



# FIRE SERVICE SECTION NEWSLETTER

WINTER 2009

## **Fires caused more than \$15.5 billion in direct property loss in 2008**

NFPA Journal publishes new fire loss statistics

In 2008, fires caused more than \$15.5 billion in directly property loss. Fires in residential properties caused \$8.6 billion of it. Findings from the newly released report U.S. Fire Loss in the United States in 2008 appear in the latest issue of NFPA Journal®, the official magazine of the National Fire Protection Association (NFPA).

Fire departments responded to an estimated 1.5 million fires in 2008. These fires resulted in 3,320 civilian fire fatalities, 16,705 civilian fire injuries and an estimated \$15.5 billion in direct property loss.

### **Fires**

- 1,451,500 fires were attended by public fire departments, a decrease of 6.8 percent from the year before.
- 515,000 fires occurred in structures, a decrease of 2.9 percent.
- 403,000 fires (78 percent) of all structure fires occurred in residential properties.
- 236,000 fires occurred in vehicles, a decrease of 8.5 percent from the year before.
- 700,500 fires occurred in outside properties, a decrease of 8.9 percent.
- A fire department responds to a fire somewhere in the nation every 22 seconds.
- A fire occurs in ...
  - a structure every 61 seconds
  - a residential structure every 78 seconds
  - a vehicle every 134 seconds
  - an outside property every 45 seconds.

### **Fire deaths and injuries**

- 3,320 civilian fire deaths occurred in 2008, an increase of 3.2 percent.
- About 83 percent of all fire deaths occurred in the home.
- 2,755 civilian fire deaths occurred in the home, a decrease of 3.8 percent.
- 16,705 civilian fire injuries occurred in 2008, a decrease of 5.5 percent. This estimate for civilian injuries is on the low side, because many civilian injuries are not reported to the fire service.
- 13,560 of all civilian injuries occurred in residential properties
- There was ...
  - a civilian fire death every 158 minutes
  - a civilian fire injury every 31 minutes.



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Denotes first term #, second term \*, third term+

***Fire Service Section Newsletter***

The objective of the Fire Service Section shall be to bring together NFPA members who are professionally involved in the fire service and its role in pursuing the mission of the NFPA.

The articles published in the Newsletter are the opinion of the authors and not necessarily the opinion of Fire Service Section or NFPA.

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## **Chairs Message**

### **By Kirk Owen**

Several years ago, I was one of several people invited to participate in a two-day brainstorming discussion on fire fighter safety. We developed a list of all the same things the fire service has been discussing for years. Then, on the last day, someone suggested that instead of developing better ways to respond to fires, why not focus on preventing them. This is certainly a sound risk management strategy and the technology already exists. In fact it has existed for years; all we have to do is embrace it. Of course that technology is fire sprinklers.

There have been many efforts over the years to expand the use of fire sprinklers, especially in homes, and many of you have probably been involved in those efforts. Certainly, progress has been made. Now, however, there is a relatively new and very well coordinated effort: the Fire Sprinkler Initiative. This Initiative, which is being done with the support and cooperation of sprinkler advocates throughout the country, "encourages the use of home fire sprinklers through increased awareness and adoption of local ordinances or model codes."

Please take the time to learn more about this important safety initiative by visiting the NFPA web site. After all, the use of sprinklers not only helps us accomplish our core mission of protecting the lives and property of our citizens, it also improves fire fighter safety. Clearly, it's a win – win.

Stay Safe

## **Secretary Napolitano, FEMA Administrator Fugate Swear In Kelvin Cochran As Fire Administrator**

U.S. Fire Administrator Kelvin Cochran was sworn into office on August 27, 2009 by U.S. Department of Homeland Security Secretary Janet Napolitano and FEMA Administrator Craig Fugate at the International Association of Fire Chiefs (IAFC) 2009 Fire-Rescue International Conference in Dallas, Texas. Cochran will oversee and lead the coordination and direction of national efforts to prevent fires and improve fire response. Cochran will supervise fire prevention and safety education programs and professional development opportunities for emergency responders at all levels of government.

"Our first responders are an essential component in our effort to assist Americans in the wake of major disasters," said Fugate. "Kelvin's extensive experience as former fire chief in Atlanta and Shreveport, makes him the ideal candidate to take over this important post. I congratulate him and look forward to working together as we continue to expand our national emergency response team, a team that includes federal agency partners, members of the private sector, volunteer organizations and most importantly, the public."

Cochran has twenty-eight years of experience in the fire service including fire fighting, emergency medical services, hazardous materials, public education, personnel management, and administration, with a specialization in training and strategic planning.

Prior to joining FEMA, Cochran served as Fire Chief for the City of Atlanta Fire Rescue Department, where he coordinated homeland security and emergency preparedness initiatives between the City of Atlanta and the Atlanta Fulton County Emergency Management Agency (AFCEMA) and oversaw 35 fire stations providing fire, rescue and emergency medical services.

Previously, he served in the Shreveport, La. Fire Department as a firefighter, Assistant Chief Training Officer, and Fire Chief. Cochran also served as President of the Metropolitan Fire Chiefs Association, the 1<sup>st</sup> Vice President of the International Association of Fire Chiefs (IAFC), and Vice Chairman of Volunteers of America (VOA).

## Fully Involved

By Azarang (Ozzie) Mirkhah, P.E., CBO, EFO, CFO, MIFireE

October is the fire prevention month. In my mind, the most significant event that undoubtedly will have a direct positive impact on fire prevention and in addressing the fire problem in our country, took place back at the end of August. The ceremonial swearing in of the newly appointed United States Fire Administrator, Kelvin Cochran was one of the highlights of the Fire-Rescue International in Dallas. Department of Homeland Security (DHS) Secretary Janet Napolitano and the Federal Emergency Management Agency (FEMA) Administrator Craig Fugate made presentations at that event.

No doubt the fact that the leadership of the FEMA and the USFA is in the competent hands of two of our own peers is great news and provides a sense of pride. It is also comforting to know that there will be continuity to the admirable work that David Paulison and Greg Cade performed in those positions under the previous administration.

I truly enjoyed Craig Fugate's pragmatic views on emergency management in his speech. He talked about teamwork and said that "*FEMA is not the team; it's part of the team. You're the team.*" He asked "*why are we not the leader in fire safety amongst the industrial nations?*" And then underlined the importance of the USFA in addressing the fire problem in our country and made the commitment that he will "*put the fire back in the USFA.*"

[http://cms.firehouse.com/web/online/News/FEMA-Administrator-Calls-for-Teamwork/46\\$65172](http://cms.firehouse.com/web/online/News/FEMA-Administrator-Calls-for-Teamwork/46$65172)

Hearing that was indeed great. To me that is a sign of the visionary leadership that we need at the helm of the FEMA. Was that the politician in him talking? I don't think so. I think it was the fire service leadership in him that came out loud and clear.

