been revised to reflect units as opposed to hours in Section 948.

VERBAL TESTIMONY COMMENT: Mr. Stanley Smith, Sprinkler Fitters and Apprentices Local 483, commented he supports the regulations and supports the OSFM for standardizing training for the industry.
RESPONSE: The OSFM accepts Mr. Smith's comment

COMMENT #55: Mr. Mike Murray, Mike Murray Plumbing and Fire Protection, commented that there was no statistical data to support the need for this regulation.
RESPONSE: The Office of the State Fire Marshal understands Mr. Murray's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or

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COMMENT #55a: Mr. Mike Murray, Mike Murray Plumbing and Fire Protection, made the same remarks as Commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their

reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #56: Mr. Danny Houston, Houston Fire Systems, made the same remarks as Commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #57: Mr. J.C. Hoiland, Orange County Fire Protection, made the same remarks as Commented by Mr. Mike Murray, Mike Murray Plumbing and Fire Protection.
RESPONSE: This comment was already addressed in Comment #55. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #58: Mr. Jon Vann, Aero Automatic Sprinkler Company, commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was

large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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Based on a survey conducted in September 2014 with fire departments in California statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #58a: Mr. Jon Vann, Aero Automatic Sprinkler Company, commented that he encourages the OSFM to withdraw the proposed regulations and focus on the important core mission of the office, and leave apprenticeship and contractor regulation to the two existing state agencies charged with their administration.
RESPONSE: The Office of the State Fire Marshal understands Mr. Vann's concern, however it is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National

Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #59: Mr. Mike Herber, Battalion One Fire Protection, made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #60: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. made the same remark as commented by Jon Vann, Aero Automatic Sprinkler Company in regards to the NFPA Study.
RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #60a: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. made the same remark as commented by Jon Vann, Aero Automatic Sprinkler Company in regards to the AHJ's and their layer of enforcement.

RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #60b: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. asks how will companies and employees recoup fees and lost work hours?
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concerns, however, her comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #60c: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. commented that Section 924.5(a) "J" Definitions Job Related Experience Program is vague and leads to confusion.
RESPONSE: The Office of the State Fire accepts and agrees with Ms. McNeil's comment and after further review of Section 924.5(a). It is to be replaced to state, *" Job Related Training and Experience Review (JRTER). A means of validation designed in accordance with Section 946 for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems."*

COMMENT #60d: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. commented that Section 924.7(b) "M" Definitions, Multi-family residential, is vague with regard to the definition of a multi-family residential structure.
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concern, however this definition is constant with the California Building and Fire Codes.

COMMENT #60e: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. made the same remark in comment 60b.
RESPONSE: This comment was already addressed in Comment # 60b, comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #60f: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Ms. McNeil. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. *Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #60g: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. commented that 72 hours is an unreasonable amount of time to make a correction.
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concern however, in order to maintain consistency with all other licensing and certification programs it has been determined that this timeframe has been tried and tested and found to work effectively.

COMMENT #60h: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. asked if references to "days" based on calendar or working days.
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concern however, to stay consistent with other licensing programs the timeframes are based on calendar days not working days.

COMMENT #60i: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. has concerns regarding timeframes as they pertain to examination results, examination review and question validity.

RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concern however, in order to maintain consistency with all other licensing and certification programs it has been determined that these timeframes have been tried and tested and found to work effectively.

COMMENT #60j: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. commented Section 946's reference to 947 should be consistent in sub-sections (b)(2) and (c)(2).
RESPONSE: The Office of the State Fire accepts and agrees with Ms. McNeil's comment and after further review of Section 946(b)(2) has been amended to reflect *"Documentation that an applicant meets the minimum time requirements of Section 945(c) or (d)…"*

COMMENT #60k: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. asks if the years and hours from multiple employers to meet the criteria under the JRTER can be used.
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's concern. Yes, they will have to prove their hours for the program regardless if it is one or multiple employers. It is up to the current employer whether they will certify another employer's trade hours. This will be done through the application process.

COMMENT #60l: Ms. Heather McNeil, Automatic Fire Sprinklers Inc. asked if it was the intent for Section 949(a)(1) provisions to supersede the examination and certification or registration requirements of Sections 926 and 946 for a period of 6 months.
RESPONSE: The Office of the State Fire Marshal understands Ms. McNeil's question. Yes, it is the OSFM's intent supersede the examination and certification or registration requirements of Sections 926 and 946 for a period of 6 months.
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COMMENT #61: Mr. Robert Morgan, Pacific Valley Fire Protection, Inc. made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE:
This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the

displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #62: Mr. William Norwood, Alwest Fire Protection, made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual

survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #63: Mr. Terry Householder, General Underground Fire Protection, Inc. commented that there isn't any need for these proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #63a: Mr. Terry Householder, General Underground Fire Protection, Inc. believes these regulations discriminate against the fire protection workforce.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Householder's comment. There is not any specific suggestion made to revise these regulations, and is not within the scope of this regulatory action.

COMMENT #63b: Mr. Terry Householder, General Underground Fire Protection, Inc. states that these regulations will create additional record keeping requirements for training by the employer.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Householder's comment, as it should already be a standard operating procedure to keep training records of current employees.

COMMENT #63c: Mr. Terry Householder, General Underground Fire Protection, Inc. commented that the materials installation process and final inspections are already being accomplished and enforced by the local Authority Having Jurisdiction (AHJ).
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Householder's concerns. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they

have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #63d: Mr. Terry Householder, General Underground Fire Protection, Inc. commented he believes this regulation will cause a critical shortage of workers.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's concerns, however, there are no reports or statistical data in support of a shortage of fitters nationwide due to certification or licensing requirements.

COMMENT #63e: Mr. Terry Householder, General Underground Fire Protection, Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Householder. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. *Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #63f: Mr. Terry Householder, General Underground Fire Protection, Inc. commented that 72 hours is an unreasonable amount of time to make a correction.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's concern however, in order to maintain consistency with all other licensing and certification programs it has been determined that this timeframe has been tried and tested and found to work effectively.

COMMENT #63g: Mr. Terry Householder, General Underground Fire Protection, Inc. commented that the five-year and 7,000 hours is too lengthy.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's concern, however, the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined that these should be the minimum requirements. These hours are also consistent with Federal and other State agency's programs for sprinkler fitters.

COMMENT #63h: Mr. Terry Householder, General Underground Fire Protection, Inc. commented the 7,000 hours needs to be clarified.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's. The 7,000 hours are the minimum required to be certified.

COMMENT #63i: Mr. Terry Householder, General Underground Fire Protection, Inc. asked if it was the intent for Section 949(a)(1) provisions to supersede the examination and certification or registration requirements of Sections 926 and 946 for a period of 6 months.
RESPONSE: The Office of the State Fire Marshal understands Mr. Householder's question. Yes, it is the OSFM's intent the supervision ratio's and examinations will not

be required for all installers regardless of their years of experience during the implementation period, which will be the first six months immediately following the effective date of these regulations, as stated in Section 949. After the six month period all individuals will have to take the examination to be certified.

VERBAL TESTIMONY COMMENT- Mr. Terry Householder, General Underground Fire Protection, Inc. commented that the history of fire sprinkler systems show common failures of fire sprinkler systems include problems such as; because the water was shut off, the hazard did not meet the occupancy, lack of maintenance, insufficient water supply or obstruction in the system. He feels these issues are all addressed in the NFPA study and that inadequately trained or supervised sprinkler fitters or technicians were not mentioned as a cause of poor performance. This comment was already addressed in Comment #47. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.
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RESPONSE: A similar question was asked and that comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #64: Mr. David Horner, Axcel Fire Systems, Inc. made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its

entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #65: Mr. Jordan Hopkins, Elite Automatic Fire Protection Systems, Inc. made the same remark as Terry Householder, General Underground Fire Protection, Inc.
RESPONSE: This comment was already addressed in Comment #63d. There are no reports or statistical data in support of a shortage of fitters nationwide due to certification or licensing requirements.

COMMENT #65a: Mr. Jordan Hopkins, Elite Automatic Fire Protection Systems, Inc. made the same remark as Ms. Heather McNeil, Automatic Fire Sprinklers Inc.

RESPONSE: This comment was already addressed in Comment # 60b, comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #66: Mr. Wes Bookout, Aquamatic Fire Protection, Inc. made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE: This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #67: Mr. James Moyer, CJ Suppression, Inc. made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE:
This comment was already addressed in Comment #58. The Office of the State Fire Marshal understands Mr. Vann's concern however, maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #68: Mr. Michael Shayne, Desert Fire Extinguisher Co. Inc. made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when

sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #69: Mr. Alex Whitlock, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: The Office of the State Fire Marshal's rejects Mr. Whitlock's comment. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design

requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #70: Mr. Danny VanFandt, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #71: Mr. Wesley Zeidler, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #72: Mr. Clayton Morgan, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM,

per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #73: Mr. Robert Talley, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #74: Mr. Ajay Lopez, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #75: Mr. Jason Rasmussen, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the

quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #76: Mr. Anthony Bonno, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #77: Mr. Charles Tash, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #78: Mr. Joey Stewart, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout

the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #79: Mr. Seth Allendale, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #80: Mr. Mark Womack, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #81: Mr. David Derosh, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have

a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #82: Mr. Marc Pepone, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #83: Mr. Chris Lucero, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #84: Mr. Eric Murk, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of

these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #85: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #86: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #87: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of

these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #88: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #89: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #90: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of

these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #91: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #92: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #93: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new

technology to protect life and property of the citizens of California.As stated in response to Comment #69, the Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #94: Mr. Justin Butler, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: The Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #95: Mr. Matthew Rollins, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #94. This package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #96: Unknown Name, Unknown Co., expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed.

Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #94. This This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also has determined the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #97: Mr. John McNeill, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. As stated in response to Comment #69, the Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #97a: Mr. John McNeill, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #97b: Mr. John McNeill, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: The Office of the State Fire Marshal understands Mr. McNeill's concern, a non-State Fire Marshal neutral study has not been conducted.

COMMENT #97c: Mr. John McNeill, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #98: Mr. Richard Tiner, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.As stated in response to Comment #69, the Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #98a: Mr. Richard Tiner, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #98b: Mr. Richard Tiner, Unknown Co., asks what the non-State Fire Marshal neutral study says.

RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted. **COMMENT #98c:** Mr. Richard Tiner, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date..

COMMENT #99: Ms. Heidi Mon, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. As stated in response to Comment #69, the Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #99a: Ms. Heidi Mon, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #99b: Ms. Heidi Mon, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #99c: Ms. Heidi Mon, Unknown Co., commented that in her experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #100: Mr. Jason Miles, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. As stated in response to Comment #69, the Office of the State Fire Marshal's regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #100a: Mr. Jason Miles, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #100b: Mr. Jason Miles, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #100c: Mr. Jason Miles, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.

RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #101: Mr. John Wilson, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #101a: Mr. John Wilson, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.
COMMENT #101b: Mr. John Wilson, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #101c: Mr. John Wilson, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #102: Ms. Carrie Ann Akerly, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have

a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #102a: Ms. Carrie Ann Akerly, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #102b: Ms. Carrie Ann Akerly, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #102c: Ms. Carrie Ann Akerly, Unknown Co., commented that in her experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.
COMMENT #103: Derek, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #103a: Derek, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #103b: Derek, Unknown Co., asks what the non-State Fire Marshal neutral study says.

RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #103c: Derek, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #104: Ms. Carrie Ellis Gray, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #104a: Ms. Carrie Ellis Gray, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #104b: Ms. Carrie Ellis Gray, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted. ed.

COMMENT #104c: Ms. Carrie Ellis Gray, Unknown Co., commented that in her experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #105: Mr. Matt Tibbs, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.

RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #105a: Mr. Matt Tibbs, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #105b: Mr. Matt Tibbs, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #105c: Mr. Matt Tibbs, Unknown Co., commented that in his experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #106: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #106a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #106b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #106c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #107: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #107a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #107b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #107c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #108: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #108a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program. .

COMMENT #108b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #108c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #109: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on

sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #109a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #109b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #109c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date..

COMMENT #110: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #110a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.

RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #110b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #110c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #111: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #111a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #111b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #111c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.

RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #112: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #112a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #112b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #112c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #113: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout

the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #113a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #113b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #113c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #114: Unknown Name, Unknown Co., commented the regulation package seems to add another layer of bureaucracy. The collection of administration fees burdens C-16 owners who already provide training programs.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #114a: Unknown Name, Unknown Co., commented the OSFM clearly states they have not relied on any other facts, evidence or testimony to make their initial determination there is not a statewide economic impact.
RESPONSE: This comment was already addressed in Comment #97a. The overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #114b: Unknown Name, Unknown Co., asks what the non-State Fire Marshal neutral study says.
RESPONSE: This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #114c: Unknown Name, Unknown Co., commented that in their experience, more life safety issues occur from owners not maintaining fire suppression systems rather than from fire sprinkler fitter installation.
RESPONSE: This comment was already addressed in Comment #97c. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #115: Mr. Brett Greene, Delta Fire Protection and Equipment, made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company.
RESPONSE: This comment was already addressed in Comment #58. Maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire

suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #116: Mr. Robert Barto, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #117: Mr. Riley Wolf, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: As stated in Comment #94, the Office of the State Fire Marshal's regulation This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #118: Mr. Anthony Grigson, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California.

