

Q FIRE MARSHALS QUARTERLY



INTERNATIONAL FIRE MARSHALS ASSOCIATION • Winter 2000

On-Duty U.S. Fire Fighter Deaths Reach Ten-Year Peak **112 Fire Fighter Deaths Occurred in 1999**

According to a recent report by NFPA, 112 on-duty fire fighter fatalities occurred in 1999, marking the highest annual U.S. fire fighter death toll since 1989 (118). The report cites an increase of 21 deaths from 1998, and also indicates that stress and overexertion, usually resulting in heart attacks, continue to be the leading cause of fatal injury for on-duty U.S. fire fighters. "We need to recognize what has caused last year's increase in fatalities, and take the necessary steps to reverse the trend," says Rita Fahy, NFPA manager of fire databases and systems, and co-author of the report. "Incident management, the use of PASS devices and accountability systems, safe driving practices, and increased attention to fire fighter health and fitness are essential to making real reductions in on-duty fire fighter fatalities." NFPA's report shows that 57 fatalities were attributed to stress or overexertion. Fifty of those fatalities resulted from heart attacks, which annually have accounted for approximately half of the total deaths. But, while the *proportion* of deaths from heart attacks has held fairly steady in the time NFPA has published its report, the *number* of heart attack deaths had been declining markedly, until 1999.

The second-leading cause of fatal injuries to on-duty fire fighters was entrapment, which resulted in 24 deaths in 1999. Fire fighters struck by, or having contact with, an object caused 21 deaths, making it the third-leading cause. Of those 21 fatalities, 11 deaths were caused by motor vehicle crashes, and 8 deaths were caused as a result of victims being struck by motor vehicles. "The increased number of U.S. fire fighter fatalities in 1999, and the diverse circumstances of those deaths are sobering reminders that fire fighting remains one of today's most physically and mentally demanding jobs," says Gary Tokle, a former fire chief and NFPA's assistant vice president for public fire protection. "In our effort to keep fire fighters safer, NFPA has developed dozens of standards to protect them. One example is NFPA 1582, *Medical Requirements for Fire Fighters and Information for Fire Department Physicians*, 2000 Edition, which contains requirements for an annual medical evaluation, critically important to preventing heart attacks."

Decreases in on-duty fatalities in recent decades have been credited in previous reports to improvements in equipment, fitness, and training

standards. According to NFPA's report, although on-duty fire fighter fatalities have declined over the past two decades, the rate of deaths per million structure fires has dropped very little, and the rate of deaths in collisions per million structure fires while responding to alarms has more than doubled. The six-fatality structure fire in Worcester, Massachusetts, in December 1999, followed soon thereafter by a fire in Iowa where three fire fighters and three small children were killed, briefly focused the nation's attention on the continued dangers of fire fighting. The recent findings from NFPA's report may create similar attention.

"It's possible that changes in equipment and clothing have allowed fire fighters to be more aggressive at fires," says Fahy. "However, the lack of on-scene accountability of personnel operating at the fire ground as one component of incident management has exposed fire fighters to greater dangers. Taking the time to re-evaluate departmental command techniques is an important means of reducing the risks with which fire fighters are faced." The largest proportion of deaths in 1999 by type of duty occurred on the fire ground (50%). Another 32 deaths occurred while responding to or returning from alarms (29%), 10 at on-scene non-fire emergencies (9%), 10 while performing non-emergency-related on-duty activities (9%), and 4 during training activities (4%).

Since NFPA began reporting U.S. fire fighter fatalities in 1977, the greatest number occurred in 1978 (172) and the fewest occurred in 1992 (75). Overall, fire fighter fatalities dropped from an average of 151 deaths per year in the late 1970s, to 127 in the 1980s, and to 97 in the 1990s.

NFPA has tracked and analyzed U.S. on-duty fire fighter fatalities for nearly 25 years, and its annual fire fighter fatality report has been used throughout the nation as an informational tool to reduce the number of fire fighter injuries and deaths. The report is updated annually, and will appear in its entirety in the July/August issue of NFPA's member magazine, *NFPA Journal*.

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NFPA and TargetSafety.com Partner to Deliver Safety Training

NFPA and TargetSafety.com (TSC) have signed an exclusive strategic partnering agreement to deliver environmental health and safety training to public and private employers, effective immediately. The new endeavor will greatly benefit all interested employers, including those in the fire services, electrical and aviation sectors, and health care providers.

NFPA, since 1896, has been the worldwide authority in reducing the burden of fire and other hazards on the quality of life by providing and advocating scientifically based consensus codes and standards, research, training, and education.

TSC provides mandated OSHA safety training via the Internet, making it cost-effective for employers to outsource implementation, management, and administration of OSHA-mandated health and safety programs. "TargetSafety.com is pleased to

enter into this relationship with NFPA, and its century-plus of experience in protecting the public from fire and enhancing life safety," says Bruce Kaechele, president and CEO of TSC. "Together, we can provide the most efficient training programs that will benefit individuals and employers."

"NFPA has a long tradition of delivering quality training to diverse audiences," says Perry Ludy, senior vice president for business development for NFPA. "By working with TSC, NFPA will be extending its reach even more, making critical environmental safety and health information available directly to those who need it, with a keen eye on cost containment."

For more information, please contact Paul Crossman, NFPA vice president of marketing, at (617) 984-6372.

NFPA Partners with Life Safety and Government Groups to Address Safety Issues for Emergency Responders

NFPA has announced a partnership with some of the nation's leading life safety and government organizations to develop consensus-based codes and standards for the performance, testing, care, use, and maintenance of equipment protecting medical professionals, police, fire and rescue officials, and other emergency responders from exposure to weapons of chemical, biological, radiological, nuclear, and explosive (CBRNE) terrorism.

The memorandum of understanding is among NFPA, the Office of Law Enforcement Standards, National Institute of Standards and Technology (NIST), Department of Commerce, National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), Department of Health and Human Services, Occupational Safety and Health Administration (OSHA), and Department of Labor.

"NFPA is extremely pleased to be part of this unprecedented partnership," said NFPA President George Miller. "The federal government and the Clinton administration have placed a heavy emphasis on combating terrorism in all of its forms throughout the country. NFPA's open consensus process is an appropriate vehicle through which this crucial public safety issue can be addressed. Working with our partners, we will

identify and update existing standards, or create new standards to protect responders who are our nation's first-line of defense."

NFPA will review the existing standards as they apply to the interoperability of civilian and military emergency responder equipment. Based on this review, NFPA will apply its consensus-based process to update existing standards or create new standards, as appropriate. NIOSH will test and certify respiratory equipment.

NFPA standards for first response team equipment are currently in use in 25 states and are referenced in OSHA guidelines.

"For many years, NFPA has been developing codes and standards that impact fire service, emergency medical, law enforcement, and hazardous materials responders," says Miller. "The NFPA technical committees' depth of experience in these key issues ensures a solid understanding of the complexities facing emergency responders every day. We also recognize that some important work has already been done in this field and we intend to appropriately utilize existing documents in this process."

NFPA Partners to Implement Fire Inspector and Fire Plan Examiner Certification Programs

NFPA has joined with 19 partner agencies throughout the United States and Canada, including fire training academies, state agencies, and independent organizations, to implement certification programs for NFPA Fire Inspector I, now in its second year, and NFPA Fire Plan Examiner I, piloted this year.

