

# RESIDENTIAL FIRE SPRINKLER INSTALLATION TASK FORCE

## FINAL REPORT/RECOMMENDATIONS

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## Message from the Acting State Fire Marshal

August 2009

On behalf of CAL FIRE – Office of the State Fire Marshal I would like to present the phase II recommendation report from the Residential Fire Sprinkler Installation Task Force. This report is intended to be a companion report to the release of the phase I report on residential fire sprinkler water supply. The recommendations are essential to the successful understanding of the statewide residential fire sprinkler adoption movement within the California Building Standards and will be used as part of that decision making process.

I would once again like to thank the task force co-chairs (Chief Darren Drake and Chief Ernie Paez) and members and organizations for their dedication and commitment to this important project. The CAL FIRE – Office of the State Fire Marshal appreciates everyone's willingness to share their time, energy, and talent; particularly during these difficult fiscal times. Through our partnerships we will continue to move the fire and panic safety forward, providing a safer working environment for emergency responders and a safer environment for all those who live and visit California.

Sincerely,

A handwritten signature in black ink, appearing to read "Tonya L. Hoover". The signature is fluid and cursive, with a large initial "T" and "H".

Tonya L. Hoover  
Acting State Fire Marshal

## Acknowledgements

This report was developed through the culmination of many hours of in-depth research and analysis through outstanding collaborative efforts of the many disciplines involved with the Office of the State Fire Marshal **Residential Fire Sprinkler Installation Task Force**.

This collaborative effort included the California Office of the State Fire Marshal (OSFM), National Fire Protection Association, Northern California Fire Prevention Officers Association, Southern California Fire Prevention Officers Association, California Housing and Community Development, California Building Industry Association, League of California Cities, California Building Officials, California Department of Public Health, Sacramento Metro Fire District, National Fire Sprinkler Association, American Fire Sprinkler Association, Sprinkler Fitters Association of California

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*The Office of the State Fire Marshal thanks each member and their organization for their assistance with this important work.*

## Preface

This document is Part 2 of a 3 part series regarding issues related to the adoption of regulations in preparation for a statewide residential fire sprinkler requirement for new construction scheduled for implementation January 1, 2011. This part is known as the ***Residential Fire Sprinkler Installation Task Force***.

On April 6, 2009, the Office of the State Fire Marshal convened representatives from various disciplines to provide information and suggested recommendations to the State Fire Marshal on all issues related to the installation of residential fire sprinkler systems in one and two family dwellings and townhomes and to recommend strategies for adoption of the 2009 International Residential Code. This is in preparation for a statewide residential fire sprinkler requirement for new construction scheduled for inclusion in the California Residential Code scheduled for January, 2010.

Key stakeholders include members of the California Fire Service, Building Industry, Building Officials, Manufactured Housing Association, Public Health Officials, State agencies, National Fire Protection Association, National Fire Sprinkler Association, League of California Cities and design professionals.

It is recommended that the reader review Residential Fire Sprinkler Manual NFPA 13D.

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## Executive Summary

On April 6, 2009 the Office of the State Fire Marshal (OSFM) convened representatives from various disciplines related to residential fire sprinkler installation. The purpose of the **Residential Fire Sprinkler Installation Task Force** was to provide information and suggested recommendations to the State Fire Marshal on all issues related to the installation of residential fire sprinkler systems in one and two family dwellings and townhomes, and to recommend strategies for adoption of the 2009 International Residential Code. This is in preparation for a statewide residential fire sprinkler requirement for new construction scheduled for implementation January 1, 2011. For the purpose of this project the group used the definition of residential construction from the International Residential Code to apply to detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress.

## Stakeholders

Our key stakeholders include members of the California Fire Service, Building Industry, Building Officials, Public Health Officials, State agencies, National Fire Protection Association, National Fire Sprinkler Association, League of California Cities, Manufactured Housing Institute, and Design Professionals. For complete rosters of individual members and interested individuals please see **Appendix A**.

## Process

The Task Force convened bi-monthly in northern California. A variety of methods were utilized to accommodate those members not physically able to attend. Conference calls and Internet based meeting technologies such as GoToMeeting were used successfully to ensure thorough communication.

Through consensus a more complete understanding of each stakeholder's interests and concerns was achieved. Key elements and outcomes of this process were relationship building and education afforded to all parties.

The Task Force identified five primary goals, which included:

1. Identify installation issues related to residential fire sprinkler systems on the dwelling side of the meter.
2. Recommend solutions.
  - a. Potential amendments to sprinkler installation standards
  - b. Training and education
  - c. Review existing contractor license and certification requirements.
  - d. Explore recommendations for consistency at local level
    - i. Working Plans and Plan review process
    - ii. Permits/Fees
    - iii. Local amendments
3. Identify applicable statutes/regulation and conflicts.
  - a. Housing & Community Development
  - b. Manufactured Housing Association
  - c. Define new construction vs. Addition/Remodel
  - d. Inspection, Testing, Maintenance
4. Identify cost offsets/incentives.
  - a. Infrastructure
  - b. Building and Fire Codes
  - c. New technology
5. Identify common terminology in the installation and design of residential fire sprinkler systems.

The task force was formed into four sub-groups (See [Appendix B](#)) so key issues could be evaluated in detail taking into consideration the Task Force's primary goals. Initial issues included, but were not limited to:

- [Installation](#)
  - o Working Plans (requirements)
  - o Design options
  - o Environmental issues
  - o Water supplies/Meter sizing/arrangement
  - o Define new construction vs. addition/remodel
  - o Training and Education
  - o Acceptance Testing

- **Statutes & Regulations**
  - o Review existing contractor license and certification requirements
  - o Training and Education
  - o Liability issues
  - o HCD (Title 25 vs. Title 24)
  - o Manufactured housing
  
- **Cost Offsets/Incentives**
  - o Infrastructure
  - o Building & Fire Codes
  - o Side yards (fire resistive walls)
  - o Training and Education
  
- **Local AHJ Issues**
  - o Local amendments
  - o Plan review/inspection practices
  - o Permits/fees
  - o Consistency
  - o Building Officials/Fire Officials
  - o Training and Education
  - o Inspection, Maintenance, Testing

Each sub-group was tasked with presenting their specific topical issues and making recommendations to the Task Force. In order to ensure thorough evaluation of the issues, a specific decision making model was utilized.

This model is known as the **STEEP** Decision Making Model. This decision making model considers the following factors:

**S**ocial **T**echnological **E**conomical **E**nvironmental **P**olitical

This model allows the user to:

- Isolate your decision to create the issue.
- Investigate the issue from all sides.
- Refine the question regarding the issue.
  - o What do we need to solve?
  - o Positive or negative impacts?
- Look at key factors.
  - o **STEEP** analysis
- Rehearse the implications

As each sub-group formulated their sections of the final report, this decision making model was used within the report format where appropriate.

### **Task Force Results and Recommendations**

Over the course of a two month period the Task Force and four sub-groups met and produce the following result and recommendations to submission to the California State Fire Marshal.

## INSTALLATION SUB-GROUP

### Introduction

The Installation Subcommittee was focused on issues related specifically to the design and construction of residential sprinkler systems, and recommended professional standards for training and accepted best practices. Over the course of the preparatory phase, the group met three times via teleconference, to define the subject areas, catalog and consider potential courses of action, and finally to craft specific recommendations for action in those subjects. The group was charged with the following general categories:

- Requirements for Working Plans
- Design Options
- Environmental Issues
- Water Supplies/Meter Sizing and Arrangement
- Definition of New Construction vs. Addition/Remodel
- Training and Education
- Acceptance Testing

In the course of defining subject areas, it was determined that potential amendments to the International Residential Code (IRC) and its referenced standards may be appropriate, and this scope was added to the group's work.

### Requirements for Working Plans

Because neither IRC P2907 (California 313.3) nor NFPA 13D require a set of working plans, the over-arching question of whether plans should be required was considered by both the overall task group and the sub-group. The consensus was that since most local jurisdictions either already require or are anticipated to require plans that a state-wide standard would be of great value. Using NFPA 13 requirements for plans and calculations as a basis, the group discarded those elements that did not apply, and incorporated elements that were agreed to be of substance in the design of single-family/duplex systems. **See Appendix E**

*Appendix E will be forwarded to the Phase III Training and Education Group.*

## Design Options

Design options was seen by the sub-group as an all-encompassing category that would include comparison of 313.3 and NFPA 13D, water supplies (addressed in phase I), local alarms, and extent of sprinkler coverage within the dwelling. The following recommendations for these subjects are as follow:

- 313.3 and NFPA 13D

It was determined that both standards should be allowed as a basis for system design. Because it was originally conceived as a multi-purpose system standard, the sub-group felt that 313.3 is deficient with regard to certain issues, and specific revisions were recommended for freeze protection, obstruction to sprinkler discharge and design of systems connected to water supplies such as pumps and tanks. In those cases, it was agreed that the most concise remedy is to require that the system be designed in accordance with NFPA 13D; the specific amendments are attached hereto.

- Water Supplies

Since not all homes will be served by municipal water systems, a need was identified for clearer definition of reliable water supply arrangement in the referenced standards. It was determined that where homes are supplied by a well, pump, tank or combination of those components, that the water reliability of the water supply is best underwritten by requiring that both domestic and fire systems be supplied by the same source. This finding was based on empirical and anecdotal evidence obtained through on-line surveys of fire sprinkler industry and fire service members and from within the task force. Several respondents from the fire service, particularly in the Eastern

United States where booster pumps are more commonly required because of low working pressures in water mains, had personally experienced non-functioning fire sprinkler water supplies due to failed testing and maintenance. This was also the experience of contractor members of the sub-group in California. The recommended prescriptive language and amendments to the referenced standards are attached hereto.

- Local Alarms

Most local jurisdictions that already require residential fire sprinklers also require an audible alarm, even though it is not required by NFPA 13D.

The sub-group considered whether a state-wide mandate would be prudent, given the likelihood that most local agencies will require one anyway. There are local jurisdictions that are strongly against local alarms however, as some have been inconvenienced by false alarms or other complications and the reliability of local audible alarms is potentially compromised by a lack of testing and maintenance, which is not thought to be unilaterally enforceable in single family homes. Additionally, there are no obvious potential cost savings through trade-offs in the code. The group determined that the decision of whether or not to require a local alarm should be left to the local agencies.

- [Scope of Coverage](#)

Most local jurisdictions that already require residential fire sprinklers also require attached garages to be protected with fire sprinklers. Some have gone further, and required discharge densities that are commensurate with NFPA 13 requirements for automobile parking, which the sub-group believes goes beyond the intent of 313.3 and NFPA 13D designs for life-safety. The common practice of placing occupied space over garages, often in the form of bonus rooms and bedrooms, and the potential for cost trade-offs were considered to be compelling reason for enhancing the scope of the standards to include attached carports with living space above, and all attached garages. In an effort to manage the additional costs associated with these sprinklers, amendments of both the code and referenced standards were drafted, and are attached hereto. **See Appendix F**

There was also discussion of attic sprinklers, which are required by some jurisdictions in California. In consideration of the revisions to NFPA 13D, 2007 and the requirements of 313.3 as proposed, the sub-group determined that the latest standards-based requirements for sprinklers in attics that contain fuel-fired equipment and other sources of combustion are adequate.