With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #119: Mr. Steve Livingston, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #120: Mr. Raleigh Munn, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #121: Mr. Rick Zimmerman, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.

RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #122: Mr. Chris Kohler, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #123: Mr. Stephen Rampenthal, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #124: Mr. Garrett Stogsdill, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. Additionally, it is believed the regulation was developed with good

intentions, but lacks facts to substantiate the additional costs and time associated with the proposal.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #125: Mr. Andrew Headley, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #126: Mr. Aaron Macomber, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #127: Ms. Jennifer Ramirez, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California.

With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #128: Mr. Cameron Ricketts, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #129: Mr. Anthony Abdeen, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #130: Mr. Chris Rainey, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is believed the regulation will impose a negative fiscal impact.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout

the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #131: Mr. Robert Munjar, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #132: Mr. James Stogsdill, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #133: Mr. Chris Rollins, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have

a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #134: Mr. Kyle Evans, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #135: Mr. Anthony Grignon, Foothill Fire Protection, Inc. expressed concerns regarding the certification process as part of the regulation package the OSFM has proposed. It is felt the standards that are currently in place are sufficient and they should be able to continue without adding additional bureaucracy.
RESPONSE: This comment was already addressed in Comment #69. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM has determined the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California.

COMMENT #136: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented there is a lack of consistency with “life safety systems” between commercial, multi-family residential and one and two family dwellings.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon’s concern with life safety systems, however, as it states in Section 923(b), one and two-family dwellings are not within the scope of this regulatory action.

COMMENT #136a: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that the legislative record of AB 433 (Chapter 377 of 2013) that enacted §13110 shows absolutely no mention of a licensure scheme like the proposed Title 19.

RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, however, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #136b: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that the NFPA publishes data summarizing sprinkler system does not site inadequately trained fitters as a cause of poor performance.
RESPONSE:
This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of

California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #136c: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that he submitted documentation as to the economic impact of the regulation.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. McKinnon's economic assessment and has used it as part of the economic analysis.

COMMENT #136d: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented the regulation does not mention a Pipeline "C-34", General Engineering "A" or General Building "B" Contractors having to comply with certification requirements.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, however, these regulations were not intended to include fitters of underground piping not within the definition of water-based fire protection systems in Section 924.12. When "These regulations apply to work…. including both overhead and private fire service mains and associated appurtenances…." it must be clearly understood and recognized in these regulations that under California Contractors State Licensing (B&P Code and CSLB Laws and Rules) that since January 30, 1990 (CSLB Letter to All Concerned Parties [from then CSLB Licensing Deputy Bob Berrigan]) clarified:

"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

It is further noted in California B&P Code, Section 6737.4 it states and referenced in the Contractors License Law and Reference Book (CSLB) and also found in the Board of Professional Engineers, Land Surveyors & Geologists (BPELSG) Laws and Regulations: *"A contractor licensed under Chapter 9 (commencing with Section 7000) of Division 3 is exempt from the provisions of this chapter relating to the practice of electrical or mechanical engineering so long as the services he or she holds himself or herself out as able to perform or does perform, which services are subject to the provisions of this chapter, are performed by, or under the responsible charge of a registered electrical or mechanical engineer insofar as the electrical or mechanical*

engineer practices the branch of engineering for which he or she is registered. This section shall not prohibit a licensed contractor, while engaged in the business of contracting for the installation of electrical or mechanical systems or facilities, from designing those systems or facilities in accordance with applicable construction codes and standards for work to be performed and supervised by that contractor within the classification for which his or her license is issued, or from preparing electrical or mechanical shop or field drawings for work which he or she has contracted to perform. Nothing in this section is intended to imply that a licensed contractor may design work which is to be installed by another person."

COMMENT #136e: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that Sections 947 & 947.1 is an intrusion into apprenticeship programs.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, however, this section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program.

COMMENT #136f: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that he believes the emphasis of this regulation should focus on adequate design, performance and installation vs. monitoring individual qualifications of the workforce.
RESPONSE: This comment was already addressed in Comment #16f. The design aspect of fire suppression systems was not the intent or within the scope of these regulations.

COMMENT #136g: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that the regulation claims the purpose of the program is to improve performance and reliability standards, but no evidence to support the claim is cited.
RESPONSE: The Office of the State Fire Marshal concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #136h: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented the regulation claims "fire suppression systems in California are not installed in a safe manner by qualified and trained persons" yet one and two-family residences are exempt. However, systems are either installed in a safe manner or not, so the regulation should apply universally.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern. However, as it states in Section 923(b), one and two-family dwellings are not within the scope of this regulatory action.

COMMENT #136i: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that the definition "Apprentice" is not defined as it is throughout the labor code and should be.

RESPONSE: The Office of the State Fire Marshal rejects Mr. McKinnon's comment because it is defining "apprentice" for the purpose of the proposed regulations of this chapter and not any other program or regulation of the state.

COMMENT #136j: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. has determined the regulation is unclear in reference to an applicant who submits their job related experience must pay the fee as outlined in Section 925.1.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern Section 925.1(9) is the fee schedule for those becoming certified through OJT and work experience.

COMMENT #136k: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that the supervision ratio in Section 926 is confusing.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. McKinnon. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to two (2) trainees*. *Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

COMMENT #136l: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. asks, "What happens if the AHJ fails to submit the written report within the 15 day period?"
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, however, statute dictates the OSFM shall aid in the enforcement of laws, ordinances and regulations. Statute also states that OSFM jurisdictional authority is for state owned and state leased properties throughout California, whereas, the local AHJ is to enforce fire protection systems to comply with all statutes, regulations and local ordinances in their jurisdictional authority.

COMMENT #136m: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. states, "the regulation should provide a period in which an expired registration can be renewed without it being considered a new application".
RESPONSE: The Office of the State Fire Marshal rejects Mr. McKinnon's concern as certificates and registrations are valid for one year and as with all documents with expiration dates, they must be renewed before they are expired or the process must be started again.

COMMENT #136n: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented the regulations completely lack the ability for use of helpers, interns or assistant craft workers.
RESPONSE: The Office of the State Fire Marshal rejects Mr. McKinnon's comment. The creation of the "trainee" position negates the necessity for helpers, interns and assistants ensuring qualified staff through the registration program.

COMMENT #136o: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented on the ability to develop testing and/or examination procedures within the timeframe of these regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, however, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that six (6) months is a sufficient amount of time to develop testing and/or examination procedures.

COMMENT #136p: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. expressed concerns of IT breaches and identity theft.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, and is working with CAL FIRE Information Technology Department to mitigate any chance of compromising an individual's personal information.

COMMENT #136q: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented the JRTER provision seems designed to make it virtually impossible for skilled workers to qualify under the JRTER, which would place an unfair employment constraint on minorities, women and veterans.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's concern, but as previously stated the JRTER section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience.

COMMENT #136r: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented he does not understand what "In accordance with an accredited institution" means.
RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's comment. Accredited institutions are defined in Section 948.1(a). An accredited institution is a community college, junior college, university, technical or vocational school or any private educational agency accredited by the International Association of Continuing Education and Training (IACET).

COMMENT #136s: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. notes the timeframe for transition is insufficient and disagrees that 100% of fitters must be licensed at some operative date.
RESPONSE: The Office of the State Fire Marshal rejects Mr. McKinnon's comment. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that eighteen (18) months is a sufficient amount of time. In order to have equitable application of the regulations the OSFM has determined that 100% of fitters must be certified/registered.

COMMENT #136t: Mr. Thomas McKinnon, AEGIS Fire Systems, Inc. commented that new statutory enactments require a skilled and trained workforce and conform to those provisions.

RESPONSE: The Office of the State Fire Marshal understands Mr. McKinnon's comment. The intent of these proposed regulations is to have a skilled and trained workforce for the installation of fire suppression systems.

COMMENT #137: Mr. Dana Matthew Del Gizzi, commented there is no evidence to support the need for these regulations.
RESPONSE: This comment was already addressed in Comment # 23c. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly, two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

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COMMENT #137a: Mr. Dana Matthew Del Gizzi, commented the installation process and final inspections are already being accomplished and enforced by the local AHJ.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Del Gizzi's concerns. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #137b: Mr. Dana Matthew Del Gizzi, commented that the CEU requirements will necessitate fitters spending their hard earned wages and free time attending classes and studying in order to maintain certification as a requirement of employment.
RESPONSE: The Office of the State Fire Marshal understands Mr. Del Gizzis concern. However, individuals will be required to take 3 unitsof approved continuing education to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. The OSFM has duty to protect life and property. As improvements within the industry occur, the OSFM must ensure knowledge and abilities of those employed in the industry are properly trained.

COMMENT #138: Mr. Steve Romp, S Fire Inc. made the same remarks as commented by Jon Vann, Aero Automatic Sprinkler Company commented the NFPA 2013 Report stated in their statistics that failures were due to improper maintenance. Of those statistics provided 5% were due to improper systems for the type of fire.
RESPONSE: This comment was already addressed in Comment #58. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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Based on a survey conducted in September 2014 with fire departments in California statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

VERBAL TESTIMONY COMMENT Mr. Steve Romp, S Fire Inc. This comment was already addressed in Comment #58. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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Would like a non-State Fire Marshal neutral study. This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

Related to new cost impacts on businesses, small business and public entities that are planning on installing fire sprinkler systems in the future. This comment was already addressed in Comment #148b. It has been determined that the proposed regulations have no substantial effect on small business and has not identified any alternatives that would lessen any adverse impact on small business and still allow the State Fire Marshal to effectively enforce the regulations. Further, the Office of the State Fire Marshal has addressed both the positive and negative impacts the implementation of these regulations may create. Alternatives are not less burdensome, or more cost effective on affected private persons or businesses than the proposed action.

PUBLIC HEARING

SUMMARY AND RESPONSE TO COMMENTS

APRIL 7, 2016 WRITTEN TESTIMONY

COMMENT #139: Mr. Darrell Hefley, Jorgensen Company, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In

California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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It is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California Health and Safety Code, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #140: Mr. Michael Donnell, Echo Fire Protection Co., made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate,

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COMMENT #141: Mr. Eddie Lucatero, General Fire Control, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #142: Mr. Carlos Reyes, General Fire Control, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #143: Ms. Edie Wade, Brooks Equipment, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #144: Mr. Kirk Haroutunian, Valley Fire Extinguisher Co., made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #145: Ms. Kimberely Golding, Arrow Fire, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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COMMENT #146: Mr. Steve Paxton, made the same remarks as commented by Allen Quirk, CalSafe.
RESPONSE: This comment was already addressed in Comment # 24. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #147: Mr. John Amann, CINTAS, commented the Office of the State Fire Marshal has to provide substantial evidence for the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

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the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #147a: Mr. John Amann, CINTAS, commented the Office of the State Fire Marshal lacks the authority to promulgate the proposed regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concern, however, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #147b: Mr. John Amann, CINTAS, commented he believes this regulation will cause a critical shortage of workers.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concerns, however, there are no reports or statistical data in support of a shortage of fitters nationwide due to certification or licensing requirements.

COMMENT #147c: Mr. John Amann, CINTAS, commented that one is sufficiently qualified after completion of Section 947.1(a)(5).
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Amann's comment. An individual is not sufficiently qualified after completion of Section 947.1(a)(5). This section is one of many to obtain the 7,000 hours required in the validation process.

COMMENT #147d: Mr. John Amann, CINTAS, commented NFPA 25 addresses inspection, testing and maintenance of water-based systems.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concern however, testing, service and maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date.

COMMENT #147e: Mr. John Amann, CINTAS, commented that regarding Sections 923 and 924.12, it is his belief that these regulations intrude into the definition of specialty contractors, an authority granted to CSLB.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concern. However, it is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This ensures the quality of the installation of fire protection systems, which ensures public safety throughout the State.

COMMENT #147f: Mr. John Amann, CINTAS, believes that contractors already providing continuous in-house training is acceptable and is more cost effective than relying on outside providers.
RESPONSE: This comment was already addressed in Comment #1. We acknowledge Mr. Amann's efforts in training and quality assurance however, not all companies have quality training programs or oversight of the installation process.

COMMENT #147g: Mr. John Amann, CINTAS, commented that eighteen (18) months is an insufficient amount of time to implement the proposed regulations.
RESPONSE: The Office of the State Fire Marshal concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

COMMENT #147h: Mr. John Amann, CINTAS, commented that Sections 947 & 947.1 is an intrusion into apprenticeship programs.
RESPONSE: The Office of the State Fire Marshal understands Mr. Amann's concern, however, this section was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. The JRTER option is for OJT and work experience, and is not an apprenticeship program. These are minimum requirements for this program.

COMMENT #147i: Mr. John Amann, CINTAS, commented the definition of "Installation" should be better defined.
RESPONSE: The Office of the State Fire Marshal reject Amann's comment as it is already clearly defined in the definition. Furthermore, Merriam-Webster dictionary defines installation "*as the act of installing : the state of being installed as well as the act of changing is an alteration*."

