



Post Indicator

Quarterly Newsletter

June, 2005

President's Message – Bob James

Members as your President, I would like thank you for your vote of confidence in reelecting me for a second term. I hope we can continue to move FMAM forward as a resource leader in Minnesota. As most of you know, this takes a lot of work by very dedicated volunteers. We are all very lucky to have a group of these hard workers all working toward make FMAM a great association for all of us. The leadership from your board has created an opportunity for this association to continue this important work. The one item that continues to be highlighted at board meetings is that we are always looking for members to be active in the association and that if you would be interested in any activity such as helping at the State Fair, being on a sub task group, being assigned to various committees or running for a board position. Please contact any of the members of the board to talk about what is available.

Training opportunities for the 2005 and earlier 2006 are still being scheduled, but if you have a topic, speakers or a need let the board know. We are hoping to confirm the dates and instructors very soon. Watch for emails and check the web site for the latest.

After speaking with the Jerry Rosendahl, State Fire Marshal, he is very happy to see the continued trend with a low number in fire related deaths in Minnesota. I would like to join him in saying "Great Job" to all of you. It is your efforts in education and public awareness that continues to make Minnesota a safer place to work and live.

I will not be able to join everyone at this up coming meeting, but I am sure your vice president Phil Owens will keep the meeting going and provide the latest information. I hope everyone can make it to New Brighton and have great meeting, Bob James

LEGISLATIVE REPORT:

As I write this most of you are aware that we are in special session at the Capital. The House and Senate did not finish their job and the Governor has kept them at the table. I hope the many issues they must finish become reality soon.

I can give you a few up-dates on bills that have been watched and that have made it through the process. First, House File 1109 and Senate File 1578, a bill for an act relating to public safety; reviving and reenacting the board of firefighting training and education passed the house and senate, also was signed by the Governor. This is a first step in getting the fire service on a track of good training and make funding available to assist opening it up to everyone who needs it.

Second, the State Fire Marshal Division will be seeing a return of \$400,000 in funding from what was cut in the past. This is important to provide continued services throughout the State: One important part of this funding is that there are NO mandates or strings attached. The office is free to hire and/or replace as they determine the need arises. This was not case as the bill was first crafted. Also, this is not the full approach we hoped for but it is a start and one of the few divisions to receive some of their funding back.

This is the first year of a two-year cycle and we are hoping that next year we can ride this early success into a larger movement to the funding of needed fire service activities. One that we need to become involved early is the start of Certification for Fire Inspectors and Fire Marshals. This would be looked at in larger approach to include other groups, but maybe helpful in our efforts. I am sure we will be looking for assistance in crafting this bill, so if you are interested contact the board. Thanks, Bob.

Financial Report:

A complete financial report will be provided at the June 9th meeting. Here is a summary from Treasurer John Powers:
The current balances are
Checking: \$14,673.25
Savings: \$ 20,233.89

Chapter 1306 – Proposed Language

Below is the proposed language for Chapter 1306 – Optional Fire Suppression Systems. The proposed

language would make 1306 applicable only when the change in use or addition to the existing building puts it in a more hazardous occupancy as determined by Chapter 1311 – Minnesota State Building Conservation Code. If the occupancy is equal or lesser hazard, sprinklers could not be required to be installed.

Table 5-B Life Safety and Exiting

RELATIVE HAZARD:	USE/CLASSIFICATION:
1	H
2	I-2, I-3
3	A, E, I-1, R-1, R-2
4	B, F-1, R-3, R-4, S-1, M
5	F-2, S-2, U

Department of Administration
 Proposed Permanent Rules Relating to Building Code; Fire Suppression Systems

1306.0020. MUNICIPAL OPTION.

[For text of subpart 1, see M. R.]

Subpart 2. **Existing and new buildings.**

Automatic sprinkler systems for new buildings, buildings increased in total floor area, including the existing building, or buildings in which the occupancy classification has changed, and the new classification is more hazardous use pursuant to Minnesota State Building Conservation Code, Chapter 1311, life safety and exiting table, must be installed and maintained in operational condition within the structure. The requirements of this subpart apply to structures that fall within the occupancy classifications, established in part 1306.0030, items A to E.

Exceptions:

1. The floor area of minor additions and do not increase the occupant load does not have to be figured into the square footage for occupancy classifications, established in part 1306.0030, items A to E.
2. The existing portion of R-2 apartment occupancies, attached R-3 occupancies, and attached townhomes is not required to be sprinklered under this chapter.

Subp. 3. **New buildings.** Automatic sprinkler systems for new buildings, additions to existing buildings, or buildings in which the occupancy classification has changed to a more hazardous use pursuant to the Minnesota State Building Conservation Code, Chapter 1311, life safety and exiting table, must be installed and maintained in operational condition within the

structure. The requirements of this subpart apply to structures that fall within the occupancy classifications established in part 1306.0030, items A to E.