## [Environmental Issues](#)

Because residential sprinklers are a relatively small sector in the construction community, there has not been much data compiled regarding environmental issues and impacts. There are no LEED (Leadership in Energy & Environmental Design) credits that homebuilders or developers can claim for projects that seek LEED certification.

However, the sub-group identified certain positive and negative impacts:

- Decreased water use and run-off, in cases where fires are subdued by sprinklers without the use of large hose streams.
- Decreased impact at landfills from fire damage.
- Improvement of air quality from reduced release of combustion by-products.
- Potential cross connection of non-potable to potable water where anti-freeze solution is used in sprinkler systems.
- Increased consumption of petroleum by-products, through increased demand for plastic piping such as CPVC and PEX.

### **Water Supplies/Meter Sizing and Arrangement**

This issue was incorporated in the Design Options category, and is detailed above. Attention is also called to the work of the Phase I Task Group, which focused on meter sizing and fees.

### **Definition of New Construction vs. Addition/Remodel**

The sub-group determined that the existing definitions in the California Building code are adequate. If the OSFM believes that it is of value to clarify these terms in the residential building code, it is recommended that the definitions of "Addition", "Alteration or Alter" and "Repair" be included.

### **Training and Education**

It was the opinion of the sub-group, as well as the overall task force, that a Phase III task force be called to oversee requirements for training and education. Target groups may include homeowners, sprinkler system designers, sprinkler system installers, fire and building officials, plans reviewers and inspectors, and water purveyors.

## Acceptance Testing

The minimum requirements for acceptance testing are found in both 313.3 and NFPA 13D. There was discussion of additional measures, such as full forward flow testing at remote sprinklers (known as “bucket testing”), or other measures that may be in addition to or more restrictive than the referenced standards. Based on differing conditions statewide, including geography, climate, and variations in municipal water pressure, it was determined that any such amendments are best left to the local jurisdictional authorities.

## LOCAL ISSUES SUB-GROUP

### Purpose of Task Force

The purpose of this task force is to provide information and suggested recommendations to the OSFM on the installation of residential fire sprinkler systems in one and two family dwellings and townhomes, and to recommend strategies for adoption of the 2009 International Residential Code. This is in preparation for a statewide residential fire sprinkler requirement for new construction. This particular subcommittee studied the issues that may arise at the local level for the authorities having jurisdiction, as well as the design, development and construction industries.

### Authorities Having Jurisdiction (AHJ)

**Recommendation:** Individual resources vary greatly by jurisdiction. The task force is recommending that early conversation/coordination occur between the building and fire officials. This collaboration should determine what process will best suit their constituents by taking all of the following issues into consideration:

- How much residential development is anticipated and at what pace will it occur?
- Which division/department (building or fire) is better equipped to facilitate this portion of the building process, from plan review through the building final?
- What process provides the most efficiency for the reviewing authority from an economic and time-management perspective?
- What process provides the most efficiency for the designer/developer/contractor?
- How user-friendly is the permit process?
- Is there current, relevant information available on a website or in a publication that is easily accessible?
- Is the application itself on a website?
- Are the fees appropriate for the staff time associated with the process – from beginning to end?
- Relative to tract housing, is there a process in place that allows the jurisdiction to charge a plan review fee for the review of each of the different models that will be offered and a separate fee for the inspection of the individual units?

## Local Amendments and Consistency

**Recommendation:** The fewer local amendments the better. Those that are absolutely necessary should be based upon specific local conditions relative to climatic, topographical, geological or resource constraints (access and water supply always being a consideration). Some specific recommendations include:

- Coordinate requirements with surrounding jurisdictions. Consistency statewide will be very difficult to achieve but even on a countywide level it will be extremely helpful to developers and contractors.
- Develop written standards for this process wherever possible – again the same standard for as wide a geographic area as possible is preferable. This includes the guidelines developed by this taskforce for “Working Plan Submittals”.

It should be noted here that an informal internet survey was conducted by this subcommittee **See Appendix C**. Local AHJ were asked several questions pertaining to their local requirements. It was demonstrated that 87% of the jurisdictions are requiring automatic sprinklers in garages and 92% are requiring a water flow alarm. Both of these requirements are above the base code requirements for residential systems.

## Inspection, Testing and Maintenance

**Recommendation:** At this time, there are very few local standards for ongoing inspection, testing or maintenance of residential sprinkler systems in one and two family dwellings. Further study will be necessary before any recommendations can be made for statewide standards in this area.

## Summary

Members of this committee represented local jurisdictions, design, development, and construction professionals.

The group was largely in agreement on most of the issues including leaving the local processes to the individual jurisdictions, minimizing amendments to the base code, developing written standards for plan submittal and review, and overwhelmingly, for consistency amongst authorities having jurisdiction. Several options were suggested to address the issues concerning ongoing inspection, testing and maintenance of residential systems but it was decided that this issue should be dealt with as this process develops. It became obvious that whatever methods are chosen, they must be enforceable and sustainable based upon the number of housing units anticipated to be affected by these regulations. Training and education is seen as a key component for all parties involved in this process, including (and possibly most importantly), the homeowners. Informal survey results showed that 87% of jurisdictions have local amendments that require automatic fire sprinklers to be installed in the garage. Based upon those results and in the pursuit of consistency, the task force recommended that the OSFM bring forward a similar amendment to NFPA 13D in California. Overall, it appears that there will be a high degree of cooperation between all entities as the state moves forward with this process.

## COST INCENTIVES SUB-GROUP

### Introduction

Residential fire sprinkler systems add an additional cost to the construction of homes. Theoretically, the total additional cost of the systems is borne by the home buyer in the form of the purchase price of the home. Practically, though, the housing industry has expressed concern that less people will choose to buy newly constructed homes as the price of new housing increases, instead choosing to occupy existing housing. The exact costs of the installation of residential fire sprinkler systems for all new construction in 1- and 2-family dwellings and townhouses (hereafter referred to as "homes") is unknown due to a new state of supply and demand, new technologies that are bound to emerge, and the increased sales volume of materials. However, it is reasonable to state that there will be an increased cost associated with the installation of these systems, and that a cost incentive is a reasonable response to that cost increase.

### Cost Determination

There is difficulty in forecasting the actual cost of the installation of residential fire sprinkler systems in new construction for the next five years, let alone the current cost. Difficulty in establishing an accurate, agreed-upon cost is the number and nature of the cost factors:

- The evolution of fire sprinkler materials technology.
- Installation of multipurpose systems instead of systems with separate domestic and sprinkler distribution systems, splitting after the meter – typically immediately inside the home.
- Increased sales volume of materials. Increased sales should translate into increased competition as the market expands, and decreased one-time costs – such as listing costs – incurred by manufacturers.

The Fire Protection Research Foundation, principally sponsored by the National Fire Protection Association (NFPA), conducted a study to more accurately determine the cost of fire sprinkler installation in new construction nationwide. The average cost was \$1.61 per sprinklered square foot, not including offsets or credits \*pg. 5, derived from costs ranging from \$.038 to \$3.66. The average homeowner insurance reduction due to the presence of the automatic fire sprinkler system was 7% \*pg. 29.

There is an economy of scale that needs to be applied to the installation of fire sprinkler systems. One-time costs for tracts include project estimation, drawing of plans, and the plan review process.

Also, materials can often be purchased at better negotiated rates when purchased in bulk. Many, if not most, homes today are built in tracts as opposed to the traditional single custom home model.

Some savings can be achieved by standardizing plans. Standardization is the equivalent of creating "boiler plate" sprinkler system designs for homes to be constructed by one or more construction companies in more than one jurisdiction. Unique jurisdictional sprinkler ordinances defeat the cost savings intended by the drawing of standardized plans, since the plans have to be revised to a varying degree for each unique ordinance. The building industry would like to see standardization to the greatest degree possible. According to the industry, there are major design firms in San Diego, OC, LA and the Bay Area that do design work for just about every county in the State. Local ordinance "add-ons" are significant hurdles to the use of standardized plans.

Additionally, many, if not most, of the homes built in California are done so as "production style" projects, wherein a project utilizes 5-7 individual model designs from which prospective buyers can choose. Most local jurisdictions review the various model designs in a tract once for each model design (unless one or more changes to the original design have been made). For that matter, state statute effectively requires that the fees charged by a local jurisdiction are reasonably related to the services for which those fees are collected, meaning that it is unlawful for a local jurisdiction to charge for an administrative service which is not rendered. However, the building industry feels that some jurisdictions charge more money than the review costs the jurisdiction to perform, with many jurisdictions using different methodologies to calculate those fees. Also, some in the building industry hesitate to file complaints, fearing that current or future projects within a given jurisdiction will be overly scrutinized to complicate and delay the project as retribution. These issues are not necessarily central or unique to the installation of residential fire sprinklers, but should be addressed in the appropriate venue.

## **Bearer(s) of Cost**

This section assumes that a home builder is purchasing property, constructing homes, and then selling it to a buyer:

Home builders are responsible for all costs for home construction. At some point after the various regulatory agencies issue approval for construction, the house is then sold to the buyer.

The amount of money the buyer pays for the house in excess of construction (labor and material) costs, land purchase cost, financing and local fees is the profit realized by the builder.

As a side note, financing of a project is very important and this becomes a major issue when significant delays take place after a project has begun. More importantly, local fees -- including but not limited to school, water, sewer, parks, and transportation fees -- have become a major component of housing costs over the past 15 years. To discuss a case in point, a city (not named) in California now charges in excess of \$100,000 in local fees for every new home. A new home in this city sells for \$250,000-\$350,000. The California Building Industry Association contends that there are a great many jurisdictions charging fees at the same rate, or higher. In the case of adding an automatic fire sprinkler system to the minimum required construction features of a home, home builders have expressed a concern that buyers' ability to afford homes is not increased because the cost of the home is increased. Many buyers buy what they can afford. That line of reasoning deducts that home prices are increased by the addition of sprinkler systems; buyers pay the same price because it is all the buyers can afford, so the cost of the systems is deducted from the builder's profit margin.

Presuming that the builder is able to negotiate a higher price for the house based upon the addition of the fire sprinkler system, the buyer then bears that portion (or totality) of the cost. Virtually all buyers take out a mortgage to pay for homes. The cost of the home, including the cost of the sprinkler system, is then amortized over the life of the loan. At that point, the real cost of the fire sprinkler system is the monthly, amortized cost of the system less any homeowners insurance credit received as a result of the system installation.

## **Mitigation of Cost**

Residential fire sprinklers increases fire life-safety in the home. As a collateral benefit, fire sprinklers also often save property by confining, and sometimes extinguishing, the fire itself. This collateral benefit reduces the chance of fire extension within the home, and to adjoining exposed homes.

The California Building Code required a three-foot side yard setback for homes for many years. The 2007 California Building Code increased the setback requirement to five-feet, increasing the level of safety and property protection. The existing fire loss data in California is exclusively based upon the three-foot setback data.

