

# **Society of Fire Protection Engineers - Dallas/Fort Worth Chapter**

**December 1, 2008 - Panel Discussion on Fire Safety Issues  
Held at Construction Education Foundation, Irving, Texas**

## **Minutes of Panel Discussion**

***THE FOLLOWING MINUTES ARE A GENERAL SYNOPSIS OF  
DISCUSSIONS AND DO NOT NECESSARILY REPRESENT OFFICIAL  
POSITIONS OF THE JURISDICTIONS. AS ALWAYS, CONSULT WITH THE  
LOCAL JURISDICTION FOR SPECIFIC REQUIREMENTS.***

The panel discussion was chaired by Mr. Tom Izbicki, P.E. - Rolf Jensen Associates.

The panel consisted of:

- Mr. David Kerr - City of Plano Fire Department.
- Mr. Jay Loucks, P.E. - City of Dallas Fire Department.
- Mr. Rick Matsuda, P.E. - City of Dallas Building Department.
- Mr. Bob Morgan, P.E. - City of Ft, Worth Fire Department.
- Mr. Mark Redlitz, P.E. - Texas Dept. of Insurance, Office of State Fire Marshal.

### **I. OFFICE OF STATE FIRE MARSHAL UPDATE ON LICENSING AND LAW CHANGES - Mark Redlitz, P.E.**

Discussed relationship of cities with State Fire Marshal's Office (SFMO).

There is no State building code or State fire code. However, the State legislature has adopted the 2003 International Building Code (IBC) as a municipal commercial building code in the state to apply to all commercial buildings in a municipality for which construction begins on or after January 1, 2006 in Local Government Code Sec 214.216. This does not apply to areas outside of municipalities (such as unincorporated locations). The State has adopted NFPA 101 Life Safety Code for use in inspections and investigations.

SFMO registers firms and licenses individuals.

Cities can NOT have additional registration or licensing requirements but can require more stringent code requirements.

SFMO has installation standards. Cities can be more restrictive. Cities may have less restrictive standards, but in that case, the entities registered and licensed through the SFMO must still comply with the minimum requirements adopted by the SFMO.

SFMO is not a Better Business Bureau.

SFMO has "cleaned-up" the fire alarm installation business a bit.

Most counties do not have the manpower to perform plan reviews.

Mr. Redlitz expressed concern that without trained individuals reviewing plans deficient systems can be installed.

Municipalities monitor the fire protection systems installed in their cities. But the SFMO may be the only authority for counties, though it is an after the fact effort.

Some design firms are sending deficient plans to the AHJ for review rather than doing their own plan review in-house they expect the AHJ to serve as their quality control function. This should not be happening. It should be designed and installed correctly the first time each time.

New SFMO rules required the RME and APS to provide original signatures on plans submitted to AHJ's. The purpose of this is to force the RME or APS to look at the plans, and hopefully perform a quality control review before it is submitted to the AHJ.

Some engineering firms (usually non fire protection) are still preparing deficient fire alarm plans. Then to avoid responsibility for the design include the following note on the plans "Contractor Shall Meet All Codes."

SFMO does not regulate P.E.'s. The Texas Board of Professional Engineers does.

Technical fire protection alternatives and equivalencies to the adopted NFPA standards need to be reviewed (sealed) by P.E.'s. Preferably fire protection engineers

SFMO does not provide plan review or inspection services specific to fire systems.

Other State departments and agencies can notify the SFMO or Texas Board of Professional Engineers of allegedly deficient plans or installed work.

Some cities are reluctant to report design or installation deficiencies to the SFMO or the Texas Board of Professional Engineers.

Firm registered through the SFMO must submit fire extinguisher, alarm and sprinkler plans to the local AHJ prior to commencement of work according to the adopted NFPA standards. There have been instances of installed work without having submitted plans to the local AHJ. SFMO usually assesses fines and penalty to the responsible firms when a complaint is filed with them by the local AHJ.

Some cities have requirements that exceed the code specified minimum.

Examples of current issues that the State is seeing include:

- Exposed CPVC pipe in combustible concealed spaces that require sprinklers, with and without using the specially approved sprinklers.
- Sprinkler contractor performing design without including the required water supply data on the plans.

- Sprinkler contractor did not flush the underground piping.

New technology issues include the use of fiber optics in fire alarm system to communicate to the central station. There is a requirement for an adequate backup power supply as required by NFPA 72 whether it is stand alone or shared with non-fire alarm systems

I've been told that NFPA 72 and modern technology is leaning toward not using the term "fire alarm" and combining it with use of "emergency communication" systems. This is in keeping with the concept of mass notification for different types of emergencies (shootings, tornados, hurricanes, hazardous spills, explosives, etc). Such systems will use more verbal communication through speakers. As a result intelligibility is a major consideration and is resolved not by increasing the volume but usually by adding more speakers. This almost requires a special scientific expertise of its own. Testing and regulation will be important.