Exception: The floor area of minor additions that do not increase the occupant load does not have to be figured into the square footage for occupancy classifications, established in part 1306.0030, items A to E.

1306.0030 REQUIREMENTS.

For purposes of this chapter, area separation, fire barriers or fire walls do not establish separate buildings. Gross square footage (gsf) means the floor area as defined in the International Building Code. The floor area requirements established in items A to E are based on the gross square footage of the entire building and establish thresholds for these requirements. The following occupancy groups must comply with sprinkler requirements of this chapter, unless specified otherwise:

A. Group, A-1, A-2, A-3, and A-4 occupancies;

Exception: air inflated structures, open picnic shelters.

B. Group B, F, M, and S occupancies with 2,000 or more gross square feet of floor area or with three or more stories in height;

Exception: S-2 parking garages, group M detached canopies, salt storage sheds.

C. Group E occupancies with 2,000 or more gross square feet of floor area or with two or more stories in height;

D. Group E daycare occupancies with an occupant load of 30 or more;

E. Optional occupancy group – municipality may choose option 1 or option 2.

1. Attached townhouses built to the International Residential Code with 8,500 or more gross square foot of floor area. All floors, basements, and garages are included in this floor area threshold.

2. Attached townhouses built to the International Residential Code, with more than 16 dwelling units.

1306.0070 REPORTING.

A municipality must submit a copy of the ordinance adopting this chapter to the Department of Administration, Building Codes and Standards Division. The ordinance does not go into effect until an electronic/signed, faxed, or paper copy of the ordinance has been received by the building codes and standards division and the division has acknowledged receipt to the municipality.

**Fire Marshal's Association of Minnesota
MEMBERSHIP MEETING
Meeting Minutes – March 9, 2005**

Call To Order: Vice-President Phil Owens called the meeting to order at 12:55pm at the New Brighton Fire Station.

Elections:

No nominations from the floor for President, Secretary, or Board Seat.

President - Motion to have a white ballot for President Bob James by Robbie Floyd and 2nd by Butch Gervais, motion passed unanimously.

Secretary – Motion to have a white ballot for Secretary Robbie Floyd by Bob James and 2nd by Jim Poff, motion passed unanimously.

Board Seat – Motion to have a white ballot for Board Member Kip LaMotte by Robbie Floyd and 2nd by Jerry Rosendahl, motion passed unanimously.

Bob James thanked Kip and his boss for the use of the New Brighton Facility.

Approval of the December 8, 2004 General Membership Meeting Minutes by Butch Gervais and 2nd by Jerry Rosendahl, motion passed unanimously.

Treasurer's Report:

We currently have \$13,795.13 in Checking and \$10,133.75 in Savings. FMAM Budget will be available at the next meeting. Motion to accept treasurer's report was extended to the June Meeting.

We currently have 172 paid members for 2005 with applications still coming in. We will be sending out

another renewal notice to anyone that has not renewed by June as a reminder. Note: if you have not been receiving emails Robbie has been receiving quite a few back that are blocked by your City's firewall. We will be contacting people that have been attending our training classes that are not members and try to increase our membership.

REPORTS:

Public Education Committee: FMAM needs a replacement for Bill Calder, anyone interested should let a Board Member know. Denny Stark is also helping to recruit someone from the Chief's Pub Ed group. That group meets quarterly, if any members are interested please contact one of the board members.

Training: We are still looking for training for the June Meeting. Nothing as of yet. If you have any good ideas on what training you would like to have contact Phil. Assistance is needed to help coordinate and schedule the quarterly training.

Current and Upcoming Classes include:

We are trying to schedule the Inspection Basics Course from IFMA for this fall. This is a 4-day class and we will be trying to schedule the Advanced Course – Management in the Spring of 2006.

Building Officials Conference in January 2006.

FMAM will disseminate information to our members prior to the conference.

AMBO Conference will be held in February 2006, FMAM will disseminate information to our members on that also.

NFPA Conference will be held June 6th – 10th in Las Vegas, Nevada.

ICC Conference will be held September 25th – October 2nd in Detroit, Michigan.

Fire Code Hearings: Gene Dugal updated the members on the code hearings. Over 247 code changes were brought forth for the new fire code. Detroit is the most important for the Code Committee hearings. This is a great learning experience. The Board and Members thanked Gene for all his hard work.

Governor's Council On Fire Prevention And

Control: Jeff Schadegg reported the Annual Report from the Council was delivered to the Commissioner of Public Safety. The Council is again looking forward to next August's "Fire Prevention Day at the Minnesota State Fair".

Certification Report: No Report.

Legislation: Fire Service Day at the State Capitol more information to be forthcoming. Main subject and project is to get funding for the State Fire Marshal Division, to get back what has been lost.

State Fire Marshal's Report: State Fire Marshal Jerry Rosendahl informed the members that President Bob James and Vice-President Phil Owens have been representing FMAM and are bringing our concerns to meetings.