It is reasonable to state that the installation of the automatic fire sprinkler systems in homes will achieve the same safety and property protection benefit as the five-foot setback when fires start within the sprinklered areas of homes. In instances where fires start on the exterior of structures, in the attics, or in wildland-urban interface (WUI) areas, the fire loss data will remain unchanged to the historical fire loss data in California.

Builders are able to reduce lot widths by four feet (two feet from each side lot line) with this setback reduction. The reduction will allow builders to maximize the number of lots when dividing a tract into buildable lots. The market trend is for buyers to purchase larger houses on smaller lots. The reasons for this trend are beyond the scope of this report.

## Summary

The inclusion of a residential fire sprinkler system poses an additional cost to the purchase price of a home. The builder and/or the buyer bear this cost. The proposed cost mitigation is reasonable for several reasons, including the reasonable assumption of fire losses, based upon historical fire loss data for the proposed reduction.

\* The Fire Protection Research Foundation. [Home Fire Sprinkler Cost Assessment](#). Davidsonville, MD: Newport Partners, 2008.

## STATUTES and REGULATIONS SUB-GROUP

### Statutes and Regulations

- Review existing contractor license and certification requirements
- Training and Education
- Liability issues
- Housing Community Development (Title 25 vs. Title 24)
- Manufactured housing

The following is the Final Report of the CSFM's Residential Fire Sprinkler Installation Task Force (Phase II) – Statutes & Regulations Sub-Committee. The document is being submitted in a Question/Answer format reflecting questions raised by the members of the Sub-Committee as well as from the Phase II Task Force.

The answers have been researched using the California Health & Safety Code, Government Code, Business and Professions Code, Contractors License Laws and Regulations, California Building Code, (*Title-24, CCR, Part 2*) and the California Residential Code (*Title-24, CCR, Part 2.5*).

The ten (10) questions raised pertain to the installation statutes and regulations as they related to the proposed residential fire sprinkler requirements:

1. Review and inspection
2. Five-year service/inspection
3. Design of residential systems
4. Design and installation criteria under 2010 CRC, Section R313
5. NICET criteria for designers,
6. Contractor classification for residential fire sprinkler system,
7. Training and education [*contractor, installer, plan checker, inspector, consumer*]
8. "Trace lead" amounts for sprinklers
9. Distance between detached garage and sprinklered dwelling
10. Underground regulations.

## General Questions and Answers:

**1. If the Building Department wanted to do the review and inspections of residential fire sprinkler systems and the Fire Department objected; “Do we, the Fire Department have the authority to keep this task?”**

### **Answer:**

**13145.** The State Fire Marshal, the chief of any city or county fire department or district providing fire protection services, 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 State 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. (*H&S Code*)

**13146.** The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall be as follows:

(a) The city, county, or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to **R-3 dwellings**, as described in Section 1201 of Part 2 of the California Building Standards Code, to either of the following:

(1) The **chief of the fire authority** of the city, county, or city and county, or his or her authorized representative.

(2) The **chief building official** of the city, county, or city and county, or his or her authorized representative.

(b) The chief of any city or county fire department or of any fire protection district, and their authorized representatives, shall enforce within its jurisdiction the building standards and other regulations of the State Fire Marshal, except those described in subdivision (a) or (d).

(c) The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in areas outside of corporate cities and districts providing fire protection services.

(d) The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in corporate cities and districts providing fire protection services upon request of the chief fire official or the governing body.

(e) Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged, pursuant to Section 66014 of the Government Code.

**13146.3.** The chief of any city or county fire department or district providing fire protection services and his or her authorized representatives shall inspect every building used as a public or private school within his or her jurisdiction, for the purpose of enforcing regulations promulgated pursuant to Section 13143, not less than once each year. The State Fire Marshal and his or her authorized representatives shall make these inspections not less than once each year in areas outside of corporate cities and districts providing fire protection services. *(H&S Code)*

**13146.5.** The provisions of Sections 13145, 13146 and 13146.3 shall, so far as practicable, be carried out at the local level by persons who are regular full-time members of a regularly organized fire department of a city, county, or district providing fire protection services, and shall not be carried out by other persons pursuant to Section 34004 of the Government Code. *(H&S Code)*

**2. By code we cannot require five year services on residential fire sprinkler systems. Can this be accomplished by local ordinance?**

**Answer:**

**1.1.1** This standard shall not apply to sprinkler systems designed and installed in accordance with NFPA-13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes. *(NFPA-25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2006 California Edition)*

**(CA SFM Website:** *Question taken from Frequently Asked Questions Concerning NFPA-25, 2006 California Edition [Page #7]: Can local fire authorities adopt testing and maintenance requirements that are more restrictive than the service requirements in the California Code of Regulations, Title-19? Answer: No.)*

**13198.5.** It is the legislative intention in enacting this chapter that the provisions of this chapter and the regulations and building standards adopted by the State Fire Marshal pursuant to Section 13195 shall apply uniformly throughout the State of California, and no state agency, county, city and county, or district shall adopt or enforce any ordinance or rule or regulation regarding automatic fire extinguishing systems which is

inconsistent with the provisions of this chapter or the regulations and standards adopted by the State Fire Marshal. (*H&S Code*)

## **108.6 Local Modifications by Ordinance or Regulation**

**108.6.1 General.** Subject to other provisions of law, a city, county, or city and county may make changes to the provisions adopted by the Department of Housing and Community Development. If any city, county, city and county does not amend, add or repeal by local ordinance or regulations the provisions published in this code or other regulations promulgated by the Department of Housing and Community Development, those provisions shall be applicable and shall become effective 180 days after publication by the California Building Standards Commission. Amendments, additions and deletions to this code adopted by a city, county, city and county pursuant to California Health and Safety Code Sections 17958.7 and 18941.5, together with all applicable portions of this code, shall also become effective 180 days after publication of the California Building Standards by the California Building Standards Commission. (*2007 California Building Code [CBC] and 2007 California Fire Code [CFC]*)

**17958.7.** (a) Except as provided in Section 17922.6, the governing body of a city or county, before making any modifications or changes pursuant to Section 17958.5, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions. Such a finding shall be available as a public record. A copy of those findings, together with the modification or change expressly marked and identified to which each finding refers, shall be filed with the California Building Standards Commission. No modification or change shall become effective or operative for any purpose until the finding and the modification or change have been filed with the California Building Standards Commission.

(b) The California Building Standards Commission may reject a modification or change filed by the governing body of a city or county if no finding was submitted. (*H&S Code*)

**18941.5.** (a)(1) Amendments, additions, and deletions to the California Building Standards Code adopted by a city, county, or city and county pursuant to Section 18941.5 or pursuant to Section 17958.7, together with all applicable portions of the California Building Standards Code, shall become effective 180 days after publication of the California Building Standards Code by the commission, or at a later date after publication established by the commission.

(2) The publication date established by the commission shall be no earlier than the date the California Building Standards Code is available for purchase by the public.

(b) Neither the State Building Standards Law contained in this part, nor the application of building standards contained in this section, shall limit the authority of a city, county, or city and county to establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. The governing body shall make the finding required by Section 17958.7 and the other requirements imposed by Section 17958.7 shall apply to that finding. Nothing in this section shall limit the authority of fire protection districts pursuant to subdivision (a) of Section 13869.7. Further, nothing in this section shall require findings required by Section 17958.7 beyond those currently required for more restrictive building standards related to housing. (*H&S Code*)

### **3. Can a Fire Protection Contractor (C-16) design the system that he or she is to install?**

#### **Answer:**

**6737.3.** 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. (*B&P Code – Contractors License Law*)

### **4. What does Section 2904 of the 2009 International Residential Code say as it relates to the design and installation of a residential fire sprinkler system and is it being proposed for adoption by the Building Standards Commission?**

**Answer:**

**SECTION R313  
AUTOMATIC FIRE SPRINKLER SYSTEMS**

**R313.1 Townhouse automatic fire sprinkler systems.** An automatic residential fire sprinkler system shall be installed in townhouses.

**Exception:** An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

**R313.1.1 Design and installation.** Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with Section P2904 R313.3 or NFPA 13D.

**R313.2 One- and two-family dwellings automatic fire sprinkler systems.** Effective January 1, 2011, a An automatic residential fire sprinkler system shall be installed in one- and two- family dwellings.

**Exception:** An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.

**R313.2.1 Design and installation** Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 R313.3 or NFPA 13D.

**Notation:**

Authority: Health and Safety Code Sections 13108, 13143, 17921, 18949.2 References: Health and Safety Code Sections 13143, 18949.2

**(Provisions of Section P2904 of the IRC relocated here with modification)**

**SECTION P2904 R313.3  
MULTIPURPOSE FIRE SPRINKLER SYSTEMS [SFM]**

**P2904.1 R313.3.1 General.** Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or Section P2904.4 R313.3, which shall be considered equivalent to NFPA 13D. Section P2904.4 R313.3 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze.

A multipurpose fire sprinkler system shall supply domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow flow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system.

**(Draft [03-01-09]:** *Initial Express Terms for Proposed Building Standards of the Office of the State Fire Marshal (SFM) Regarding the Adoption by Reference of the 2009 Edition of the International Residential Code (IRC) with Amendments into the 2010 California Residential Code, California Code of regulations [CCR] Title-24, Part 2.5)*

**5. Why doesn't the State of California do like many other states and mandate that all fire sprinkler designs will be done by or supervised and certified by a minimum NICET – Level III Automatic Sprinkler Layout Technician?**

**Answer:**

The following states require NICET Level III for drawings:

Alabama, Alaska, Connecticut, Georgia, Idaho, Indiana (layout), Iowa, Kansas, Kentucky, Louisiana, Nevada, North Carolina, Oklahoma, Oregon, Tennessee, Texas, Vermont, Virginia, Washington, and West Virginia or twenty-one (21) states. (*Source: AFSA Sprinkler Age 11/08 [page 31]*)

Of those twenty (21) states listed above, the following states do not require a Contractor License: Indiana, Kansas, Louisiana and Oregon or four (4) states. (*Source: AFSA Sprinkler Age 11/08 [page 31]*)

In California we license Professional Engineers (BPE&LS) for design of systems and Contractors (CSLB) for design and installation of fire protection systems.

In the late 1970's the State of California eliminated the discipline of "Building Designers" and felt that it was a technician skill and not an Architectural or Engineering Skill. The California Chapters of the American Institute of Architects (AIA) and Professional Engineers (BFE&LS) were able to eliminate the Technician Level of design and basically got the State of California to not recognize "technicians as being of a level for Licensing and/or Certification.

