

All Hands Herald

Massachusetts Department of Fire Services

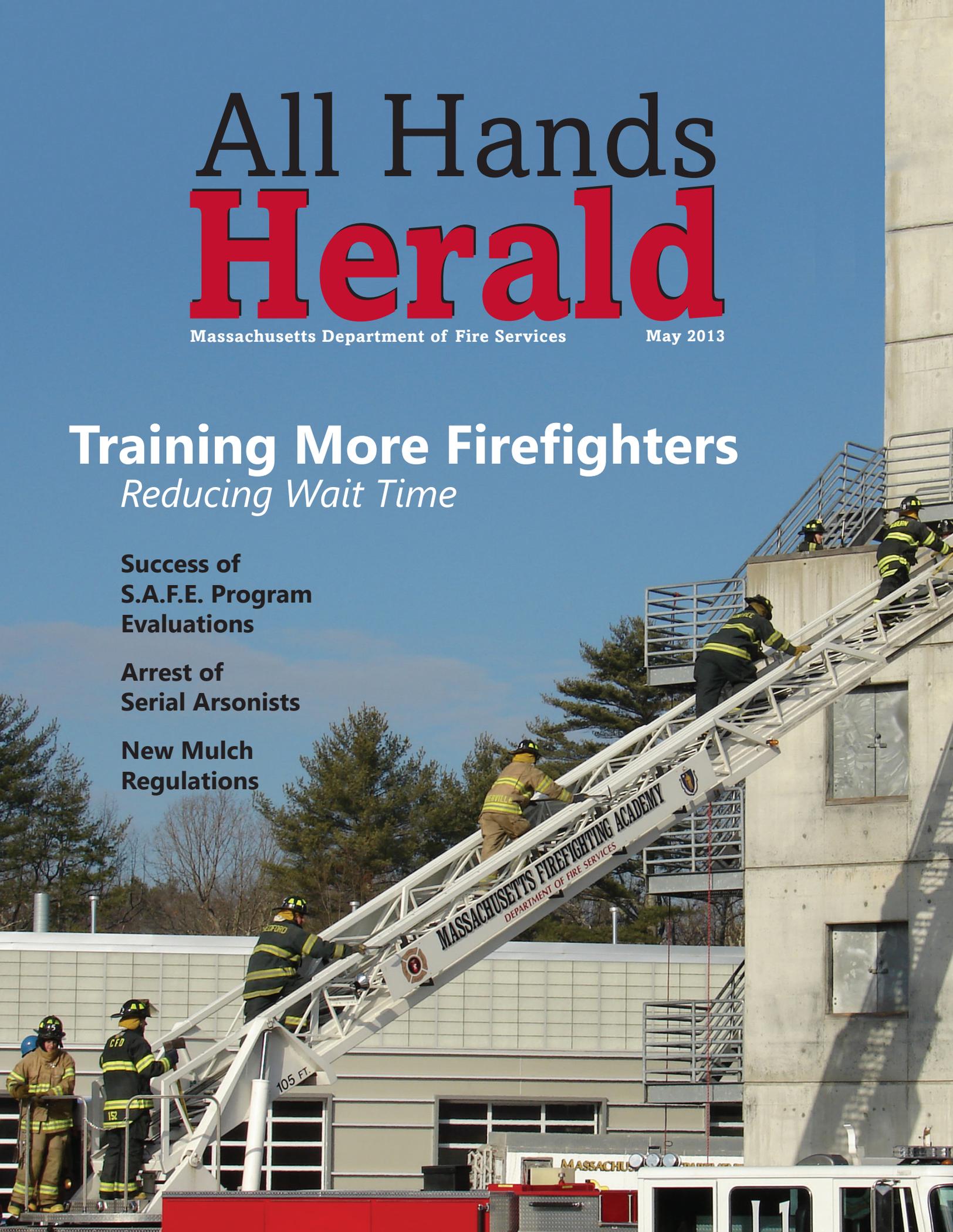
May 2013

Training More Firefighters *Reducing Wait Time*

**Success of
S.A.F.E. Program
Evaluations**

**Arrest of
Serial Arsonists**

**New Mulch
Regulations**



Contents

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The *All Hands Herald* is published three times a year by the Department of Fire Services. Our title incorporates the traditional fire service meaning of all hands working to extinguish a fire. In this publication, all hands is DFS staff providing information, training and assistance with fire service issues which affect all levels of the fire service.

Let us know how you like the *All Hands Herald* and what we can do to make it even more useful to you – our dedicated fire service members and customers.