False alarms are still a large issue.

#### Question on Performance Based Design.

The SFMO is wrestling with this issue. One school of thought is that SFMO contractors' registrations and licenses permit routine (pre-engineered) design (implementation of an existing NFPA standard) and engineers perform alternatives and equivalencies requiring new creative thought and evaluation.

Various organizations have published their own "White Paper" on this issue including the Texas Board of Professional Engineers, Society of Fire Protection Engineers, and American Fire Sprinkler Association.

#### Question on Inspections

Texas is a "Home Rule" state. Cities do not want to be the subject of unfunded mandates from the State. Therefore, inspections are performed by the local AHJ (city or county) at their discretion.

#### Question on 2003 International Building Code

The Texas legislature has adopted the 2003 IBC for all commercial buildings in Texas. However, this only applies to municipalities.

When a complaint is received regarding an unsafe building/condition outside a municipality the SFMO currently uses the 2006 edition of NFPA 101 - *Life Safety Code* to determine whether a situation is hazardous and to implement corrective action.

#### Question on Extra Rules

With the implementation of the new RME-General Inspector license (RME-I), to perform the Inspection Test and Maintenance (ITM) of sprinkler systems, according to NFPA 25, some cities are planning to require the RME-General Inspector, or another licensee to be present with the AHJ during various aspects of the construction inspection process.

Mark had no comment and would have to research this. (Note subsequent to the meeting Mark reported that the city inspection of the construction of a sprinkler system in their city is a function of the cities' codes and ordinances. Therefore they may require the presence of whoever they choose based on their authority.)

The SFMO rules currently require that the certifying licensee be present during acceptance testing of the fire alarm system.

#### Question on Extra Rules Effective Date

The implementation date that requires the ITM of all fire sprinkler system to be performed by either an RME – General Inspector or the general RME for the sprinkler firm is not planned on being extended and takes effect on January 1, 2009.

#### Question on Complaints

Complaints sent to the SFMO must be very specific and give a specific location of the violation. General complaints to go and investigate “that firm” because they are violating the standards are not acceptable.

#### Question by Rick Matsuda, P.E.

Rick thinks some State agencies do not permit untreated discharge of fire sprinkler water to the storm drainage system.

SFMO does not regulate the discharge of fire sprinkler system water.

\*\*\* After the meeting, Todd Haines (with DFW Airport) provided additional information which is attached. \*\*\*

## **II. SPRINKLER SUBMITTALS & FIRE ALARM SUBMITTALS**

### A. Rick Matsuda, P.E. – Sprinkler Submittals

City of Dallas web site has forms and FAQs (frequently asked questions), contact information, code amendments, and fee schedule.

A very common deficiency encountered in performing plan review of fire sprinkler systems is the lack of complete compliance with the 40+ items specified by NFPA 13 for plans. Some issues include:

Water supply flow test data not provided

Street names not provided

North arrow not provided or pointing in the wrong direction.

10 psi safety factor (Dallas Amendment) not provided.

Existing fire pump recent test data not provided. This is required even for finish-out or retrofits.

\$500 re-inspection fee.

Major vs. Minor work.

No review for minor work, but it does get inspected.

### B. Jay Loucks, P.E. – Fire Alarm Submittals

Information on web

[http://www.dallascityhall.com/building\\_inspection/fire\\_plan\\_review.html](http://www.dallascityhall.com/building_inspection/fire_plan_review.html)

There is no division of Major work vs. Minor Work. It is all major work.

No plans are required for upgrades to the fire alarm system which only include interface to a kitchen hood or the installation of a communicator.

Rejected plans are reviewed one more time under the original plan review fee. Thereafter, the same rejected plans must include an additional fee when submitted each time.

Dallas Amendments include:

- If the contractor changes the panel, then the entire system must be upgraded.
- If the contractor installs strobes, then the contractor must do so for the entire tenant (not just for the renovated space).
- Visual alarms must be added.
- Class A wiring, with 6 ft minimum separation between incoming and outgoing wiring for all initiating circuits. Exception: Class B circuits are allowed to monitor suppression systems provided the suppression system activation switch (i.e. waterflow, pressure, etc.) is within 10 feet of the monitor module on the Class A circuit.
- Monitoring required for all fire alarm systems and for all fire sprinkler systems.