**(Note:** *Further Research needed as to the "Official Position of the State of California" as it relates to any additional requirements such as NICET for automatic fire sprinkler design.*)

**6. We have copies of the 2009 IRC, Chapter 29. Is it the intent of Section P2904 to allow residential fire protection systems to be installed by a Fire Protection Contractor (C-16) and/or a Plumbing Contractor (C-36)?**

**(Note: Section P2904.1 General states “Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA-13D or Section P2904, 2009 IRC which shall be considered equivalent to NFPA-13D.”)**

**So, does all of this mean if you are a Fire Protection Contractor (C-16) you design and install in accordance with NFPA-13D and if you are a Plumbing Contractor (C-36) you design and install in accordance with P2904?**

**Answer:**

**7026.12.** The installation of a fire protection system, excluding an electrical alarm system, shall be performed only by a contractor holding a fire protection contractor classification as defined in the regulations of the board or by an owner-builder of an owner-occupied, single-family dwelling, if not more than two single-family dwellings on the same parcel are constructed within one year, plans are submitted to and approved by the city, county, or city and county authority, and the city, county, or city and county authority inspects and approves the installation. (*B&P Code – Contractors License Law*)

**7026.2.** (a) For the purposes of this chapter, "contractor" includes any person engaged in the business of the construction, installation, alteration, repair, or preparation for moving of a mobilehome or mobilehome accessory buildings and structures upon a site for the purpose of occupancy as a dwelling.

(b) "Contractor" does not include the manufacturer of the mobilehome or mobilehome accessory building or structure if it is constructed at a place other than the site upon which it is installed for the purpose of occupancy as a dwelling, and does not include the manufacturer when the manufacturer is solely performing work in compliance with the manufacturer's warranty.

"Contractor" includes the manufacturer if the manufacturer is engaged in onsite construction, alteration, or repair of a mobilehome or mobilehome accessory buildings and structures pursuant to specialized plans, specifications, or models, or any work other than in compliance with the manufacturer's warranty.

(c) "Contractor" does not include a seller of a manufactured home or mobilehome who holds a retail manufactured home or mobilehome dealer's license under Chapter 7 (commencing with Section 18045) of Part 2 of Division 13 of the Health and Safety Code, if the installation of the manufactured home or mobilehome is to be performed by a licensed contractor and the seller certifies that fact in writing to the buyer prior to the performance of the installation. The certification shall include the name, business address, and contractor's license number of the licensed contractor by whom the installation will be performed.

(d) For the purposes of this chapter, the following terms have the following meanings:

(1) "Mobilehome" means a vehicle defined in Section 18008 of the Health and Safety Code.

(2) "Mobilehome accessory building or structure" means a building or structure defined in Section 18008.5 of the Health and Safety Code.

(3) "Manufactured home" means a structure defined in Section 18007 of the Health and Safety Code. *(B&P Code – Contractors License Law)*

**7026.3.** For the purpose of this chapter, "contractor" includes any person who installs or contracts for the installation of carpet wherein the carpet is attached to the structure by any conventional method as determined by custom and usage in the trade; except that a seller of installed carpet who holds a retail furniture dealer's license under Chapter 3 (commencing with Section 19000) of Division 8 shall not be required to have a contractor's license if the installation of the carpet is performed by a licensed contractor and the seller so certifies in writing to the buyer prior to the performance of the installation, which certification shall include the name, business address, and contractor's license number of the licensed contractor by whom the installation will be performed. *(B&P Code – Contractors License Law)*

**7026.11.** Notwithstanding any other provision of law, the permissible scope of work for the General Manufactured Housing Contractor (C-47) license classification set forth in Section 832.47 of Division 8 of Title 16 of the California Code of Regulations shall include manufactured homes, as defined in Section 18007 of the Health and Safety Code, mobilehomes, as defined in Section 18008 of the Health and Safety Code, and multifamily manufactured homes, as defined in Section 18008.7 of the Health and Safety Code. *(B&P Code – Contractors License Law)*

**832.47. Class C-47 – General Manufactured Housing Contractor.**

(a) A general manufactured housing contractor installs, alters, repairs or prepares for moving any type of manufactured housing as that term is defined in Section 18007 of the Health and Safety Code, including the accessory buildings or structures, and the foundations. A manufactured house does not include any recreational vehicle, commercial coach or factory built housing as that term is defined in Section 19971 of the Health and Safety Code.

(b) A general manufactured housing contractor may provide utility services on a single family individual site placement. Utility services mean the connection of gas, water, sewer and electrical utilities to the home.

*(B&P Code 7008, 7058 and 7059)*

**7. Currently, how does the State of California handle training and education for contractors, installers, plan checkers, inspectors, and the consumer?**

**Contractor/Installers:**

**Answer:**

**7065.** Under rules and regulations adopted by the board and approved by the director, the registrar shall investigate, classify, and qualify applicants for contractors' licenses by written examination. This examination shall include questions designed to show that the applicant has the necessary degree of knowledge required by Section 7068 and shall include pertinent questions relating to the laws of this state, and the contracting business and trade. Contractors' licenses are to be issued to individual owners, co partnerships, and corporations. An individual owner may qualify by examination for a contractor's license upon the appearance of the owner or a qualifying individual appearing as a responsible managing employee on behalf of the owner. A co partnership may qualify by examination for a contractor's license upon the appearance of a copartner or a qualifying individual appearing as a responsible managing employee. A corporation may qualify by examination for a contractor's license upon the appearance of a qualifying individual appearing either as a responsible managing officer or a responsible managing employee. No examination shall be required of a qualifying individual if, within the five-year period immediately preceding the application for licensure, the qualifying individual has either personally passed the written examination for the same classification being applied for, or has served as the qualifying individual for a licensee whose license was in good standing at any time during the five-year period immediately preceding the application for licensure and in the same classification being applied for. (*B&P Code – Contractors License Law*)

**7068.** (a) The board shall require an applicant to show such degree of knowledge and experience in the classification applied for, and such general knowledge of the building, safety, health, and lien laws of the state and of the administrative principles of the contracting business as the board deems necessary for the safety and protection of the public.

(b) An applicant shall qualify in regard to his or her experience and knowledge in one of the following ways:

(1) If an individual, he or she shall qualify by personal appearance or by the appearance of his or her responsible managing employee who is qualified for the same license classification as the classification being applied for.

(2) If a co partnership or a limited partnership, it shall qualify by the appearance of a general partner or by the appearance of a responsible managing employee who is qualified for the same license classification as the classification being applied for.

(3) If a corporation, or any other combination or organization, it shall qualify by the appearance of a responsible managing officer or responsible managing employee who is qualified for the same license classification as the classification being applied for.

(c) A responsible managing employee for the purpose of this chapter shall mean an individual who is a bona fide employee of the applicant and is actively engaged in the classification of work for which that responsible managing employee is the qualifying person in behalf of the applicant.

(d) The board shall, in addition, require an applicant who qualifies by means of a responsible managing employee under either paragraph (1) or (2) of subdivision (b) to show his or her general knowledge of the building, safety, health, and lien laws of the state and of the administrative principles of the contracting business as the board deems necessary for the safety and protection of the public.

(e) Except in accordance with Section 7068.1, no person qualifying on behalf of an individual or firm under paragraph (1), (2), or (3) of subdivision (b) shall hold any other active contractor's license while acting in the capacity of a qualifying individual pursuant to this section.

(f) At the time of application for renewal of a license, the responsible managing individual shall file a statement with the registrar, on a form prescribed by the registrar, verifying his or her capacity as a responsible managing individual to the licensee.

(g) Statements made by or on behalf of an applicant as to the applicant's experience in the classification applied for shall be verified by a qualified and responsible person. In addition, the Registrar shall, as specified by board regulation, randomly review a percentage of such statements for their veracity.

(h) The registrar shall review experience gained by applicants from other states to determine whether all of that experience was gained in a lawful manner in that state. (*B&P Code – Contractors License Law*)

### **Plan Checkers/Inspectors:**

#### **Answer:**

**13105.5.** The State Fire Marshal shall establish or cause to be established a program of fire prevention training for fire prevention inspectors employed by local fire protection agencies. The training program shall be conducted on a regional basis located near such agencies which employ or contract with such inspectors. (*H&S Code*)

**Consumer:**

**Answers:**

**13144.** The State Fire Marshal shall prepare in book or bulletin form excerpts of the laws, rules, and regulations dealing with fire and panic safety and may make single copies of such laws, rules, and regulations available, without cost, to California fire officials and to owners and managers of establishments governed by such laws, rules, and regulations. (H&S Code)

**8. In a multi-purpose system, will the traces of lead in the sprinkler heads be a problem with the domestic water?**

**Answers:**

**116875.**

(a) No person shall use any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption, except when necessary for the repair of leaded joints of cast iron pipes.

(b) No person shall introduce into commerce any pipe, pipe or plumbing fitting, or fixture, that is not lead free, except for a pipe that is used in manufacturing or industrial processing.

(c) No person engaged in the business of selling plumbing supplies, except manufacturers, shall sell solder or flux that is not lead free.

(d) No person shall introduce into commerce any solder or flux that is not lead free unless the solder or flux bears a prominent label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing providing water for human consumption.

(e) For the purposes of this section, "lead free" means not more than 0.2 percent lead when used with respect to solder and flux and not more than 8 percent when used with respect to pipes and pipe fittings. With respect to plumbing fittings and fixtures, "lead free" means not more than 4 percent by dry weight after August 6, 2002, unless the department has adopted a standard, based on health effects, for the leaching of lead.

(f)(1) all pipe, pipe or plumbing fittings or fixtures, solder, or flux shall be certified by an independent American National Standards Institute (ANSI) accredited third party, including, but not limited to, NSF International, as being in compliance with this section.

(2)(A) The certification described in paragraph (1) shall, at a minimum, include testing of materials in accordance with the protocols used by the Department of Toxic Substances Control in implementing Article 10.1.2 (commencing with Section 25214.4.3) of Chapter 6.5 of Division 20.

(B) The certification required pursuant to this subdivision shall not interfere with either the department's exercise of its independent authority to protect public health pursuant to this section, or the Department of Toxic Substances Control's exercise of its independent authority to implement Article 10.1.2 (commencing with Section 25214.4.3) of Chapter 6.5 of Division 20.

(3) It is the intent of the Legislature that this subdivision only provides guidance and assistance to the entities that use an independent ANSI accredited third party to demonstrate compliance with this section. Any tests developed by an independent ANSI accredited third party in accordance with this subdivision shall have no weight of authority under California statute.

(4) Notwithstanding paragraph (1), the department shall retain its independent authority in administering this article.

(g) This section shall remain in effect only until January 1, 2010, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2010, deletes or extends that date.

**116875.** (a) No person shall use any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption, except when necessary for the repair of leaded joints of cast iron pipes.

(b)(1) No person shall introduce into commerce any pipe, pipe or plumbing fitting, or fixture intended to convey or dispense water for human consumption through drinking or cooking that is not lead free, as defined in subdivision (e).

This includes kitchen faucets, bathroom faucets, and any other end-use devices intended to convey or dispense water for human consumption through drinking or cooking, but excludes service saddles, backflow preventers for nonpotable services such as irrigation and industrial, and water distribution main gate valves that are two inches in diameter and above.

(2) Pipes, pipe or plumbing fittings, or fixtures that are used in manufacturing, industrial processing, for irrigation purposes, and any other uses where the water is not intended for human consumption through drinking or cooking are not subject to the requirements of paragraph (1).