In all my articles, I heavily emphasize the important role of the USFA. Because, in my mind, the USFA is in a sense our Incident Commander (IC) in addressing the fire problem in our country. Yet, as you all know quite well, not even the best and the most experienced of the ICs can successfully address the problems without having developed a solid Incident action Plan (IAP), and of course not without having the adequate resources necessary to accomplish the tasks.

That being said, in my mind "*putting the fire back in the USFA*" dictates that we actually "*put our money where our mouth is*".

Last year, in my article titled "Aim Higher", I focused on this very specific issue. In it, I explained the history and the legislative efforts (the Federal Fire Prevention and Control Act of 1974, Public Law 93-498) that finally led to the establishment of the USFA. I strongly underlined the importance of the responsibilities and the leadership role of the USFA in addressing our country's fire problem. And, I pointed out to the historic lack of funding and the inadequacy of the resources that has plagued the USFA ever since its inception. [http://cms.firehouse.com/web/online/In-the-Community/Aim-Higher/9\\$59474](http://cms.firehouse.com/web/online/In-the-Community/Aim-Higher/9$59474)

A strong and vibrant USFA will benefit the fire service in better serving our communities across the land. And that of course requires a strong leadership at the helm of the USFA, especially during these turbulent times of economic hardship and uncertainty.

Many months ago, the International Association of Fire Chiefs (IAFC) had scheduled then Atlanta Fire

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Chief Kelvin Cochran, to be their keynote speaker at the FRI. It was indeed even a higher pleasure to listen to our newly appointed US Fire Administrator, Kelvin Cochran, deliver his presentation titled “Becoming Fully Involved.”

Kelvin’s mastery and passion for the subject poured out on the stage. The following excerpts from his speech are inadequate in truly describing his powerful delivery; yet provide some insight to the vision, the organizational mission and the direction he intend to lead the USFA. He explained:

<http://www.firefighternation.com/profiles/blogs/we-can-take-the-usfa-to-a>

*“Fully involved means a structure that’s fully involved in fire. I use that analogy as it relates to a fire department or fire service organization where the members, the sections, the organizational units and shifts and divisions of labor are the rooms and the contents; the organization as a whole is the house, and to be successful, to navigate the tough times, the entire organization, its units and its members must be fully involved.... It takes more than just the fire chief to lead through tough times; so that’s the essence behind the analogy of fully involved and how it fits in the context of the presentation.... It goes back to this concept of one person can make a difference. In every rank, every organizational unit, in every fire station and each battalion and section, there are members of our organization that have not been discouraged by the difficult times, because they realize that part of the history of our profession is actually being resilient during difficult times. And I think that, in this context, one person can make a difference, and I use those individuals that are spread throughout our organization sorta in the analogy of wood.”*

And he then explained the definitions, and in a way the organizational synonyms of the different types wood like the “petrified wood”, “dead wood”, and the “cured wood”. He said that the “cured wood” is the wood that is processed to its prime capacity to burn. He explained *“the cured wood in our organization is mostly senior members or members of rank who have a reputation and credibility for hope and optimism, but have been discouraged somehow because of the overwhelming responsibilities we have as leaders. And once the kindling is connected to the cured wood in our organization, then the fire will actually start and build momentum.”* <http://fri.iafc.org/2009/07/cochran-speaks-about-becoming-fully-involved/>

Chief Cochran’s analogy was quite interesting and accurate from the organizational perspective. Clearly all organizations have these various types of “woods”. In my mind though, USFA is filled mostly with “cured wood”. And Kelvin’s leadership can indeed be the right kindling to set a blaze the USFA. USFA can and must be the leader in addressing our country’s fire problems. And that is not just me saying it. That was the exact role that was assigned to the USFA by the Congress back in 1974.

Earlier this year, in my article titled “In Search Of” I focused on the importance of appointing a strong leader to serve at the helm of the USFA and wrote *“The next USFA Administrator must be an accomplished fire service leader that is well-versed in the fundamental principles of the organization that he/she will lead, and must have demonstrated deep commitment to the core founding values and missions of the USFA, as was originally outlined in Public Law 93-498, the Federal Fire Prevention and Control Act of 1974.”* I was hoping that we get just such a person at the USFA’s helm. [http://cms.firehouse.com/web/online/In-the-Community/In-Search-Of/9\\$63082](http://cms.firehouse.com/web/online/In-the-Community/In-Search-Of/9$63082)

Chief Cochran’s speech was impressive and gave us a good glimpse of his general views and his leader-

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ship style. But then I was more interested to see what he would say specifically about the USFA and its priorities in addressing the fire problem in our country. I must admit my friends that I was even more impressed when I read his interviews that he did afterward with the Fire Rescue and the Firehouse magazines.

Just as a good IC would do before taking over the command, it appears that Chief Cochran has done an all around initial size-up to get a good snapshot of the existing fireground conditions, before developing his tactical plans. Take a look at what he said in his interview with the Fire Rescue Magazine, and see if I am right to have faith in him; or I am being too overly optimistic.

*“First and foremost, I think it’s still incumbent on the USFA and the administrator to really focus on how the organization was born in the first place, and that is out of the tremendous fire problem in the United States of America. We were experiencing a tremendous rate of deaths to citizens and property loss. Out of “America Burning,” the USFA was ultimately born to reduce fires and injuries and deaths related to fires. So I think that’s still a part of our mission. Even though we’ve made great strides in reducing those numbers, we should not be satisfied with our success and should continue to focus on high-risk areas, where there is still a tremendous loss of life and injuries, which are primarily senior citizens above 50, children under 5 and in poverty-stricken minority communities. And I just believe that we should continue to use programs that we’ve used in the past that were successful but evaluate them to see if there are new innovations that can make them better and then we need to market and target those areas and be a little more assertive in getting public education and life-saving education right to those vulnerable citizens in our country. So I think life safety and fire prevention is still a primary part of our mission, and they will still be a high priority for me as U.S. Fire Administrator.”*

That excerpt is quite indicative that Kelvin has done his homework well, and has researched the roots of the problem, before stepping up to the plate and accepting the honor to serve as our country’s fire chief. In my mind, that shows that he doesn’t just want to serve a term in that office; it shows that he has his heart in it and wants to do real good.

I think that he sees that even though in general, the USFA is on the right direction; yet it still has strayed from the original path that the Congress had outlined for it. And he wants to change that. He knows quite well that having an in-depth assessment, is the very first step an organization needs to take to figure out where they are along their way in accomplishing their mission, and then to identify the course correction measures that might be required. In my mind, the excerpts from Chief Cochran’s interview with the Firehouse at the FRI are indicative of just such approach.

