

Automatic Extinguishing Systems Certification Issue

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Presented September 15, 2014



Introduction

- ▶ The goal of this workgroup is to determine if there is a need for a Certification Program for the installation and maintenance of fire suppression systems in California at the request of the Automatic Extinguishing Systems Advisory Committee.



Data Collection

- ▶ The data collected came from many areas.
 - ❖ Fire Service Survey
 - ❖ Contractors Survey
 - ❖ Complaints filed with OSFM & CSLB
 - ❖ Comments from the Public
 - ❖ Pictures provided by the Industry



Fire Service Survey

PAGE 1

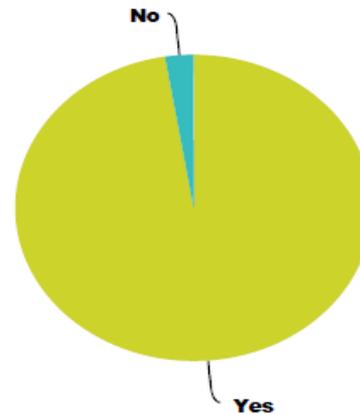
Q1

Customize

Export

Have you ever during a rough and/or final inspection of an automatic fire sprinkler system installation identified a condition where the system did not meet the requirements of NFPA 13?

Answered: 78 Skipped: 1



| Answer Choices | Responses | |
|----------------|-----------|----|
| - Yes | 97.44% | 76 |
| - No | 2.56% | 2 |
| Total | | 78 |



Fire Service Survey

PAGE 2

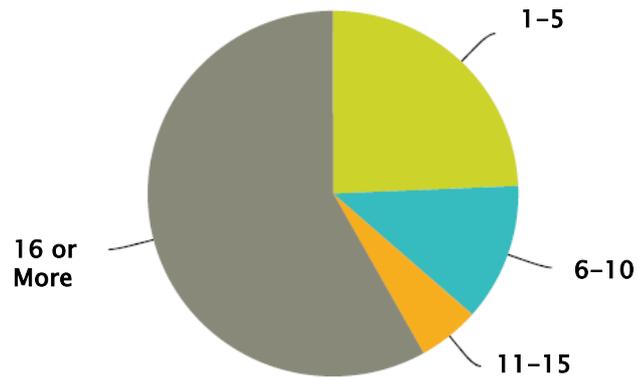
Q2

Customize

Export

When inspecting a fire sprinkler system installation have you ever encountered a situation where the installation was not consistent with the approved plans?

Answered: 74 Skipped: 5



| Answer Choices | Responses | |
|----------------|-----------|----|
| – 1-5 | 24.32% | 18 |
| – 6-10 | 12.16% | 9 |
| – 11-15 | 5.41% | 4 |
| – 16 or More | 58.11% | 43 |
| Total | | 74 |



Fire Service Survey

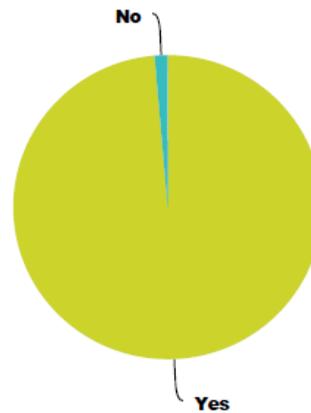
Q3

Customize

Export

Did you ever not approved the installation of an automatic fire suppression system and had to return for a re-inspection, after being told that a fire suppression system was ready for inspection?

Answered: 74 Skipped: 5



| Answer Choices | Responses | |
|----------------|-----------|----|
| - Yes | 98.65% | 73 |
| - No | 1.35% | 1 |
| Total | | 74 |



Fire Service Survey

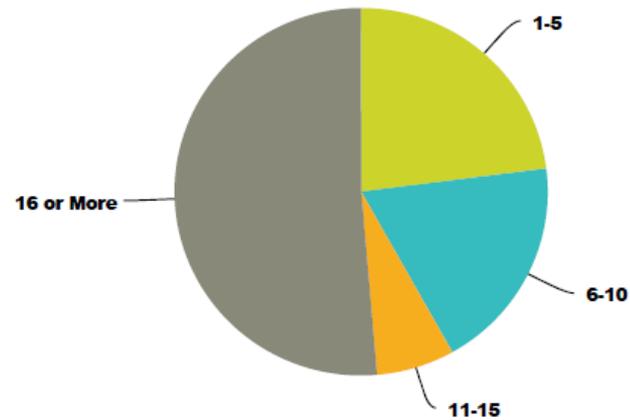
Q4

Customize

Export

If you answered "Yes" to question #3, how many times?