(3) For all purposes other than manufacturing, industrial processing, or to convey or dispense water for human consumption, "lead free" is defined in subdivision (f).

(c) No person engaged in the business of selling plumbing supplies, except manufacturers, shall sell solder or flux that is not lead free.

(d) No person shall introduce into commerce any solder or flux that is not lead free unless the solder or flux bears a prominent label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing providing water for human consumption.

(e) For the purposes of this section, "lead free" means not more than 0.2 percent lead when used with respect to solder and flux and not more than a weighted average of 0.25 percent when used with respect to the wetted surfaces of pipes and pipe fittings, plumbing fittings, and fixtures. The weighted average lead content of a pipe and pipe fitting, plumbing fitting, and fixture shall be calculated by using the following formula: The percentage of lead content within each component that comes into contact with water shall be multiplied by the percent of the total wetted surface of the entire pipe and pipe fitting, plumbing fitting, or fixture represented in each component containing lead. These percentages shall be added and the sum shall constitute the weighted average lead content of the pipe and pipe fitting, plumbing fitting, or fixture.

(f) For the purposes of paragraph (3) of subdivision (b), "lead free," consistent with the requirements of federal law, means not more than 0.2 percent lead when used with respect to solder and flux and not more than 8 percent when used with respect to pipes and pipe fittings. With respect to plumbing fittings and fixtures, "lead free" means not more than 4 percent by dry weight after August 6, 2002, unless the department has adopted a standard, based on health effects, for the leaching of lead.

(g)(1) all pipe, pipe or plumbing fittings or fixtures, solder, or flux shall be certified by an independent American National Standards Institute (ANSI) accredited third party, including, but not limited to, NSF International, as being in compliance with this section.

(2)(A) The certification described in paragraph (1) shall, at a minimum, include testing of materials in accordance with the protocols used by the Department of Toxic Substances Control in implementing Article 10.1.2 (commencing with Section 25214.4.3) of Chapter 6.5 of Division 20.

(B) The certification required pursuant to this subdivision shall not interfere with either the department's exercise of its independent authority to protect public health pursuant to this section, or the Department of Toxic Substances Control's exercise of its independent authority to implement Article 10.1.2 (commencing with Section 25214.4.3) of Chapter 6.5 of Division 20.

(3) It is the intent of the Legislature that this subdivision only provides guidance and assistance to the entities that use an independent ANSI accredited third party to demonstrate compliance with this section. Any tests developed by an independent ANSI accredited third party in accordance with this subdivision shall have no weight of authority under California statute.

(4) Notwithstanding paragraph (1), the department shall retain its independent authority in administering this article.

(h) This section shall become operative on January 1, 2010. The requirement described in subdivision (g) shall not be construed in any manner as to justify a delay in compliance with the lead-free standard set forth in subdivision (e). (*H&S Code 116875*)

**116880.** The department shall adopt building standards to implement Section 116875. The standards shall be adopted in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code and shall be published in the State Building Standards Code located in Title 24 of the California Code of Regulations. The standards shall be enforced by the appropriate state and local building and health officials. (*H&S Code 116880*)

Additionally;

**25214.4.3.** (a) Lead plumbing monitoring and compliance testing shall be undertaken by the department, as a part of the department's ongoing program for reducing toxic substances from the environment.

(b) For purposes of implementing this article, the department shall, based on its available resources and staffing, annually select not more than 75 drinking water faucets or other drinking water plumbing fittings and fixtures for testing and evaluation, including the locations from which to select the faucets, fittings, and fixtures, to determine compliance with Section 116875.

(c) In implementing this article, the department shall use test methods, protocols, and sample preparation procedures that are adequate to determine total lead concentration in a drinking water plumbing fitting or fixture to determine compliance with the standards for the maximum allowable total lead content set forth in Section 116875.

(d)(1) In selecting drinking water faucets and other drinking water plumbing fittings and fixtures to test and evaluate pursuant to this article, the department shall exercise its judgment regarding the specific drinking water plumbing fittings or fixtures to test.

(2) This article does not require the department's selection to be either random or representative of all available plumbing fittings or fixtures.

(3) The department shall acquire its samples of fittings and fixtures from locations that are readily accessible to the public at either retail or wholesale sources.

(e) The department shall annually post the results of the testing and evaluation conducted pursuant to this article on its Internet Web site and shall transmit these results in an annual report to the State Department of Public Health (*H&S Code 25214.4.3*)

**9. Is there a distance a detached garage has to be away from a sprinklered home before it's not required to be sprinklered?**

**Answers:**

Under the 2007 California Building Code, Section 310.1 defines one- or two-dwelling units and townhouses (not more than 3-stories above grade in

height with a separate means of egress) are classified as Residential Group R-3 Occupancies. (2007 CBC, Section 310.1)

Under the 2007 California Building Code., Section 312.1 defines carports and/or private garages are classified as Utility and Miscellaneous Group U Occupancies. (2007 CBC, Section 312.1)

**Note:**

Private garages and carports classified as Group U Occupancies shall not exceed 1,000 square feet in area or one story in height except as provided in 406.1.2 when used for storage of private or pleasure-type motor vehicles where no repair work is completed or fuel is dispensed are permitted to be 3,000 square feet when the following provisions are met:

1. For a mixed occupancy building, the exterior wall and opening protection for the Group U portion of the building shall be as required for the major occupancy of the building.  
For such a mixed occupancy building, the allowable floor area of the building shall be as permitted for the major occupancy contained therein.
2. For a building containing only a Group U Occupancy, the exterior wall shall not be required to have a fire-resistance rating and the area of openings shall not be limited when the fire separation distance is 5-feet or more. (2007 CBC, Section 406.1.2)

Additionally;

2007 California Building Code, Section 704.3 states: For the purposes of determining the required wall and opening protection and roof-covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them. Where a new building is to be erected on the same lot as an existing building, the location of the assumed imaginary line with relation to the existing building shall be such that the exterior wall and opening protection of the existing building meet the criteria as set forth in Sections 704.5 and 704.8.

**Exception:** Two or more buildings on the same lot shall either be regulated as separate buildings or shall be considered as portions of one building if the aggregate area of each building is within the limits specified in Chapter 5 for a single building. Where buildings contain different occupancy groups or are different types of construction, the area shall be that allowed for the most restrictive occupancy or construction. (2007 CBC, Section 704.3)

**704.5 Fire resistive rating.** For other than high-rise buildings, Group A, E, H, I, L and R occupancies and other applications listed in Section 111 regulated by the Office of the State Fire Marshal, exterior walls shall be fire-resistance rated in accordance with Tables 601 and 602. The fire-resistance rating of exterior walls with a fire separation distance of greater than 5-feet shall be rated for exposure to fire from the inside. The fire-resistance rating of exterior walls with a fire separation distance of 5-feet or less shall be rated for exposure to fire from both sides. (2007 CB, Section 704.5)

Therefore, when evaluating the criteria referenced above, the 2007 CBC (Sections 310.1, 312.1, 406.12, 704.3, 704.5, and Tables 601 and 602) the imaginary line between the R-3 (dwelling/townhouse) and U carport/garage) would be 5-feet from either occupancy; thus the separation would need to be 10-feet between the R-3 and U Occupancy.

**The following provisions are being proposed for the 2010 California Residential Code (CRC):**

**R302.6 Dwelling/garage or carport fire separation.** The garage or carport shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling wall. A separation is not required between the dwelling and carport, provided the carport is entirely open on two or more sides and there are not enclosed areas above. (2010 CRC, Section and Table R302.6)

**TABLE R302.6  
DWELLING/GARAGE SEPARATION**

<b>SEPARATION</b>	<b>MATERIAL</b>
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the <u>garage or carport</u>	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**10. What is the criterion which defines an “Underground Regulation” and is used for the premise by which State Agencies are required to follow strict criteria for the adoption of Building Standards?**

**Answer:**

**11340.** The Legislature finds and declares as follows:

(a) There has been an unprecedented growth in the number of administrative regulations in recent years.

(b) The language of many regulations is frequently unclear and unnecessarily complex, even when the complicated and technical nature of the subject matter is taken into account. The language is often confusing to the persons who must comply with the regulations.

(c) Substantial time and public funds have been spent in adopting regulations, the necessity for which has not been established.

(d) The imposition of prescriptive standards upon private persons and entities through regulations where the establishment of performance standards could reasonably be expected to produce the same result has placed an unnecessary burden on California citizens and discouraged innovation, research, and development of improved means of achieving desirable social goals.

(e) There exists no central office in state government with the power and duty to review regulations to ensure that they are written in a comprehensible manner, are authorized by statute, and are consistent with other law.

(f) Correcting the problems that have been caused by the unprecedented growth of regulations in California requires the direct involvement of the Legislature as well as that of the executive branch of state government.

(g) The complexity and lack of clarity in many regulations put small businesses, which do not have the resources to hire experts to assist them, at a distinct disadvantage.

**11340.1.** (a) The Legislature therefore declares that it is in the public interest to establish an Office of Administrative Law which shall be charged with the orderly review of adopted regulations. It is the intent of the Legislature that the purpose of such review shall be to reduce the number of administrative regulations and to improve the quality of those regulations which are adopted. It is the intent of the Legislature that agencies shall actively seek to reduce the unnecessary regulatory burden on private individuals and entities by substituting performance standards for prescriptive standards wherever performance standards can be reasonably expected to be as effective and less burdensome, and that this substitution shall be considered during the course of the agency rulemaking process. It is the intent of the Legislature that neither the Office of Administrative Law nor the court should substitute its judgment for that of the rulemaking

agency as expressed in the substantive content of adopted regulations. It is the intent of the Legislature that while the Office of Administrative Law will be part of the executive branch of state government, that the office work closely with, and upon request report directly to, the Legislature in order to accomplish regulatory reform in California.

(b) It is the intent of the Legislature that the California Code of Regulations made available on the Internet by the office pursuant to Section 11344 includes complete authority and reference citations and history notes. (*Government Code 11340*)

Additionally;

**11340.5.** (a) No state agency shall issue, utilize, enforce, or attempt to enforce any guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule, which is a regulation as defined in Section 11342.600, unless the guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule has been adopted as a regulation and filed with the Secretary of State pursuant to this chapter.

(b) If the office is notified of, or on its own, learns of the issuance, enforcement of, or use of, an agency guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule that has not been adopted as a regulation and filed with the Secretary of State pursuant to this chapter, the office may issue a determination as to whether the guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule, is a regulation as defined in Section 11342.600.

(c) The office shall do all of the following:

(1) File its determination upon issuance with the Secretary of State.

(2) Make its determination known to the agency, the Governor, and the Legislature.

(3) Publish its determination in the California Regulatory Notice Register within 15 days of the date of issuance.

(4) Make its determination available to the public and the courts.

(d) Any interested person may obtain judicial review of a given determination by filing a written petition requesting that the determination of the office be modified or set aside. A petition shall be filed with the court within 30 days of the date the determination is published.