The programs help to establish consistent standards of professionalism in the fire inspector/fire plan examiner fields, as well to provide consistent training for these positions in a cost-effective manner. Individuals are trained, tested, and evaluated on the job performance requirements contained in NFPA 1031, *Standard for the Professional Qualifications of Fire Inspector and Plan Examiner*.

The certification program consists of an optional training program consisting of 40 hours of classroom instruction or case studies preparation, coupled with a written examination and practicum phase exercises.

Hundreds already have become certified through the process, including code enforcers, fire inspectors, fire marshals, plan examiners, loss control professionals, risk managers, and fire safety specialists.

“The program is very successful,” says Jeff Collins, deputy fire marshal for Palm Beach County, Florida. “It unifies our enforcement efforts and clarifies the intent behind the fire code.” Collins recommends the certification for all interested.

Upon completion of the program, recertification is required every five years.

State and local agencies that partner with NFPA will provide the overall implementation; NFPA will serve as the program manager. For more information, please call the NFPA Fire Inspector Certification Program, at (617) 984-7497, or e-mail fire.insp.cert@nfpa.org.

NFPA Announces U.S. Fire Deaths Declined in 1999, Findings Underscore Favorable Trend

NFPA has released its latest findings on fire losses in the nation, which show fire deaths (3,570) decreased again, this time by 11% from 1998. The results confirm a positive trend of declining fire deaths.

About 80% of all fire deaths continue to occur in the home; 70% of all structure fires continue to occur in the home.

While much of the data released was encouraging, the overall number of reported fires in the country rose slightly, 4%, to 1,823,000.

“We are generally pleased with the findings,” says John R. Hall, Jr., Ph.D., NFPA’s assistant vice president for fire analysis and research, but he cautions that “the work of the fire protection community is far from complete. It certainly appears, though, that the long downward trend in U.S. fire deaths has been extended.”

Still, every 17 seconds, a fire department responds to a fire somewhere in the country, and every 85 seconds, there’s a home fire. There is a civilian fire injury every 24 minutes.

Other findings. Vehicle fires dropped by 3% last year, to 368,500. The Northeast had the highest regional rate of fire injuries per million population, while the West had the lowest.

There was a significant increase in property damage as a result of fire—up 16% from the previous year, to an estimated direct cost of \$10,024,000,000. The report also indicates a decrease of 5% in fires known to have been deliberately set or suspected of being set.

The full findings of the report will be published later this year in *NFPA Journal*, and will address several major strategies that have already helped reduce the overall U.S. fire death toll and offer the potential for further future declines.

Summary Findings

NFPA Report: *U.S. Fire Deaths Declined in 1999*

Basic report findings for 1999 are as follows:

Fire deaths

- Fire deaths in 1999 decreased 11% from 1998 for a total of 3,570.
- A civilian fire fatality occurred every 2.5 hours.
- 80% of all fire deaths occurred in the home.
- *Comparisons.* In 1979, the number of deaths from fire was 7,575, or 53% higher than the current report. In 1989, the number of deaths from fire was 5,410, or 34% higher than the current report.

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Fire injuries

- Every 24 minutes, there was a fire injury to a civilian.

Fire statistics

- The overall number of fires rose by nearly 4% to 1,823,000.
- A home fire occurred every 85 seconds; 15% of all reported fires occurred in the home.
- A fire department responded to a fire somewhere in the United States every 17 seconds.

- Property damage as a result of fire was up by 16%, estimated at \$10,024,000,000.

Regional data

- The South had the highest civilian fire death rate per capita.
- The Northeast region had the highest rate of civilian fire incidents per capita.
- The North Central region had the highest rate of direct dollar loss.

Determining Airflow Velocity Through Kitchen Exhaust Ducts

By R. T. Leicht, CFI, CFPS, Delaware State Fire Marshal's Office

The Standard for Ventilation, Control, and Protection of Commercial Cooking Equipment (NFPA 96) presently does not designate the exact placement of the hood over the cooking equipment. It also does not stipulate the specific size (the volume rate) of the exhaust fan. It merely states that the ventilation needs to “be of sufficient level to provide for capture and removal of grease-laden cooking vapors.” The only requirement that somewhat suggests an exhaust fan’s size is in Chapter 5 of the standard where it states that a velocity through the ductwork must be at least 1,500 feet per minute (fpm). Presumably, this requirement was generated to address the concern that, in order to be sufficient, airflow through a duct system is not to be sluggish or laminar.

Unfortunately, there is no “label” or placard on installations that depict the air velocity through the ductwork. That does not relieve the fire inspector of the responsibility of verifying this requirement, regardless if this is a proposed installation or in the field. The only problems in this task are minor and arithmetic. One problem is that velocity is measured in fpm yet fan volume is measured in cubic feet per minute (CFM). Another problem is that the cross-sectional area of the ducts need to be known in square feet but duct dimensions are reported or measured in inches. These issues can be eliminated by reviewing two basic rules of multiplication:

1. Feet per minute multiplied by square feet equals cubic feet per minute. Therefore, cubic feet per minute divided by square feet equals feet per minute. Symbolically, these are shown as:

$$\text{CFM} = \text{fpm} \times \text{ft}^2 \text{ and } \text{fpm} = \text{CFM} \div \text{ft}^2$$

2. Although 12 inches is one foot, there are 144 square inches in a square foot. Symbolically, this is shown as:

$$\text{In}^2 \div 144 \text{ in}^2/\text{ft}^2 = \text{ft}^2$$

Let us suppose that the largest duct in a simple exhaust system has the dimensions of 22 inches by 28 inches. This would be an area of 616 in² or 4.28 ft² (616 in² ÷ 144 in²/ft²). In order to achieve 1,500 fpm, the fan should be sized for a rate of at least 6,420 CFM (1,500 fpm x 4.28 ft²). It should be noted at this time that the largest duct is the first to be

examined since, for a given ventilation rate, velocity decreases as a duct’s area increases.

In this second case, let us now suppose that the size of the fan is reported or already known to be 8,000 CFM. In order to achieve a 1,500-fpm velocity, the duct’s area is not to exceed 5.3-ft² (8,000 CFM ÷ 1,500 fpm). If the 1,500-fpm minimum velocity is not met, either the fan size needs to be increased or the duct area needs to be decreased.

To summarize, the following three computations are provided:

- A. To determine the maximum duct area that will still allow a 1,500-fpm velocity, merely divide the ventilation rate (CFM) by the required velocity (1,500 fpm).
- B. To determine the minimum fan size needed in order to achieve minimum velocity when the duct dimensions are given:
 1. Multiply the width by the height of the cross-section of the largest duct.
 2. Divide the result by 144 in²/ft² to convert to square feet.
 3. Multiply the square foot area found in step 2 by 1,500 fpm.
- C. To determine the velocity to which the duct system will be exposed when the size of the fan is known:
 1. Multiply the width by the height of the cross-section of the largest duct.
 2. Divide the result by 144 in²/ft² to convert to square feet.
 3. Divide the fan size (CFM) by the square foot area found in step 2.
 4. If the quotient is less than 1,500 fpm, the requirement is not being attained.

Fire Investigation Summary Residential Fire, Keokuk, Iowa December 22, 1999

A fire in a multiple family dwelling resulted in the deaths of three fire fighters and three children.