<http://cms.firehouse.com/content/article/article.jsp?sectionId=46&id=65148>

*"We need to evaluate USFA's involvement and accomplishments as related to America Burning and America Burning Revisited," he continued. "We need to develop a report card to measure our performance against these recommendations and see what we have yet to accomplish."*

*The initial America Burning report was issued in 1974 and focused attention on the nation's fire problem, resulting in the creation of the U.S. Fire Administration and the National Fire Academy.*

*Additionally, Cochran is looking to re-evaluate life safety initiatives to determine*

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THE  
FIRE PROTECTION  
RESEARCH FOUNDATION

## What's New at the Research Foundation?

### *Symposia*

SupDet 2010 - February 16-19 in Orlando, Florida  
Mark your calendars for the Foundation's annual update on the latest in sprinkler and fire alarm research and technology. Next year's conference will include two special focuses: emergency communication and fire alarm systems; and protection of high challenge warehouses.

### *New Project*

Firefighter Safety and Emergency Response in Pre-Planning and Fireground Tactics for Alternative Energy Technologies: two case studies  
The Foundation is conducting this study through a grant awarded to the National Fire Protection Association from the Department of Homeland Security. It addresses two immediate issues of concern to the fire service. The first is emergency response procedures to address firefighter safety in the context of the widespread introduction of gas/electric hybrid vehicles. The second is an immediate fire fighter safety concern related to structure fire fighting in the presence of roof solar panels. The goal of this project is to develop detailed tactical information for fire ground incident commanders and fire fighters through a review of available information; review through two fire service workshops; and synthesis in the form of best practice guidance. Contact [cgrant@nfpa.org](mailto:cgrant@nfpa.org)

### *Research Planning*

Detection and Signaling Research Planning  
On September 22<sup>nd</sup> in Chicago, the Foundation will sponsor a planning session on two priority projects of interest to the NFPA 72 family. The first is designed to develop guidance information to facilitate the planning and implementation of effective emergency communications systems and strategies. The strategies will be developed consistent with other related mass notification initiatives and will consider the threat or hazard, the stage of the event (including pre-event), the sources and recipients of the communications, recommended message content and format, and the

methods of message delivery. The second project is designed to develop a fire safety timeline in multi-family residential occupancies, considering fire growth and development with modern residential furnishings, fire protection system actuation times, and associated available egress times. If you would like to participate, please contact [kalmand@nfpa.org](mailto:kalmand@nfpa.org).

### Dust Explosion Hazard Thresholds

The Foundation is initiating a project to establish the technical basis for quantitative criteria for determining that a compartment is a "dust explosion hazard" that can be incorporated into NFPA 654 and other relevant safety codes and standards. Sponsors are invited.  
[kalmand@nfpa.org](mailto:kalmand@nfpa.org)

### Suppression System Protection Criteria for Boat Storage Structures

Following a 2008 project funded by NFPA which identified the hazards associated with this growing method of boat storage, the Foundation is initiating a Phase II program to test and evaluate appropriate protection schemes. Sponsors are invited.  
[kalmand@nfpa.org](mailto:kalmand@nfpa.org)

### *Inside the Foundation*

Carl Baldassarra, P.E., Executive Vice President, Rolf Jensen and Associates and Peter Willse, P.E., Director of Research, XL Gaps have been appointed to serve on the Foundation's Board of Trustees.

D.K. Ezekoye, Ph.D., University of Texas at Austin, and Elizabeth Buc, Ph.D., Fire and Materials Research Laboratory, have been appointed to the Foundation's Research Advisory Committee. Joseph, Senecal, Ph.D., Kidde Fenwal, has been appointed Chair of the Committee.

Contact the Foundation at [epeterson@nfpa.org](mailto:epeterson@nfpa.org) for more information or to participate in Foundation programs. Reports available on the Foundation's website at [www.nfpa.org/Foundation](http://www.nfpa.org/Foundation).

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*whether the USFA is being assertive enough in the mission to save civilian lives and property. While these losses have been going down, Cochran wants to make sure every effort is being made in fire prevention and fire safety education, and the agency hasn't simply become comfortable with the pace of reductions."*

I believe that developing that "report card to measure our performance" is a great first step. There is absolutely nothing wrong with getting a "report card", even if the grades might not be something to brag about. That is of course if our intent is to improve in future. That is a great assessment of our strengths and weaknesses, and an excellent tool to help us develop a good strategy to address our weaknesses.

Look at it this way. Such a "report card", would be like an annual physical check up. Fear of finding something wrong should not be a deterrent. Instead, getting a clean bill of health, or at the least finding out what the problem might be, and then take appropriate measures to address it, before it gets out of hand, should be the real motivator, right?

Here is my two cents. I believe Chief Cochran is right to ask for a "report card". And, I think to be of any value at all that "report card" must be as independent, unbiased, and truthful as possible. I think that once and for all, we need the federal government to take an independent, in-depth look at the fire problem in our country, and evaluate our performance during the past 35 years. Worst is, just like a post-incident critique, we recognize our strengths and weaknesses, and learn valuable lessons, with the hope of doing better in future, right? What do we have to lose, after all?

In my article titled "Aim Higher" last year, I further elaborated on this concept, with the hope that it could be of value in providing the essential funding and resources necessary for reviving the USFA and strengthening its position to serve at the leadership of the fire service as it was intended to. My suggestion was:

*"Let's get the Congressional Budget Office (CBO), or the Office of Management and Budget (OMB) to do an independent evaluation of our efforts in implementation of the "Federal Fire Prevention and Control Act of 1974", Public Law 93-498 (PL 93-498) .... Such an independent "Review" can be extremely beneficial in helping an agency better accomplish its mission. Although "Reviews" by their very nature must look back over time, but their outcomes are essentially future-focused.....We must strengthen the USFA, if we are indeed serious about addressing the fire problem in our country. Our professional obligation and our patriotic duty, demand that we acknowledge the true magnitude of the total cost of fire in our country. We need to provide our national Incident Commander with adequate resources to accomplish the tasks. If we are indeed serious about addressing the fire problem, then we can't afford being complacent and settle for the current insufficient funding levels for the USFA."*

Why did I suggest an official federal "review" of the USFA? Because, I believe that such a review will clearly point to the chronic shortages of staff and resources that has plagued the USFA ever since its inception. After all, if you recall it was the Congressional "investigation" that helped revive FEMA in the aftermath of their failures four years ago, wasn't it? And believe you me than an "investigation" is a heck of lot more serious than a mere "review". So why wouldn't a simple "review" help revive the USFA?

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Some might think that being below the radar might be good in the federal government. And, that bringing undue extra attention to any agency and putting them under the spotlight, could only be trouble and nothing good ever comes out of it, and you might end up losing more than gaining any.

There is a certain awkward logic to that. Then if for whatever reasons we might believe that the stigma associated with having an official federal “review” is not going to be quite helpful to our cause, then at the very least, let’s get an independent private sector think-tank firm do the review and provide us with an unbiased “*report card*”. Our military does it regularly. So can we.

Other federal agencies such as the U.S. Agency for International Development (USAID) and the U.S. Trade and Development Agency (USTDA) have a well defined process to perform a Development Impact Assessment (DIA) on the many projects that they fund in the various countries all around the world. Wouldn’t it make sense to do the same here at home for our own beloved USFA? If it works well for the third world countries, then why not for us here at home? Wouldn’t such an assessment give us a clear understanding of where we actually are with respect to our original goals and what we have been able to accomplish and the things we haven’t? Couldn’t such an in-depth analysis serve as our guiding light to perform better in the future? My friends, such an assessment is not about pinpointing failures or placement of blames. It is merely about improving our performance and trying to do better in the future.