(e) A determination issued by the office pursuant to this section shall not be considered by a court or by an administrative agency in an adjudicatory proceeding if all of the following occurs:

(1) The court or administrative agency proceeding involves the party that sought the determination from the office.

(2) The proceeding began prior to the party's request for the office's determination.

(3) At issue in the proceeding is the question of whether the guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule that is the legal basis for the adjudicatory action is a regulation as defined in Section 11342.600. (*Government Code 11340.5*)

And Finally:

**11359.** (a) Except as provided in subdivision (b), on and after January 1, 1982, no new regulation, or the amendment or repeal of any regulation, which regulation is intended to promote fire and panic safety or provide fire protection and prevention, including fire suppression systems, equipment, or alarm regulation, is valid or effective unless it is submitted by, or approved in writing by, the State Fire Marshal before transmittal to the Secretary of State or the Office of Administrative Law.

(b) Approval of the State Fire Marshal is not required if the regulation is expressly required to be at least as effective as federal standards published in the Federal Register pursuant to Section 6 of the Occupational Safety and Health Act of 1970 (P.L. 91-596) within the time period specified by federal law and as provided in subdivision (b) of Section 142.4 of the Labor Code, and as approved by the Occupational Safety and Health Administration of the United States Department of Labor as meeting the requirements of subdivision (a) of Section 142.3 of the Labor Code, unless the regulation is determined by the State Fire Marshal to be less effective in promoting fire and panic safety than regulations adopted by the State Fire Marshal. (*Government Code 11359*)

## Summary

It is hoped that through a OSFM sponsored Training and Education Program (Phase III) that the statutory and regulatory findings of Phase I (Water Supply/Service) and Phase II (Design and Installation) will be utilized as part of the student handbook/materials and that this pertinent information will be made available for the enforcing agencies, system designers, installing contractors, other stakeholders and consumers.

This report represents the culmination of many hours of in-depth research and analysis from the SFM Residential Fire Sprinkler Installation Task Force. Various disciplines related to the installation of residential fire sprinklers developed the recommendations outlined in the previous sections of this report. The Task Force took into consideration the many different residential fire sprinkler installation factors and tried throughout to address the complex and diverse issues that arose in preparation for a statewide residential fire sprinkler requirement for new construction scheduled for implementation January 1, 2011.

Additionally, as California moves forward to the implementation phase of the future residential fire sprinkler requirement it will be critically important to share the information gathered by this task force with all stakeholders throughout the state. It is recommended that key stakeholders continue to partner beyond this task force process and conduct training and outreach on the issues throughout California. See **Appendix D** for a proposed training and outreach plan.

## Appendix A

### Residential Fire Sprinkler Installation Task Force Members List

Name	Representing	Email
Alves, Phil	SFAC	
Bizal, Ray	NFPA	<a href="mailto:rbizal@nfpa.org">rbizal@nfpa.org</a>
Blaul, Laura	SoCal Fire Prevention Officers	<a href="mailto:LauraBlaul@ocfa.org">LauraBlaul@ocfa.org</a>
Bollier, Jim	Nor Cal Fire Prevention Officers	<a href="mailto:jim@sprinklerfitters483.org">jim@sprinklerfitters483.org</a>
Collins, Heather	CDPH - Drinking Water	<a href="mailto:Heather.Collins@cdph.ca.gov">Heather.Collins@cdph.ca.gov</a>
Drake, Darren	NorCal Fire Prevention Officers	<a href="mailto:ddrake@cityofnapa.org">ddrake@cityofnapa.org</a>
Emery, Todd	AFSA	<a href="mailto:temery@symonspf.com">temery@symonspf.com</a>
Fabbri, Leigh	<i>Interested Party</i>	<a href="mailto:lfabbri@addisonfire.org">lfabbri@addisonfire.org</a>
Hart, Steve	Consultant	<a href="mailto:hart@nfsa.org">hart@nfsa.org</a>
Hensel, Doug	HCD	<a href="mailto:dhensel@hcd.ca.gov">dhensel@hcd.ca.gov</a>
Hinrichs, Richard	CDPH - Drinking Water	<a href="mailto:Richard.Hinrichs@cdph.ca.gov">Richard.Hinrichs@cdph.ca.gov</a>
Hoover, David	Design Professional	<a href="mailto:hoover@hytcorp.com">hoover@hytcorp.com</a>
Howell, Jerry	<i>Interested Party</i>	<a href="mailto:howellj@villageoflombard.org">howellj@villageoflombard.org</a>
Hunter, Clifford	Fire Districts Association	<a href="mailto:hunter@rsf-fire.org">hunter@rsf-fire.org</a>
Kiefer, Stephen	CALBO	<a href="mailto:sakiefer@ci.livermore.ca.us">sakiefer@ci.livermore.ca.us</a>
Lecair, Bruce	SoCal Fire Prevention Officers	<a href="mailto:lecair@nfsa.org">lecair@nfsa.org</a>
Leyton, Steve	Design Professional	<a href="mailto:steve@protectiondesign.com">steve@protectiondesign.com</a>
Lia, Tom	<i>Interested Party</i>	<a href="mailto:Sprinktoml@aol.com">Sprinktoml@aol.com</a>
Mac Donald, Ian	<i>Interested Party</i>	<a href="mailto:imacdonald@cityoforange.org">imacdonald@cityoforange.org</a>
McKinnon, Tom	AFSA	<a href="mailto:tmckinnon@aegisfire.com">tmckinnon@aegisfire.com</a>
Paez, Ernie	CAL FIRE OSFM	<a href="mailto:ernie.paez@fire.ca.gov">ernie.paez@fire.ca.gov</a>
Peterson, Mark*	NFSA*	<a href="mailto:mpeterson@coscofire.com">mpeterson@coscofire.com</a>
Raya, Phillip*	NFSA*	<a href="mailto:praya@coscofire.com">praya@coscofire.com</a>
Raymer, Bob	CBIA	<a href="mailto:rayer@cbia.org">rayer@cbia.org</a>
Reinertson, Kevin	CAL FIRE Code Development	<a href="mailto:kevin.reinertson@fire.ca.gov">kevin.reinertson@fire.ca.gov</a>
Scott, Kevin	ICC	<a href="mailto:Kscott@iccsafe.org">Kscott@iccsafe.org</a>
Seegmiller, Scott	SFAC	<a href="mailto:seegmiller.669@att.net">seegmiller.669@att.net</a>
Soehner, Robert	<i>Interested Party</i>	<a href="mailto:robert.soehner@wsfp.us">robert.soehner@wsfp.us</a>
Stewart, Mike	Sacramento Metro FD	<a href="mailto:stewart.mike@smfd.ca.gov">stewart.mike@smfd.ca.gov</a>
Tribbett, Billie	Manufactured Housing Institute	<a href="mailto:info@cmhi.org">info@cmhi.org</a>
Valentine, Paul	<i>Interested Party</i>	<a href="mailto:pvalenti@mountprospect.org">pvalenti@mountprospect.org</a>
Weisz, Byron	AFSA	<a href="mailto:byron@cen-calfire.com">byron@cen-calfire.com</a>
Yahnke, Morgana	NorCal Fire Prevention Officers	<a href="mailto:myahnke@ci.fairfield.ca.us">myahnke@ci.fairfield.ca.us</a>

\*Alternates

## Appendix B

### Residential Fire Sprinkler Installation Task Force Subcommittees

#### Installation

<b>Steve</b>	<b>Leyton - Chair</b>
Ray	Bizal
Jim	Bollier
Darren	Drake
Todd	Emery
Richard	Hindrich
Dave	Hoover
Cliff	Hunter
Bruce	Lecair
Tom	McKinnon
Ernie	Paez
Phil	Raya
Kevin	Scott
Byron	Weisz

#### Statutes & Regs

<b>Steve</b>	<b>Hart - Chair</b>
Heather	Collins
Darren	Drake
Doug	Hensel
Ernie	Paez
Phil	Raya
Scott	Seegmiller
Mike	Stewart
Billie	Tribbett
Byron	Weisz

#### Cost Incentives

<b>Ian</b>	<b>MacDonald-Chair</b>
Darren	Drake
Steve	Hart
David	Hoover
Steve	Kiefer
Ernie	Paez
Kevin	Scott
Morgana	Yahnke
Bob	Raymer

#### Local Issues

<b>Morgana</b>	<b>Yahnke-Chair</b>
Laura	Blaul
Darren	Drake
Todd	Emery
Cliff	Hunter
Steve	Kiefer
Bruce	Lecair
Ernie	Paez
Mike	Stewart

## APPENDIX C

### CSFM RESIDENTIAL SPRINKLER ADVISORY TASK FORCE LOCAL AHJ SURVEY - MAY 2009

A/S in the garage?		A local water flow alarm?		Local insp, testing or maint.?		If you answered "Yes" to question #3, what do you require?	Name	Jurisdiction	Telephone	Email Address
Yes	No	Yes	No	Yes	No					
	No	Yes			No		Sean Daugherty	Long Beach Fire Department	(562) 570-2576	sean.daugherty@longbeach.gov
Yes		Yes			No	We only allow NFPA 13D systems in SFD and not townhomes. Thus the maintenance requirement is only placed upon the homeowner. We do not conduct system inspections on SFD. Since our townhomes and condos are equipped with full NFPA 13 systems the standard maintenance requirements apply.	Amber Anderson	Consumnes CSD Fire Department	(916) 405-7105	amberanderson@csdfire.com
Yes		Yes		Yes		Sonoma County has produced a Standard to cover these topics.	John Zanzi, Fire Chief	Sebastopol Fire Department	(707) 823-8061	jzanzi@sonic.net
Yes		Yes			No	Whatever would be required in NFPA 25, 2006 CAL. EDTN.	Justin H. Beal	City Of Fresno Fire Department	(559) 621-4143	HOWDY.BEAL@FRESNO.GOV
Yes		Yes			No		David Reade	City of Monterey	(831) 646-3900	reade@ci.monterey.ca.us
Yes		Yes			No		Scott Moon	Santa Rosa Fire Department	(707) 543-3543	smoon@srcity.org
	No	Yes			No	There is a basic inspection; 1. to make sure all the sprinklers are present and not painted, 2. open the inspector's test valve and test the water flow alarm.	Tim Annis	Davis Fire	(530) 757-5682	tannis@cityofdavis.org
	No	Yes			No	Acceptance testing is per the NFPA 13D standard. Hydrostatic test per manufacturers standard or 13D (whichever is most restrictive), visual rough inspection and final.	Michael Mentink	Moraga-Orinda Fire District	(925) 258-4520	mmentink@mofd.org
Yes		Yes			No		Sandie Hastings	Torrance Fire Department	(310) 781-7639	shastings@torrnet.com
	No		No		No		Scott McMillan	Alameda County Fire - City of San Leandro	(510) 577-3317	scott.mcmillan@acgov.org