The fire began on the first floor and spread rapidly, sending smoke and hot gases to the second floor trapping an adult and four children. The adult and one child were able to escape through a second floor window.

While in the process of rescuing the children still trapped, three fire fighters were caught in the rapid build-up of heat and flame and perished.

At approximately 8:24 a.m. on Wednesday, December 22, 1999, a fire was reported in a multifamily dwelling in Keokuk, Iowa. Several neighbors phoned the Keokuk 911 Center to report smoke coming from a residence, and that a woman was outside screaming that there were children trapped inside.

At the time the fire was reported, the on-duty force from the Keokuk Fire Department (an assistant chief, a lieutenant, and three fire fighters) was completing operations at a motor vehicle accident at a major intersection, two miles northwest of the fire scene. The dispatcher notified the units of the fire and the report of people trapped. Both units at the accident (Rescue 3 and Aerial 2) responded from the scene of the motor vehicle accident. During the response, additional calls were made to the 911 Center reporting heavy smoke coming from the house.

One member of the on-duty force of five fire fighters was committed in assisting the EMS crew on the ambulance and was en route to the Keokuk hospital at the time of the report of the house fire.

The chief of the department became aware of the incident as he entered his office at the fire station. The chief responded from the fire station and went to the hospital to pick up the fire fighter that was with the ambulance crew.

Upon arrival at 8:28 a.m., the units found heavy smoke showing from a two-story multifamily dwelling on the northeast corner of a four-way intersection. A water supply was established from a hydrant one-block southwest of the scene. Rescue 3, a 1,500-gpm engine, laid a 5-in. diameter supply line from the hydrant while the lieutenant stayed at the hydrant to connect the line and activate the hydrant. Aerial 2, with a 50-ft ladder and a 2,000-gpm pump, continued to the scene.

The assistant chief requested six fire fighters be called back to duty as he arrived at the house in Aerial 2. As the two truck operators set up the apparatus, the assistant chief reportedly spoke to the female resident of the burning apartment. She reported that three of her children were still inside the apartment and that she tried but could not get them out. (She was able to exit the house via a second-floor window with her 4-year-old son, with the assistance of neighbors.) The assistant chief completed donning his protective clothing, including SCBA, and entered the right side apartment door.

The chief arrived not long after the assistant chief entered the building. The chief ordered the two apparatus operators into the building to assist the assistant chief with the search for the children. Shortly thereafter, a fire fighter passed a 22-month-old male out the front door of the apartment to a police officer, who began CPR. The officer with the infant was then taken to a police car and transported to the hospital, six blocks west of the scene. A second child, an unresponsive 22-month-old female, was then passed out the door to the fire chief. With no EMS units yet on the scene, the chief chose to take the infant to the hospital in another police car, with a police captain driving. The fire chief conducted CPR on the infant during the one-minute ride to the hospital emergency room. He quickly handed the infant over to the emergency room staff and returned to the fire scene.

In the meantime, the fire fighter that arrived with the fire chief stretched a 1½-in. hoseline to the front door of the fire apartment and returned to don her SCBA. When the hoseline was charged, she noticed that the hoseline had burned through while at the entrance to the apartment. The fire fighter reported that the first level of the apartment was engulfed in flames visible from her vantage point at Aerial 2.

The location and condition of the fire fighters and the remaining child in the burning apartment was not known. The burned length of hose was removed, and the nozzle reconnected to the line as it was charged again. The fire fighter played a hose stream into the burning apartment. She was only able to advance 6–8 ft into the apartment before being driven back by the intense heat.

The first two of the “call-back” fire fighters arrived in Engine 6 (reserve unit). They were teamed with the lieutenant that was at the hydrant and had now walked the one block to the scene. The three were ordered to search the adjoining apartment for a resident that supposedly was still inside. The search was completed with nothing found. (The occupant was at a local restaurant.)

Efforts continued to contact the three fire fighters that were in the fire apartment. As additional call-back fire fighters arrived in Aerial 1 (100-ft aerial unit with a 1,500-gpm pump), they were ordered to begin to search for the missing fire fighters in the original fire apartment. As the fire was knocked back and a search could begin, fire fighters quickly found one fire fighter in the first floor room to the right of the main entrance corridor. He had perished.

The assistant chief’s body was then found at the top of the stairs, not far from the body of the remaining child, a 7-year-old girl. The third fire fighter was found in the master bedroom to the right of the top of the stairs. All had perished.

The remaining fire was extinguished at approximately 1:30 p.m. Overhaul was conducted until 3:30 p.m. and at that point units were placed back in service.

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On the basis of the fire investigation and analysis, the NFPA has determined that the following significant factors may have contributed to the deaths of the three fire fighters:

- Lack of a proper building/incident size-up (Risk vs. Benefit Analysis)
- Lack of an established Incident Management System
- Lack of an Accountability System
- Insufficient resources (such as personnel and equipment) to mount interior fire suppression and rescue activities
- Absence of an established Rapid Intervention Crew (RIC) and a lack of a standard operating procedure requiring a RIC

On the basis of the fire investigation and analysis, the NFPA has determined that the following significant factor may have contributed to the deaths of the three children:

- Lack of functioning smoke detectors within the apartment to provide early warning of a fire

The Fire Marshal and Image

By Jay Lowry, Chief Fire Marshal, Charleston, SC

Madison Avenue has changed American life by coming up with slogans that stick in our minds. One of those is “Image is everything.” I personally do not believe that statement is even 50% right, but for Fire Marshals performing code enforcement duties, it is a necessary component. The modern Fire Marshal has a unique role in every day life. We are the deterrent, the guardians of our city gates. We perform a vital function and, overall, we are an honorable profession. The competent Fire Marshal is forever on guard against decisions made by some that affect all. While we are a customer service-oriented group, we do have to deal with people that will not listen, no matter how small the infraction. There are many ways that we can deal with this situation. One of the most basic ways is to deal with Architects, Engineers, Building Officials et al. is to know your job. That, in my opinion, is the single most important aspect of your profession. What I am going to say now will probably boil the blood of modern Fire Marshals throughout the country. Fire Marshals should give off the image of being confident, square shouldered, and willing to take the lead in a conversation, plan review, or inspection. We are the last warriors left in the fire service. (I am not trying to take away from America’s bravest, but a Fire Marshal’s lot in life is different, so a different standard applies.) We are tasked by our jurisdictions to protect everyone from everyone else. I liken it to war. I prefer to view it this way. The camaraderie, the single goal in mind, and the courage to stand by your convictions makes a good warrior. Do I charge into a building, ranting and raving because an extinguisher is out of date? No. I am well versed in the code, I look and act confident, and I teach them what they may or may not already know. I am respectful but at all times I am aware that my job is to save lives and in order for someone to respect my opinion I have to look and act like the professional that I should be. A uniform or suit does not make me effective. My confidence and willingness to listen does. People see