Get one of the major think-tank organizations such as the Rand corporation (or any other independent organizations who we deem to have the expertise and yet are not related in any way, shape or form to the fire service) to perform an in-depth analysis and develop that “*report card*”.

Undoubtedly, there are plenty of experts and national organizations such as NFPA, IAFC, IAFF, etc. that could do an excellent job on this “review”. But then my reason for suggesting the think-tank experts not having links to the fire service was, that there are no financial or other organizational ties that could be perceived by anyone as being biased.

I believe that such a “review” could serve Chief Cochran much more than the “*report card*” that he seeks. Knowing the roots of the problem and recognizing the exact reasons for the bad grades in the student’s “*report card*”, allows the educator to seek fundamental solutions to improving the student’s grades. In this review, USFA might receive an average grade since we not have been able to accomplish all the goals set in the America Burning Report series, and that would show on the “*report card*”. But, the “review” though, would go much further than that and could explain the very reasons for the poor grade; most importantly systematical lack of funding and resources.

I might be an optimist at heart, or “cured wood” as Kelvin might say. But, knowing his past performance serving on the IAFC Board, listening to his speech at the FRI, and most importantly reading his interviews and learning about his thoughts and his game plans for the USFA, I feel confident that he will actually walk the talk and serve our country well as our fire chief.

Blaze the trail Chief Cochran. Be the kindling for all the “cured woods” around the country that for decades have not given up the hope and waited optimistically for the USFA to rise up to the prominence as was originally intended by the Congress 35 years ago. No time to waste on the “dead wood” and the “petrified wood”, get us all “fully involved”.

## It's Time to Develop SOP's for VDR's

By Robert Tutterow, Fire Service Section Board Member,  
Health & Safety Office, Charlotte Fire Department

VDR: Vehicle Data Recorder, similar to an airplane black box but with a different intent. With the 2009 revision of *NFPA 1901—Standard for Automotive Fire Apparatus*, we are now beginning to see apparatus built with VDR's. The latest revision requires one on all trucks contracted on or after January 1, 2009.

Now is the time for fire departments to start developing their SOP's on the frequency they are going to review the VDR data and how they are going to use the data. First of all, what is the data being captured? It includes:

Data	Unit of Measure
Maximum vehicle speed	mph
Maximum acceleration (from speedometer)	mph/sec
Maximum deceleration (from speedometer)	mph/sec
Maximum engine speed	rpm
Maximum engine throttle position	% of throttle
Anti-lock braking system event	On/off
Seat occupied with seat belt unbuckled	Yes/no by position at 30 sec into minute
Master optical warning device switch	On/off at 30 sec into minute
Time	24-hour clock
Date	Year/month/day

The data is stored at the sampling rate in a 48-hour loop and the memory must be sufficient to record 100 engine hours' worth of minute-by-minute summary. When the memory capacity is reached, the system erases the oldest data first. All the data stored in the VDR must be uploadable by the user to a computer and importable into a data management software package. The data must be password protected with access controlled by the fire department and the software must be capable of running on both Windows® and Apple® operating systems.

It is imperative to understand the purpose of the VDR. Though it is very similar to an Event Data Recorder (now found on most all new passenger vehicles and mandated by law by 2013), its primary purpose is very different. Event Data Recorders are designed to help in post-accident investigations. VDR's are designed to prevent accidents from happening. How is this accomplished? By being proactive, fire departments can monitor the driving habits of their drivers and take positive corrective actions to prevent accidents. The VDR is NOT designed to be a disciplinary tool. Departments should now develop SOP's and communicate with their members on how it will be used. For example, departments should set parameters for the data, review the data at least monthly and implement educational awareness and/or driver training when the parameters are exceeded. Fire departments are strongly cautioned not to ignore the data until an accident occurs. The VDR is a technological tool that makes department management and its drivers accountable. (NOTE: See the sixteen Life Safety Initiatives of the National Fallen Firefighters Association.)

Of course the data from the VDR can be used during post accident investigation. That is a secondary benefit. The VDR requirements were specifically developed for the fire service to address apparatus accidents in a proactive manner. Through the years, the trend of firefighters being killed while responding to or returning from incidents has increased. In fact, in 2008, responding/returning claimed more firefighters than incident scenes. These are easily preventable deaths. The VDR is designed to make sure "Everyone Goes Home"!

## Application Procedures Announced for the 2010 Harvard Fire Executive Fellowship Program

Application procedures have been announced for the 2010 Harvard Fire Executive Fellowship Program. The program is once again sponsored through a partnership between the International Association of Fire Chiefs (IAFC), Fire Protection Publications/International Fire Service Training Association (FPP/IFSTA), the National Fire Protection Association (NFPA), and the Department of Homeland Security/U.S. Fire Administration (USFA).

USFA Administrator Kelvin J. Cochran, in announcing the 2010 program said, "The U.S. Fire Administration and our funding partners, the IAFC, FPP/IFSTA, and the NFPA, are excited once again to sponsor a number of fellows who will attend the *Senior Executives in State and Local Government* program at Harvard's Kennedy School of Government next summer. The curriculum, faculty, and setting are truly outstanding. Most importantly, this premier program can provide tools and experiences in confronting the collective challenges which fire executives face. I personally know many fire executives who have benefitted from the State and Local Program and found it extremely valuable when examining and understanding the relationships between careerists, elected, and appointed officials."

Senior fire executives who are selected will be awarded fellowships to attend Harvard's annual *Program for Senior Executives in State and Local Government*. The 3-week program is conducted on the Harvard campus in Cambridge, Massachusetts. Selected Fellows will be assigned to attend one of the two session dates: June 7-25, 2010 or July 5-23, 2010. Fellows must be available to attend either session.

### *Program Criteria*

The following criteria and guidelines have been established for the 2010 program:

- Application is open to *senior fire executives* who have demonstrated significant career accomplishments and have the potential to impact and initiate change. Attainment of a senior position is less important than demonstrated experience in facilitating significant change within a public sector setting.
- Preference may be given to applicants who are graduates of the National Fire Academy's Executive Fire Officer Program, although program completion is not a prerequisite. Preference may also be given to applicants who have completed graduate-level degree programs or course work.
- Individuals whose organizations have been represented in the Harvard Fellowship Program during 2007, 2008, or 2009 will not be considered. The program is available to international participants.

### *Application Instructions*

(Please follow these three steps carefully as the application procedures have changed from prior years).