State Fire Marshal Rosendahl had handouts available.

Jon Nisja is a tremendous asset to the SFMD, supervisor, codes instructor, technology, etc. He's done a fantastic job.

Appreciation was extended to Bill Calder for all his hard work for Public Education throughout the years.

State Fire Marshal Rosendahl urged everyone to read Bob Dahm's article in the Post Indicator.

The death toll in 2004 was 42; this is the lowest fire death loss per capita in Minnesota's history.

The State Fire Marshal's Division will be celebrating its 100-year anniversary on April 19, 2005 at 11:00am in front of the State Capitol. Everyone is welcome to attend and bring fire trucks.

A good portion of Minnesota Fire Departments are participating in the NFIR's Reports.

Funding of the State Fire Marshal's Division is still unknown but we will continue to provide the services that we can.

Residential Sprinkler Task Force: No report.

Code Committee: No report.

Building Code Committee 1305: No Report.

Elevator Code Ad. Committee: No Report.

Building Code Committee 1311: N/A

Merchandise: Sales are still on for merchandise that we have on hand; contact Butch or Kip for orders. Other clothing can be ordered online. Videos and CDs are being ordered through Kip. We will be purchasing more in the future.

Social Events: We are still looking at a couple of possibilities. More information to be available soon. If you have any ideas contact John Powers.

ICC: FMAM should have representation at the ICC hearings.

NEW BUSINESS: for the good of the membership:

Tom Brace has asked to speak to the membership. The Joint Legislative Council meetings weekly at the Kelly Inn for a "No Host" Luncheon. Currently the funding of the State Fire Marshal Division is the main concern and legislation has been introduced that would create funding for that Office as well as other Fire Service initiatives.

Tom Brace has been working with NFSA in his spare time, handouts available. Any information on sprinkler saves or sprinkler installations in residential homes please forward that to him.

President Bob James informed the members that various representatives are needed for committees. If you're interested in any positions contact a Board Member.

George Magdal updated the members on the Website. He will be redesigning FMAM links adding Public Education links, etc. He reported that he will be retiring in July and now has accepted a sales position for advertisement in the Chief's Magazine.

A committee has been put together for the "Fire Prevention Day at the Fair" if you have any interest in helping out contact any of these members: Butch Gervais, Pat Heffernan, Kip LaMotte, or Chris Hearden.

Motion to adjourn by Bob James and 2nd by Robbie Floyd, motion passed unanimously.

Respectfully submitted,
Robbie Floyd, Secretary

**Fire Marshal's Association of Minnesota
Board Meeting
February 9, 2005**

Members Present: President Bob James, Vice-President Phil Owens, Secretary Robbie Floyd, Treasure John Powers, Board Members Kip LaMotte and Butch Gervais, State Fire Marshal Jerry Rosendahl, and Web Master George Magdal.

President Bob James called the meeting to order at 9:10.

Motion to approve November 10, 2004 Board Meeting Minutes by Kip LaMotte and 2nd by Butch Gervais, motion passed unanimously.

Treasurer's Report:

The Board discussed the year-end report produced by John Powers.

Legislation fee for 2005 has been paid.

Merchandise expenses will drop significantly with the removal of shelf space at Creative Promotions.

Motion to accept the year-end report by Butch Gervais and 2nd by Kip LaMotte, motion passed unanimously.

FMAM currently balances are:

Checking - \$12,638.16

Savings - \$20,199.82

The board discussed putting some of the funds into CD's six or twelve months to receive a better interest rate. John Powers will look into that.

Gene Dugal will be attending the Code Hearings in Cincinnati, Bloomington will be paying his expense. Discussion on the fall hearings in Detroit.

Discussion on which FMAM members are in the PERA Police/Fire Pension. Robbie will send out an email to members and provide that information to members.

George will be retiring in July of 2005. George is now the sales person for advertisements in the Chief's Magazine.

ICC Regions – We are Region 3, Chapters are being developed within the regions. We have been asked if we were interested in joining with other chapters for training, code hearings, etc. The Board asked Gene Dugal to attend a meeting in November as a representative of FMAM to gather information and report back to the board.

Combining Gene's report and the fact that no other fire service groups were involved only building. The Board's decision is not to join at this time. Motion not to formally participate in the ICC Region 3 by Phil Owens and 2nd by Kip LaMotte, motion passed. State Fire Marshal Jerry Rosendahl abstained.

Motion to reimburse Gene for hotel expense by Robbie Floyd and 2nd by Phil Owens, motion passed unanimously.

Membership Report: 82 paid members for 2005, with more applications being returned regularly. Membership in 2004 was 221. Robbie will have a roster available at the March Annual Meeting. The Board discussed membership and how to increase membership. Suggestion to advertise in the Chief's Magazine and articles from FMAM published in the magazine. The Board also discussed sending a letter and applications out to Fire Departments that weren't members already.