Answered: 74 Skipped: 5



| Answer Choices | Responses | |
|----------------|-----------|----|
| – 1-5 | 22.97% | 17 |
| – 6-10 | 18.92% | 14 |
| – 11-15 | 6.76% | 5 |
| – 16 or More | 51.35% | 38 |
| Total | | 74 |



Fire Service Survey

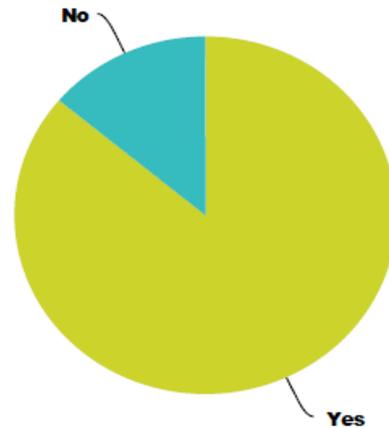
Q5

Customize

Export

Have you ever during an inspection of an automatic fire sprinkler system identified a condition where the system did not meet the requirements of NFPA 25 and did not pass inspection?

Answered: 72 Skipped: 7



| Answer Choices | Responses | |
|----------------|-----------|----|
| - Yes | 86.11% | 62 |
| - No | 13.89% | 10 |
| Total | | 72 |



Fire Service Survey

57 of 79 Surveyors Left Departmental Contact Information

Q6

Export

Address

Answered: 57 Skipped: 22

| Answer Choices | – | Responses | – |
|-----------------|-----------|-----------|----|
| Name | Responses | 98.25% | 56 |
| Company | Responses | 100.00% | 57 |
| Address | Responses | 0.00% | 0 |
| Address 2 | Responses | 0.00% | 0 |
| City/Town | Responses | 0.00% | 0 |
| State/Province | Responses | 0.00% | 0 |
| ZIP/Postal Code | Responses | 0.00% | 0 |
| Country | Responses | 0.00% | 0 |
| Email Address | Responses | 98.25% | 56 |
| Phone Number | Responses | 94.74% | 54 |



El Segundo Fire Department Fire Prevention Division

List of Automatic Fire Protection System
Deficiencies by Permit 10/1/12 to 3/30/14

▶ 10/1/12 to 9/30/13

▶ Inspections Performed:

- ❖ Clean Agent - **6**
- ❖ Hood Fire Extinguishing System - **4**
- ❖ Automatic Sprinkler System - **236**
- ❖ Standpipe - **3**



El Segundo Fire Department Fire Prevention Division Continued

- ▶ 10/1/13 to 3/30/14

- ▶ Inspections Not Ready, Correction Notice Issues, Verbal Correction or No Access
 - ❖ Clean Agent - 0
 - ❖ Hood Fire Extinguishing System - 0
 - ❖ Automatic Sprinkler System - 15
 - ❖ Standpipe - 0



El Segundo Fire Department Fire Prevention Division Continued

- ▶ **10/1/13 to 3/30/14**

- ▶ Inspections Performed:
 - ❖ Clean Agent – **1**
 - ❖ Hood Fire Extinguishing System – **3**
 - ❖ Automatic Sprinkler System – **139**
 - ❖ Standpipe – **0**



El Segundo Fire Department Fire Prevention Division Continued

- ▶ 10/1/13 to 3/30/14 continued
- ▶ Inspections Not Ready, Correction Notice Issues, Verbal Correction or No Access
 - ❖ Clean Agent - 0
 - ❖ Hood Fire Extinguishing System - 0
 - ❖ Automatic Sprinkler System - 8
 - ❖ Standpipe - 0



ANAHEIM FIRE & RESCUE

Fire Protection Inspections 2008–2013

- ▶ Between January 1, 2008, and December 31, 2013, Fire Inspectors for Anaheim Fire & Rescue performed 3,821 inspections on a total of 2,321 different Fire Protection projects. The project types contained in this report include complete fire sprinkler system installations, oversprinklered sprinkler tenant improvements, fire service underground installations, hood suppression system, clean room extinguishing systems, dry chemical protection for paint spray booths and fire alarm systems.