1. Applicants must complete and submit the Harvard/Kennedy School of Government Application for Executive Education. This form-fillable document can be completed for submission to the address listed below, not to Harvard. It is recommended that this form be saved to your computer. For the question "*Who will be the financial sponsor of your participation?*" please enter "IAFC/FPP-IFSTA/NFPA/USFA Fellowship". Make sure that you attach your essay responses (250 words or less for each question response).
2. Enclose a current resume or curriculum vitae.
3. Enclose a letter of recommendation from your senior official. If the applicant is the Chief, the letter should be written by the jurisdictional head (e.g., Mayor or City Manager, etc.). Otherwise, the recommendation should be from the Fire Chief.
4. Please do not submit your application package directly to the Harvard Kennedy School of Government. Mail the application package (traceable mail with receipt is recommended) no later than February

*(Continued on page 19)*

## Forty percent of all home fire deaths resulted from fires in homes with no smoke alarms

### NFPA releases report on Smoke Alarms in U.S. Home Fires

Four of every ten home fire deaths resulted from fires with no smoke alarms in 2003-2006, according to a new report *Smoke Alarms in U.S. Home Fires*, released by the National Fire Protection Association (NFPA).

“Smoke alarms are one of the greatest fire protection devices of our time and have significantly contributed to the decline in home fire fatalities since the late 70’s,” said James M. Shannon, president of NFPA. “But it’s not enough to randomly put up one smoke alarm and forget about it. In addition to placing smoke alarms in recommended areas, they must be kept in good working order, which includes testing them monthly, changing batteries at least once a year, and making sure that they are not disconnected.”

Working smoke alarms cut the risk of dying in reported home structure fires in half. The 2007 edition of NFPA 72, National Fire Alarm Code® requires smoke alarms in every bedroom, outside each sleeping area, and on every level. They should also be interconnected so that when one sounds, they all sound.

Other key findings from *Smoke Alarms in U.S. Home Fires*:

- Smoke alarm failures usually result from missing, disconnected, or dead batteries.
- In one-fifth of all homes with smoke alarms, none were working.
- Most homes still have smoke alarms powered by batteries only.
- People 55 or older were more likely to have smoke alarms that were more than 10 years old. (Smoke alarms should be replaced every ten years.)
- More than half of home fire deaths that occurred where no smoke alarms or no working smoke alarms were present happened between 11:00 p.m. and 7:00 a.m.
- The death rate per 1,000 reported fires is 84% lower when hardwired smoke alarms and wet pipe sprinklers are present.

According to NFPA approximately 3,000 people a year die in home fires. “This report reinforces the importance of smoke alarms in saving lives and identifies the way to further reduce that number through the installation of home fire sprinklers,” said Shannon. “It is not acceptable to say 3,000 deaths are okay when we know we can do better.”

NFPA offers the following tips for smoke alarms. Visit [www.nfpa.org/smokealarms](http://www.nfpa.org/smokealarms) for more information and to see video with basic smoke alarm safety tips.

- Choose a smoke alarm that bears the label of a recognized testing laboratory.
- Install a smoke alarm in every bedroom, outside each sleeping area, and on every level of your home, including the basement.
- Interconnect all smoke alarms throughout the home. When one sounds, they all sound.
- Replace batteries in all smoke alarms at least once a year. If an alarm “chirps,” warning the battery is low, replace the battery right away.
- Replace all smoke alarms, including alarms that use 10-year batteries and hard-wired alarms, when they are 10 years old or sooner if they do not respond properly when tested.
- Test your smoke alarms at least every month, using the test button or an approved smoke substitute and clean the units, in accordance with the manufacturers’ instructions.
- An ionization smoke alarm is generally more responsive to flaming fires and a photoelectric smoke alarm is generally more responsive to smoldering fires. For the best protection, both types of alarms, or a combination alarm (photoelectric and ionization), should be installed in homes.
- Be sure that all doors and windows that lead outside open easily and that everyone in the home knows the escape plan.
- Consider home fire sprinklers when building a new home or doing a major renovation.

## New report shows benefits of home fire sprinkler ordinance in Prince George's County

Live demonstration by fire safety groups highlights release of 15-year study

The nonprofit Home Fire Sprinkler Coalition (HFSC), Prince George's County Fire/EMS Department, Maryland Fire and Rescue Institute and the Maryland State Fire Marshal's Office conducted a live fire and sprinkler burn demonstration to release a new study that analyzed Prince George's County's experience with its single-family dwelling fire sprinkler ordinance over the 15-year period of 1992-2007. The demonstration was conducted at the Maryland Fire & Rescue Institute.

The study, produced in cooperation with the University of Maryland, concluded that the ordinance had a significant impact on life-safety and reduction of property damage. During the 15-year period, there were 13,494 house fires with 101 deaths and 328 injuries in homes that were not protected with fire sprinklers. There were no deaths in the homes protected with home fire sprinklers. The average property loss after a fire with fatalities in an unsprinklered residence was 10 times more costly than a fire in homes protected with a fire sprinkler system. "What we envisioned 20 years ago when we started our work to require fire sprinklers in single-family homes was demonstrated in this report," said William Barnard, Maryland State Fire Marshal. "Prince George's County was the first county in our country to pass this type of ordinance. Today, with the completion of this study, we have the data to prove that we were right. The biggest fact is the fire fatalities. There were no fatalities in homes protected with fire sprinklers. It is unfortunate there were so many fatalities in the homes not protected with fire sprinklers."

Barnard moderated the live fire and sprinkler demonstration where two 8' x 8' rooms were built and furnished. One room was protected with a single fire sprinkler the other room was not. A fire was started in the unprotected room. After nine seconds the smoke alarm activated. In approximately three minutes, flashover occurred where all the contents in the room were on fire. Firefighters then used their fire hoses to extinguish the fire.

Then a fire was started in the room protected with the fire sprinkler. The smoke alarm sounded at eight seconds. Once the temperature near the sprinkler reached approximately 150 degrees F, the sprinkler activated and controlled the fire.

"This demonstration speaks for itself," Barnard said. "In the room that did not have fire sprinklers, fire spread within two minutes until the room was fully engulfed. In the other room, the fire sprinkler activated showing how they dramatically increase the chance of surviving a fire, especially among those at highest risk who may be challenged when it's time to escape."

The Prince George's County 15-Year Year History report is available on HFSC's Web site [www.homefiresprinkler.org](http://www.homefiresprinkler.org).

*(Continued from page 14)*

performance of one of the most critical SCBA components, the face piece," said NIST researcher, Nelson Bryner. "NIST is pleased to work with USFA in this effort to improve the operational safety of firefighters."

## **USFA Announces the Release of a Report on Emergency Vehicle Visibility and Conspicuity**

The United States Fire Administration (USFA), in partnership with the International Fire Service Training Association (IFSTA), announces the release of the Emergency Vehicle Visibility and Conspicuity Study. The study report highlights the results of a U.S. Department of Justice - National Institute of Justice (NIJ) supported project intended to enhance emergency vehicle and roadway operations safety for firefighters, law enforcement officers, and other emergency responders.