A/S in the garage?		A local water flow alarm?		Local insp, testing or maint.?		If you answered "Yes" to question #3, what do you require?	Name	Jurisdiction	Telephone	Email Address
Yes	No	Yes	No	Yes	No					
	No		No		No		Greg Granados	Sac Metro Fire Department	(916) 355-3764	greg.granados@aerojet.com
Yes		Yes			No	Rough and hydro and final inspection required before occupancy	Jeff Davidson	Mill Valley Fire Department	(415) 389-4139	j davidson@cityofmillvalley.org
Yes		Yes			No	All of the NFPA 25 requirements apply to the single/two family residences.	Thom Heller	Mammoth Lakes Fire Protection District	(760) 934-2300	theller@mammothlakesfd.com
Yes		Yes			No		Rocque J. Yballa	Central County Fire Department	(650) 558-7618	ryballa@centralcountyyfd.org
Yes		Yes			No	Only a "final" inspection for the initial installation	Roger Sprehn	Corte Madera	(415)9-27-5197	rsprehn@ci.corte-madera.ca.us
	No		No		No		Michael L. Payton	City of Modesto	(209) 571-5876	mpayton@modestofire.com
Yes		Yes			No		Vernon Brown	Rumsey Rancheria Fire Department		
Yes		Yes			No		Vernon Brown	City of Lincoln		
Yes		Yes			No		Vernon Brown	City of West Sacramento		
Yes		Yes			No	Underground Flush Overhead Hydro Final with covers off.	Clayton Jolley	Coastside Fire District/CALFIRE	(650) 726-5213	clayton.jolley@fire.ca.gov
Yes		Yes								
Yes		Yes			No		Scott Alber	Marin County	(415) 499-6566	salber@co.marin.ca.us
Yes		Yes			No		Bob Scott-Fire Marshal	Encinitas Fire Dept	(760) 633 2822	rscott@ci.encinitas.ca.us
Yes		Yes			No	A rough in pressure test and a final for water flow bell.	Tom Peterson	Atascadero City Fire	(805) 461-5070	tompeterson@atascadero.org
	No	Yes			No		Brian Weidman	Long Beach Fire Department	(562) 570-2568	brian_weidman@longbeach.gov
Yes		Yes			No	Only during the rough-in and hydro and during the sprinkler final inspections. The owner is sometimes left with maintenance information from the contractor.	Jim Powderly	Chino Valley Fire District	(909) 902-5280 Ext 409	jpowderly@chofire.org
Yes		Yes			No		Ian MacDonald	City of Orange	(714) 288-2541	imacdonald@cityoforange.org
Yes		Yes			No		Jim Dias	Aptos/LaSelva Fire Protection District	(831) 685-6690	jimd@aptosfire.com
Yes		Yes			No		Tolan Dworak	City of Lincoln Fire	(916) 434-2417	tdworak@ci.lincoln.ca.us
Yes		Yes			No		Mark Latham	City of Salinas Fire Department	(831) 758-7466	marklat@ci.salinas.ca.us
Yes		Yes			No		Ray Zachau	South Lake Tahoe Ca	(530) 542-6166	rzachau@cityofslt.us

A/S in the garage?		A local water flow alarm?		Local insp, testing or maint.?		If you answered "Yes" to question #3, what do you require?	Name	Jurisdiction	Telephone	Email Address
Yes		Yes			No		S. Hyink	Redondo Beach	(310) 318-0663	steve.hyink@redondo.org
Yes		Yes			No	We provide pamphlet from Sprinkler industry which explains testing/inspecting	Greg O'Sullivan	Templeton Fire Department	(805) 434-4911	tfd@templetoncsd.org
Yes		Yes			No		Rick Swan	CAL FIRE/San Luis Obispo County Fire	(805) 543-4244	rick.swan@fire.ca.gov
Yes		Yes			No	1). Main system control valve to be indicating, above grade and installed prior to the domestic split. 2) Pilot sprinkler in the attic if fuel-fired equipment is present 3). Spare head box with wrench in garage	Jaymae Wentker	Mountain View Fire Department	(650) 903-6821	jaymae.wentker@mountainview.gov
Yes			No		No	Rough inspection and final inspection, no further testing is required.	Les Howitt , Deputy Fire Marshal	City of Highland	(909) 864-6861 Ext. 248	lhowitt@cityofhighland.org
Yes		Yes			No		Jeff Sanders	City of Manhattan Beach	(310) 802-5205	jsanders@citymb.info
Yes		Yes			No	Rough and final	Tom Christopher	Laguna Beach Fire	(949) 497-0791	tchristopher@lagunabeachcity.net
Yes		Yes			No		Gordon Simpkinson	Palo Alto Fire Department	(650) 329-2347	gordon.simpkinson@cityofpaloalto.org
Yes		Yes			No		Darren Drake	Napa Fire Department	(707) 257-9590	ddrake@cityofnapa.org
Yes		Yes			No	Only acceptance hydro, rough in / visual during construction. Water flow test during final walkthrough.	David Downing	Millbrae Fire Department	(650) 259-2400	ddowning@ci.millbrae.ca.us
Yes		Yes			No	Only during the installation phases. Nothing once final.	Gareth Harris	Lake Valley Fire Protection District	(530) 577-3737	harris@caltahofire.net
Yes		Yes			No	permit by City and inspection of work by F.D.; maintenance is per 13D, not under active enforcement by F.D.	Don Andrews	Oxnard Fire Dept	(805) 385-7795	Don.Andrews@ci.oxnard.ca.us
Yes		Yes		Yes		Water Department checks the double check each year	Scott Haberle, Fire Battalion Chief	Monrovia Fire Department	(626) 256-8106	shaberle@ci.monrovia.ca.us
Yes		Yes			No		Mark Krikorian	Arcadia	(626) 574-5106	mkrikorian@ci.arcadia.ca.us
Yes		Yes			No		Fred Manding	Lathrop-Manteca Fire Protection District	(209) 858-2331 Ext 383	f.manding@lmfd.org

A/S in the garage?		A local water flow alarm?		Local insp, testing or maint.?		If you answered "Yes" to question #3, what do you require?	Name	Jurisdiction	Telephone	Email Address
Yes		Yes			No		Jackie Bretschneider	Gilroy	(408) 846-0439	jacquib@ci.gilroy.ca.us
Yes		Yes			No	Plan review, rough pipe, flow test, central station dispatch test & final trim.	Jim Langhorne	Montecito Fir Prot. Dist.	(805) 69-7762	jlanghorne@montecitofire.com
Yes		Yes			No		Clifford F Hunter	Rancho Santa Fe Fire Protection District	(858) 775-4593	hunter@rsf-fire.org
Yes		Yes			No	Rough piping inspection. One and Two-head flow test. Final inspection.	Ed Jestes	City of Redding Fire Department	(530) 225-4261	ejestes@ci.redding.ca.us
Yes		Yes			No	After plan review: 1. Rough inspection and hydro. 2. Final inspection. 3. Maintain the system per OSFM requirements.	Tom prows	City of Morro Bay	(805) 772-6242	tprows@morro-bay.ca.us
Yes		Yes			No		Mark Ramos	City of Santa Cruz	(831) 420-5248	mramos@ci.santa-cruz.ca.us
Yes		Yes		Yes		Resale inspection and compliance prior to close of escrow. New const plans and inspections prior to final of home	Russ Cole	City of Woodland Fire Department	(530) 661-5855	russ.cole@cityofwoodland.org
Yes		Yes			No	We require that the sprinkler contractors provide an operations and maintenance manual to the homeowner, or post one at the spare head box. We do not verify that maintenance is done once the home is turned over to the homeowner.	Robert Marshall	City of Gilroy	(408) 846-0432	robert.marshall@ci.gilroy.ca.us
Yes		Yes			No		Ron Barney	Tiburon Fire Protection District	(415) 435-7200	Rbarney@tiburonfire.org
Yes		Yes			No		Kurt Johnson, Fire Marshal/ Battalion Chief	Montebello Fire Department	(323) 887-4507	kjohnson@cityofmontebello.com
Yes		Yes			No		Michael Cully	Coloma Fire Protection District	(650) 757-8888	mike@csgengr.com
	No	Yes		Yes		ONLY WHEN THE TOTAL SQ FOOTAGE EXCEEDS 5000 sq ft.	Joe Zuccaro	Victorville Fire Department	(760) 955-5234	jzuccaro@ci.victorville.ca.us

A/S in the garage?		A local water flow alarm?		Local insp, testing or maint.?		If you answered "Yes" to question #3, what do you require?	Name	Jurisdiction	Telephone	Email Address
Yes	No	Yes	No	Yes	No					
Yes		Yes			No		Don Berry	San Gabriel Fire Department	(626) 308-2883	Dberry@sgfd.org
Yes			No		No	Question #1 - Sprinklers in garage only if there is a living space above the garage. Question #3 - Inspection and testing at the permit stage, no Fire Prevention maintenance inspections afterwards.	Jeff Schlesinger	Sunnyvale (Department of Public Safety)	(408) 730-7213	jschlesinger@ci.sunnyvale.ca.us
Yes		Yes			No	Inspections during construction/final. Going to be looking at addressing maintenance testing. Not in place yet.	Tim Gose, Deputy Fire Marshal	CAL FIRE - Santa Cruz	(831) 254-1725	tim.gose@fire.ca.gov
Yes		Yes			No		Johnathan Hurst	City of Arroyo Grande	(805) 473-5450	jhurst@arroyogrande.org
Yes		Yes		Yes		5year with results sent to fire	Mark Mondragon Fire Marshal	Cypress & Carmel Highlands Fire Districts	(831) 624-2374	mark.mondragon@fire.ca.gov
	No		No		No		Adria Paesani	Fountain Valley Fire Department	(714) 593-4430	adria.paesani@fountainvalley.org
Yes		Yes			No	Hydro/rough and final inspections	Ed Tubbs	Dixon	(707) 678-7060	
Yes		Yes			No		John Mapes	Foster City Fire Dept.	650 286 3350	jmapes@fostercity.org
Yes		Yes			No	Homeowner to take responsibility for maintenance.	Doug Williams	Rincon Valley Fire Protection District	(707) 539-1801	dwilliams@rvfire.org
Yes		Yes			No	We do on over head and a hydo test at frame and a final inspection to make sure the min. psi is met. We do not have maintenance requirements for Single family homes	Marsha Larsen	San Miguel Fire Protection District	(619) 660-5356	mlarsen@smgfire.org
Yes		Yes			No		Luis Da Silva	South San Francisco	(650) 829-6645	luis.dasilva@ssf.net
Yes		Yes			No	OUTSIDE BELL, AND "HOMEOWNERS CARE AND MAINTENANCE MANUAL".	Jason Nailon	Apple Valley Fire Protection District	(760) 403-3905	jnailon@applevalleyfd.com
62	9	65	6	5	66					
87%	13%	92%	8%	7%	93%					

## Appendix D

### **“Draft Proposal” Statewide Residential Fire Sprinkler Training/Outreach Partnership**

#### Background:

The concept of a formal “rollout” of the State Adoption of mandating that “All Newly Constructed One- and Two-Family Dwellings and Townhouses” with the 2010 California Residential Code (Title-24, Part 2.1) will provide an opportunity to educate the affected stakeholders (Building and Fire Officials, Water Purveyors, and Home Builders/Fire protection Contractors with the necessary information to make the implementation on January 1, 2011.