you, your manner of speaking, and your knowledge of your job and they actively run over it in their brain. Is this Fire Marshal easily swayed? Is there a chance that I could talk him or her into letting this code violation pass just “this one time”? Are the Fire Marshals stunned when a customer brings up their friend “the councilman”? Alternatively, does this Fire Marshal come in, act courteous, but in a firm manner request by his or her actions to be treated with respect? Body motion says a lot to a customer. Fire Marshals, unlike the rest of the fire service, deal with people who are ready to wage war to get rid of that sprinkler system or fire alarm in this certain “capital project” that is going to bring millions to the city or town. We have all dealt with this and we have to be able to look in the mirror in the morning and see that person looking back and live with the decisions that we have made. I have fought battles and both won and lost. That is life. The Building Official, the Mayor, the Fire Chief, they can all decide I am wrong. That is their decision and one they have to live with. However I can hold my chin up knowing that I fought for the right reason and lost only because someone else decided that it’s okay to compromise life safety for a buck, or maybe a “well done” from the local politicians. One thing is for sure. They can decide to make wrong decisions but when they look at me or ask me about it, they get my opinion. I walk away knowing that, like the warrior, I am confident and have not cracked under the pressure. Look at this way, if I come to your business and fight a fire there, I am not surprised by the owner/occupant offering praise. The Fire Marshal who goes there PRIOR to the fire to have violations corrected often is the bad guy. What can we do? We can do our jobs to the best of our abilities, never compromise life safety, and walk tall to show people that this Fire Marshal carries on the proud tradition of doing what is right. Moreover, to quote another popular saying, “Never let them see you sweat.”



IFMA Merchandise Order Form

IFMA has a line of merchandise to promote IFMA. They include a 100% cotton white golf shirt with red and blue striped collar and sleeves and a blue nylon windshirt with hand pockets, both come with the IFMA logo on the left breast.

IFMA Order Form:

Baseball Hat: \$15.00 each, includes postage and handling

Number	Cost	Total Cost
_____	\$15	_____

Golf Shirt: \$30.00 each, includes postage and handling

Size	Number	Cost	Total Cost
<input type="checkbox"/> Small	_____	\$30	_____
<input type="checkbox"/> Medium	_____	\$30	_____
<input type="checkbox"/> Large	_____	\$30	_____
<input type="checkbox"/> X-Large	_____	\$30	_____
<input type="checkbox"/> XX-Large	_____	\$30	_____

Lapel Pin: \$3.00 each, includes postage and handling

Number	Cost	Total Cost
_____	\$3	_____

Wind Shirt: \$40.00 each, includes postage and handling

Size	Number	Cost	Total Cost
<input type="checkbox"/> Small	_____	\$40	_____
<input type="checkbox"/> Medium	_____	\$40	_____
<input type="checkbox"/> Large	_____	\$40	_____
<input type="checkbox"/> X-Large	_____	\$40	_____
<input type="checkbox"/> XX-Large	_____	\$40	_____

Grand Total \$ _____

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- Signature: _____

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Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Please mail or fax to:

IFMA
 Attention: Order
 1 Batterymarch Park
 Quincy, MA 02269
 Fax (617) 984-7056



NFPA Technical Committees Seeking Members

The Committee on Liquid Fuel Burning Equipment is seeking members in the interest categories of user and insurer. This Committee is responsible for NFPA 31, *Standard for the Installation of Oil-Burning Equipment*.

The Committee on Manufacture of Organic Coatings is seeking members in the interest categories of enforcing authority and insurer. This Committee is responsible for NFPA 35, *Standard for the Manufacture of Organic Coatings*.

The Committee on Motor Vehicle and Highway Fire Protection is seeking members in all interest categories. This committee is responsible for NFPA 502, *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*, and NFPA 513, *Standard for Motor Freight Terminals*.

The Committee on Premises Security is seeking members in all interest categories. This Committee will be responsible for the development of documents on premise security.

The Committee on Solvent Extraction Plants is seeking members in the interest categories of equipment manufacturer, insurer, and enforcing authority. This Committee is responsible for NFPA 36, *Standard for Solvent Extraction Plants*.

Fire Prevention Week, 2000 by the President of the United States of America

A Proclamation

Each year, fire takes a heavy toll on the lives and property of thousands of Americans. Approximately 100 firefighters and 4000 civilians die in fires annually; some 25,000 civilians sustain injuries and an average of \$8 billion in property is destroyed. Last year alone, America's fire departments responded to almost 2 million fires. Most of these fires occurred in homes, as did 80 percent of last year's fire fatalities. It is clear from these tragic statistics that if we can better educate Americans about fire safety and prevention, we can save thousands of lives every year.

The most important lesson we can teach about fire is how rapidly it can spread. From the time a smoke alarm sounds in a typical home, a family may have as little as 2 minutes to escape safely. Knowing how to use those minutes wisely is the key to survival. I urge every American to develop and practice regularly a home fire escape plan that identifies two ways out of each room and establishes a meeting place where household members can reunite outside the home. In addition, it is crucial that smoke alarms be installed and properly maintained on every level of the home.

To raise public awareness of the importance of home fire escape plans, the National Fire Protection Association, in partnership with the Federal Emergency Management Agency through its United States Fire Administration and America's fire departments, launched a 3-year program in 1998 called "Fire Drills: The Great Escape!" To date, this program is credited with saving at least 58 lives. In support of this program, on Wednesday, October 11, at 7:00 p.m. local time, fire departments in communities across America will sound the alarm signaling the start of "The Great Escape" fire drill to test the effectiveness of families' fire escape plans. I encourage all Americans to participate in this important and potentially lifesaving event.

As we observe this week, let us also express our pride in and gratitude for the devoted service of our Nation's firefighters and emergency response personnel. They uphold our country's finest values—commitment and community, team-work and trust, courage and sacrifice. Day in and day out, these extraordinary men and women put their lives on the line to protect our families and our property from the devastating effects of fire, and many of them pay the ultimate price for their devotion. We will honor their memory on Sunday, October 8, 2000, at the National Fallen Firefighters Memorial Service in Emmitsburg, Maryland.

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by virtue of the authority vested in me by the Constitution and laws of the United States, do hereby proclaim October 8 through October 14, 2000, as Fire Prevention Week. I encourage the people of the United States to take an active role in fire prevention not only during this week, but also throughout the year. I call upon every citizen to pay tribute to our firefighters and emergency response personnel who have lost their lives or been injured in the line of duty and to those brave men and women who carry on their noble tradition of service.

IN WITNESS WHEREOF, I have hereunto set my hand this sixth day of October, in the year of our Lord two thousand, and of the Independence of the United States of America the two hundred and twenty-fifth.

William J. Clinton

Committees Soliciting Proposals

The committees for the following documents are planning to begin preparation of their respective reports. In accordance with the Regulations Governing Committee Projects, committees are now accepting proposals for recommendations on content for the documents listed below. Proposals received by 5:00 p.m. EDST on the closing date indicated will be acted on by the committee, and that action will be published in the committee's report. Proposals must be submitted to Codes and Standards Administration on proposal forms available in the back of all NFPA documents or from NFPA headquarters. (NOTE: For information on specific committee meeting dates, contact Codes and Standards Administration, NFPA.) Please note that for **new documents (P*)**, a draft copy of the **new document** on which to submit proposals will be available. Copies of **new document (P*)** drafts are available from Codes and Standards Administration, NFPA, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, or they may be downloaded from NFPA's Web site at <http://www.nfpa.org/procom/document.html>. If you need a current edition of a document, please contact NFPA, Fulfillment Center, 11 Tracy Drive, Avon, MA 02322, or call (800) 344-3555.