“With vehicle crashes and emergency responders being struck on the roadway being a major cause of on-duty fatalities, it is important to examine all technologies to reduce this tragic cause of death,” said USFA Deputy Fire Administrator Glenn A. Gaines. “We are grateful for the U.S. Department of Justice’s NIJ support of this study that will benefit the fire and emergency services and law enforcement alike.”

"IFSTA was proud to work with USFA and the U.S. Department of Justice in this study to improve emergency vehicle and roadway operations safety," said Mike Wieder, IFSTA Assistant Director. "We believe that the results of this study will enhance the safety of the fire service, law enforcement, and other emergency responders."

The study report discusses best practices in emergency vehicle visibility and conspicuity, including cutting edge international efforts. It covers retroreflective striping and chevrons, high-visibility paint, built-in passive light, and other reflectors for law enforcement patrol vehicles, fire apparatus, ambulances and other EMS vehicles, and motorcycles.

The *Emergency Vehicle Visibility and Conspicuity Study* and further information on USFA’s emergency vehicle safety projects may be found on the USFA Web site at [www.usfa.dhs.gov/fireservice/research/safety/vehicle.shtm](http://www.usfa.dhs.gov/fireservice/research/safety/vehicle.shtm).

## **USFA and NIST Initiate Study of SCBA Thermal Performance**

The United States Fire Administration (USFA) and the National Institute of Standards and Technology (NIST) have started a research study to examine the enhancement of thermal performance of Self-Contained Breathing Apparatus (SCBA) face pieces to increase the protection of firefighters.

“There have been incidents of serious SCBA face piece failure, sufficient to warrant this important study,” said USFA Fire Administrator Kelvin J. Cochran. “There is a clear need to examine ways to strengthen the protection provided by SCBA face pieces used by the fire service, before others are injured.”

The initial phase of this study will examine documented on-duty injuries and fatalities of firefighters due to thermal exposure of SCBA face pieces. Also during this phase, USFA and NIST will work with the National Fire Protection Association (NFPA) 1981 *Open-Circuit Self-Contained Breathing Apparatus* Technical Committee on identifying ways to enhance the operational effectiveness of SCBA face pieces. Finally, initial laboratory thermal testing of commercially available SCBA face pieces will also be conducted.

"Through both laboratory and operational testing, this study will examine ways to enhance the thermal

*(Continued on page 13)*



## **CDP Celebrates 500,000 Trained D.C. Fire Fighter Sets CDP Training Milestone**

When the Center for Domestic Preparedness, located in Anniston, Ala., was founded in 1998, it was envisioned as a resident training facility that would train a maximum of 10,000 responders per year. In FY 2009, the CDP staff trained more than 98,000 responders from across the United States and its territories, well exceeding the initial expectations of the late '90s.

In an Oct. 9<sup>th</sup> ceremony, the CDP added another milestone to its young, 11-year history. Fire Fighter Ralph Thompson became the 500,000<sup>th</sup> emergency responder to graduate from a CDP training course. A sergeant with the District of Columbia Fire Department, Thompson has served the response community for over 23 years, and is a graduate of 15 CDP courses.

As a young man, Thompson started his response career at the age of 16 while serving as a volunteer fire fighter. However, his love for fire fighting was put on hold in 1988 when he was unable to take the entrance exam to fire fighting school, and was placed on a waiting list. Determined to serve, he accepted a testing slot in 1990 for the D.C. Police Department and soon began serving the citizens of the nation's capital as a police officer. It wasn't until 1997 that he was allowed to take the fire fighting entrance exam. He passed—beginning his professional career as a full-time fire fighter.

"I believe in training and building valuable skills," said Thompson. "Each CDP course has provided information that you can relate to real life events. Without training like this, we become stagnant in what we do. A person never wants to feel unprepared, and as long as you're constantly training and preparing yourself, you can handle anything if it happens."

Deputy Administrator of FEMA's Preparedness Directorate Tim Manning addressed the large crowd of CDP employees and responder students in attendance.

"It's a wonderful occasion," he said. "The employees at the CDP have done an amazing job preparing America's responders for the worst of disasters. To be able to graduate 500,000 students means responders around the country have the tools they need when response is required. I'm proud to represent the DHS Secretary and FEMA Administrator here today."

Dr. Todd Jones, CDP superintendent, said reaching such a milestone only shows the level of better preparedness America's communities have achieved.

"This means that there are 500,000 better prepared first responders to help the citizens of this country when the time calls," added Jones. "To be a part of this is an honor and a privilege and the CDP has made a significant preparedness contribution to the nation."

Entering its 12<sup>th</sup> year as the nation's only federally-chartered Weapons of Mass Destruction (WMD) training facility for civilian responders, the CDP will continue to focus on training to ensure communities across the nation are prepared. The CDP is a component of the Federal Emergency Management Agency, and features a unique hands-on training experience for state, local, and tribal emergency responders.

"This was an honor. Being the 500,000<sup>th</sup> graduate was unexpected," added Thompson. "To be selected from among impressive response personnel is humbling. All the responders, whom I've met during CDP training are very knowledgeable, and have the same desire to become more prepared. This was truly an honor."

Learn more about the CDP at <http://cdp.dhs.gov>.

## SI Tech Recalls Diving Suit Hoses Due to Drowning Hazard; One Death Reported

The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

**Name of Product:** Diving Air Hose for Dry Suits

**Units:** About 65,000

**Manufacturer:** SI Tech AB, of Brastad, Sweden

**Hazard:** The hose contains an insert that can dislodge during diving and restrict air flow to the diver, posing a drowning hazard.

**Incidents/Injuries:** SI Tech has received six reports of hose inserts dislodging, including one that was involved in the death of a diver in Los Angeles, Calif.

**Description:** This recall involves a dry suit inflation hose that connects a diver's dry suit to the air supply and allows for the pumping of air into the suit to set up a positive pressure arrangement to help keep it watertight. The hose contains an air flow restricting insert that may be either black, blue or green in color. The batch code is stamped on the threaded metal end of the hose. They were sold with dry suits and also sold separately. Contact SI Tech for a list of batch codes included in this recall or visit the firm's Web site, [www.sitech.se](http://www.sitech.se)

**Sold at:** Diving equipment retailers and distributors nationwide from July 2006 through February 2009 for about \$45.

**Manufactured in:** Sweden

**Remedy:** Consumers should immediately stop using diving equipment that contains the recalled low pressure inflation hoses and contact SI Tech for the location of an authorized dealer for a free repair which involves removal of the hose insert, or to receive instructions on how to repair the hose.

**Consumer Contact:** For additional information, contact SI Tech at (877) 348-3529 anytime, visit [www.sitech.se](http://www.sitech.se), or email the firm at [recall@sitech.se](mailto:recall@sitech.se)

## Diving Equipment Recalled by Halcyon Manufacturing Due to Drowning Hazard

The U.S. Consumer Product Safety Commission, in cooperation with Halcyon Diving Equipment, announced a voluntary recall on October 1 of Halcyon diving equipment. Consumers should stop using recalled products immediately unless otherwise instructed.