FMAM Credit Card – John needs to get signatures and personal information on those who will be using the cards. Banks needs a current list of Board Members signed by the Secretary.

Merchandise Sale:

All the merchandise that was stored at Creative Promotions has been picked up and Kip is keeping that at the New Brighton Fire Station. Sales at the December meeting were good, but we still have a large amount to get sale to reduce the inventory. The Board has discussed using the same sale prices at the March Annual Meeting. Send out notification by email, Post Indicator, and Web site.

Mugs - \$2.00

Windshirt - \$20.00

Golf Shirt - \$10.00

T-Shirt (short) - \$5.00
T-Shirt (long) - \$10.00
Cap/Hat - \$10.00
Pins - \$1.00

Creative Promotions has received some Web based sales of merchandise. All videos and cd's have to go through Kip who has the entire inventory.

Jon Nisja has FMAM post-it notes and will hand them out to members in March. The Board also looked at thermal mugs with FMAM's logo, discussed the possibility of creating the State Amendments for the new code and what to do with the old amendments we still have.

State Fire Marshal's Report: State Fire Marshal Jerry Rosendahl provided two handouts to the Board regarding the State Fire Marshal Division updates and Fire Investigation updates and discussed the contents. See attached.

Public Education Report: The Board discussed replacement of Bill since his retirement. State Fire Marshal Rosendahl will get a copy of the attendees from the February Public Education Conference; Robbie will go over the list look for current members of FMAM the board may approach. The board will be contacting others members that have a back ground in Public Education to see if they have any interest.

Training/Education: Phil Owens reported that he would like to have a committee put together to find quarterly training. Jon Nisja will be doing the presentation in March on the Proposed State Amendments for the 2003 IFC. That meeting will start at 9:00am, Education portion at 9:30am – 11:30am; Lunch 11:30am – 12:30pm, General Membership meeting at 12:30pm.

2005 Classes- Seminars:
IFMA's 4-day Institute, Basic Class. Jon will contact Steve Sawyer for availability dates and fees for the training. FMAM will pick up part of the cost for the members. The last time this class was offered in Minnesota was 1994. We will also schedule the Advanced Management class for spring of 2006.

Jon proposed presenting a Basic Alarm Class, on wiring, what's required, when and where, location of horns & strobes, etc. This will be full day class (6 hours).

No information on outcome of the October class jointly with 10,000 Lakes. Bob will check on that.

ICC Training – discussion on how we want to use our 1-day free class. Possibly doing one day free and charging for the 2nd day. Check on the website for classes.

Future of the Building Code Institute and AMBO's Conference. The University of Minnesota will promote the Building Officials Institute in 2005. AMBO's conference will provide training for the fire service. Prices will be higher than UofM, no meals, and ICC instructors. Anyone interested in participating the planning? The information will be brought forward to the General Membership in March, individual can volunteer if they want. FMAM will advertise the training as with any training event.

The board discussed Mandatory Certification for Fire Inspectors/Fire Marshals. This would need legislation action. Bob James will talk to the Chief's about this issue, the continuing education needs, and the cost effectiveness vs. benefits.

Legislation: Bob James informed the board that we still have pending legislation for Fireworks if the Industry tries to bring new legislation forward. Statistics show that there has been a significant increase in injuries due to fireworks. Those statistics do not differentiate between legal and non-legal fireworks causing the injuries. Unfortunately, the number of injuries may not be enough to get fireworks illegal. Robbie brought up the fact that the number should not be considered, bleachers had to be changed throughout the State of Minnesota due to one child, why should fireworks be any different when it comes to safety and prevention.

Funding sources for the State Fire Marshal Division, fire tax from insurance. User fees not taxes to bring the SFMD back to where they were.

Training board funding is also being addressed.

Certification: Phil Owens has been asked to help with the curriculum for the Bachelor Degree in Applied Science. You must have the 2-year Associates Degree in Applied Science first. Southwest Minnesota University is offering the Bachelor Degree on line; this degree currently is geared towards fire suppression and administration. Phil is waiting for information from MNSCU; they would like more code-based classes to cover what a Fire Marshal needs more than suppression and administrative classes.

Web Site: George informed the board that the contract has run out and he's been paying monthly. George would like to check out the options of moving to a new site. Add a member's only area and possibly set up a virtual reality tour. Motion to allow George to explore new web site by Jon Nisja and 2nd by John Powers, motion passed unanimously.

State Fair Committee: The Board discussed wanting to be more involved in the Fire Day at the Fair. The board believes that this type of education must be used to reach the public that may not be reached otherwise. The committee members are Tom Pitschneider, Pat Heffernan, and Chris Hearnden to represent FMAM. Motion to set a limit up to \$4000.00 for Public Education 2005 State Fair Event, committee required to have board approval prior to any action by Phil Owens and 2nd by Kip LaMotte, motion passed unanimously. The board discussed items such as interactive game, yardsticks, renting or leasing a tent, tangible items.