Document No./ Edition	Title	Proposal Closing Date	Meeting Reporting
NFPA 1-2000	<i>Fire Prevention Code</i>	6/8/2001	F2002
NFPA 20-1999	<i>Standard for the Installation of Stationary Pumps for Fire Protection</i>	12/28/2001	A2003
NFPA 51B-1999	<i>Standard for Fire Prevention During Welding, Cutting, and Other Hot Work</i>	12/28/2001	A2003
NFPA 55-1998	<i>Standard for the Storage, Use, and Handling of Compressed and Liquefied Gases in Portable Cylinders</i>	7/6/2001	F2002
NFPA 86-1999	<i>Standard for Ovens and Furnaces</i>	12/28/2001	A2003
NFPA 86C-1999	<i>Standard for Industrial Furnaces Using a Special Processing Atmosphere</i>	12/28/2001	A2003
NFPA 86D-1999	<i>Standard for Industrial Furnaces Using Vacuum as an Atmosphere</i>	12/28/2001	A2003
NFPA 97-2000	<i>Standard Glossary of Terms Relating to Chimneys, Vents, and Heat-Producing Appliances</i>	7/6/2001	F2002
NFPA 101®-2000	<i>Life Safety Code®</i>	3/30/2001	F2002
NFPA 130-2000	<i>Standard for Fixed Guideway Transit and Passenger Rail Systems</i>	7/6/2001	F2002
NFPA 140-1999	<i>Standard on Motion Picture and Television Production Studio Soundstages and Approved Production Facilities</i>	7/6/2001	F2002
NFPA 211-2000	<i>Standard for Chimneys, Fireplaces, Vents, and Solid Fuel- Burning Appliances</i>	7/6/2001	F2002
NFPA 252-1999	<i>Standard Methods of Fire Tests of Door Assemblies</i>	12/28/2001	A2003
NFPA 256-1998	<i>Standard Methods of Fire Tests of Roof Coverings</i>	7/6/2001	F2002
NFPA 259-1998	<i>Standard Test Method for Potential Heat of Building Materials</i>	7/6/2001	F2002
NFPA 260-1998	<i>Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture</i>	12/28/2001	A2003
NFPA 261-1998	<i>Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes</i>	12/28/2001	A2003
NFPA 272-1999	<i>Standard Method of Test for Heat and Visible Smoke Release Rates for Upholstered Furniture Components or Composites and Mattresses Using an Oxygen Consumption Calorimeter</i>	7/6/2001	F2002
NFPA 285-1998	<i>Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus</i>	12/28/2001	A2003
NFPA 302-1998	<i>Fire Protection Standard for Pleasure and Commercial Motor Craft</i>	12/28/2001	A2003
NFPA 480-1998	<i>Standard for the Storage, Handling and Processing of Magnesium</i>	1/5/2001	A2002
NFPA 497-1997	<i>Recommended Practice for Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas</i>	7/6/2001	F2002

NFPA 499-1997	<i>Recommended Practice for Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Processing Plants</i>	7/6/2001	F2002
NFPA 610-P*	<i>Recommended Practice for Safety of Motorsports Venues</i>	7/6/2001	F2002
NFPA 750-2000	<i>Standard on Water Mist Fire Protection Systems</i>	7/6/2001	F2002
NFPA 1901-1999	<i>Standard for Automotive Fire Apparatus</i>	12/28/2001	A2003
NFPA 1962-1998	<i>Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles</i>	3/30/2001	F2002
NFPA 1964-1998	<i>Standard for Spray Nozzles (Shutoff and Tip)</i>	3/30/2001	F2002
NFPA/IAPMO UMC-P*	<i>Uniform Mechanical Code</i>	7/6/2001	F2002
NFPA/IAPMO UPC-P*	<i>Uniform Plumbing Code</i>	7/6/2001	F2002

Executive Secretary's Report



Steven F. Sawyer

It is coming to the close of another year and another annual conference. The annual conference was a success with IFMA offering six education programs, Codes and Standards Forum, Business Meeting, Hospitality Room, and the welcoming of the Washington State Association of Fire Marshals as a new Chapter.

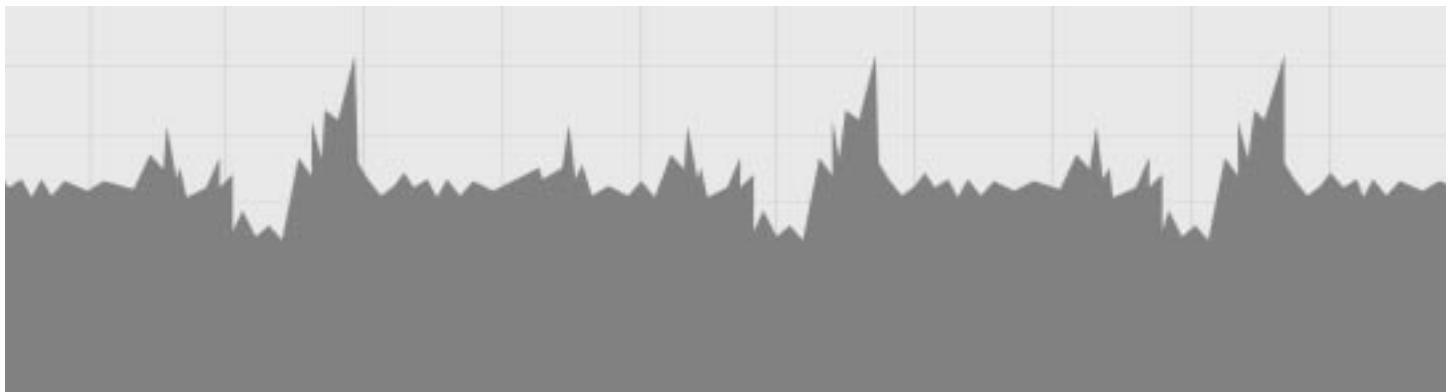
The approval of the Washington Chapter brings us to 18 Chapters. We would like to bring this total to 20 by the end of 2001. We have many applications outstanding which will easily let us reach this goal.

The membership overwhelmingly approved the by-law change on Honors. If you have individuals that you believe qualify for one of these awards please contact me.

We are interested in hearing ideas on topics of interest for one- or two-day courses that IFMA could offer. Please forward your ideas to me.

As always we are looking for input to assist us in serving you or members. Please contact any board member or myself.

I wish everyone a safe and joyful holiday season.



U.S. Home Heating Fire Patterns and Trends

The following executive summary is from the May 2000 report, *U.S. Home Heating Fire Patterns and Trends*, by John R. Hall, Jr. Please contact Nancy Schwartz in NFPA's One-Stop Data Shop at (617) 984-7450 or e-mail osds@nfpa.org to request a complimentary copy of the complete report.

Home heating fires fell 6% from 1996 to 1997, to a total of 59,700, the lowest total in the 18 years studied and a level just over a third of the levels of the late 1970s, before the rush to buy portable and other space heaters began. The oil embargoes of the 1970s triggered a surge in usage of wood stoves, fireplace inserts, and portable kerosene heaters. This in turn pushed the number of home heating fires up by roughly 60,000 from 1979 to 1980. (National estimates can be constructed for 1977 to 1979 but usually are not because the share of fire departments participating in NFIRS was much lower prior to 1980.) The new total of more than 210,000 a year held for four years. Since 1983, the number of home heating fires has fallen by roughly 151,000, or nearly three-fourths.