This recall involves Halcyon diving equipment including the Halcyon Explorer, Eclipse, CCR35, Evolve and Pioneer Buoyancy Compensator Devices (BCDs) and Halcyon Surface Marker Buoys (SMBs), Lift Bags, Diver Alert Markers (DAMs) Surf Shuttle and Diver Lift Raft Inflatable Devices. "Halcyon" is printed on the diving equipment.

The over pressure valves (OPVs) in the diving equipment could fail allowing the buoyancy compensator devices (BCDs) and the diver lift inflatable devices to leak, posing a drowning hazard to divers. For more information, see <http://www.cpsc.gov/cpsc/pub/prerel/prhtml10/10002.html>

## **NFPA and DRI International partner to offer auditor certifications**

**Certification available for professionals responsible for preparedness programs**

The National Fire Protection Association (NFPA) and the Disaster Recovery Institute International (DRI) have joined forces to create an education and certification program that will qualify participants to audit disaster/emergency management and business continuity programs against existing standards and regulations. Certification levels currently include Certified Business Continuity Auditor (CBCA) or Certified Business Continuity Lead Auditor (CBCLA).

NFPA, the authority on fire and life safety, and DRI, the leading certification and education body in business continuity planning, announced today a new interactive certification program that provides training, tools, and hands-on experience. Through the program, participants will be able to apply the key components of disaster/emergency management and business continuity; the relevant standards, laws, and regulations; and the process of risk assessment, vulnerability analysis, loss prevention, and risk mitigation. Participants will also develop, implement, test, and maintain their plans and procedures.

“Professionals dealing with the growing need for disaster management and business continuity planning have been clamoring for a turnkey solution to help them measure the level of their organization’s preparedness against appropriate standards and regulations, and this certification program answers that call,” said NFPA’s Bob Vondrasek, vice president for technical projects. “This unique interactive program uses tools that allow novice and experienced corporate planners, internal and external auditors, and those interested in self-assessing their programs, or their clients’ programs, to perform an audit to better measure their state of preparedness.”

Course materials delve into existing legal and regulatory requirements by industry and country, as well as emerging requirements including: NFPA 1600, Standard for Disaster/Emergency Management and Business Continuity; DRI International’s professional practices, financial services, insurance, health-care, utilities, and public sector guidelines; and many others. In addition, careful attention is given to the processes by which disaster/emergency management and business continuity programs are initiated, with an eye toward corporate governance, policy, and procedures.

“Education is the key to success for professionals working in environments where they are expected to be well versed in the ever-growing set of regulatory requirements, laws, and standards,” said DRI International’s Executive Director, Al Berman. “This certification gives participants the opportunity to demonstrate their knowledge and experience in helping entities assess their preparedness programs, which is something that is increasingly needed.”

At the end of the course, a new and unique qualifying examination is conducted, and individuals who pass will be eligible to apply for certification as a CBCA or CBCLA. The certification level (CBCA or CBCLA) will be granted based upon the amount of demonstrated audit experience of the applicant. Those seeking the CBCLA designation will be required to provide references to verify that they have at least five years of active audit experience. The certification will be granted by DRI International, the largest business continuity certification organization in the world. DRI International has certified over 12,000 applicants in over 90 countries in its more than 20-year history.



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Quincy, MA 02169-7471  
www.nfpa.org

## FACTS ABOUT FIRE - 2008

### Fire Loss in the United States

- In 2008, U.S. public fire departments responded to 1,451,500 fires in the United States. These include 515,000 structure fires, 236,000 vehicle fires, and 700,500 outside and other fires.  
*Every 22 seconds, a fire department responds to a fire somewhere in the United States.*

- In 2008, there were 3,320 civilian fire deaths.  
*Nationwide, a civilian fire death is reported every 2 hours 38 minutes.*

- In 2008, 386,500 homes fires caused 2,755, or 83%, of civilian fire deaths.  
*On average, home fires kill eight people every day nationwide.*

- In 2008, 79% (13,160) of the 16,705 reported civilian fire injuries resulted from home fires.  
*Nationwide, a civilian fire injury is reported every 31 minutes.*

### United States Fire Service

- In 2008, there were 1,148,850 firefighters in the United States, serving in 30,170 departments. Of these firefighters, 321,700 were career and 827,150 were volunteer.

- All career fire departments totaled 2,315 (or 8% of all departments) in 2008, protecting 45% of the population. Mostly career departments totaled 1,790 (6% of all departments), protecting 17% of the population. Mostly volunteer departments totaled 4,830 (16% of all departments), protecting 17% of the population. All volunteer departments totaled 21,235 (70% of all departments), protecting 22% of the population.

- In 2008, a total of 104 firefighters were fatally injured while on duty. Of these, 42 were career, 54 were volunteer, and 7 were non-municipal (those not employed by local, public fire departments).

- In 2008, 79,700 firefighters were injured in the line of duty. Of those, 36,595 (46%) occurred during fireground operations.

### False Alarms in the United States

- In 2008, United States fire departments responded to 2,241,500 false alarms. Of the total of false alarms, 765,000 resulted from a system malfunction, 190,000 were malicious, 982,500 were unintentional, and 304,000 were others, such as bomb scares.

Visit NFPA's web site for additional fire statistics and a link to over forty printable fact sheets on the U.S. fire problem. <http://www.nfpa.org/categoryList.asp?categoryID=951&URL=Research/Fire%20statistics>

For more information contact Paula Levesque at 617-984-7443 or e-mail [osds@nfpa.org](mailto:osds@nfpa.org).

Sources: *Fire Loss in the United States 2008*, by Michael J. Karter, Jr.; *U.S. Fire Department Profile Through 2008*, by Michael J. Karter, Jr. and Gary P. Stein; *Firefighter Fatalities in the U.S.-2008*, by Rita Fahy, Paul R. LeBlanc, and Joseph L. Molis (firefighter fatality figures have been updated since publication); and *U.S. Firefighter Injuries- 2008*, by Michael J. Karter, Jr. and Joseph L. Molis.

Updated 10/09

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12, 2010 (postmark) to the following address:

Harvard Fellowship Program  
International Association of Fire Chiefs  
c/o Ms. Elena Slavinsky  
4025 Fair Ridge Drive - Suite 300  
Fairfax, Virginia 22033-2868

5. For questions regarding application procedures only, please contact Ms. Mary Wingert at the U.S. Fire Administration, (301) 447-1085 or mary.wingert@dhs.gov.

6. If the applicant's organization or position should change (voluntarily or involuntarily) after the application package has been submitted, she/he is obligated to notify Ms. Wingert.

Application packages postmarked after February 12, 2010, will not be considered.

For more information please visit the USFA or Harvard University/John F. Kennedy School of Government Senior Executives in State and Local Government Web sites.

## NFPA commends ICC sprinkler vote

Calling it a critical step toward reducing deaths and destruction caused by home fires, National Fire Protection Association (NFPA) President James M. Shannon applauded the recent vote by the International Code Council (ICC) to retain the code provision in the next edition of the International Residential Code (IRC) that all new one- and two-family homes to be equipped with home fire sprinklers. The 2009 IRC included this provision for the first time. Proposals were then submitted to remove the requirement for the next edition and have now been voted down. NFPA supplied testimony for support of the provision at the hearing prior to the vote.