COMMENT #148: Ms. Julianna Broyles, CalSafe, commented about the lack of verifiable data to support the need for these regulations.
RESPONSE: The Office of the State Fire Marshal understands Ms. Broyles' concern, however, after analyzing the statistical data provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a

combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #148a: Ms. Julianna Broyles, CalSafe, commented about the lack of acknowledgement of current and effective processes that are already in place which ensure quality installation of fire sprinkler systems.
RESPONSE: The Office of the State Fire Marshal understands Ms. Broyles' concern, however; based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #148b: Ms. Julianna Broyles, CalSafe, commented about concerns related to new cost impacts on businesses, small business and public entities that are planning on installing fire sprinkler systems in the future.
RESPONSE: The State Fire Marshal understands Ms. Broyles' concern, however it has been determined that the proposed regulations have no substantial effect on small business and has not identified any alternatives that would lessen any adverse impact on small business and still allow the State Fire Marshal to effectively enforce the regulations. Further, the Office of the State Fire Marshal has addressed both the

positive and negative impacts the implementation of these regulations may create. Alternatives are not less burdensome, or more cost effective on affected private persons or businesses than the proposed action.

PUBLIC HEARING - (Continued)

SUMMARY AND RESPONSE TO COMMENTS
VERBAL TESTIMONY
DEFER TO TRANSCRIPTS

Mr. Jon Kapis, SABAH International.
RESPONSE: See Comment #42; and transcript pg. 10

Mr. Steve Romp, S Fire Inc
RESPONSE: See Comment #138; and transcript pg. 13

Mr. Todd W. Golden, Sprinkler Fitters Local 709
RESPONSE: See Comment #22; and transcript pg. 15

COMMENT #149: Mr. Adam Mone, Bay Alarm Company, commented asks if C-10 will be allowed to install alarm components to for Fire Suppression Systems.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Mone's comment. Water-based Fire Protection Systems are to be installed by C-16 Contractors. In addition, to clarify the scope these regulations were not intended to include specialty contractors installing alarm components within the definition of water-based fire protection systems in Section 924.12.

COMMENT #150: Mr. James Carver, El Segundo Fire Department, commented he opposes Section 947 because he believes someone with a background in education needs to oversee it and not a fire service organization.
RESPONSE: The Office of the State Fire Marshal understands Mr. Carver's concern. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a training program.

COMMENT #150a: Mr. James Carver, El Segundo Fire Department, commented he is in support of the proposed regulation package.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Carver's comment.

Mr. Robert Ciereck, Tyco SimplexGrinnell
RESPONSE: See Comment #29; and transcript pg. 20

Mr. Terry Householder, General Underground Fire Protection, Inc.
RESPONSE: See Comment #63; and transcript pg. 22

COMMENT #151: Ms. Amber Barrios, AFSA So Cal Chapter, commented she believes that this regulation package is unjustified due to lack of empirical data.
RESPONSE: The Office of the State Fire Marshal understands Ms. Barrios' concern, however, after analyzing the statistical data provided and reading NFPA's report in its

entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

COMMENT #151a: Ms. Amber Barrios, AFSA So Cal Chapter, commented she believes these regulations will have an economic impact on small business.
RESPONSE: The Office of the State Fire Marshal has determined that the economic impact will be minimal and should not have a significant impact on small businesses.

COMMENT #151b: Ms. Amber Barrios, AFSA So Cal Chapter, commented that small businesses will be forced to pay higher wages.
RESPONSE: The Office of the State Fire Marshal understands Ms. Barrios' concern, however, her comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #152: Mr. Owen Curtis, AFSA San Diego, commented that there is no empirical data supporting the need for these regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Curtis' concern. See Comment #151.

COMMENT #152a: Mr. Owen Curtis, AFSA San Diego, commented that these regulations requirements would discriminate against those with testing impairments.
RESPONSE: The Office of the State Fire Marshal understands Mr. Curtis' concern and all efforts will be made to reasonably accommodate those taking an examination.

COMMENT #153: Mr. Bill Gray, Foothill Fire Protection Inc. commented that these regulation requirements are going to be discriminatory toward certain individuals within the industry.
RESPONSE: The Office of the State Fire Marshal understands Mr. Gray's comment. However, the OSFM disagrees that this will be discriminatory against anyone because it will standardize the minimum requirements throughout the industry.

COMMENT #153a: Mr. Bill Gray, Foothill Fire Protection Inc. commented he feels that there will be a lack of oversight, much like the current electrical (blue card) program.
RESPONSE: The Office of the State Fire Marshal understands Mr. Gray's concern however the legislature has approved OSFM staffing for the enforcement of the program.

Fred Benn, Advanced Automatic Sprinkler
RESPONSE See Comment #7; and transcript pg. 30

COMMENT #154: Ms. Lorelei Upshaw, AFSA Greater Bay Area Chapter, commented the definition of "Apprentice" should not be used in these proposed regulations.
RESPONSE: The Office of the State Fire Marshal rejects Ms. Upshaw's comment because it is defining "apprentice" for the purpose of the proposed regulations of this chapter and not any other program or regulation of the state.

COMMENT #154a: Ms. Lorelei Upshaw, AFSA Greater Bay Area Chapter, commented that Section 947 falls under the Department of Apprenticeship Standards scope, not the OSFM.
RESPONSE: The Office of the State Fire Marshal understands Ms. Upshaw's concern. After consulting with The Department of Industrial Relations (DIR) and members of the Apprenticeship Board, Section 947 of the proposed text has been revised not reflect a training program. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a training program.

COMMENT #155: Mr. John Upshaw, AFSA Training, commented he feels neither the workgroup nor the advisory committee had input on the JRTER program.
RESPONSE: The Office of the State Fire Marshal understands Mr. Upshaw's concern however, this section was added by the OSFM to afford individuals the ability to become certified through on the job training (OJT) and work experience. It is not the intent of this to be another apprenticeship program. The Office of the State Fire Marshal Automatic Extinguishing Systems Advisory Committee and workgroups advise, consult with, and make recommendations to the California State Fire Marshal on matters relating to the content and administration of California Code of Regulations, Title 19, Public Safety, Division 1, State Fire Marshal, Chapter 5, and Automatic Extinguishing Systems. The California State Fire Marshal, who ultimately has the final decision making authority, may consult with and seek advice and recommendations from the AES Advisory Committee on new areas and emerging issues involving AES program.

COMMENT #155a: Mr. John Upshaw, AFSA Training, questions the authority of OSFM to implement these regulations.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Upshaw's comment regarding the OSFM core mission and the request to withdraw the proposed regulation, it is the OSFM's mission to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

In addition, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

Jeff Bridges, JB Fire Protection
See Comment #11; and transcript pg. 36

COMMENT #156: Mr. Dale Beard, Gateway Fire commented that all installation and repairs are done under the direct supervision of a C-16 license holder and these proposed regulations will not add any degree of safety or reliability in the permit or inspection process.
RESPONSE: The Office of the State Fire Marshal acknowledges Mr. Beard's comment. However, not every C-16 license holder is overseeing every project. Therefore, a training and quality assurance program is needed and these proposed regulations meet that need.

COMMENT #156a: Mr. Dale Beard, Gateway Fire believes that contractors already providing continuous in-house training is acceptable and is more cost effective than relying on outside providers.
RESPONSE: This comment was already addressed in Comment #27e. The OSFM has duty to protect life and property. As improvements within the industry occur, the OSFM must ensure knowledge and abilities of those employed in the industry are properly

trained. Individuals will be required to take 3 units of approved continuing education over a three (3) years period to maintain their skills, knowledge and abilities as technology, and state and local standards are changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. All training courses for CEU's must meet the International Association of Continuing Education and Training (IACET) Standard. Any organization can become an accredited provider through IACET.

COMMENT #157: Mr. Richard Markson, AFSA Sacramento Valley Chapter, commented there is a lack of evidence supporting the need for these regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Markson's concern. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #157a: Mr. Richard Markson, AFSA Sacramento Valley Chapter, commented that Section 947 falls under the Department of Apprenticeship Standards scope, not the OSFM.
RESPONSE: The Office of the State Fire Marshal understands Mr. Markson's concern. This comment was already addressed in Comment #154. After consulting with The Department of Industrial Relations (DIR) and members of the Apprenticeship Board, Section 947 of the proposed text has been revised not reflects a training program. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a training program.

COMMENT #157b: Mr. Richard Markson, AFSA Sacramento Valley Chapter, questions the authority of OSFM to implement these regulations.
RESPONSE: The Office of the State Fire Marshal understands Mr. Markson's concern. This comment was already addressed in Comment #155. The OSFM's core mission is to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

In addition, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #157c: Mr. Richard Markson, AFSA Sacramento Valley Chapter, commented that after the sunset of the historical recognition section, the only avenue to be certified is through an apprenticeship program.
RESPONSE: The Office of the State Fire Marshal understands Mr. Markson's concern however in addition to the four (4) apprenticeship programs the OSFM has established the JRTER.

COMMENT #157d: Mr. Richard Markson, AFSA Sacramento Valley Chapter, commented that indentured apprentices potentially will make better wages than a certified fitter.
RESPONSE: The Office of the State Fire Marshal understands Mr. Markson's concern, however, his comment is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT #157e: Mr. Richard Markson, AFSA Sacramento Valley Chapter, the regulation does not mention a Pipeline "C-34", General Engineering "A" or General Building "B" Contractors having to comply with certification requirements.
RESPONSE: The Office of the State Fire Marshal reject's the comment. The OSFM does not intend for the C-34, C-36, General A and B Contractors to be certified to do underground work at this time.

Mr. Rigoberto Vazquez, Advanco Fire Protection
See Comment #52; and transcript pg. 42

COMMENT #158: Mr. Don Merrill, Division of Apprenticeship Standards, commented that Section 947, falls under the scope of DAS, not the OSFM.
RESPONSE: The Office of the State Fire Marshal understands Mr. Merrill's concern. After review of the above-mentioned section, the proposed text has been changed to JRTER. Job Related Training and Experience Review (JRTER) better describes the purpose, which is a means of validating time and experience. It is not the intended to be a "training program".

COMMENT #158a: Mr. Don Merrill, Division of Apprenticeship Standards, commented that the supervisor ratio is outside the industry practice and apprenticeship guidelines.
RESPONSE: The Office of the State Fire Marshal agrees with Mr. Merrill. After review of the above section, the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. *Those who are not in a California State or federally approved apprenticeship program may supervise three (3) JRTER participants."*

Mr. Allen Quirk, CalSafe
RESPONSE: See Comment #24; and transcript pg. 46

Mr. Terry Wolf, Jr., Fire-Matic Systems, Inc
RESPONSE: See Comment #47; and transcript pg. 49

COMMENT #159: Mr. Robert Rowe, Fire Sprinkler Advisory Board of So Cal, commented he supports and applauds the OSFM for standardizing training for the industry.

RESPONSE: The Office of the State Fire Marshal accepts Mr. Rowe's comment.

COMMENT #159a: Mr. Robert Rowe, Fire Sprinkler Advisory Board of So Cal, commented he opposes the JRTER in its entirety.
RESPONSE: The Office of the State Fire Marshal understands Mr. Rowe's concern. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a "training program".

COMMENT #159b: Mr. Robert Rowe, Fire Sprinkler Advisory Board of So Cal, commented that the supervisor ratio is outside the industry practice and apprenticeship guidelines.
RESPONSE: The Office of the State Fire agrees with Mr. Rowe's comment. After review of the above section, and consulting with The Department of Industrial Relations (DIR), the proposed text has been revised to state, "*A Certified Fire Sprinkler Fitter may supervise the number of apprentices permitted in their Apprenticeship Agreement and up to* two (2) trainees. Those who are not in a California *State* or federally approved apprenticeship program may supervise *three (3) JRTER participants."*

Mr. Stanley Smith, Sprinkler Fitters and Apprentices Local 483
RESPONSE: See Comment #54; and transcript pg. 53

Mr. Randy Roxson, Sprinkler Fitter Association of California,
RESPONSE: See Comment #18; and transcript pg. 55

COMMENT #160: Mr. Steven Fox, Local 483 Sprinkler Fitters, commented he supports the proposed regulations package.
RESPONSE: The Office of the State Fire Marshal accepts Mr. Fox's comment.

COMMENT #160a: Mr. Steven Fox, Local 483 Sprinkler Fitters, commented that if the JRTER program stands, he would like to see educational goals added.
RESPONSE: The Office of the State Fire Marshal understands Mr. Fox's concern. The Job Related Experience Validation (JRTER) is designed for the purpose of certifying work experience and training hours of an individual performing the installation of fire suppression systems and is not a "training program".

COMMENT #160b: Mr. Steven Fox, Local 483 Sprinkler Fitters, made the same comment as John Upshaw concerning the JRTER.
RESPONSE: The Office of the State Fire Marshal understands Mr. Fox's concern. See Comment #155.

COMMENT #161: Ms. Lexi Howard, CalSafe, commented there is lack of viable data to support the proposed regulations.

RESPONSE: This comment was already addressed in Comment #58. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state.