Old Business:
By-Laws no new changes.

New Business:
Discussion on the Post Indicator Editor, Jon Nisja has expressed interest and concerns. Jon has extensive resources and would be able to provide a great deal of information to the members. Motion to have Jon Nisja take over as Editor of the Post Indicator by John Powers and 2nd by Butch Gervais, motion passed unanimously.

Motion to have representative from IFMA Steve Sawyer and representative from ICC Larry Bazzar to receive free membership to FMAM by Bob James and 2nd by Jon Nisja, motion passed unanimously.

Phil would like to explore having the FMAM logo on a plaque for the front of the podium in lieu of a banner.

ICC has started a memorial scholarship in memory of Bob Fowler. 2005 Harley Davidson is the give away. \$25.00 donation, all money goes toward the scholarship. Due in September 2005, bring forward to the General Membership Meeting in March.

Appointments to vacancies – need task group to ask individuals.

Study on effectiveness of inspections, cost effectiveness. Who was doing the study? NFPA was looking at funding sources to do a study. IFMA looked at it as a project. Believe someone is doing some kind of study on this subject. Minnesota would like to be involved.

Motion to adjourn at 1:15pm by Bob James and 2nd by Phil Owens, motion passed.

National Fire Protection Association Releases Firefighter Fatality Report

May 16, 2005 – Three-quarters of firefighters who died of heart attacks – the top cause of on-duty deaths – went to work with known or detectable heart conditions, according to [a new analysis of firefighter fatalities from 1995 to 2004 by the National Fire Protection Association](#) (NFPA).

The toll of heart disease is a major reason why firefighter deaths have not declined in recent years, even though fewer firefighters die in burning structures (and fewer structures catch fire). An average of 97 firefighters died per year in the 1990s. But since 2000, the yearly average has been 102, except for firefighters killed during the 9-11 attacks.

In 2004, there were 103 firefighters who died on the job, a rate similar to other recent years.

The new information points to ways to protect firefighters from the biggest threat to their lives. Just as self-contained breathing apparatus and heat-resistant protective clothing have saved firefighters during interior structural fire protection from many effects of fire, health promotion,

screening, appropriate job restrictions and subsequent treatment can reduce the incidence of sudden cardiac death.

Over the 10-year period studied in the NFPA report, 440 firefighters – 43.7 percent of those who died on the job – experienced sudden cardiac death (heart attacks and other heart-related sudden death), typically triggered by stress or exertion.

NFPA was able to obtain medical information for 308 of those 440 firefighters. It found that 134 had previously suffered a heart attack, undergone bypass surgery, or angioplasty/stent placement. The majority had known heart disease but were not on restricted duty. An additional 97 had severe blockage of the heart's arteries but it is unclear whether this was known prior to their deaths.

Unfit firefighters pose a danger to themselves, fellow firefighters and the public if they become incapacitated during emergency response. NFPA has developed standards that, if adopted, could prevent many on-duty deaths. One requires health and fitness programs for firefighters. Another requires firefighters to meet health standards before joining the fire service, and to be carefully evaluated annually and if they develop certain health problems after joining.

The study on sudden cardiac death is part of the NFPA's annual analysis of firefighter fatalities.

Most firefighters who die on duty do not die on the "fire ground," the location where a fire is being fought. For the second consecutive year, less than 30 percent of the deaths occurred on the fire ground, the lowest rate on record. (And of these 29 fire-ground fatalities, 10 were caused by sudden cardiac death.)

The number of firefighters who died in vehicle crashes in 2004 (17) was half the number in 2003 (33), when deaths in crashes reached an all-time high.

Deaths during emergency medical responses, which had been dropping through the 1980s and 1990s, have risen sharply in the new century. In the past five years, there were 21 deaths at medical calls, compared with six deaths in the previous five-year period.

One positive finding was that there were no deaths in vacant or idle buildings, for the first time since NFPA began gathering this data in 1977. The number of deaths in fires in these types of buildings (including those under construction or renovation) dropped from a high of 37 in the first five years of the study to just eight in the five most recent years. Only once in the past 15 years have more than five firefighters died in such property; that was when six firefighters were killed in a vacant warehouse fire in Worcester, Mass., in 1999 when they entered thinking there were occupants.

This trend reflects a greater understanding by firefighters to battle fires from the outside when no lives are at stake inside.

The full report can be downloaded at:
<http://www.nfpa.org/assets/files/PDF/osfff.pdf>

Fire Departments Urged to Stand Down for Firefighter Safety

Fairfax, Va., May 24, 2005... The International Association of Fire Chiefs (IAFC) and 13 partnering fire service organizations are calling for all fire departments in the nation to conduct a "stand down" for firefighter safety beginning Tuesday, June 21. As of May 1, there have been 50 line-of-duty firefighter deaths - that is 10 more than at this same time last year.