Major plan denial issues include:

- No original signature on plans.
- APS must be employed by the licensed company.
- P.E. must be noted as "Fire Protection Engineer" by the Texas Board of Professional Engineers.

C. Bob Morgan, P.E.

Fort Worth will adopt interim amendments to modify existing amendments.

Fort Worth will require that there be fire sprinklers in apartment attics for any 13R system installed in a building of 3 or 4 stories.

Major plan denial issues include:

- Similar as above for Dallas.
- Fire pump systems need more detail.
- Storage tank systems need more detail.
- Hydraulic calculations missing or not enough detail. Lack of attention to detail resulting in pipe types or sprinkler types/models not matching between drawings and calculations.
- Issues with designs not based on low water levels resulted in a requirement to provide hard copy waterflow report from Water Department indicating high and low levels of primary tank in area, and contractor must design to those levels as per NFPA 13, in addition to a 5 psi safety factor.
- Elevator lobbies without an exit. (Access Control Systems)
- Website is [www.fwfd.com](http://www.fwfd.com).

D. David Kerr

Two basic rules:

- Rule #1: Plano is not Dallas.
- Rule #2: See Rule #1.

Major plan denial issues include:

- Ditto as for Dallas and Fort Worth.
- Did not use most current NFPA codes.
- If add speaker/strobes, must upgrade the entire fire alarm system.
- Lack of coordination and interface of fire alarm and fire sprinkler for preaction systems.

Plano has a web site

(<http://plano.gov/Departments/Fire%20Department/Fire%20Prevention/Pages/default.aspx>).

Plano has a submittal guide book on the web.

E. Comment from Audience: Richardson, TX (Stephen Epstein)

Big issue is not following instructions available from the web. WWW.COR.NET.

F. Comment from Audience: DFW Airport

Big issue is not providing and using current and accurate water supply flow test data.

G. Comment from Audience: McKinney, TX

Big issue is inspector's test connections not being located where they belong.

Suggest a visit early in design process to avoid problems later.

### **III. PLAN DENIAL RESOLUTION**

A. David Kerr

Plano marks-up plans in detail.

Allows performance-based design (code is usually way behind current architectural practice).

Plano Appeal Process. Building Standards Committee appointed by City Council.

Call in advance if submitting "junk" submittal so as to exactly follow the Engineer's design plans. Denial will be forthcoming.

B. Jay Loucks, P.E.

Call in advance if the contractor submitting "junk" submittal so as to exactly follow the Engineer's design plans. Denial will be forthcoming.

Dallas Appeals Process: Fire Chief, then Fire Code Advisory and Appeals Board.

Phased projects must obtain prior approval. This is usually approved if there is a reasonable time period involved.

C. Bob Morgan, P.E.

Ft. Worth Appeal Process: Fire Marshal, then Board of Appeals.

Call early if performance based design is anticipated.

D. Rick Matsuda, P.E.

Rick does not write letters. He telephones and explains the issues.

Willing to work with sprinkler designers to achieve practical and code-compliant solutions.

Dallas Appeal Process: Fire Chief, Fire Code Advisory and Appeals Board.

E. Mark Redlitz, P.E.

Mark does not like the idea of submitting bad designs, even if the contractor feels they must do so because "that is how the engineer designed it". State rules require the deficiencies be noted on or with the plans being submitted to the AHJ.

David Kerr of Plano suggested that all non-compliant items be identified and placed in a separate letter and submitted to the AHJ.

A fire alarm contractor in the audience expressed that the only way to get work sometimes is to design exactly to the project design criteria (even knowing it is not code compliant). The hope is that the AHJ will reject the submittal and the contractor can obtain a change order and be funded to perform a proper design.

Mark Redlitz agrees that non-compliant items be noted in a letter or noted on the submittal drawings.

Tom Izbicki suggests that bad designs produced by engineers be turned into the Board of Professional Engineers.

## **IV. GENERAL TOPICS**

A. Bob Morgan, P.E.

Building Permit submittal issues include:

Lack of fire hydrants on plans.

Lack of fire lanes on plans.

Plans are sent to various disciplines. Planning & Development determines occupancy type, load, and square footage, then Fire Dept determines appropriate sprinkler, fire alarm, etc. requirements per Fire Code.

If haz mat identified or anticipated, Fire Dept may require HMIS for further review, and subsequently Haz Mat permit if necessary.

B. Rick Matsuda, P.E.

Use of hazardous materials will receive a review. LaTonya Webster handles Haz Mat and Flammable Liquid reviews for the City of Dallas.

High pile storage requires an Owner's Certificate which will be reviewed by the Building Department. Then a review will be performed by the Fire Department before a High Pile Storage Permit can be issued.