Milder winters do not appear to be a leading factor in the size of the drop in home heating fires. Instead, the drop probably reflects a leveling off or decline in the use of some types of space heaters, probably driven by a decline in the cost of oil fuels, which reduced some of the pressure to switch heating equipment that had existed in the 1970s. Other factors in the drop in fires were probably greater familiarity with the rules of safe use of auxiliary heating devices and perhaps continued improvement in the safety features of equipment design. However, we should be alert to the possibility of a new move to auxiliary heating, and associated fire risk, because the potential for oil price shocks or supply interruptions, coupled with more severe winters, still remains.

Heating equipment is no longer the leading cause of home fires but now trails cooking equipment, despite declines in home cooking fires. Heating equipment now accounts for only one-seventh of home fires. "Homes" refers to one- and two-family dwellings (which include manufactured homes) and apartments, and the share of fires involving heating equipment is quite different for the two types of homes. Heating equipment remains the leading cause of fires in one- and two-family dwellings but ranked only seventh highest as a cause of fires in apartments in 1993–1997.

The estimated 59,700 home heating fires in 1997 also killed 406 people, the lowest death toll in the 18 years studied (1980 through 1997). Heating equipment was the third leading cause of home fire deaths, behind smoking and arson or suspected arson. Home heating fires in 1997 caused 1,350 civilian injuries, also the lowest figure in the 18 years studied, and \$584.0 million dollars in direct property damage. All of these estimates refer only to U.S. fires reported to local fire departments.

Portable and fixed space heaters and related equipment (i.e., fireplaces, chimneys, and chimney collectors) accounted for two of every three home heating fires in 1997 and three of every four associated deaths. Each of these devices has a higher rate of deaths per million households using them than do any of the various types of central

heating units (i.e., furnaces) or water heaters. (When comparing the risk of fire relative to usage, heat transfer systems such as ducts and hot water piping, chimneys, and connectors, all are counted with the heating equipment they support.)

Portable and fixed space heaters pose a greater risk because they provide so many more opportunities for error by the people using them—in installing them, maintaining them, fueling them, operating them, and arranging household contents around them. Furnaces and water heaters require—and permit—fewer interventions by occupants. Causes of fires involving furnaces or water heaters are more likely to involve mechanical or electrical failures, while the causes of fires involving portable or fixed space heaters are dominated by human errors, such as placing them too close to combustibles.

Of the five most widely used types of portable or fixed space heaters—portable electric heaters, portable kerosene heaters, wood stoves, fireplaces with inserts, and room gas heaters—the portable electric heaters are the most popular, although together wood stoves and fireplaces with inserts are not far behind. Gas-fueled fixed space heaters have the highest fire death rate relative to the number of households that have them. Room gas heaters also tend to be older units and are used by proportionally lower income families. Because they are also associated with roughly 90 deaths a year due to carbon monoxide poisoning from inadequate ventilation, they appear to have the highest overall risk.

Most home heating fires are preventable if people follow NFPA codes, standards, recommendations, and other guides to safe heating, such as advice from fire code officials and fire safety experts:

- When buying a new unit, make sure it carries the mark of an independent testing laboratory. Be sure that a qualified technician installs the unit or checks that the unit has been installed properly.
- Wood and coal stoves, fireplaces, chimneys, chimney connectors, and all other solid-fueled heating equipment need to be inspected annually by a professional and cleaned as often as the inspections indicate.
- Space heaters need space. With very few exceptions, home heating devices need a 36" clearance from combustibles. (In metric terms, this can be rounded up to 1 meter, which is slightly more than 39".)
- Portable kerosene heaters must be fueled only in a well-ventilated area, free of flame and other heat sources, and only when the device has cooled completely. Use only the type of kerosene specified by the manufacturer for that device, and never use gasoline instead of kerosene. Also, be sure that portable kerosene heaters are legal for home use in your community.
- When turning a heating device on or off, be careful to follow the manufacturer's instructions. When buying heaters, look for devices with automatic shutoff features.

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- Be sure any gas-fueled heating device is installed with proper attention to ventilation, and never put unvented gas space heaters in bedrooms or bathrooms. Also, LP (liquefied petroleum) gas heaters with self-contained fuel supplies are prohibited for home use by NFPA codes.

There are some differences in fire death risk among different types of central heating units, defined by type of fuel or power, but these differences are dwarfed by the difference in risk between central heating and space heating (either fixed or portable).

Major causes of home heating fires include (a) lack of regular cleaning, leading to creosote buildup, in wood-burning devices and associated chimneys and connectors; (b) failing to give space heaters space, by installing heaters too close to combustibles or placing combustibles too close to heaters; (c) basic flaws in the construction or design of wood-burning heating equipment; and (d) fueling errors involving liquid- or gas-fueled heating equipment.

President's Corner



Jim Crawford

I'm sure you'll find this a familiar message. However, my sales training (no it wasn't used cars) taught me that 60% of sales occur after the sixth attempt. Even if it's not true – it would explain why you keep getting repeat calls from obnoxious sales people!

Hopefully my message will be received in a more positive light. It's not about used cars. Here it is... JOIN IFMA AND GET INVOLVED.

A recent conversation with an old friend led me to this point in my pontificating (my that's a strange sentence). Why is it that prevention professionals (I refer mostly to the fire service)

choose to avoid becoming involved in their association? I know there are a vast number of Fire Marshals, Inspectors, Investigators, and Public Educators out there who would make excellent members of IFMA. Why are our numbers so (relatively) low?

This phenomenon is not unique to our organization. Why, for example, do the fire prevention courses at the National Fire Academy sometimes go begging for participants? Why do so few of us show up at meetings of our respective organizations?

Is it because we are all so busy we don't have time for training? Is it because we represent such a small part of the fire service organization that we just don't have the numbers to throw at meetings that other sections of the fire service (or business community) do? Is it because travel is so expensive and/or viewed as a luxury to our local jurisdictions? Are we too overworked, or too lazy to get involved in outside activities?

A good sales person (or marketing professional) would know the answers to these questions, and design recruitment strategies around them. I don't know the answers—so I have just one stock sales pitch:

We will never truly mobilize the potential of our profession, to bring the benefit of our particular experience to the codes and standards development process, nor will our contributions to other elements of fire and life safety strategies be fully realized unless we join the organization and get involved.

Being involved in codes and standards development is not a luxury. It is a necessity of our job...just like fire-fighting equipment is to our emergency responders. Meeting with and comparing notes with our peers from other parts of the country is not a "junket." It is a necessary part of our professional development. Where else will we learn about best practices elsewhere? And for those of us with an ounce of energy left over...we *must* find the time to put something back into the organization. How else will IFMA survive and be useful to our members?

This message is going to print after our 2nd Annual Fire Marshals Conference in Orlando. I'm grateful that we are able to take advantage of NFPA's support to conduct our own meetings with them. However, I know we are not where we should (and could) be in the grand scheme of things for fire and life safety.