Residential sprinklers have been required in the following NFPA codes: NFPA 1, *Uniform Fire Code*®; NFPA 101®, *Life Safety Code*®; and NFPA 5000®, *Building Construction and Safety Code*® since the 2006 editions.

"Sprinklers save lives and this vote shows that we are all aligned towards bringing this important safety feature to where it is needed most," said Shannon. According to NFPA, nearly 3,000 people a year die in fires and more than 80 percent of people that die in fires are killed in home fires. The risk of dying in a home fire is cut by about 80 percent with sprinklers.

"Getting home fire sprinklers in new homes today means we will provide a life-saving benefit for generations to come," said Shannon. "It is an issue we can all get behind to lessen the fire problem in this country."

NFPA launched the *Fire Sprinkler Initiative – Bringing Safety Home* earlier this year. The initiative is a coordinated nationwide effort to increase the number of homes with fire sprinklers by advocating for the adoption of fire sprinkler requirements for new construction of one and two family homes. The campaign:

- encourages jurisdictions to put in place home fire sprinkler requirements by adopting local ordinances or model codes including NFPA 1, *Uniform Fire Code*®; NFPA 101, *Life Safety Code*®, NFPA 5000®, *Building Construction & Safety Code*® and the International Code Council *International Residential Code (IRC)*.
- provides materials and resources to support the adoption of sprinkler requirements in communities all across the country.
- hosts an online community for those interested in furthering the use of home fire sprinklers.





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## Physical Disability as a Factor in Home Fire Deaths

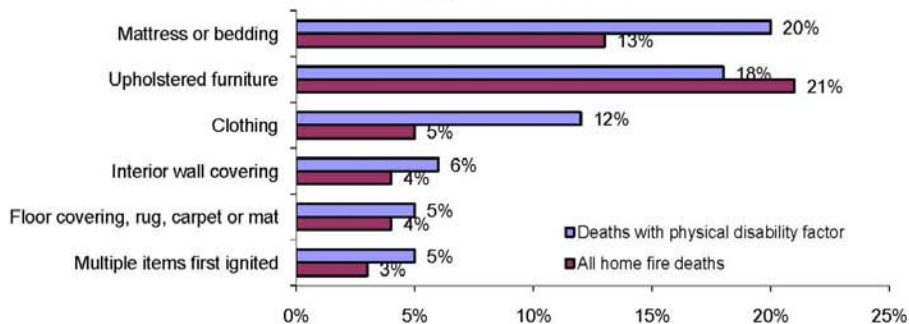
During 2003-2006, physical disability was a contributing factor in an estimated average of 360 (13%) home fire deaths per year. The American Community Survey reported that 9% of community residents who were at least five years old in 2005-2007 had some type of physical disability while 4% had a sensory disability.

### Causes and Circumstances of Home Fires Deaths With Physical Disability a Factor in 2003-2006

When physical disability contributed to the fatal injury:

- 54% of the victims died as a result of home fires with working smoke alarms compared to only 37% of home fire victims overall.
- One-quarter of victims with physical disabilities were unable to act to save themselves.
- 53% of the victims were involved in ignition and in the area of origin when the incident began.
- Victims were more likely to die from a fire that began with either mattresses or bedding (20% vs. 13% of all home fire victims), or clothing (12% vs. 5% of all home victims).

### Home Structure Fire Deaths with Physical Disability a Factor by Item First Ignited: 2003-2006



- Two of every five (39%) victims were killed by a fire started by smoking materials, compared to 25% of total home fire victims.
- 88% of the victims were killed in fires in one- or two-family homes. Apartment fires killed 12% of the victims.
- Almost two thirds (65%) of the victims were at least 65 years old.

Source: *Physical Disability as a Factor in Home Fire Deaths*, Marty Ahrens, NFPA Fire Analysis and Research Division, Quincy, MA, August 2009



## Manual Adjustment of Automatic Slack Adjusters May Contribute to Unexpected Brake Failure on Automotive Fire Apparatus

The National Institute for Occupational Safety and Health (NIOSH) recommends that all fire departments operating fire apparatus equipped with automatic slack adjusters (ASAs) immediately take the following actions to reduce the risk of firefighters being injured in an apparatus crash due to brake failure:

- Ensure that ASAs are not manually adjusted.
- Establish procedures to ensure maintenance on fire apparatus is conducted as recommended in NFPA 1911 *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*.
- Ensure maintenance is only performed by qualified technicians who meet NFPA 1071 *Standard for Emergency Vehicle Technician Professional Qualifications*.

An automatic slack adjuster is a mechanical component of the air brake system that adjust brakes as necessary when the vehicle is in operation to compensate for wear in the brake shoes (drum brakes) or pads (disc brakes). When an ASA is found to be out of adjustment, it signifies the existence of a larger braking system problem that needs correction. Manual adjustment of ASAs should only be done by qualified technicians during installation or when absolutely necessary to move the apparatus to a repair facility (NTSB 2006, 2007; IAFC 2006).

In 2006, the International Association of Fire Chiefs (IAFC) warned the fire service of this potential problem (IAFC 2006) following an investigative report released by the National Transportation Safety Board (NTSB 2006). While conducting an investigation of a recent apparatus crash-related fire fighter fatality, NIOSH learned that fire departments may not fully appreciate the hazards related to manual adjustment of ASAs. NIOSH would like to renew efforts to bring this to the attention of all U.S. fire departments, fire fighters, and fleet maintenance departments who are tasked with preventive maintenance or operation of apparatus equipped with ASAs. The manual adjustment of ASAs may contribute to unexpected brake failure on fire apparatus. When an ASA is found to be out of adjustment it signifies the existence of a larger problem with the braking system that needs to be corrected immediately. Vehicles found to have ASAs that are out of adjustment should be taken out-of-service immediately until corrective brake service is completed.

Fire Departments should ensure that all technicians conducting brake service on fire department apparatus: (1) are certified in air brake repair to the level (T-4) required by the Automotive Service Excellence Medium/Heavy Duty Truck Technician Certification and (2) have, at a minimum, Level 1 Fire Apparatus Technician Certification as certified by the Emergency Vehicle Technician Certification Commission. Additionally, fire departments should adhere to manufacturer guidelines and recommendations and applicable federal, state or provincial, and local laws regarding apparatus inspection and maintenance [NFPA1911].

Further, the NTSB has recommended, and NIOSH agrees, that all drivers of fire apparatus equipped with air brakes must undergo training and testing to demonstrate proficiency in the inspection and operation of air-braked vehicles. Such training should emphasize that manual adjustment of automatic slack adjusters is dangerous and should not be done, except during installation, or in an emergency situation when it is absolutely necessary to move the vehicle to a repair facility.

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*(Continued from page 21)*

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