ANAHEIM FIRE & RESCUE

Fire Protection Inspections 2008–2013

- ▶ Of those 2,321 projects, 863 projects required a total of 1,502 additional re-inspections. While there is no data available to indicate the specific need for each respective re-inspection, the *18* most common reasons encountered for not passing a fire protection installation inspection during the first scheduled inspection are as follows:



ANAHEIM FIRE & RESCUE

Fire Protection Inspections 2008–2013

- ▶ 1. Area left unprotected (combustible attics, concealed spaces, closets, etc.).
- ▶ 2. No access provided to inspect work.
- ▶ 3. Calc-plate missing or containing incorrect information.
- ▶ 4. Incomplete or failed 2-inch drain test.
- ▶ 5. System fails to hold hydro test.
- ▶ 6. Incorrect or misapplied restraint system (for underground installations).



ANAHEIM FIRE & RESCUE

Fire Protection Inspections 2008–2013

- ▶ 7. Failure to flush underground prior to riser tie-in.
- ▶ 8. Sprinkler obstructed by structural members or other building features.
- ▶ 9. Incorrect or mismatched sprinklers.
- ▶ 10. Incorrect sprinkler spacing.
- ▶ 11. Wrong temperature rating of sprinklers.
- ▶ 12. Supporting pipe from an undersized structural member.



ANAHEIM FIRE & RESCUE

Fire Protection Inspections 2008–2013

- ▶ 13. Failure to maintain proper deflector distance from ceiling.
- ▶ 14. In appropriate use of sidewall sprinklers.
- ▶ 15. Hanging or bracing from structural members inconsistent with manufacturers guidelines (steel truss, solid web composite joists, etc.) for installation.
- ▶ 16. Failure to provide foundation clearance for risers.
- ▶ 17. Using mismatched or non-listed components.
- ▶ 18. Failure to install per the approved set of plans (working from an early set of shop drawings, etc.,)



Office of the State Fire Marshal

ANALYSIS OF COMPLAINTS to the OSFM as of October 12, 2013

| | | | | |
|------|-----------|------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| | AES | | | |
| 2008 | 23 | Complaints | Referral to CSLB | |
| | | | | |
| | AES | | | |
| 2009 | 23 | Complaints | Working without valid license Serviced without hydro performed Improper system installation | Improper servicing Improper tag Working without SFM license |
| | | | | Invoicing for unprovided service Deceptive business practices Unauthorized service |
| | | | | |
| | AES | | | |
| 2010 | 6 | Complaints | Working without permits Working without a license | Deceptive business practices Performing unauthorized work |
| | | | | False claim of UL300 compliance |
| | | | | |
| | AES | | | |
| 2011 | 6 | Complaints | Work not authorized | |
| | | | | |
| | AES | | | |
| 2012 | 5 | Complaints | Using extinguisher tags on systems Impersonating a fire official | Deceptive business practices Using extinguisher tags on systems |
| | | | | Working w/o a license |
| | | | | |
| | AES | | | |
| 2013 | 3 | Complaints | Working w/o a license | Billing for services not properly rendered |

66



Contractor Survey

- ▶ 5 year reports for the 5 month period of 2014 for the Fresno, Madera, Kings and Tulare Counties areas.
 - ❖ **80%** of those 5 years were on systems with 1 riser
 - ❖ **10%** with 2 risers
 - ❖ **22%** of the systems passed with no corrections.
 - ❖ **42%** had corrections immediately fixed and system passed
 - ❖ **36%** of the systems failed without immediate corrections



Contractor Survey

- ❖ **20%** of the systems had painted sprinkler heads.
- ❖ **9%** had noted un-sprinkled areas. It is undetermined in this report if they were originally required or being allowed by AHJ.