The statistics in this analysis are estimates derived from the U.S. Fire Administration's (USFA's), National Fire Incident Reporting System (NFIRS) and the NFPA's annual survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates. Therefore, according to NFIRS data, approximately one-third of all fire statistics are either not reported or may include erroneous information.

Based on a survey conducted in September 2014 with fire departments in California statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field as well as department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

Would like a non-State Fire Marshal neutral study. This comment was already addressed in Comment #97b. A non-State Fire Marshal neutral study has not been conducted.

COMMENT #161a: Ms. Lexi Howard, CalSafe, about concerns related to new cost impacts on businesses, small business and public entities that are planning on installing fire sprinkler systems in the future.
RESPONSE: This comment was already addressed in Comment #148b. It has been determined that the proposed regulations have no substantial effect on small business

and has not identified any alternatives that would lessen any adverse impact on small business and still allow the State Fire Marshal to effectively enforce the regulations. Further, the Office of the State Fire Marshal has addressed both the positive and negative impacts the implementation of these regulations may create. Alternatives are not less burdensome, or more cost effective on affected private persons or businesses than the proposed action.

COMMENT #161a: Ms. Lexi Howard, CalSafe, commented questions the authority of OSFM to implement these regulations.
RESPONSE: This comment was already addressed in Comment #155. The OSFM's core mission is to protect life and property against fire and panic. This regulation package addresses the need to protect the life and property of the citizens of California. With the adoption of the International Building and Fire Codes and their reliance on sprinkler systems rather than prescriptive construction design requirements, the OSFM, per the California HSC, has a statutory responsibility to ensure the quality of the installation of fire protection systems and ensure public safety throughout the State. Therefore, the OSFM feels the best way to achieve this is to have a trained and certified workforce who, with continued education in the installation of these systems, can keep up with the ever changing National Standards and new technology to protect life and property of the citizens of California. The OSFM also feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

In addition, HSC Section 13110 does allow for the creation of regulations for licensing, registration and certification. Section 13110 states the following:

(a) Notwithstanding any other provision of this part, the State Fire Marshal may propose, adopt, and administer the 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, <u>certification, registration, licensing</u>, reporting, operation, and maintenance. Regulations that are building standards shall be submitted to the State Building Standards Commission for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

COMMENT #162: Mr. Jeff Sefton, CINTAS commented that JRTER needs to be clarified.
RESPONSE: This comment was already addressed in Comment #18c. JRTER was developed to increase the quality of the installation of water-based systems by expanding available options for certification to those who are not in a state or federally approved program and still increases the possibility of successful certification and quality installations.

COMMENT #162a: Mr. Jeff Sefton, CINTAS commented that the definition for "installation" be reconsidered and rewritten.

RESPONSE: The Office of the State Fire Marshal rejects Mr. Sefton's comment. The definition of "installation" encompasses all Water-Based Fire Protection Systems. This includes, but not limited to, new, retrofit, alteration, or repair of those systems.

COMMENT #162b: Mr. Jeff Sefton, CINTAS commented that the timeframe is an insufficient amount of time to implement the proposed regulations.
RESPONSE: This comment was already addressed in Comment # 147g. The Office of the State Fire Marshal concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field.

Mr. James Feld, University of California Berkeley
See Comment #46; and transcript pg. 63

Mr. Peter Hulin, Superior Automatic Sprinkler Company
See Comment #19; and transcript pg. 65

COMMENT #163: Ms. Amber Anderson, President, NorCal Fire Prevention Officers, commented she is in support of the proposed regulations.
RESPONSE: The Office of the State Fire Marshal accepts Ms. Anderson's comment.

COMMENT #164: Mr. Gabriel Munoz, Carlon's Fire, commented he opposes the regulations because high school diploma or equivalency is necessary to join apprenticeship programs. He feels this is discriminatory against the current workforce.
RESPONSE: The Office of the State Fire Marshal rejects Mr. Munoz's . The Office of the State Fire Marshal's does not regulate the requirements for the apprenticeship programs and this comment is not within the scope of these regulations.

COMMENT #164a: Mr. Gabriel Munoz, Carlon's Fire, commented he believes these regulations will have an economic impact on small business.
RESPONSE: The Office of the State Fire Marshal has determined that the economic impact will be minimal and should not have a significant impact on small businesses.

SUMMARY AND RESPONSE TO COMMENTS RECEIVED DURING THE 15-DAY NOTICE OF MODIFICATIONS PERIOD FROM JULY 27, 2016 THROUGH AUGUST 11, 2016

COMMENT #1: Section 923**.** Mr. Randy Roxson, Sprinkler Fitter Association of California, commented that Section 923 Exception 3 provides no explanation for its inclusion of underground water supply piping within this exception.
RESPONSE: The Office of the State Fire Marshal understands the comment. To clarify the scope, these regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, "California Licensed Contractor" dated the spring 1990 states,

…*"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

Although installation of the fire protection system "inside" the building may only be completed by a licensed Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform "underground" work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #1a: Section 941. Mr. Randy Roxson, Sprinkler Fitter Association of California, commented, Section 941(f) moved to 946(f), but eliminated the requirement that "Certifications" be also included in a database.
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 946. After review of the above section, it was determined that the language was not copied correctly. It has been replaced with the correct language *"The Office of the State Fire Marshal shall compile all Trainee and Apprentice Registrations and all Fitter Certifications in a database designed …"* This will keep with the intent of the proposed section.

COMMENT #1b: Section 947. Mr. Randy Roxson, Sprinkler Fitter Association of California, commented, Section 947 contends that the JRTER program is equivalent to, or exceeds any of the state and federally approved sprinkler fitter apprenticeship training programs without having provided empirical data or any other factual evidence whatsoever to substantiate such a contention.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The requirements of other apprenticeship programs were evaluated and used to meet or exceed existing requirements. The topics and hours were taken from the California

Apprenticeship Council Pipe Trade Industry Sprinklers Fitter Advisory Committee's Sprinkler Fitter Revision 09/29/10. As stated in the original ISOR, the OFSM has developed the requirements to increase the quality of water-based fire protection systems installation. This allows those who have gained the experience and hours through numerous years as a fire sprinkler fitter, and who are not in a state or federally approved program, the possibility and opportunity of successful certification. JRTER applications and supporting documentation will be reviewed and approved by the OSFM JRTER review committee chaired by the OSFM. A JRTER applicant shall also provide with the application, a letter(s) on company letterhead from the applicant's current and/or former employer(s) certifying, under penalty of perjury, the applicant's experience and hours.

COMMENT #1c: Section 947.1 and 947.2. Mr. Randy Roxson, Sprinkler Fitter Association of California, commented, Section 947.1 and 947.2 does not have classroom training and incremental examinations.
RESPONSE: The Office of the State Fire Marshal understands the concern. However, JRTER is not a training program and provides a process to validate actual work experience and hours not just classroom training. The Division of Apprenticeship Standards (DAS), and the California Joint Apprenticeship Committee (JAC) advised us that the JREP appeared to be an underground apprenticeship program. That was not the intent of the JREP and therefore it was revised to "Job Related Training and Experience Review", (JRTER). In taking their advice, the written examination every 2,000 hours was removed. Validation of knowledge will be accomplished through the certification examination administered by the OSFM.

COMMENT #1d: Sections 947.1 and 947.2. Justification. Mr. Randy Roxson, Sprinkler Fitter Association of California, commented, absent from the record is ample justification for the JRTER program; elimination of the incremental examination of applicants and for the various stated changes made.
RESPONSE: The Office of the State Fire Marshal understands the concern. Changes to the JRTER program were made in coordination with the Division of Apprenticeship Standards (DAS), to be certain that Fire Sprinkler Fitter standards in these regulations are the same for all and insure consistency throughout the state. The justification "is not applicable" stated for various changes was because DAS advised it appeared to be an underground apprenticeship program therefore those contents were removed and no longer applicable. Although there are no periodic exams, a certification exam still exists to verify qualification.

COMMENT #2: Jason Norton, RLH Fire Protection, commented he is not sure what we are trying to exclude, part or all of the underground. Underground firewater piping is just as critical to the fire sprinkler system as any other part of the system so why would it be excluded?
RESPONSE: The Office of the State Fire Marshal understands the comment. To clarify the scope, these regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection

systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, “California Licensed Contractor” dated the spring 1990 states,

“The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)”

Although installation of the fire protection systems “inside” the building may only be completed by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform “underground” work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #3: Section 920. Allen Quirk, CALSAFE, commented that Section 920 has a number of inclusions of types of work that may be performed under this proposed regulation that are not included in Health and Safety Code, Section13100, as well as, adds in other codes not contemplated.
RESPONSE: The Office of the State Fire Marshal rejects the comment. Health and Safety Code 13100 references the creation of the Office of the State Fire Marshal in the Department of Forestry and Fire Protection. Section 13100 is not within the scope of this regulations package.

COMMENT#3a: Section 922. Allen Quirk, CALSAFE, commented that in Section 922 there is no authority granted under Health & Safety Code section 13110 that provides OSFM the authority to require certification on “repairs.”
RESPONSE: The Office of the State Fire Marshal rejects the comment. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines “Maintenance” as work performed to keep equipment operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous.

COMMENT #3b: Section 923. Allen Quirk, CALSAFE, commented that in Section 923 the list of excluded systems contained in the “rationale” for the change should be added to the text of the section.
RESPONSE: The Office of the State Fire Marshal understands the concern but disagrees with the comment. The language in the rationale does not belong in the text of the regulations.

COMMENT #3c: Section 923. Allen Quirk, CALSAFE, commented that the word “repair” should be removed from the Section 923 (see COMMENT #3a RESPONSE above):

RESPONSE: Office of the State Fire Marshal rejects the comment . This comment was already addressed in Comment #3a. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines "Maintenance" as work performed to keep equipment operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous.

COMMENT #3d: Allen Quirk, CALSAFE, commented that in Section 923 the sentence: "The installation of pre-engineered water-based fixed extinguishing systems where the number of components and their configurations are excluded from these regulations," does not make sense and requires clarification.
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 923(3). After review of the above section, it was determined that the language "*number of components and their configurations"* should be removed. The correct language should be *"The installation of pre-engineered water-based fixed extinguishing systems are excluded from these regulations."* This will keep with the intent of the proposed section.

COMMENT #3e: Allen Quirk, CALSAFE, commented that in Section 924(b) the term "skilled workers" needs further clarification regarding what type of worker this term is referring to.
RESPONSE: The Office of the State Fire Marshal understands the comment.
The definition of "Apprentice" was taken from Merriam-Webster dictionary. Merriam-Webster dictionary is the standard reference document used for defining words in general terms and when no other definition is provided. "Skilled workers" came directly from that definition which states: *"one who is learning by practical experiences under skilled workers a trade"* where the "skilled worker" is the certified individual and the "trade" is the fire sprinkler fitter industry.

COMMENT #3f: Allen Quirk, CALSAFE, commented that C-16 Contractors should be removed from Section 924.1 because there is no requirement that the C-16 contractor be required to take an additional test and pay an additional fee to be certified in the enacting statute Health & Safety Code 13100.
RESPONSE: The Office of the State Fire Marshal understands the comment.
However, these regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. Therefore, if a C-16 license holder is performing the work of installation, alteration or repair of water-based fire protection systems he must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #3g: Section 924.4 "I" Definitions. Allen Quirk, CALSAFE, commented that the term "repair" should be removed from Section 924.4 (see COMMENT #3a above).
RESPONSE: Office of the State Fire Marshal rejects the comment . This comment was already addressed in Comment #3a. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines "Maintenance" as work performed to keep equipment

operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous..

COMMENT #3h: Section 924.9 “R” Definitions. Allen Quirk, CALSAFE, commented that the term “repair” should be removed from Section 924.9 (see COMMENT #3a above):
RESPONSE: Office of the State Fire Marshal rejects the comment. This comment was already addressed in Comment #3a. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines “Maintenance” as work performed to keep equipment operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous.

COMMENT #3i: Section 925 and 925.1. Allen Quirk, CALSAFE, commented that in Section 925 & 925.1 the JRTER fee of $500 is unreasonable and does not meet the standard of “reasonable” fee under Health & Safety Code 13145 & 13146.
RESPONSE: The Office of the State Fire Marshal understands the concern. However, the operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the billing rate of the OSFM. The fee for the JRTER is more substantial due to the analysis and processing of additional applications, and the operating costs for the OSFM to organize the review board which accepts or rejects the JRTER applications.

COMMENT #3j: Section 926. Allen Quirk, CALSAFE, commented that in Section 926 there is no additional language inserted to address other types of workers who are not sprinkler fitters working for C-16s, such as employees of pump manufacturers or electricians, who might work on specialty equipment, such as fire pumps or tanks, which require their specific expertise.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, it is not the intent of these regulations to require fire pump manufactures representatives, or specialty contractors that only install items such as water storage tanks, tank heaters, engineered and pre-engineered to be certified at this time and is not within the scope of this regulatory action and is scheduled to be addressed at a later date.
COMMENT #3k: Allen Quirk, CALSAFE, commented that the wording in Section 926 is not correct and suggests that the Certified Fire Sprinkler Fitter is in the JRTER program and should be corrected to indicate that is not the case.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment concerning Section 926. Section 926 states those Certified Fire Sprinkler Fitters who are not in a California State or federally approved apprenticeship agreement may supervise three JRTER participants. A Certified Fire Sprinkler Fitter is already certified and would not be in the JRTER program.