It must be noted that through the Phase I Task Force meeting process, those individuals involved in the six (6) formal meetings (10/09/08, 11/20/08, 12/17/08, 01/21/09, 02/24/09, and 03/30/09) have gained a better understanding of the issues related to each other’s disciplines (water, fire, etc.) and as such, it would be helpful to also educate a significant number of the stakeholders who will be involved in the implementation of these building regulations.

#### Timeline:

- 06/30/09 - Office of the State Fire Marshal’s Residential Fire Sprinkler/Water Purveyor Task Force Training Proposal to Assistant State Fire Marshal
- 09/01/09 - State Fire Marshal and Assistant State Fire Marshal to convene Task Force Sub-Committee to develop outline for a series of one day Training Classes to be delivered statewide.  
*(Training to be focused on the implementation of a statewide residential fire sprinkler requirement as outlined in the 2010 edition of the California Building Code and/or California Residential Code [yet to be defined] which would be effective on January 1, 2011.)*
- 01/01/10 - Formal Agreements for delivery of Training between the Partnerships
- 03/01/10 - Flyers for Classes Released/Distributed statewide
- 05/01/10 - First Training Class presented
- 01/01/11 - Effective Date of California Building Code and/or California Residential Code [yet to be defined] which will require “all newly constructed one- and two-family dwellings and townhouses constructed in California to be equipped with a residential fire sprinkler system.
- 06/30/11 - Final Class presented.

## Anticipated Locations of 1-day State Amendment Classes:

- Eureka
- Fresno/Bakersfield
- Los Angeles/Glendale
- Modesto/Merced
- Monterey/Salinas
- Oakland/Concord
- Orange County Area
- Redding/Red Bluff
- Riverside/San Bernardino
- Sacramento
- San Diego
- San Jose
- San Luis Obispo
- Santa Rosa/Napa
- Ventura/Santa Barbara
- Others

## Special Note:

*There should be a minimum of two (2) locations (Sacramento, and Los Angeles) reserved for the purpose of beta testing the training course for the application, review, inspection and approval of a residential fire sprinklers as required under the requirements as outlined in the California Building Code and/or California Residential Code [yet to be defined] and under the installation guidelines of the "Installation Standard" (NFPA-13D).*

## Questions remaining to be answered/addressed:

1. Class/Delivery sites (Hotels or Fire Department Training Centers, etc.)?
  - a. California Building Officials Institution/Education Week?
  - b. Northern California/Southern California Fire Prevention Officer's Workshop (March 2010)
2. Instructors: (The concept of team teaching with representatives from participating partnership.
3. Cost for attendees?
4. Cost (or free) for class handouts?
5. Host Agency/Sponsor receives complementary spaces/seats?
6. Actual Schedule of dates:
  - a. Tuesday, Wednesday, Thursday?
  - b. Tuesday, Thursday?
  - c. Northern California versus Southern California (travel)?
7. Class Hours:
  - a. 08:30 to 12:00 and 13:00 to 16:30?
  - b. 08:00 to 12:00 and 12:45 to 17:00?
8. Travel/Hotel Costs for Instructors (if they participate in delivery)?
9. Handout Materials (costs, development)?

10. Other questions???????

**Target Audience for Training:**

- a. Fire Department/Fire Prevention Personnel (Plan Review, and Inspections)
- b. Building Department Personnel (Plan Review, and Inspections)
- c. Water Purveyors (Plan Review, and Inspections)
- d. Home Builders (Building Industry Association Chapters)/Contractors (Plan Preparation, Submittals, and Installation)
- e. Contractors: General Building Contractors [B], Fire Protection Contractor [C-16])

## Appendix E

### Working Plans Proposal

#### **PLANS & CALCULATIONS**

- Name of Owner, Builder or Responsible Party.
- Location, including street address and vicinity map.
  - For production homes, Include lot or parcel number, plan ID or model name.
- Point of compass.
- Number of, manufacturer, Sprinkler Identification Number (SIN), response type, temperature rating and K-factor of all sprinklers.
- Underground/site piping plan including all of the following that apply:
  - Point of connection to public water system.
  - Service point of entry to dwelling.
  - Alternative water supply components such as well, pump, gravity or pressure tank.
  - Size and type of all pipe and fittings, with length of each segment and actual inside diameter used for hydraulic calculations.
  - Location and arrangement of all devices such as meter and backflow.
  - On combined laterals serving fire sprinklers and domestic water, location of fire service take-off, master shut off valve, and point of added domestic flow allowance.
  - Size/location of public water main at point of connection.
  - Flow test/pressure data used for hydraulic calculations, including location of test, elevation relative to finished floor at service point of entry and source of information.
  - Reference nodes matching hydraulic calculations.
- Building system piping plan including all of the following that apply:
  - Point of connection to service pipe.
  - Dimensioned location and spacing criteria for all sprinklers.
  - Size and type of all pipe and fittings, with length of each segment and actual inside diameter used for hydraulic calculations.
  - Location and type of all hangers and means of support.
  - Location and arrangement of valves and devices such as drain/test, pressure relief valve, alarm connection, appliance bypass on MP systems, etc.
  - Full height building section.
  - Reference nodes matching hydraulic calculations.
- Means of freeze protection, as required.
- Name, address and license number of designer or installing design/build contractor (C-16 Fire Protection).

#### **MATERIAL DATA SHEETS**

- Fire sprinklers
- Pipe and fittings
- Hangers, means of support
- Water supply components and connected devices such as water meter, backflow, etc.

## Appendix F

### CSFM Residential Fire Sprinkler Installation Task Group Proposed Code and standards amendments

- **Proposed amendments to CRC, NFPA 13D, 2007 ed. and proposed 313.3 (P2904):**

#### **All attached garages to be protected:**

**R302.5.1 Opening protection.** Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. ~~Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors. Doors shall be self-closing and self-latching.~~

**TABLE R302.6  
DWELLING/GARAGE SEPARATION**

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the garage <u>or carport</u>	<del>Not less than 5/8-inch Type X</del> <b>Not less than 1/2-inch</b> gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**R309.7 Fire Sprinklers.** Private carports with habitable space above and attached garages shall be protected by fire sprinklers ~~where the garage wall has been designed based on Table R302.1(2), Footnote a.~~ Sprinklers in garages shall be connected to a system that complies with Section 313.3 or NFPA 13D. Garage sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a density of 0.05 gpm/ft<sup>2</sup>. Garage doors shall not be considered obstructions with respect to sprinkler placement.

**P2904.1.1 Required sprinkler locations.** Sprinklers shall be installed to protect all areas of a dwelling unit.

#### **Exceptions:**

1. Attics, crawl spaces, and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces, and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be provided above the equipment; however, sprinklers shall not be required in the remainder of the space.
2. Clothes closets, linen closets and pantries not exceeding 24 square feet in area, with the smallest dimension not greater than 3 feet and having wall and ceiling surfaces of gypsum board.
3. Bathrooms not greater than 55 square feet in area.
4. **Detached** Ggarages; carports **with no habitable space above**; **open attached** exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.

**13D.8.6.4\*** Sprinklers shall not be required in **detached** garages, open attached porches, carports **with no habitable space above**, and similar structures.

- **Proposed amendments to CRC, NFPA 13D, 2007 ed. and proposed 313.3 (P2904):**

**Alternative water supplies shall serve both domestic and sprinkler systems:**

**P2904.5.1 Water supply from individual sources.** Where a dwelling unit water supply is from a tank system, a private well system, a pump, or a combination of these, the available water supply shall be based on the minimum pressure control setting for the pump.

**P2904.5.2. Required capacity.** The water supply shall have the capacity to provide the required design flow rate for sprinklers for a period of time as follows:

1. 7 minutes for dwelling units one story in height and less than 2,000 square feet in area, not including attached garages, open attached porches, balconies and patios.
2. 10 minutes for dwelling units two or more stories in height or equal to or greater than 2,000 square feet in area, not including attached garages, open attached porches, balconies and patios.

Where a well system, a water supply tank system, a pump, or a combination thereof, is used, the water supply shall serve both domestic and fire sprinkler systems. ~~a~~Any combination of well capacity and tank storage shall be permitted to meet the capacity requirement.

**6.2\* Water Supply Sources. When the requirements of 6.2.2 are met,** ~~¶~~the following water supply sources shall be considered to be acceptable by this standard:

- (1) A connection to a reliable waterworks system with or without an automatically operated pump
- (2) An elevated tank
- (3) A pressure tank designed to American Society of Mechanical Engineers (ASME) standards for a pressure vessel with a reliable pressure source
- (4) A stored water source with an automatically operated pump
- (5) A well with a pump of sufficient capacity and pressure to meet the sprinkler system demand. The stored water requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water in the well (including the refill rate) plus the water in the holding tank if such tank can supply the sprinkler system.

**6.2.2** Where a well, pump, and tank or combination thereof is the source of supply for a fire sprinkler system, ~~but is not a portion of the domestic water system~~ the water supply shall serve both domestic and fire sprinkler systems, and the following shall be met:

- (1) A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system. The connection shall return water to the tank.
- (2) ~~Pump motors using ac power shall be connected to a 240 V normal circuit.~~
- (3) Any disconnecting means for the pump shall be approved.
- (4) A method for refilling the tank shall be piped to the tank.
- (5) A method of seeing the water level in the tank shall be provided without having to open the tank.
- (6) The pump shall not be permitted to sit directly on the floor.

**6.2.2.1** Where a fire sprinkler system is supplied by a stored water source with an automatically operated means of pressurizing the system other than an electric pump, the water supply may serve the sprinkler system only.

- ***Proposed amendments to CRC, NFPA 13D, 2007 ed. and proposed 313.3 (P2904):***

***A 5 GPM domestic allowance shall be added to the sprinkler flow demand for all systems connected to a water supply that serves both domestic and fire sprinkler systems:***

**P2904.5 Water supply.** The water supply shall provide not less than the required design flow rate for sprinklers in accordance with Section P2904.4.2 at a pressure not less than that used to comply with Section P2904.6. **Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.**

**6.2.3 Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.**

- ***Proposed amendments to CRC, NFPA 13D, 2007 ed. and proposed 313.3 (P2904):***

***Address deficiencies in P2904:***

**P2904.2.3 Freezing areas.** Piping shall be protected from freezing as required by Section P2603.6. Where sprinklers are required in areas that are subject to freezing, dry-sidewall or dry-pendent sprinklers extending from a nonfreezing area into a freezing area shall be installed.

**P2904.2.3.1 Where fire sprinkler piping cannot be adequately protected against freezing, the system shall be designed and installed in accordance with NFPA 13D.**

**P2904.2.4.2 Obstructions to coverage.** Sprinkler discharge shall not be blocked by obstructions unless additional sprinklers are installed to protect the obstructed area. Sprinkler separation from obstructions shall comply with the minimum distances specified in the sprinkler manufacturer's instructions, **and/or the provisions of NFPA 13D.**