Like every other president of every other organization...I'm appealing to you to get involved. We have for the first time in my memory, an international organization and a single annual meeting place for Fire Marshals and their staff to congregate. If you get involved...I'll make you this deal:

The first 20 new members of IFMA who register for the 3rd Annual Fire Marshals Conference will receive a new car. This is a first come, first serve offer. Those eligible will be new members who join after this article is published.*

You can plan ahead right now. The dates are November 10–14, 2001, in Dallas, Texas. No excuses. Plan ahead for the time. Have a bake sale for the money. But get there. And get involved in IFMA. You don't have to be a board member to work on behalf of our organization.

This serious message may be brought to you "tongue in cheek" by your irreverent president. But you know it's true. It is particularly important now. And if you're waiting to see how all the fire code issues get sorted out...don't. NFPA will still be here after that. So will IFMA. You might actually learn something of the system if you come and check it out.

If I've violated any laws anywhere, I'm sorry and I take it all back. If not, you'll get your car.

**I didn't say what kind of car you'd get!*

U.S. Passenger Road Vehicle Fire Problem, 1993–1997

The following information is taken from the May 2000 *U.S. Vehicle Fire Trends and Patterns* report by Marty Ahrens. Please contact Nancy Schwartz in NFPA's One-Stop Data Shop at (617) 984-7450 or e-mail osds@nfpa.org to request a complimentary copy of the complete report.

Passenger road vehicle fires increase 8%.

Passenger road vehicle fires increased 8% from 292,250 in 1996 to 315,340 in 1997. Civilian deaths from these fires fell 13% from 379 in 1996 to 328 in 1997. These deaths have fluctuated markedly, but were generally lower in the 1990s than the 1980s. Civilian injuries in passenger road vehicle fires jumped 33% from a record low of 1,187 in 1996 to 1,577. Direct property damage, unadjusted for inflation, rose 30% from \$611,900,000 in 1996 to \$797,900,000 in 1997. Since 1980, these fires have dropped just 10%.

An average of 302,210 passenger road vehicle fires occurred per year.

An average of 302,210 passenger fires occurred per year during the period of 1993 through 1997. These fires caused an annual average of 343 civilian fire deaths, 1,570 civilian fire injuries, and \$645,600,000 in direct property damage per year.

Three-quarters of all vehicle fires were in passenger road vehicles.

On average, passenger road vehicle fires accounted for 74% of the 408,010 motor vehicle fires, 58% of the 589 vehicle fire deaths, 64% of the 2,435 vehicle fire injuries, and 55% of the \$1,179,000,000 in direct vehicle property damage caused by vehicle fires per year. Most of the passenger road vehicle fires (95%), deaths (93%), injuries (86%), and property damage (90%) involved automobiles.

Passenger road vehicle fires were more common in the summer.

The peak month for passenger road vehicle fires was July, and the fewest occurred in November. In general, passenger road vehicle fires were more frequent in summer and less frequent in winter, probably reflecting periods of high and low volumes of road travel. However, a larger share of these fires occurred in January than the other colder months.

Friday was the peak day of the week for these fires.

If every day had an equal share of fires, each day would have 14.3% of the total, and most weekdays come close to this. Friday, however, was the peak day for passenger road vehicle fires, followed by Saturday. The fewest fires occur on Sunday.

Vehicle fire times seem correlated with times vehicles are in use.

Vehicle fire times appear to be correlated with the times vehicles are in use. The smallest percentage of fires occurred between 3:00 and 6:00 a.m., and the percentage increased steadily as the day moved on, peaking between 3:00 and 6:00 p.m. (perhaps resulting from rush hour traffic). From that point, fires steadily decreased to the 3:00 to 6:00 a.m. period. This pattern is almost identical to the time of day pattern for home structure fires, except that the peak time for fires in homes was during the 6:00 to 8:00 p.m. period, when the returning household members may turn up the heat and cook the evening meal.* Deaths from passenger road vehicle fires peaked between midnight and 3:00 a.m.

Incendiary and suspicious vehicle fires tended to occur in darkness.

The pattern for incendiary and suspicious vehicle fires differs markedly

from that seen for unintentional (including those caused by mechanical failures, collisions, etc.) passenger road vehicle fires. Half of the incendiary and suspicious passenger road vehicle fires occurred between 9:00 p.m. and 3:00 a.m. Only 17% of the fires from other causes occurred during this period.

Fires caused by collisions peaked in the earliest morning hours.

A third pattern emerges for passenger road vehicle fires caused by collisions. These fires were fairly stable through the later afternoon and evening. However they peaked in the post midnight hours, dropping sharply after 3:00 a.m. It is possible that alcohol and/or fatigue were factors in the collisions that caused fires during these hours.

Most passenger road vehicle fires occurred on road properties.

Most of the passenger road vehicle fires occurred on some type of road property. Almost two of every five (38%) occurred on paved public streets, 16% began in uncovered parking areas or parking lots, and 9% began on limited access or divided highways.

Three of every five passenger road vehicle fire deaths occurred in fires caused by collisions or overturns.

Collisions or overturns caused only 2% of the fires in this group, but these fires caused 59% of the group's fire deaths. Roughly one of every 26 passenger road vehicle fires caused by a collision or overturn resulted in death during the 1993–1997 period. This is *not* the same as saying that roughly one of every 26 passenger road vehicle collisions resulted in death. Nevertheless, it is very clear that passenger road vehicle fires caused by collision or overturn have a high fatality rate.

Mechanical or electrical failures caused two-thirds of these vehicle fires.

Roughly two-thirds (66%) of the 302,210 passenger road vehicle fires were caused by some form of mechanical or electrical failure, such as part failures, short circuits, or backfires. Part failures, leaks, or breaks caused one-fifth (19%) of the passenger road vehicle fires. Short circuits or ground faults caused 18% of the fires in these vehicles, 11% were caused by backfires, and 6% resulted from other electrical failures.

Incendiary and suspicious fires caused disproportionate dollar loss.

One in six of the passenger road vehicle fires was deemed incendiary or suspicious. These fires represented 17% of the fires in this group, but accounted for 27% of the dollar loss.

Fires started in engine, running gear or wheel area most often, but fuel tank and fuel line fires posed highest death risk given fire.

Two-thirds (68%) of passenger road vehicle fires began in the engine, running gear, or wheel area. Almost two-fifths of the deaths and three-fifths of the injuries and direct property damage resulted from fires that originated in this area. Only 1% of the passenger road vehicle fires started in the fuel tank or fuel line area, but these fires caused 20% of the deaths in this group.

Gasoline was the type of material most frequently first ignited.

Fuel was the form of material first ignited in 29% of these fires resulting in 57% of the civilian deaths, 39% of the injuries, and 26% of the

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property damage. Electrical wire or cable insulation was the material first ignited in 26% of the fires, but only 2% of the deaths. Gasoline was first ignited in 30% of the incidents. Two-thirds of the deaths and almost three-fifths of the injuries occurred in fires where gasoline was first ignited.

Federal and state programs affect different pieces of vehicle fire problem.

As with other fire problems, efforts to address the vehicle fire problem have included technology, standards and regulations, education, and enforcement. Two examples follow:

The National Highway Traffic Safety Administration regulates highway vehicles and orders recalls.

Passenger road vehicles are regulated by the National Highway Traffic Safety Administration (NHTSA) of the Department of Transportation (DOT). The DOT sets minimum safety standards for new motor vehicles and motor vehicle equipment and investigates reports of defects in motor vehicles, including fire hazards. Recalls are ordered when necessary.