COMMENT #3l: Section 930 Report of Violations. Allen Quirk, CALSAFE, commented that the term “violations” in Section 930 needs to be specified and is not clear if that pertains only to violations of this chapter or other types of violations.

RESPONSE: The Office of the State Fire Marshal rejects with the comment concerning Section 930 and the report of violations. Section 930 t is clear on what violations need to be reported. The text states, "*Any action taken by the AHJ for violations against a registered Trainee, Apprentice, or Certified Fire Sprinkler Fitter….*"

COMMENT #3m: Section 933 Deceptive Practices. Allen Quirk, CALSAFE, commented that the addition of the new Section 933(c) is not a grammatical change as noted by the OSFM, is a substantive change, and should have been subject to a 45-day hearing notice under the APA.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment concerning Section 933(c). The APA manual states the agency may decide whether a change is, (1) nonsubstantial, (2) substantial and sufficiently related or (3) substantial and not sufficiently related per Government Code, Section 11346.8(c). The OSFM has determined the addition of Section 933(c) is not a substantial change and sufficiently relates to the original text. The addition of Section 933(c) serves to identify within the Section what constitutes a "deceptive practice" which was only referenced in the previous text.

COMMENT #3n: Allen Quirk, CALSAFE, commented that in Section 933 they are concerned about the use of the Business and Professions Code (BPC) in this regulation. They state that there is no authority in the Health & Safety Code Section 13100 that permits the OSFM to issue Business and Professions Code violations, and that all of the references to these codes must be removed from the proposed regulation.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. Business and Professions Code Section 17200 and 17500 are the laws in California that directly correlates with deceptive practices. Section 17200 is the enforcement code for fraudulent business acts or practices while Section 17500 of the Business and Professions Code deals with false advertising. As a California State agency that licenses and certifies individuals, the Business and Professions Code is the system of acts required to use to enforce those individuals who are licensed and certified with the OSFM. Therefore, the OSFM is within its authority to issue Business and Professions Code violation as it states in other parts of Title 19.

COMMENT #3o: Section 937 Duplicate Issuance. Allen Quirk, CALSAFE, commented that the wording in Section 937 is unclear and is worded in such a way that only an "Apprentice or Trainee's" Certification/Registration may be issued a duplicate card, but not to a Certified Fire Sprinkler Fitter.
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 937. After review of the above section, it was determined that the language "…*Apprentice or Trainee Certification/ Registration*…" still did not clarify this Section. The correct language should read *"…a duplicate Certificate/Registration as defined in this chapter, in the event…."* This will keep with the intent of the proposed section.

COMMENT #3p: Section 938 Fire Sprinkler Fitter Trainee. Allen Quirk, CALSAFE, commented that, for consistency, Section 938 & 939 should have the same designation of Sprinkler Fitter Trainee and Apprentice Trainee requiring that installation of water-

based systems only be performed for properly licensed C-16 contractors. Section 938 neglects to note that requirement while Section 939 appropriately references C-16 contractors.
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 938 & 939. After review of the above sections, it was determined that the language was not edited correctly. It is to be replaced with the correct language *"…for a properly licensed California Contractors State License Board C-16 contractor …"* This will keep with the intent of the proposed section.

COMMENT #3q: Section 940 Fire Sprinkler Fitter Certification Renewal. Allen Quirk, CALSAFE, commented that Section 940(c) inaccurately refers to "license," which is not issued by the OSFM, and should be changed to "certification" or "registration."
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 940(c). After review of the above sections, it was determined that the language was inaccurately used within these regulations. It is to be replaced with the correct language *"…certification…"* This will keep with the intent of the proposed section.

COMMENT #3r: Section 941 Examination Procedures. Allen Quirk, CALSAFE, commented that in Section 941, there should not be certification or registration exam requirements with a $150 fee for C-16 contractors, beyond verification by OSFM of a C-16 license is active and in good standing. The C-16 contractor certification should be removed.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, these regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #3s: Section 945 Renewal of an SFM Trainee Registration. Allen Quirk, CALSAFE, commented that they continue to oppose any certification testing for contractors who already hold a C-16 license from the CSLB as it is unnecessary and places financial burden on C-16 contractors.
RESPONSE: The Office of the State Fire Marshal understands the comment and disagrees. These regulations are for "certifying" individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems without further review or certification. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #3t: Section 947 JRTER Program. Allen Quirk, CALSAFE, commented, Section 947, that the C-16 license should be sufficient to meet examination and CEU requirements proposed by this regulation and should be completely grandfathered.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, the CEU requirements, examinations, and grandfathering are not within the scope of Section 947.

COMMENT #3u: Section 947. Allen Quirk, CALSAFE, commented that this section is going to create an avoidable labor shortage because all the fitters currently working will not be able to meet 100% of the requirements set out in JRTER in the first 180 days. Those currently working fitters that also meet the hours and years specified in the section should be completely grandfathered.
RESPONSE: The Office of the State Fire Marshal understands the concerns. However, no reports or statistical data have been provided in support of a shortage of fitters in California due to certification or licensing requirements.

COMMENT #3v: Section 947.2 Multi Family Residential. Allen Quirk, CALSAFE, commented that the term "repair" should be removed from Section 947.2 (see COMMENT #3a above):
RESPONSE: Office of the State Fire Marshal rejects the comment . This comment was already addressed in Comment #3a. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines "Maintenance" as work performed to keep equipment operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous.

COMMENT #3w: Section 948 Continuing Education. Allen Quirk, CALSAFE, commented, Section 948, that there has been no verified or peer-reviewed data or evidence produced by the OSFM showing any need for C-16 contractors to be included in the testing and continuing education portion of the proposed regulation.
RESPONSE: Office of the State Fire Marshal rejects the comment. This comment was already addressed in Comment #3s. These regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems without further review or certification. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #3x: Section 949 Implementation Period and Historical Recognition. Allen Quirk, CALSAFE, commented that C-16 contractors should be permanently exempt from the certification, testing, and CEU requirements proposed in this regulation.
RESPONSE: Office of the State Fire Marshal rejects the comment. This comment was already addressed in Comment #3s. These regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to

perform installation, alteration or repair of all water-based fire protection systems without further review or certification. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #3y: TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY OR REPORT OR SIMILAR DOCUMENT RELIED UPON – MATERIALS ADDED TO THE RULEMAKING FILE. Allen Quirk, CALSAFE, commented that all of the documents added to the 15-Day Notice are new, and none meet the economic analysis set out in Government Code Section 11356(a), (1)-(5).
RESPONSE: The Office of the State Fire Marshal rejects the comment that the documents added to the 15-Day Notice do not meet the economic analysis set out in Government Code Section 11356(a), (1)-(5). The economic impact and a description of all costs known to the OSFM that a representative business would reasonably incur in reasonable compliance with the proposed action were identified in the initial Notice of Proposed Rulemaking and in the Initial Statement of Reasons (ISOR). The documents relied upon that were provided in the 15-Day modifications identifying the costs to union and non-union businesses were used to meet the economic cost analysis under Government Code 11346.5 (a)(9) and 11345.3(b). For purposes of evaluating the impact, the information in these documents was supplied by interested parties (the sprinkler industry) who assisted with the analysis of the costs known and relied upon by the OSFM for the proposed action. In addition, the SFM can find no facts, documents, testimony, or evidence that this action will have a significant adverse economic impact on any business.

COMMENT #3z: US Experience with Sprinklers Article. Allen Quirk, CALSAFE, commented that the use of the article does not contain enough information or data to support this proposed regulation.
RESPONSE: The Office of the State Fire Marshal rejects the comments pertaining to the *U.S. Experience with Sprinklers* article. This article was provided in the 15-day comment period due to the industries use of its statics during the 45-day comment period. As it was previously stated in the original 45-day comment period, *"maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the*

study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state."

Again, the OSFM deemed that this it was necessary to provide the *U.S. Experience with Sprinklers* article in the 15-day period provide its analysis to answer the 45-day comments.

COMMENT #3aa: Automatic Extinguishing Systems Certification Issue Survey. Allen Quirk, CALSAFE, commented that, in regards to the use of the survey, there are several concerns over the conclusions that may be drawn from this survey.
RESPONSE: Office of the State Fire Marshal rejects the comment. It was previously addressed in the original 45-day comment period, which stated, *"The Office of the State Fire Marshal concludes that based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements. In addition, during the Public Hearing conducted on April 7, 2016, Fire Protection Engineers who inspect fire suppression systems for their agencies provided testimony stating they have witnessed improper installation in the field."*

Furthermore, during the September 24, 2014, Automatic Extinguishing Systems Advisory Committee meeting, this survey was presented to the members of the committee. At the conclusion of that presentation a motion, discussion and vote was taken to *"develop a proposal of regulations for an AES Certification Program for all water based fire protection systems, engineered systems and AES systems contained in Chapter 5 including installation, testing and maintenance."* That vote was 12:9 in favor to create a Workgroup to develop a proposal of regulations for an AES Certification Program for the State of California.

COMMENT #3ab: "Fire Protection Systems Installers Licensed" article. Allen Quirk, CALSAFE, commented that, in regards to the use of the article, it is unclear the support that this article actually provides. It is highlighting the establishment of the C-16 specialty license.
RESPONSE: The Office of the State Fire Marshal rejects the comments on the "Fire Protection Systems Installers Licensed" article. This article was used to clarify the scope, as these regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, "California Licensed Contractor" dated the spring 1990 states, *"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)

Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

Although installation of the fire protection systems "inside" the building may be done only by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform "underground" work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #3ac: Union Wage and Benefit Support Document and Non-union Fiscal Impact Document. Allen Quirk, CALSAFE, commented that the use of the documents do not support the need for the regulation or certification and should be discarded.
RESPONSE: The Office of the State Fire Marshal understands all the comments and disagrees. The Union Wage and Benefit Support Document and Non-union Fiscal Impact Document were relied upon to develop and articulate the information needed in the states standard form for "Economic and Fiscal Impact Statement" (STD 399) and the analysis for the 45-day ISOR for purposes of evaluating the impact.

COMMENT #3ad: Automatic Extinguishing Systems (AES) Fire Sprinkler Fitter Certification Profile Flow Chart. Allen Quirk, CALSAFE, commented that the flow chart reveals something not previously stated by the OSFM.
RESPONSE: The Office of the State Fire Marshal rejects the comments in regards to the Automatic Extinguishing Systems (AES) Fire Sprinkler Fitter Certification Profile Flow Chart. This chart was developed internally as a tool for individuals to understand in the most simplistic way the process of becoming a Certified Fitter with these regulations. The OSFM believed that it was such a success, that it deemed it necessary to disclose it to the public to better understand the process as well.

COMMENT #3ae: Allen Quirk, CALSAFE, commented that, in regards to the conversations with The California Apprenticeship Council, there is no transparency, data, or evidence to these "conversations," when they occurred, who were involved, and the content.
RESPONSE: The Office of the State Fire Marshal understands the comments in regards to the conversations with The California Apprenticeship Council. The California Apprenticeship Council is the appeals board for the Department of Industrial Relations (DIR). The Division of Apprenticeship Standards fall under the supervision of DIR. DIR, as another state agency, review regulation packages that could possibly effect there programs, and asked if we would work with DAS and the California Apprenticeship Council. In turn, they made suggested changes, which the OSFM ultimately incorporated into the 15-day package. Consulting with other agencies is typical in the process of developing regulations. These consultations were conversations only and there were no documents relied upon.

COMMENT #4: John R. Upshaw, California American Fire Sprinkler Association, commented that the term “Apprenticeship Program” needs to be defined consistently throughout the proposed regulations.
RESPONSE: The Office of the State Fire Marshal rejects with the comment. These regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. There is no need to define Apprentice Program throughout the document. These regulations deal with fire protection systems and define in the definitions what an apprentice is for the program.

COMMENT #4a: John R. Upshaw, California American Fire Sprinkler Association, Section 947, commented that the attachment for verification for JRTER does not provide applicant ability to enter independent verification data related to current status as a registered and approved apprentice in either a State or Federally approved Fire Sprinkler Fitter apprenticeship program. Some reference to this agreement needs to be included, particularly as active status as a registered apprentice waives JRTER requirements for verification of work hours.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, Section 947 in the proposed regulations is the JRTER for those individuals who are not in a State or federally-approved apprenticeship program. All supporting documents to back their experience are required with their application as stated in Section IV.

COMMENT #4b: John R. Upshaw, California American Fire Sprinkler Association, Section 947, commented that Form AES-1005 should also be changed consistent with the OSFM’s rational for current revision of Section 947.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. Form AES-1005 is the Sprinkler Fitter Certification Application. All supporting documentation is required with the completion and fees of this form as stated in Section IV. Section 947, (now Section 946), is a means for those individuals who have not completed or enrolled in a State or federally approved apprenticeship program to provide documentation and a separate application, form AES-1008 to obtain certification.