A stand down is a method used by the military to correct an issue that has been identified as a problem throughout its ranks. The IAFC and their partners* are urging fire departments to suspend all non-emergency activity on June 21 and instead focus entirely on firefighter safety.

"Fire fighters are being killed at an alarming rate. The fire service simply cannot continue to do business as usual when so many of its own are dying," said IAFC President Chief Bob DiPoli. "We are conducting the stand down to raise awareness of the need for increased vigilance toward fire fighter safety."

The IAFC and its partners are urging you and all fire departments throughout the country to suspend all non-emergency activity and focus entirely on firefighter safety. If you are a career or combination

department, please stand down beginning Tuesday, June 21 until all personnel and duty nights have been covered. If you are a volunteer department, please conduct a special safety meeting the evening of June 21 or as near to that date as possible.

Use the recommended "daily activity schedule" provided at <http://www.iafc.org/standdown/> . Take the 21st to talk about the causes of line-of-duty deaths; check all apparatus and equipment; discuss health and safety regulations; review fire ground safety issues; and take stock of training exercises and fitness goals.

"We must call attention to the unacceptable number of line-of-duty deaths and injuries plaguing our fire departments," DiPoli continued. "During the Safety Stand Down, fire departments all around the nation will have thorough, honest conversations about firefighter health and safety and maybe we do something to stop these deaths."

After your department has stood down, please email the IAFC with a summary of the activities you conducted and your comments at standdown@iafc.org . If you have questions, please call the IAFC at 703/273-0911.

Partnering Organizations:

International Association of Fire Chiefs
National Fallen Firefighters Foundation
United States Fire Administration
International Association of Fire Fighters
National Volunteer Fire Council
National Fire Protection Association
International City/County Management Association
National Association of State Fire Marshals
North American Fire Training Directors
Canadian Fire Chiefs Association
Congressional Fire Service Institute
International Association of Arson Investigators
Fire & Emergency Manufacturers Services Association
International Fire Service Training Association
Fire Department Safety Officers' Association

**FEMA Announces Independent Study Course
"An Introduction to Hazardous Materials."**

Emmitsburg, MD.- Michael D. Brown, Under Secretary of the U.S. Department of Homeland Security for Emergency Preparedness and Response, and head of the Federal Emergency Management Agency, announced today the U.S. Fire Administration (USFA) its Emergency Management Institute is providing through its Independent Study series, a general introduction to hazardous materials that can serve as a foundation for more specific studies in the future. Independent Study (IS) 5, an *Introduction to Hazardous Materials* is now available. IS 5 is an "Awareness" level course.

"Concerned community members who want to learn more about such issues can help protect their own health and that of their community — as well as ensuring that local, state, tribal and federal emergency preparedness efforts are in place for dealing with hazardous materials incidents — whether they be accidental or the work of terrorists," said Brown.

At the conclusion of the course, the participant should be able to:

1. Explain the roles of federal, state, local and tribal governments in reducing hazardous materials risks through health and environmental regulations;
2. Discuss the two major hazardous materials identification systems used within the United States;
3. Identify possible terrorist's targets in which industrial chemicals could be used as weapons.
4. Identify locations where hazardous materials are commonly found and how to determine their potential health effects;
5. Describe basic terms relating to exposure to hazardous materials;
6. Read and interpret a materials safety data sheet (MSDS);
7. Explains how hazardous materials enter the body and contaminate the environment;
8. Describe what communities can do to increase their emergency preparedness to respond to hazardous materials incidents;
9. Identify steps individuals and communities can take to protect themselves during a hazardous materials release.

To access the *Introduction to Hazardous Materials* go to:

<http://training.fema.gov/EMIWeb/IS/crslist.asp>

Exposed, Fire-Rated Steel Structure in Residential Lofts: A Case Study

Ryan Bierwerth, PE, CFPS

Residential, loft-style condominiums are everywhere these days. It seems like you can't swing a dead cat in a larger metropolitan downtown area, without hitting a lofts project. Oftentimes, such a project includes the renovation of an existing building from a non-residential use to a structure housing this now-popular loft lifestyle.

Located on the corner of Franklin Avenue East and Stevens Avenue South, the old Ramar Building was built in the 1950's near the now-trendy "Eat Street" area on Nicollet Avenue South in Minneapolis. This three-story structure has a floor plate of approximately 27,000 ft² and is composed primarily of brick, clay, and concrete, supported by a steel structural frame. In the past, the Ramar Building housed offices for a railroad and, most recently, Hennepin County. The building has been deemed "historic" by the Minneapolis Historic Preservation Commission (HPC). The building's signature historic features include the wood paneling and terrazzo floors found throughout the corridors of the First Level.