Contractor Survey

Comprised of all Survey's Returned

| | | |
|-------------|---------------------------------------------------------------------------------------------------------------|-------------|
| I. | Provide Total No. of NFPA 25 ITM Five Year Inspections performed during the years of 2007 through 2014 | |
| II. | Total Number of passed systems = | 2743 |
| III. | Total Number of Systems that had deficiencies = | 1120 |
| IV. | Provide List of Deficiencies and Quantity (Examples) | |
| A. | Supervisory system not working | 224 |
| B. | Fire Department Connection Issues | 16 |
| | 1. Paint | 372 |
| | 2. Debris found | 0 |
| | 3. Caps missing | 349 |
| | 4. Access limited | 79 |
| C. | Backflow Stems Cut | 181 |
| D. | PIV's Difficult to Operate | 236 |
| E. | PIV's Missing Handles/Locks | 308 |
| F. | Valve(s) Discovered in Shut Position | 5 |
| G. | Debris Discovered In Underground Requiring Further Investigation | 2 |
| H. | PIV in need of Glass / Paint / Handle | 76 |
| I. | Hydrant | 74 |
| | 1. Paint | 59 |
| | 2. Caps missing | 2 |
| | 3. Damaged | 150 |
| | 4. Key valve not located | |
| | 5. Access is obstructed | 32 |
| J. | Riser | |
| | 1. 2" Main Drain Test Results Prompting Investigation | 240 |
| | 2. Trim damages | 13 |
| | 3. Bell not working | 223 |
| | 4. 4 way brace missing / in need of repair | 10 |
| | 5. Lack of access | 26 |
| K. | Interior Piping Inspection | |
| | 1. Debris discovered prompting further investigation | 1 |



Contractor Survey

Comprised of all Survey's Returned Continued

| | | | |
|------------|-------------------------------------------------------------------------------------|--|------|
| L. | Sprinkler Heads | | |
| | 1. Painted | | 2435 |
| | 2. Missing | | 392 |
| | 3. Corroded | | 1137 |
| | 4. Sprinkler Samples Tested and Failed | | 3 |
| | 5. Sprinkler Samples Tested and Passed | | 6 |
| | 6. 18" / 36" Clearance Issue | | 80 |
| M. | Seismic Bracing | | |
| | 1. Damaged | | 19 |
| | 2. Not attached | | 13 |
| N. | Signage Missing or Damaged | | 450 |
| O. | Calculation Tag information | | |
| | 1. Unreadable | | 59 |
| | 2. Missing | | 40 |
| P. | Fire Pump Issues (List Issues) | | |
| | 1. Issue vary from minor to replacement | | 16 |
| | 2 | | 0 |
| Q. | Water Flow Volume and Pressure | | |
| | 1. Inadequate per Calculation Tag Information | | 13 |
| R. | Gauges need Replacing | | 246 |
| S. | Hangers | | |
| | 1. Damaged | | 164 |
| | 2. Missing | | 54 |
| T. | Unsprinklered Area(s) | | 184 |
| U. | Inadequate Sprinkler Coverage (Spacing Issues) | | 114 |
| V. | Dry Systems Issues | | 25 |
| W. | 1 ½' Fire Hose Testing/Replacement | | 596 |
| X. | Foam Issue | | 0 |
| AA. | Unable to access all areas of building | | |
| BB. | Percentage of Systems Where Quarterly and Annual Inspections being performed | | 57% |