COMMENT #5: Todd Golden, Sprinkler Fitters Local 709, commented that the OSFM should return the regulation back to its original format as originally developed by the workgroup.
RESPONSE: The Office of the State Fire Marshal understands the concern and disagrees with the comment. Modifications were made in coordination with the Division of Apprenticeship Standards (DAS). The Office of the State Fire Marshal (OSFM) received over three hundred public comments on the text as originally noticed. Upon review and consideration of the comments received, the OSFM determined that modifications to the text were deemed necessary to better clarify the proposed language, make other modifications and correct typographical errors to the text and forms.

COMMENT #6: Terrance Wolf, Fire-Matic Systems Inc., commented is the certification fee a one-time fee or is the Continuing Education fee included making it a total of $300 dollars?
RESPONSE: The certification fee is a one-time annual fee. The $150 in Section 925.1(6) and (7) is for the application of the provider of CEU training courses.

COMMENT #6a: Section 949 - Historical Recognition. Terrance Wolf, Fire-Matic Systems Inc., asked, "Is the certification fee a one-time fee or is it for anything else?"
RESPONSE: All certification fees are renewed on an annual basis, including those who are certified in Section 949.

COMMENT #6b: Terrance Wolf, Fire-Matic Systems Inc., commented that to penalize an individual applicant as called for in Section 935 is excessive.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. However, this practice has been proven successful with our other licensing/certification programs within our office to ensure compliance. We believe this process to be acceptable while still remaining consistent with current practices within our other programs.

COMMENT #6c: Terrance Wolf, Fire-Matic Systems Inc., asked if Section 935 only applies to apprentices and trainees?
RESPONSE: After review of the Section 935, it was determined that the language "…*Apprentice or Trainee Certification/ Registration*…" still did not clarify this Section. The correct language should read *"…renewal of an Apprentice or Trainee Registration or a Certified individual, which has expired …."* This will keep with the intent of the proposed section.

COMMENT #6d: Section 935. Terrance Wolf, Fire-Matic Systems Inc., asked what happens if a fitter's documents expires?
RESPONSE: Those individuals who fail to renew have to reapply and cannot work until re-certified.

COMMENT #6e: Terrance Wolf, Fire-Matic Systems Inc., commented that these regulation requirements are going to be discriminatory toward certain individuals within the industry.
RESPONSE: The Office of the State Fire Marshal rejects with the comment. There is not any specific suggestion made to revise these regulations, and the comment is not within the scope of this regulatory action.

COMMENT #6f: Terrance Wolf, Fire-Matic Systems Inc., commented that the industry would be better served if the OSFM provides seminars once every 6 months to keep all sprinkler fitters up-to-date.
RESPONSE: The Office of the State Fire Marshal understands the comment. The OSFM does not agree with the need for industry updates. The intent of Sections 948 is to establish CEUs program that ensures those who are doing the installation of fire suppression systems are staying up to date. In addition, this establishes a training

standard that must be followed to meet the CEU requirement. Individuals will be required to take three units of approved continuing education over a three (3) year period to maintain their skills, knowledge and abilities as technology is changed and modified within the continuously changing national and state standards for the installation of water-based fire protection systems. It was determined continuing education was a better alternative to ensure everyone was complying then providing seminars once every 6 months.

COMMENT #7: Tom McKinnon, Aegis Fire Systems Inc disagrees with Section 923 Exception (2) and the exclusion of underground. Underground firewater piping is just as critical to the fire sprinkler system as any other part of the system so why would it be excluded.
RESPONSE: The Office of the State Fire Marshal rejects the comment. The regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, "California Licensed Contractor" dated the spring 1990 states, *"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

Although installation of the fire protection systems "inside" the building may be done only by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform "underground" work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #7a: Tom McKinnon, Aegis Fire Systems Inc., commented that, in regards to Section 926 – Maximum Number of Directly Supervised Employees, federal prevailing wage determinations for Fire Sprinkler Fitter, which is applicable to public works, only recognizes journey-workers, apprentices; and State public works prevailing wage determinations only recognizes trainees on residential public works projects. Mr. McKinnon would also like to include "public works" to further clarify the language.
RESPONSE: The Office of the State Fire Marshal agrees with the comment. The apprentice ratio agreements pertain to the Labor Code and prevailing wages. They do not address trainees, which this package does. However, prevailing wage jobs are for public works construction projects in the State of California and fall under the jurisdiction of the California Labor Code. Those laws would need to be changed to address trainees in regards to public works projects in California.

The changes that were made in this Section where made in conjunction with the Division of Apprenticeship Standards (DAS), and the California Joint Apprenticeship Committee (JAC).

COMMENT #7b: Tom McKinnon, Aegis Fire Systems Inc., commented that Section 926 creates an unfair economic advantage to employers of JRTER workers who do not participate in recognized and approved apprenticeship training. He also states this provides no incentive for employers to provide approved training and feels JRTER should be removed.
RESPONSE: The Office of the State Fire Marshal understands the concern. JRTER was added by the OSFM to afford individuals the ability to become certified through OJT and work experience. This allows those who have gained the experience and hours through numerous years as a fire sprinkler fitter, and who are not in a state or federally approved program, the possibility and opportunity of successful certification without having to complete an apprenticeship program.

COMMENT #7c: Tom McKinnon, Aegis Fire Systems Inc., commented that Section 938 should be revised to stipulate that trainees who work within the scope of these regulations work for "one year from the date of enactment of these regulations or from one year of date of employment thereafter."
RESPONSE: The Office of the State Fire Marshal understands the comment. The renewal period has been set up to meet the budgetary requirements for the State of California. California State fiscal year is July 1st through June 30th. The OSFM cannot currently determine when these regulations will go into effect, but needs the renewal period to coincide with the State fiscal year.

COMMENT #7d: Tom McKinnon, Aegis Fire Systems Inc., commented in regards to Section 940, renewals should be valid for three years instead of annually.
RESPONSE: This comment was already addressed in Comment #7c. The renewal period has been set up to meet the budgetary requirements for the State of California. California State fiscal year is July 1st through June 30th. The OSFM cannot currently determine when these regulations will go into effect, but needs the renewal period to coincide with the State fiscal year..

COMMENT #7e: Tom McKinnon, Aegis Fire Systems Inc., commented that, in regards to Section 945, the registration and fees imposed should be valid for one year from date of registration.
RESPONSE: This comment was already addressed in Comment #7c. The renewal period has been set up to meet the budgetary requirements for the State of California. California State fiscal year is July 1st through June 30th. The OSFM cannot currently determine when these regulations will go into effect, but needs the renewal period to coincide with the State fiscal year..

COMMENT #7f: Tom McKinnon, Aegis Fire Systems Inc., commented that, in regards to Section 947(a), the JRTER program is simply a validation of "on the job training" (OJT) and does not provide a pathway for workers to achieve Journeyman Certification.

RESPONSE: The Office of the State Fire Marshal accepts the concern. JRTER provides a process to validate work experience/hours and is not a training program. Validation of knowledge will be accomplished through the certification examination provided by the OSFM.

COMMENT #7g: Tom McKinnon, Aegis Fire Systems Inc., commented that, in regards to Section 948.1(a), the language "…shall be located on the OSFM website…" should be changed to "…shall be posted on the OSFM website…" to eliminate ambiguity.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The terms "located" and "posted" are synonymous with each other for the purpose of these regulations and there is no justification for the ambiguity and the change.

COMMENT #7h: Tom McKinnon, Aegis Fire Systems Inc., commented that, in regards to Section 948.1(c), "State or federal approved sprinkler fitter apprenticeship program" should be included in the description of an accredited institution.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The approved sprinkler fitter apprenticeship programs would be classified as vocation or technical schools in Section 948.1(c). The ANSI/IACET Standard for Continuing Education and Training was used because it is a proven model for developing effective and valuable continuing education and training programs.

COMMENT #8: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 923, the installation, alteration, or repair of underground water supply lines should be included in the regulations.
RESPONSE: The Office of the State Fire Marshal rejects the comment. To clarify the scope the regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, "California Licensed Contractor" dated the spring 1990 states, *"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

Although installation of the fire protection systems "inside" the building may be done only by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform "underground" work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #8a: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 925, he opposes any certification or registration for a C-16 California Contractors License holder.
RESPONSE: The Office of the State Fire Marshal understands but disagrees with the comment. The regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #8b: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 926, he opposes a maximum number of directly supervised employees.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The Division of Apprenticeship Standards, DAS, sets the apprenticeship standard through their apprenticeship agreements throughout the state. Section 926 states those that are not in such a program can only supervise three registered individuals and their trainees. By limiting the number of individuals who can be supervised at one time this will ensure the quality of the installation of fire protection systems and public safety throughout the State.

COMMENT #8c: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 938, he feels the timelines for a valid apprentice registration card should be reconsidered.
RESPONSE: The Office of the State Fire Marshal rejects the comment. The commenter has not provided any alternatives or suggestions of what the timeline should be.
COMMENT #8d: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 941, no timeline should be given for scheduling or taking a written examination until the OSFM has approved and adopted the written examination.
RESPONSE: The Office of the State Fire Marshal disagrees withthe comment. He has not provided any alternative, suggestions, or reasons for his objection to the timeline for an applicant to schedule and take an examination.

COMMENT #8e: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 945, opposes any trainee registration, apprentice registration and certification until consideration is given by the OSFM on the implementation of testing and training.
RESPONSE: The Office of the State Fire Marshal disagrees with Mr. Vazquez's comment. He has not provided any alternative, suggestions, or reasons for his objection to Section 945.

COMMENT #8f: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 946, he opposes this Section as he believes the requirements for the

California State or federally approved apprenticeship programs will create a labor shortage and increase cost throughout the state. He proposes a class program similar to a driver's license.
RESPONSE: This comment was already addressed in Comment #3u. No reports or statistical data have been provided in support of a shortage of fitters in California due to certification or licensing requirements.

COMMENT #8g: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 947, a program should be developed that would comply with both requirements of an apprenticeship program and the JRTER.
RESPONSE: The Office of the State Fire Marshal understands the comment. These topics and hours were taken from the California Apprenticeship Council Pipe Trade Industry Sprinklers Fitter Advisory Committee Sprinkler Fitter Revision September 29, 2010. This allows those who have gained the experience and hours through numerous years as a fire sprinkler fitter, and who are not in a state or federally approved program a minimum standard with the possibility and opportunity of successful certification. As stated in the original ISOR, The OFSM has developed this to increase the quality of water-based fire protection systems installation. This allows those who are not in a state or federally approved program the possibility and opportunity of successful certification and quality installations.

COMMENT #8h: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 948, the regulations are continually changing within our industry; therefore, this depends on the implementation of the AES certification.
RESPONSE: The Office of the State Fire Marshal agrees with the comment that regulations and standards are continuously changing. Section 948 will require individuals to take three units of approved continuing education over a three (3) year period. This is to maintain their skills, knowledge and abilities as technology, national, state and local standards change and grow. As well as, the ever-changing national and state standards for the installation of water-based fire protection systems become modified.

COMMENT #8i: Rigoberto Vazquez, Advanco Fire Protection, commented that, in regards to Section 949, a 180-day implementation period would not be adequate time for the OSFM to process the influx of applications.
RESPONSE: The Office of the State Fire Marshal understands the concern. However, Section 949(a)(1) states that no examination is required within 180 days (6 months) from the effective date of these regulations. Furthermore, no certification card shall be required on the job site within one (1) year, (365 days) of the effective date of these regulations. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #9: John Amann, Cintas, commented that they object to the inclusion of any terms (i.e. alteration, repair, modification, etc.) or any provisions in the proposed

regulations that expand their sweep beyond the scope of installation of water-based systems.
RESPONSE: The Office of the State Fire Marshal rejects the comment. Section 902.12 of Title 19 California Codes of Regulations (CCR) defines "Maintenance" as work performed to keep equipment operable or to make repairs. Health and Safety Code Section 13110 allows for certification of maintenance, therefore maintenance and repair are synonymous. Furthermore, Merriam-Webster dictionary defines installation "*as the act of installing : the state of being installed as well as the act of changing is an alteration."*

COMMENT #9a: John Amann, Cintas, commented that the definition of "Water-Based Fire Protection Systems" is still overbroad and improper for all the reasons raised in its April 7, 2016 comments.
RESPONSE: The Office of the State Fire Marshal rejects the comment. He has not provided any alternative, suggestions, or reasons for his objection to the definition of "Water-Based Fire Protection Systems". It is not the intent of these regulations to require specialty contractors that only install items such as water storage tanks, tank heaters, fire pump and underground to be certified at this time. This definition clearly states what scope of a certified or registered individual is allowed to install while ensuring the quality of the installation of fire protection systems throughout the State.

COMMENT #9b: John Amann, Cintas, commented that, in regards to Section 947, more detail is needed as to how the JRTER will work, as well as assurances that if the requirements in the proposed regulations are satisfied, all such applicants/employees will be eligible for certification.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, the OSFM has outlined the specific requirements in Sections 947.1 & 947.2. These subjects and hours are consistent with the California Apprenticeship Council Pipe Trade Industry Sprinkler Fitters Advisory Committee. Verification of all documentation required in Section 947(b) will be subject to a review process by a board, which will accept or reject the JRTER applications.