Lupe Development, LLC, purchased the building and began design work to change the use to residential lofts, envisioning the new "Franklin Lofts." In so being, one of the design intents was to remove the existing gypsum ceilings and leave the steel structure exposed. Such an "industrial look" is fairly common in recent loft projects. Although the trusses are fairly deep (approximately 42 in. in some locations), they are comprised of relatively thin steel members—including steel tee horizontals with double and single angle web members.

In most cases, especially older buildings with more unique steel structural frames like the Ramar Building, exposed steel structural members do not meet current building code requirements as "fire-rated" construction. However, the project could be classified as Type II-B construction (noncombustible, non-fire-rated), and still meet

building code requirements pertaining to allowable height and area. Therefore, it appeared (upon first glance) that there would be little need for fire-rated structural components in the building.

However, regardless of allowable area and height provisions, the applicable building code¹ called for rated fire barrier separations between residential dwelling units. An exception to the code allowed for the separations to be only ½-hr rated, due to the provision of a non-residential fire sprinkler system in the building. Providing ½-hr rated walls between adjacent lofts would be fairly easy—steel stud and gypsum assemblies, approved fire caulk at penetrations, etc. However, providing a *floor assembly* that met a ½-hr rating between lofts located on top of one another, proved to be seemingly problematic. Again, the exposed steel trusses that supported the concrete floor slab did not meet the required ½-hr rating.

So, the design team evaluated its options. The simplest option was to conceal the trusses with a gypsum "boxed" enclosure, or some sort of rated ceiling. However, because such a design would lose the industrial look of the exposed structure, that option was not chosen. Another option was to provide cementitious spray-applied fireproofing to the structure. However, that too was not desirable because the fireproofing would conceal the steel appearance of the structure. Yet another option was to consider the possibility of an "alternate design" of fire protection, by providing enhanced fire sprinkler protection in lieu of a passive means of fire protection—i.e. a "water spray" or "water wash" sprinkler system. However, given the residential use and geometry of the dwelling units, this option was not actively pursued.

The most promising option was to protect the steel structure with an intumescent paint product. Intumescent paints have chemical properties that cause the coating to expand when it is heated, to form a "fluffy" insulation around its protected component. When expanding, or "intumescenting," these products resemble a layer of burnt marshmallow. In a fire condition, the expanded insulation protects the (steel) component from excessive heat and therefore assists in maintaining structural integrity. Similar to other fire-rated

¹ 2003 Minnesota State Building Code, including the 2000 International Building Code with Minnesota amendments.

coatings and assemblies, intumescent paints are "listed" for approval with building codes by undergoing real fire tests at a laboratory, in which the paint is applied to specific steel assemblies and exposed to elevated temperatures from a predetermined heating curve. The listings typically include an array of tests performed with different assembly configurations (I-beams vs. bar joists vs. trusses, etc.); different assembly sizes (12-in. beams vs. 24-in. bar joists, etc.); and different thicknesses of applied intumescent paint (30 mil vs. 45 mil vs. 90 mil, etc.)

Intumescent paints are oftentimes not utilized in projects because of budgetary reasons. During the design process, it is not uncommon to hear comments like, "Yea, intumescent paints are great...but they're just too expensive." However, with building codes becoming more and more complex, in a construction industry that is part of our Land of Opportunity, the fire-rated coatings industry is currently booming, especially research and development. New products are being developed every day that attempt to provide an affordable solution to code requirements for exposed, fire-rated steel.

After consideration of several products and manufacturers for the Franklin Lofts project, an intumescent paint product was found that satisfied the project budget and schedule allowances. However, the chosen product was not specifically listed for the existing truss configurations of the Ramar Building. This was due to the fact that, because of the uniqueness of the structural design (in particular the thicknesses of the steel members), the intumescent paint had never been tested with such a truss configuration.

However, upon evaluation of the fire test data that *did* exist for similar truss configurations, the design team approached the code officials for the project and proposed an analysis of a potential "alternate design." If pursued, the alternate design would propose a specified (minimum) thickness of the intumescent paint, even though the product had never been specifically tested at that thickness for the given steel truss configuration. Prior to any detailed analysis or formulation of documentation, a "pre-proposal" was made to the code officials that simply discussed the concept of the potential alternate design. The code officials stated that if

sufficient data and technical justification could be given for the proposed application of the intumescent paint, then the alternate design would be acceptable. [This "pre-proposal" of the concept of the alternate design with the code officials was critical in the eventual success of the alternate design. Without such a "pre-proposal" of the concept, the code officials' specific concerns and general willingness to accept the alternate design may never have been addressed in an accurate manner.]

The code officials stressed the importance of the analysis being coordinated by an appropriate design professional. In this instance, a licensed Fire Protection Engineer was deemed appropriate to coordinate the analysis efforts of the proposed alternate design.