C. David Kerr

FDC's not located within 100 ft of fire hydrants.

No fire safety or life safety coordinator on the job site.

Coordination of trades sometimes in not performed.

Smoke control systems seems to be a big coordination of trades problem.

OSFM does not regulate trades that work on smoke control systems (other than fire alarm and fire sprinkler).

Plan review vs. plan processing.

Third-party plan review may be the way to go for small cities and counties.

NCTCOG – North Central Texas Council of Governments (16 counties surrounding Dallas County including Dallas County).

NCTCOG cannot agree on a standard for fire lane design. Example is City of Arlington uses yellow stripes for fire lanes, while many other cities use red stripes for fire lanes.

NCTCOG - other items include fire lane 24 ft min width, and fire sprinkler 10% safety factor.

In 2009, I-Codes to be published in March 2009.

NCTCOG will meet 8 to 9 times in 2009. Fire safety recommendations will be reviewed by various higher levels of NCTCOG. SFPE has a seat on this council. This will be discussed at the next meeting.

## **V. FREE FORUM**

A. TCO for furniture move in.

Morgan: Minimum requirement is functional inspected sprinkler system with fire watch provided – evaluate on a case-by-case basis.

Matsuda / Loucks: If no CO, cannot move furniture in.

Kerr: Allow furniture if all life safety systems are in place.

B. Residential Fire Sprinklers - (Model code requires sprinklers in all residential occupancies (including single family homes) starting in 2011.)

Kerr: 2009 IRC may not be adopted in Plano. This will be debated in each jurisdiction. Hopefully NCTCOG will recommend fire sprinklers in residences.

Morgan: Agrees with Kerr.

Matsuda: Thinks Dallas will amend it out of the IRC. Dallas has 7,500 sq ft threshold due to large loss fire a few years ago.

Morgan: The primary interested parties for sprinklers are the fire service and fire sprinkler industry. Collectively, a poor job has been done to educate the public on the benefits of home fire sprinklers. Home builders associations are adamant about fighting any mandate for home fire sprinklers. Although those in the respective Fire Marshal's offices on the panel will continue to fight for home fire sprinklers, it is very difficult to achieve.

McKinney F.D.: ISO is asking for input on residential fire sprinklers as to affecting the rating schedule for jurisdictions.

C. Special Inspections

Loucks: required for smoke control systems (third party review and third party testing)

Morgan: Required on a case-by-case basis. Stair pressurization handled by the City with a requirement that the Engineer of Record sign off on the installation and certified air balance test, etc. Smoke control system, such as for smoke-protected assembly seating, design (smoke removal and timed egress evacuations) would typically require review by a third party and utilize special inspector.

**----- THE PANEL DISCUSSION WAS ADJOURNED -----**

SFPE ATTENDANCE LIST - December

1	Ben	Adams
2	Paul	Appison
3	Tony	Aspden
4	Tim	Barge
5	Ray	Battalora
6	Brian	Berryman
7	Roddy	Bieber
8	Bob	Bowling
9	Jason	Bray
10	Brian	Brown
11	Phillip	Brown
12	Otis	Coffey
13	Ron	Coker
14	Ron	Daigneault
15	Tom	Duckworth
16	Steven	Epstein
17	Jynae	Floyd
18	Mark	Gilmore
19	Todd	Haines
20	Randy	Hajovsky
21	Arthur	Hartman
22	Mark	Hasenmeyer
23	Gil	Hays
24	Jeffrey	Heidelberg
25	Scott	Herrbold
26	Jordan	Holley
27	Walter	Horn
28	Danny	Huckabee
29	Donald	Isham
30	Tom	Izbicki
31	Bobby	Jefferson
32	Trevor	Jones
33	John	Kearley

34	Scott	Kendall
35	David	Kerr
36	Mitch	Lingerfeld
37	Jay	Loucks
38	Mike	Martinez
39	Rick	Matsuda
40	Steve	McCawley
41	Steve	McGee
42	Bill	Mills
43	Rick	Minyard
44	Bob	Morgan
45	John	Nickles
46	Mark	Overin
47	Nicholas	Pippin
48	Kobey	Ratliff
49	Mark	Redlitz
50	David	Rhoden
51	Mike	Richmond
52	Lee	Robodos
53	Chuck	Roy
54	Tom	Ryan
55	Chip	Schaefer
56	Delisa	Seals
57	Rick	Sheets
58	Jeremy	Stephens
59	Rick	Swift
60	Don	Taylor
61	Steve	Unger
62	Chris	Venable
63	David	Walk
64	Dwanald	Walker
65	Jason	Warren
66	LaTonya	Webster
67	Scott	Whinery
68	Josh	Willett