COMMENT #9c: John Amann, Cintas, commented that, in regards to Section 949, the inclusion of the term "Journeyman Fire Sprinkler Fitters" has made the provision unclear. Cintas recommends that the language of this section be clarified.
RESPONSE: The Office of the State Fire Marshal rejects the comment. Section 924.5(c), "J" definition clearly states, *"Journeyman. A person who has successfully completed the required hours and years of experience of a California State or federally approved Fire Sprinkler Apprenticeship Program, Office of the State Fire Marshal JRTER, or individuals previously certified in accordance with this Chapter."* Therefore, no clarification is needed in Section 949. A journeyman is a person who has completed an apprenticeship program or has been accepted and met the requirements of the JRTER as well as the requirements listed in Section 949

COMMENT #9d: John Amann, Cintas, commented that they object to any provisions of these proposed regulations that impose any additional requirement on C-16 license holders to perform any work or activity within the scope of that license.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, these regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT #10: Jeff Bridges, JB Fire Protection Inc., commented he is in support of the JRTER option in these proposed regulations.
RESPONSE: The Office of the State Fire Marshal accepts the comment.

COMMENT #11: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), disagrees with Section 923 Exception (2) and the exclusion of underground. Underground firewater piping is just as critical to the fire sprinkler system as any other part of the system so why would it be excluded.
RESPONSE: The Office of the State Fire Marshal understands the concern. To clarify the scope, the regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License Board (CSLB), the article, "California Licensed Contractor" dated the spring 1990 states, *"The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)"

Although installation of the fire protection systems "inside" the building may be done only by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform "underground" work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT #11a: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 926 Maximum Number of Directly Supervised Employees, federal prevailing wage determinations for Fire Sprinkler Fitter, which is applicable to public works, only recognizes journey-workers, apprentices; and State public works prevailing wage determinations only

recognizes trainees on residential public works projects. Mr. McKinnon would also like to include “public works” to further clarify the language.
RESPONSE: The Office of the State Fire Marshal agrees with the comment. The apprentice ratio agreements pertain to the labor code and prevailing wages. They do not address trainees, which this package does. However, prevailing wage jobs are for public works construction projects in the State of California and fall under the jurisdiction of the California Labor Code.
The changes that were made in this Section where made in coordination with the Division of Apprenticeship Standards (DAS), and the California Joint Apprenticeship Committee (JAC).

COMMENT #11b: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 926, for “private works” clearer language would be: “for private construction, a certified fire sprinkler fitter may supervise up to three (3) registered apprentices, JRTER participants and trainees in any composition.”
RESPONSE: The Office of the State Fire Marshal rejects the comment. A certified fire sprinkler fitter may supervise: a) The number of Apprentices outlined in the apprenticeship agreement, plus Two trainees; or b) Up to Three JRTER participants, and Zero Trainees. **COMMENT#11c:** Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that Section 938 should be revised to stipulate that trainees who work within the scope of these regulations work for “one year from the date of enactment of these regulations or from one year of date of employment thereafter.”
RESPONSE: The Office of the State Fire Marshal understands the comment. The OSFM feels the language is sufficient and that there is no change necessary.

COMMENT #11d: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented in regards to Section 940, renewals should be valid for three years instead of annually.
RESPONSE: This comment was already addressed in Comment #7c. The renewal period has been set up to meet the budgetary requirements for the State of California. California State fiscal year is July 1st through June 30th. The OSFM cannot currently determine when these regulations will go into effect, but needs the renewal period to coincide with the State fiscal year.

COMMENT #11e: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 945, the registration and fees imposed should be valid for one year from date of registration.
RESPONSE: This comment was already addressed in Comment #7c. The renewal period has been set up to meet the budgetary requirements for the State of California. California State fiscal year is July 1st through June 30th. The OSFM cannot currently determine when these regulations will go into effect, but needs the renewal period to coincide with the State fiscal year.

COMMENT #11f: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 947(a), the JRTER program is simply a validation of "on the job training" (OJT) and does not provide a pathway for workers to achieve Journeyman Certification.
RESPONSE: This comment was already addressed in Comment #7f. The regulations do not specify sprinkler fitters to enroll in an apprenticeship program. Sections 945(b)(3) and 946 of the regulations allow the sprinkler fitter's employer to certify employee experience and hours verified in writing on company letterhead and completion of an application Form AES 1008, Job Related Training and Experience Review (JRTER).

COMMENT #11g: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 948.1(a), the language "…shall be located on the OSFM website…" should be changed to "…shall be posted on the OSFM website…" to eliminate ambiguity.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, the terms "located" and "posted" are synonymous with each other for the purpose of these regulations and there is no justification for the ambiguity and the change.

COMMENT #11h: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 948.1(c), "State or federal approved sprinkler fitter apprenticeship program" should be included in the description of an accredited institution.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The approved sprinkler fitter apprenticeship programs would be classified as vocation or technical schools in Section 948.1(c). The ANSI/IACET Standard for Continuing Education and Training was used because it is a proven model for developing effective and valuable continuing education and training programs.

COMMENT #11i: Richard Markuson, all California Chapter of the American Fire Sprinkler Association (AFSA), commented that, in regards to Section 949, the implementation period, certification card requirements, and expiration of 949 should commence within 180 days or the final adoption of the certification examination, the effective date of this Chapter, whichever is later.
RESPONSE: The Office of the State Fire Marshal understands the comment. Section 949(a)(1) states that no examination is required within 180 days (6 months) from the effective date of these regulations. The implementation period will commence as stated in Section 949. The development of the certification examination is an internal process and not within the scope of these regulations; therefore, has no bearing on the implementation period. Furthermore, no certification card shall be required on the job site within one (1) year, (365 days) of the effective date of these regulations. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #12: Heather McNeil, Automatic Fire Sprinklers Inc., commented that, in regards to the *U.S. Experience with Sprinklers* report, neither the lack of adequate training/education of installers is listed as a reason for fire sprinkler system failure, nor is it an associative cause for the remaining causes of failure, including: damaged components, lack of maintenance or inappropriate system for the fire.
RESPONSE: The Office of the State Fire Marshal rejects all the comments pertaining to the *U.S. Experience with Sprinklers* article. This article was provided in the 15-day comment period due to the industries use of its statics during the 45-day comment period. As it was previously stated in the original 45-day comment period, *"maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state."*
Again, the OSFM deemed that it was necessary to provide *U.S. Experience with Sprinklers* article in the 15-day period to show how it came up with its analysis in answering the 45-day comments.

COMMENT #12a: Heather McNeil, Automatic Fire Sprinklers Inc., commented that current oversight of AHJs is an adequate layer of enforcement of proper installation and testing.
RESPONSE: The Office of the State Fire Marshal rejects the comment on the oversight of the AHJ. Based on a survey conducted in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field. Additionally department and agency inspectors do not have the time or the work force to do comprehensive inspections of fire suppression systems. They are relying on the sprinkler fitter's knowledge and training to ensure that the system is installed properly.

COMMENT #12b: Heather McNeil, Automatic Fire Sprinklers Inc., commented that the proposed regulations would have an adverse economic effect on small businesses such as: paying higher wages, increase prices to owners and general contractors, increase

rents for multi-family projects, turnover costs due to decrease in potential applicants, loss of resources due to tracking certification status and training, and compensation for training.
RESPONSE: The Office of the State Fire Marshal rejects the comments on the economic effect on small business. The economic impact and a description of all costs known to the SFM that a representative business would reasonably incur in reasonable compliance with the proposed action were identified in the initial Notice of proposed rulemaking and in the Initial Statement of Reasons (ISOR). The documents relied upon that were provided in the 15-Day modifications identifying the costs to union and non-union businesses were used to meet the economic cost analysis under Government Code 11346.5 (a)(9) and 11345.3(b). For purposes of evaluating the impact, the information in these documents were supplied by interested parties (the sprinkler industry) and assisted with the analysis of the costs known and relied upon by the SFM for the proposed action. In addition, the SFM can find no facts, documents, testimony, or evidence that this action will have a significant adverse economic impact on any business. Furthermore, the OSFM feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program nor is the OSFM able to determine the most effective business model for any company.

COMMENT #12c: Heather McNeil, Automatic Fire Sprinklers Inc., commented Section 925.1 fee line item (8) is vague. She is not sure what the fee is for and what the review is for.
RESPONSE: The Office of the State Fire Marshal understands the concern.
The fee as stated in Section 925.1(8) is for the processing and review of JRTER applications and the issuance of certifications, if approved. The operating cost for the agency expenses are inclusive of the certification registration fees. This figure was derived from the billing rate of the OSFM. The fee for the JRTER is more substantial due to the analysis and processing of applications and their additional documentation, and the operating costs for the OSFM to organize the review board, which accepts or rejects the JRTER applications.

COMMENT #12d: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 926, that those who are not in a California State or federally approved apprenticeship program should be able to supervise a minimum of 4 JRTER participants, instead of the proposed 3.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The Division of Apprenticeship Standards, DAS, sets the apprenticeship standard through their apprenticeship agreements throughout the state. Section 926 states those that are not in such a program can only supervise three registered individuals and their trainees. By limiting the number of individuals who can be supervised, at one time this will ensure the quality of the installation of fire protection systems and public safety throughout the State.

COMMENT #12e: Heather McNeil, Automatic Fire Sprinklers Inc., Section 927, commented that a definition of what constitutes a “violation” should be included under Section 924.

RESPONSE: The Office of the State Fire Marshal rejects the comment. Violations are any act of doing something that is not allowed by a law or regulation. HSC, Section 13196, Enforcement of Regulations and Building Standards states, *"The regulations and building standards adopted pursuant to Section 13195 shall be enforced pursuant to Sections 13145 and 13146."*

HSC Section 13145 states, *"The State Fire Marshal, the chief of any city, county, or city and county fire department or district providing fire protection services, or a Designated Campus Fire Marshal, and their authorized representatives, shall enforce in their respective areas building standards relating to fire and panic safety adopted by the State Fire Marshal and published in the California Building Standards Code and other regulations that have been formally adopted by the State Fire Marshal for the prevention of fire or for the protection of life and property against fire or panic."*

Therefore, any violation of the California Building Standards Code and other regulations that have been formally adopted by the State Fire Marshal is considered a violation. These proposed regulations once adopted will fall into this category.

COMMENT #12f: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 928(b), that 72 hours is not a reasonable amount of time to make a correction to a violation.
RESPONSE: The Office of the State Fire Marshal rejects the comment concerning the 72-hour notification. It was previously addressed in the original 45-day comment period, which stated, *"in order to maintain consistency with all other licensing and certification programs it has been determined that this timeframe has been tried and tested and found to work effectively."* Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #12g: Heather McNeil, Automatic Fire Sprinklers Inc., Section 929, commented that, in regards to a Stop Work Order, the SFM, SFM Designee or AHJ should have to conform to a mandatory time limit (days or hours) in order to conduct the investigation.
RESPONSE: The Office of the State Fire Marshal rejects the comment concerning Stop Work Orders. Stop Work Orders are in line with the parameters set forth in the California Building and Fire Codes. The timeframe for investigations is determined by multiple factors. These factors include, but are not limited to, the investigator's caseload, the amount of resources, and special circumstances that can cause delays. Therefore, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that a time limit should not be set.

COMMENT #12h: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 930, that the deadline to report violations should specify either 15 calendar or 15 working days.
RESPONSE: The Office of the State Fire Marshal understands the concern. It was previously addressed in the original 45-day comment period, which stated, *"to stay*

consistent with other licensing programs the timeframes are based on calendar days not working days." Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #12i: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 930, that sections (a), (b), and (c) should be re-structured to read: "Any action taken by the AHJ against a registered Trainee, Apprentice, or Certified Fire Sprinkler Fitter for violations shall…."
RESPONSE: The Office of the State Fire Marshal rejects Ms. McNeil's comment. By using her suggestion and re-structuring the sentence, it will not change the meaning or intent of the proposed language. Therefore, the OSFM is leaving the proposed language as is.

COMMENT #12j: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 930(b) and (c) the word "may" should be changed to "shall" or "will."
RESPONSE: The Office of the State Fire Marshal rejects the suggestion to change "may" to "shall." The Office of the State Fire Marshal (OSFM) received over three hundred public comments on the text as originally noticed. Upon review and consideration of the comments received, the OSFM determined that modifications to the text were deemed necessary to better clarify the proposed language, make other modifications and correct typographical errors to the text and forms. These changes were made in coordination with the Division of Apprenticeship Standards (DAS).