The NHTSA has issued two fire safety standards for new motor vehicles since it was created in 1966. The Federal Motor Vehicle Safety Standard (FMVSS) 301 was developed to reduce the danger from fuel leakage following crashes involving cars, trucks, and buses weighing less than 10,000 pounds. Initially affecting cars manufactured on or after January 1, 1968, this standard has been made increasingly stringent.

Flammability standards for the materials used in the driver and passenger area of vehicles were set in Federal Motor Vehicle Safety Standard 302 to reduce the danger of interior fires caused by matches or smoking.**

From the high rate of death in vehicle fires that follow collisions and the frequency in which gasoline is the material first ignited in vehicle fire deaths, it appears that post-crash release of fuel remains a problem.

Burned/Recovered Motor Vehicle Act reduced vehicle arson 81% in Massachusetts.

As mentioned earlier, incendiary and suspicious motor vehicle fires cause a disproportionate share of the vehicle fire dollar loss. The Commonwealth of Massachusetts passed legislation to address the problem of vehicle arson motivated by insurance fraud. In the mid-eighties, more than 40% of the vehicle (all types) fires in Massachusetts were coded as incendiary or suspicious. Effective August 1987, the Burned/Recovered Motor Vehicle Act requires owners of burned motor vehicles to personally appear and complete a report at fire headquarters in the community where the fire occurred

before the insurance company pays their claim for fire damages. Individuals are asked about the circumstances of the fire. Local fire investigators may note discrepancies between the individual's report and the official record of the fire. If circumstances warrant, vehicle owners are also asked to complete a second form that asks about the condition of the car, location of keys, outstanding balances, and the presence of flammable liquids. Both reports are signed under penalty of perjury.

Vehicle arson dropped 81% from 1987 to 1997 in Massachusetts. Reported vehicle fires fell 51% during that same period. The percentage of vehicle fires considered incendiary or suspicious in 1997 was less than half what it was in 1987.*** Nationally, motor vehicle fires and vehicle arson fell 16% during that same period.****

This Massachusetts law reminded people that insurance fraud was a crime. They could be prosecuted for "selling" a car back to the insurance company. Some prosecutions resulted in convictions. Insurance companies may deny a claim when the evidence indicates a high probability of fraud; they are not held to the standard of "beyond a reasonable doubt." Even if an individual is not prosecuted, the uncompensated loss of a vehicle combined with a still outstanding vehicle loan is a substantial penalty.

Refer to NFPA Fire Protection Handbook for more information.

Neill Darmstadter's chapter on "Motor Vehicles" in the 18th edition of the NFPA Fire Protection Handbook (1997) provides additional information on passenger road vehicle fires and fire prevention. The chapter also describes organizations and agencies that are concerned with these issues and discusses relevant regulations and standards. A bibliography is provided for further reading.

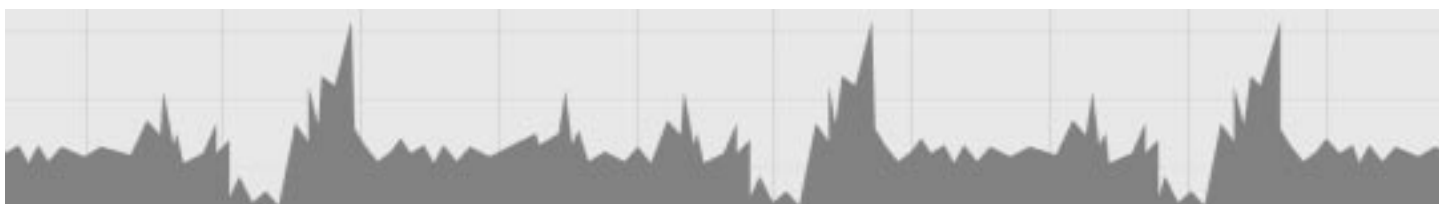
A number of passenger road vehicles use compressed natural gas (CNG), liquefied natural gas (LNG), or liquefied petroleum gas (LPG) for fuel instead of gasoline. For more information on this topic, refer to the article "Alternative Fuels for Vehicles" by Ron Buys, Cora Urgena, and Scott Stookey in the NFPA Fire Protection Handbook (1997).

* Marty Ahrens, *The U.S. Fire Problem Overview Report*, Quincy, MA: National Fire Protection Association, Fire Analysis and Research Division, April 2000, p. 17.

** Neill Darmstadter, "Motor Vehicles," *Fire Protection Handbook*, 18th edition. Quincy, MA: National Fire Protection Association, February 1997, pp. 9-240-9-241.

*** *Massachusetts Fire Incident Reporting System—1997 Annual Report*: Stow, MA, March 1999, p. 44.

**** John R. Hall, Jr., Ph.D., *U.S. Arson Trends and Patterns*, Quincy, MA: National Fire Protection Association, Fire Analysis and Research Division, January 2000, p. 8.

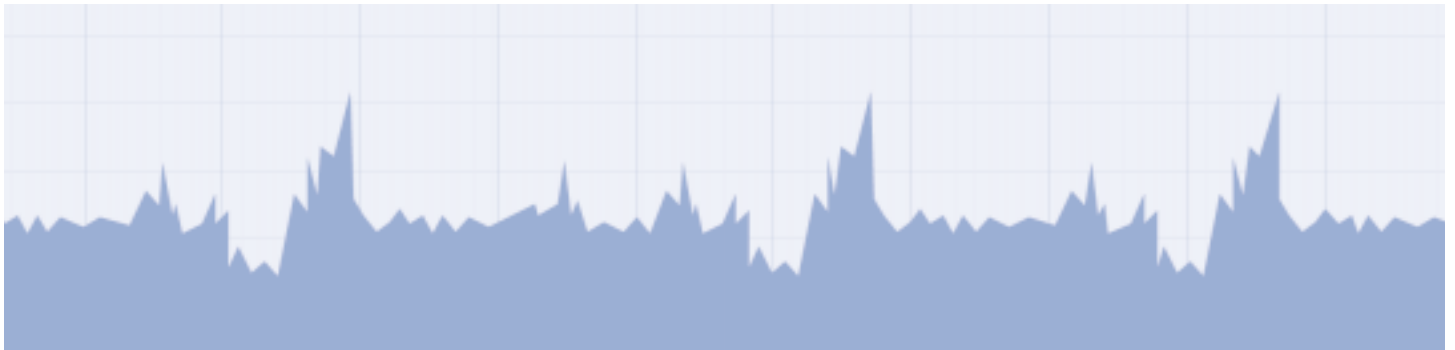


Delaware State Fire Marshal Gets New Technology

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Tracking fire activities is about to get a lot easier for the Delaware State Fire Marshal staff. A newly designed statewide database, soon to be completed, will increase time efficiency, data reliability, security, quality control, and data integration for the agency. Developed by John Kassay of Diamond Technologies, Inc., the new system will integrate current business practices while facilitating data entry, retrieval, and tracking.

The next phase of the project will be to implement a pen-based technology for inspections. This will involve equipping field personnel with hand-size computers that will be integrated to the state database system, giving the inspectors instant on-site access to stored data while allowing them to dynamically enter their reports in a more timely and efficient manner.



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