After receiving general acceptance of the pursuance of the alternate design concept from the code officials, the design team went to work on performing the analysis. The analysis was performed in close coordination with the manufacturer of the intumescent paint. The analysis included an evaluation of the testing procedures used at the fire testing laboratory, in comparison to expected fire phenomena of a fire in a dwelling unit of the Franklin Lofts. In other words, the testing conditions at the fire laboratory were compared to the expected conditions of a fire in a dwelling unit for this particular project. Was the testing laboratory truly representative of a residential loft? Also included was a statistical analysis (i.e. regression) of the available testing data for different truss configurations and intumescent paint thicknesses. Finally, consideration was given to the performance of the *overall package* of fire life safety features provided in the building—fire-rated construction, fire sprinklers, fire detection and alarms, means of egress, Fire Department access and operations, etc. Building and fire codes intend to provide redundancy and factors of safety, both of which must be maintained in the alternate design.

Upon completion of the analysis, the design team submitted a formal request for the alternate design to the code officials. The proposed alternate design included not only the application of the intumescent paint at a specified thickness, but also fire sprinkler protection at reduced spacing and

increased hydraulic criteria than typical residential applications. Furthermore, although the building code required only ½-hr separation between dwelling units, 1-hr walls were proposed in between adjacent lofts. In addition to outlining the specific fire life safety features that were offered, the alternate design proposal also discussed the *intent* of the applicable building code requirements and their correlation to the alternate design. Finally, the alternate design proposal also outlined the boundary conditions that the building must operate within, in order to be compliant with the assumptions made during the analysis. For example, if, after acceptance of the alternate design and occupancy of the building as a residential use, the building were to change to a non-residential use, then the applicability of the alternate design may be in question. The owners and/or property managers for the lofts and building must be aware of the operational restrictions for the future.

The code officials accepted the alternate design, under the condition that a Special Inspection take place. The Special Inspection was to be performed by a Fire Protection Engineer, to ensure that the intumescent paint was applied in accordance with the criteria of the documented alternate design proposal. The Special Inspection was detailed, in that the testing procedures (including the equipment and measurement practices used to test the paint application) were submitted to the code officials for approval prior to application of the intumescent paint. Yet again, documented submittal to the code officials of proposed procedures prior to installation was critical to the overall success of the alternate design. The design must “work” on paper before it can be installed in the field.

The Special Inspection was performed, in conjunction with regular inspections by the municipal code office. Issues that came up during the Special Inspection included the appropriate thickness of the applied intumescent paint as well as the uniformity of the application thickness. Upon satisfactory completion of the application of the intumescent paint, final documentation and approvals were submitted to the code officials by the Fire Protection Engineer.

In the end, the developer was provided with a building whose features met the design intent, and still achieved the base level of fire life safety required by the building code. Additionally, the project budget and schedule were not sacrificed. These goals were all accomplished because of proper communication amongst the project team (including the code officials) and documentation that was submitted in an appropriate, efficient manner. All in all, the alternate design of implementing the intumescent paint product was a success for the Franklin Lofts project.



Ryan Bierwerth, PE, CFPS, is a Fire Protection Engineer with Summit Consulting in Lino Lakes, MN. He has worked in fire-rated construction and code consultation capacities on multiple notable projects in the upper Midwest. Ryan can be reached at 651-251-1855 or rbierwerth@summitfire.com. For more information regarding Franklin Lofts, visit www.thefranklinlofts.com or www.lupedevelopment.com.

New Editor for FMAM Post Indicator

I am pleased that the FMAM Board accepted my offer to be the Editor for FMAM’s Post Indicator. This is my first attempt at such a project so please be patient with me. I am following several talented and dedicated fire service professionals who have served this position: Robbie Floyd, George Magdal, Steve Zaccard, Jerry Rosendahl, and Hugh Strawn.

I am interested in any articles that you may want to share with other FMAM members. I am also interested in having a quarterly “Meet Your Board Member” article where a board member is highlighted.

Another possibility is “This Quarter’s Code Corner” featuring an interpretation issued by the State Fire Marshal or a group of local fire code officials.

One more possibility is to introduce new fire code professionals that are members of FMAM. There have been many new names and faces in fire code enforcement and fire prevention in the past few years. If you are new in your position or know of someone who is new, please e-mail me at: jonnisja@comcast.net

FMAM Calendar

Wednesday, June 8, 2005 – Training/Education – 12:30 pm – New Brighton Public Safety Training Center
Wednesday, June 8, 2005 – Membership Meeting – 1:30 pm – New Brighton Public Safety Training Center
Wednesday, August 10, 2005 – FMAM Board – 9:00 am
Wednesday, September 14, 2005 - Training/Education – 12:30 pm – New Brighton
Wednesday, September 14, 2005 – Membership Meeting – 1:30 pm – New Brighton
Wednesday, November 9, 2005 – FMAM Board – 9:00 am
Wednesday, December 14, 2005 – Training/Education – 12:30 pm – New Brighton
Wednesday, December 14, 2005 – Membership Meeting – 1:30 pm – New Brighton

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