COMMENT #12k: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 932(b), that the 30-day suspension period should be clarified as either calendar days or working days.
RESPONSE: The Office of the State Fire Marshal understands the concern. It was previously addressed in the original 45-day comment period, which stated, *"to stay consistent with other licensing programs the timeframes are based on calendar days not working days."* Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #12l: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 934, that the 72-hour time limit to notify the OSFM of the hiring of a trainee, apprentice or certificate holder is unreasonable and suggests considering changing it to 3 working days.
RESPONSE: This comment was already addressed in Comment #12f. It was previously addressed in the original 45-day comment period, which stated, *"in order to maintain consistency with all other licensing and certification programs it has been determined that this timeframe has been tried and tested and found to work effectively."* Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #12m: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 941(b) & (c), that the 30-day timeframe for an applicant to schedule an examination should be clarified as either calendar days or working days.
RESPONSE: The Office of the State Fire Marshal understands the concern. It was previously addressed in the original 45-day comment period, which stated, *"to stay consistent with other licensing programs the timeframes are based on calendar days not working days."* Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT: #12n: Heather McNeil, Automatic Fire Sprinklers Inc., commented, Section 941(d)(2), that 3 working days to provide notification be considered instead of the proposed 72 hours.
RESPONSE: This comment was already addressed in Comment #12f. It was previously addressed in the original 45-day comment period, which stated, *"in order to maintain consistency with all other licensing and certification programs it has been determined that this timeframe has been tried and tested and found to work effectively."* Additionally, based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time. See comment #12l above.

COMMENT #12o: Heather McNeil, Automatic Fire Sprinklers Inc., commented that, in regards to Section 947(b), the text does not provide guidelines on how to proceed in the case of an employee who may have completed the required hours with multiple employers.
RESPONSE: The Office of the State Fire Marshal understands the concern. As stated in the 45-day comment period, the accumulation of required hours can come from any certifiable source, whether it be one or multiple, which meets the criteria outlined in Section 947, specifically paragraph (b).

COMMENT #12p: Heather McNeil, Automatic Fire Sprinklers Inc., commented that, in regards to Section 947.2(a), this section incorrectly references 6 sections not the correct amount of 7 sections.
RESPONSE: The Office of the State Fire Marshal agrees with the comment concerning Section 947.2(a). After review of the above section, it was determined that the language "…*Any of the subjects in 1 thru 6 can be* …" was not correctly modified. The correct language should read *"…Any of the subjects in 1 thru 7 can be …."* This will keep with the intent of the proposed section.

COMMENT#13: Section 923 Scope. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to the installation, alteration, or repair of underground water supply lines should not be included in the regulations.
RESPONSE: The Office of the State Fire Marshal understands the concern. To clarify the scope, the regulations were never intended to include certification for fitters of underground water supply lines within the definition of water-based fire protection systems. As outlined in the document relied upon from the Contractors State License

Board (CSLB), the article, “California Licensed Contractor” dated the spring 1990 states, *“The underground water supply line between the system shut-off valve or the fire department connection and the first joint or mechanical connection above ground at/in the building to service the fire protection system may be installed by the following contractors:*
General Engineering Contractor (A)
Fire Protection Contractor (C-16)
Plumbing Contractors (C-36)
Pipeline Contractors (C-34)”

Although installation of the fire protection systems “inside” the building may be done only by a Fire Protection Contractor (C-16), the CSLB allows other contractors as listed above to perform “underground” work. To limit underground work in the scope of these regulations to C-16 contractors only would be inconsistent and in conflict with other state regulations.

COMMENT#13a: Section 925 General Provisions. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 925, he opposes any certification or registration for a C-16 California Contractors License holder.
RESPONSE: The Office of the State Fire Marshal understands the comment. However, these regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. The California Contractor’s State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. Therefore, if a C-16 license holder is personally performing the work of installation, alteration or repair of water-based fire protection systems he or she must be certified. The only way to be certified is to meet the requirements of these regulations.

COMMENT#13b: Section 926 Maximum Number of Directly Supervised Employees. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 926, he opposes a maximum number of directly supervised employees.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. The Division of Apprenticeship Standards, DAS, sets the apprenticeship standard through their apprenticeship agreements throughout the state. Section 926 states those that are not in such a program can only supervise three registered individuals and their trainees. By limiting the number of individuals who can be supervised at one time this will ensure the quality of the installation of fire protection systems and public safety throughout the State.

COMMENT#13c: Section 938 fire Sprinkler Fitter Trainee. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 938, he feels the timelines should be reconsidered.
RESPONSE: The Office of the State Fire Marshal rejects the comment. He has not provided any alternatives or suggestions of what the timeline should be. Based on the

Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that twelve (12) months is a sufficient amount of time and agrees with them.

COMMENT#13d: Section 941 Examination Procedures. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 941, no timeline should be given for scheduling or taking a written examination until the OSFM has approved and adopted the written examination.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. He has not provided any alternative, suggestions, or reasons for his objection to the timeline for an applicant to schedule and take an examination. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), advised the OSFM that thirty (30) days is a sufficient amount of time for an applicant to schedule an examination date and is within the current examination policy for other programs within the OSFM.

COMMENT#13e: Section 945 Renewal of OSFM Trainee Registration. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 945, opposes any trainee registration, apprentice registration and certification until consideration is given by the OSFM on the implementation of testing and training.
RESPONSE: The Office of the State Fire Marshal disagrees with the comment. He has not provided any alternative, suggestions, or reasons for his objection to Section 945. These regulations are for certifying and registering individuals who work in the installation, alteration or repair of all water-based fire protection systems. A system has to be in place to renew those individuals above. Section 945 provides that means.

COMMENT#13f: Section 946 Certification & Registration Qualifications. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 946, he opposes this Section as he believes the requirements for the California State or federally approved apprenticeship programs will create a labor shortage and increase cost throughout the state. He proposes a class program similar to a driver's license.
RESPONSE: This comment was already addressed in Comment # 13e. He has not provided any alternative, suggestions, or reasons for his objection to Section 945. These regulations are for certifying and registering individuals who work in the installation, alteration or repair of all water-based fire protection systems. A system has to be in place to renew those individuals above. Section 945 provides that means.

COMMENT#13g: Section 947 SFM JRTER. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 947, a program should be developed that would comply with both requirements of an apprenticeship program and the JRTER.
RESPONSE: The Office of the State Fire Marshal understands the comment. The topics and hours were taken from the California Apprenticeship Council Pipe Trade Industry Sprinklers Fitter Advisory Committee Sprinkler Fitter Revision 09/29/10. As stated in the original ISOR, The OFSM has developed this to increase the quality of

water-based fire protection systems installation. This allows those who are not in a state or federally approved program the possibility and opportunity of successful certification and quality installations. Furthermore, it is not within the scope of this regulatory action nor is the OSFM able to determine the most effective business model for any company.

COMMENT#13h: Section 948 Continuing Education. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 948, the regulations are continually changing within our industry; therefore, this depends on the implementation of the AES certification.
RESPONSE: The Office of the State Fire Marshal agrees with the comment that regulations and standards are continuously changing. Section 948 will require individuals to take three units of approved continuing education over a three (3) year period. This is to maintain their skills, knowledge and abilities as technology, state and local standards change and grow. As well as, the ever-changing national and state standards for the installation of water-based fire protection systems become modified.

COMMENT#13i: Section 949 Implementation Period & Historical Recognition. Terry Householder, General Underground Fire Protection Inc., commented that, in regards to Section 949, a 180-day implementation period will not be adequate time for the OSFM to process the influx of applications.
RESPONSE: The Office of the State Fire Marshal understands the concern. However, Section 949(a)(1) states that no examination is required within 180 days (6 months) from the effective date of these regulations. Furthermore, no certification card shall be required on the job site within one (1) year, (365 days) of the effective date of these regulations. Based on the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's advice, the OSFM deemed that this is a sufficient amount of time.

COMMENT #14: Jon Kapis & Michele Sabah, Sabah International, commented that the overall time it would take to complete an apprenticeship program is too long and she recommends a certification based on a minimum of 2-years of experience and a certification exam.
RESPONSE: The Office of the State Fire Marshal understands the concern.
As stated in the 45-day comment period, "*the Automatic Extinguishing Systems Advisory Committee and the Certification Workgroup's (consisting of all facets of the industry), determined that these should be the minimum requirements. These hours are also consistent with Federal and other State agency's programs for sprinkler fitters."*

COMMENT #14a: Jon Kapis & Michele Sabah, Sabah International, commented that the limited number of apprenticeship program options limits the employer to either supporting the single union or non-union apprenticeship program option or to incur additional costs and time to develop, obtain accreditation and administer an employer's own program.
RESPONSE: The Office of the State Fire Marshal understands the concern. As stated in the 45-day comment period, *"these proposed regulations recognize five programs by*

which an individual may obtain their certification. The OSFM has no control over development and approval of apprenticeship programs."

COMMENT #14b: Jon Kapis & Michele Sabah, Sabah International, commented that while a contractor has insurance and bond requirements that can be used to correct the deficiencies as well as threat of losing their license, there is no ability to assess anything more than a nominal fine to the employee or loss of certification for a contractor that installs systems improperly.
RESPONSE: The Office of the State Fire Marshal agrees with the comment. The California Contractor's State Licensing Board licenses companies to perform installation, alteration or repair of all water-based fire protection systems. They require insurance and bond requirements for those said companies. Those requirements do not apply to individuals employees. However, these regulations are for certifying individuals in the work consisting of installation, alteration or repair of all water-based fire protection systems. Therefore, the penalty for certification/registration is correct.

COMMENT #14c: Jon Kapis & Michele Sabah, Sabah International, commented that there has been no empirical data submitted that supports the claim that a certification program will address the concerns of potentially problematic installations.
RESPONSE: The Office of the State Fire Marshal rejects the comments no empirical data were submitted that supports the claim that a certification program will address the concerns of potentially problematic installations. The *U.S. Experience with Sprinklers* article was used by the industry for its statics during the 45-day comment period. As it was previously stated in the original 45-day comment period, *"maintenance is not within the scope of this regulatory action and is scheduled to be addressed at a later date. After analyzing the statistical data that was provided and reading NFPA's report in its entirety, when sprinklers operate, they are effective 96% of the time. This results in a combined performance of effective operation in 87% of all reported fires where sprinklers were present in the fire area and the fire itself was large enough to activate them. The more widely used wet pipe sprinklers operated effectively 89% of the time, while dry pipe sprinklers operated effectively in 76% of cases. Only 7% of sprinkler failures were attributed to component damage and inappropriate systems for the type of fire (5%). In California, there are approximately 4.8 million multi-family dwellings, which account for 35% of all dwellings in the state. Using the 7% component damage and the 5% inappropriate systems per the NFPA statistics from the study, 12% of all failures maybe attributed to improper installation. Calculating the 4.8 million at a 12% failure rate, approximately 580,000 buildings are at risk of failure due to component damage or an inappropriate system leading to catastrophic loss of life, injury, property and the displacement of citizens of California. This does not take into account the approximate 600,000 commercial buildings within the state."*

COMMENT #14d: Jon Kapis & Michele Sabah, Sabah International, commented that problems with fire sprinkler systems should be vetted out during the inspection process, and recommends increasing training of fire service inspectors and to increase the amount of time allotted to conduct inspections.
RESPONSE: The Office of the State Fire Marshal understands the concern.

As stated in the 45-day comment period, *"based on a survey conducted in in September 2014 with fire departments in California, statistics show of those departments that responded 97% of inspections did not meet installation requirements and had to return for re-inspection. During the Public Hearing conducted on April 7, 2016, Fire Protection Engineers and Inspectors, who inspect fire suppression systems for their agencies, provided testimony stating they have witnessed improper installation in the field."*

COMMENT #14e: Jon Kapis & Michele Sabah, Sabah International, commented that she believes the regulations would have an adverse economic impact on businesses.
RESPONSE: The Office of the State Fire Marshal understands the concern on the economic effect on businesses. However, the OSFM feels the overall benefit to the citizens of California and their wellbeing outweighs the cost of the program.

COMMENT #14f: Jon Kapis & Michele Sabah, Sabah International, commented that the OSFM should disclose the full intent of the OSFM's plan regarding additional phases of the program.
RESPONSE: The Office of the State Fire Marshal understands the comment to disclose the full intent of the OSFM's plan regarding additional phases of the program. If additional phases are proposed to be added to this program in the areas of maintenance/testing, and specialty systems, they will be addressed in future regulatory packages yet to be determined. This comment is not within the scope of the 15-day comment period and specifically directed to the proposed text modifications.

COMMENT #14g: Jon Kapis & Michele Sabah, Sabah International, commented that she believes there are other alternatives to this program and provides Nevada's program of testing for competency without requiring an apprenticeship program, and other accreditation programs such as NICET be used.
RESPONSE: The Office of the State Fire Marshal understands the comment and the belief there are other alternatives to this program and provides Nevada's program of testing for competency without requiring an apprenticeship program, and other accreditation programs such as NICET be used. However, during the workgroup's development of these regulations, Nevada's program was discussed at great length. In the end, Nevada's model was not used. As stated in the 45-day comment period, *"during the development of these proposed regulations the AES Workgroup deemed that NICET did not cover the areas for installation, only design and maintenance, which are not part of the scope of these regulations. Furthermore, the AES Committee concurred with that recommendation."*

COMMENT#15: John Farmer, The Brown Company, asked if fire pump manufacturers representatives' fall in this AES Certification?.
RESPONSE: The Office of the State Fire Marshal understands the question. It is not the intent of these regulations to require fire pump manufactures representatives, or specialty contractors that only install items such as water storage tanks, tank heaters, or engineered and pre-engineered systems to be certified at this time. These items are not within the scope of this regulatory action but are scheduled to be addressed at a later date.