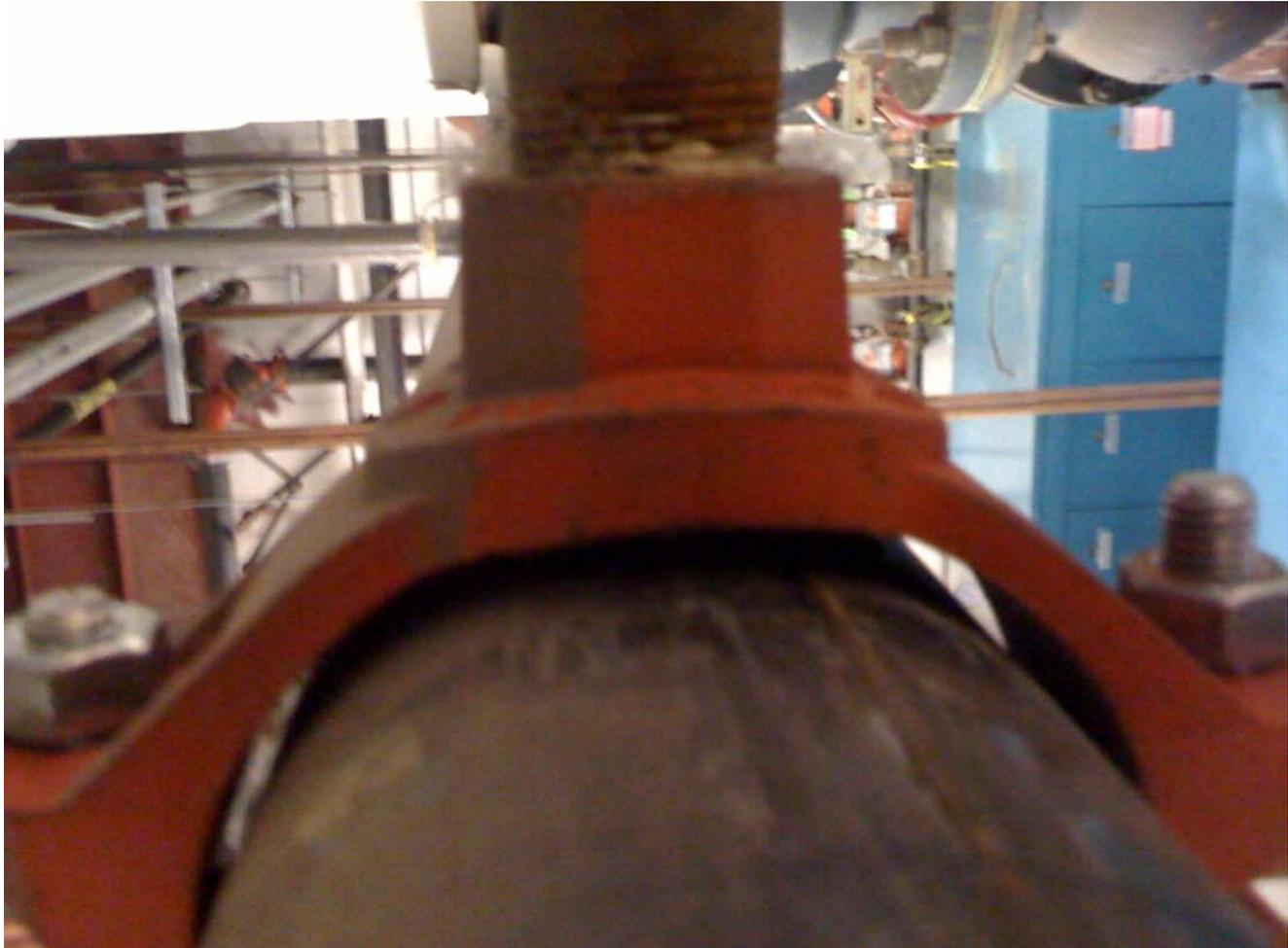
Contractor Survey

Comprised of all Survey's Returned Continued

| CC. | Assumed Possible Initial Bad Instalation Issues Discovered | |
|-----|-------------------------------------------------------------|-----|
| 1. | SSP in SSU Position | 6 |
| 2. | Missing EQB | 3 |
| 3. | Obstruction to Spray (Lights) | 31 |
| 4. | Fire Department Connection too Low | 71 |
| 5. | Hydrants too Low | 56 |
| 6. | In Rack Piping in Dry System with Insufficient Slope | 1 |
| 7. | Need for Head Guards | 145 |
| 8. | Lack of Splay Wire | 4 |
| 9. | Lack of Retaining Straps on C-Clamps | 87 |
| 10. | Guard Posts not high enough to protect Hydrant and/or PIV's | 2 |









Question:

- ▶ After reviewing this data, does this Workgroup see a need for a Certification Program for Automatic Extinguishing Systems?
- ▶ Yes / No?
- ▶ Out of 14 members of the Workgroup, the Vote were as follows:
 - ❖ 7 Were For a Certification Program
 - ❖ 7 Were Against a Certification Program