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2 Training More Firefighters Reducing Wait Time

Beginning in July, the Massachusetts Firefighting Academy will change the format of recruit training in order to increase the annual number of graduates.



4 Fitness Training for Recruits Pays Off

A new approach for entry into and preparation for the recruit program has paid off in retention of recruits and in the reduction of common injuries reported in previous classes.



6 New Mulch Regulation in Effect

New mulch fire safety regulations are in effect this spring for the first time. The regulations were developed in response to significant fires involving mulch-wood products.

- 1 From the Fire Marshal
- 3 Arrest of Serial Arsonists
- 7 S.A.F.E. Evaluation: Proving Fire Education Works
- 8 Plans Review Desk: Safeguard Fire Protection Piping with Proper Flushing
- 9 Proposed Sprinkler Legislation for New One- and Two-Family Dwellings
- 9 Brush Fires: Springtime Hazard
- 10 2013 License Examination Schedule
- 11 Fire Is Everyone's Fight
- 12 Reuse, Recycle and Reassess: Sprinkler Protection and Storage Issues
- 13 Coding Tips for Brush Fires
- 14 Fire Chiefs' Leadership in Fire Education Award
- 15 2012 Fire Deaths Down 30%
- 16 UL Warns of Counterfeit UL Mark on Fire Sprinkler
- 16 May is Electrical Safety Month
- 17 Lightweight Construction and Fire Sprinklers
- 18 March Graduations at Massachusetts Firefighting Academy
- 19 Mobile Live Fire Training Prop from MFA
- 20 Fire Marshal Advisories, January - March 2013
- 21 License Actions, March 2013
- 22 Cooking Safety Campaign Launched

From the Fire Marshal

First Spring of Mulch Regulation

Last year there were significant changes to 527 CMR 17 – Forest Products including new provisions for the application of new mulch around the combustible exteriors of buildings and the commercial storage of mulch. This will be the first spring these regulations are in effect and I hope the fire service will educate building owners, managers and landscaping companies at the local level. Education will be key to changing people's behavior and preventing mulch fires.

The application of new mulch must be 18" from the combustible exterior of buildings. The regulations do not impact residential buildings with six or fewer units, but all owners and building managers should be encouraged to implement mulch safety practices.

In recent years, there have been several mulch fires at commercial establishments that have been difficult to fight and have caused road closures. The new regulations establish distances between piles of mulch and the lot line that should help minimize the risk that fire jumps from one mulch storage pile to the next.

Please see the article about these regulations on page 6 of this issue. The Department of Fire Services (DFS) has also prepared educational materials on mulch safety for use in your communities. You can find these materials at our website at www.mass.gov/DFS. Under *Key Resources* in the left column, click *Fire Safety Topics & Flyers*, then *Mulch Fire Safety*.

Recruit Program Changes

Ed Walker and the staff at the Massachusetts Firefighting Academy (MFA) have been working with the Massachusetts Fire Training Council to address the backlog in the Recruit Training Program. Together they have redesigned the program and will increase the number of students 42%, from 288 to 408 per year. Starting July 1, a small recruit class will start every three weeks, and the course will last nine weeks. MFA staff believe that smaller class sizes will improve learning and will achieve time efficiencies.

Southeastern Massachusetts Arsons

This fall and winter, Massachusetts was plagued by a series of arson fires that occurred across four counties, an enormous and unusual footprint for a serial arsonist. The media wanted to know if every single fire that occurred in Barnstable, Norfolk, Bristol or Plymouth County was connected to the case, even before a cause had been determined. Citizens were understandably on edge wondering if their community might be the next target and if the arsonist(s) would escalate to occupied buildings. Fire chiefs were concerned as fire personnel were being put at risk fighting these fires. Fire data shows that intentionally-set structure fires are the most dangerous to firefighters.

I want to commend all the fire and law enforcement officers (local, state and federal) for their extraordinary efforts that led to two arrests for a West Bridgewater fire. And because this is a DFS newsletter, I want to



especially commend Captain Jeanne Stewart, commander of the Fire & Explosion Investigation Section (FE&IS), and the members of the South Fire Investigation Team: Sgt. Mike Peters, Tpr. Ken Braley, Tpr. Tom Bertelletti, Tpr. Mike Fagan, and Tpr. Eric Desrochers. I realize that other members of the Fire Investigation Unit assisted in many ways, but the South Team gave up night after night, holiday after holiday, to bring this case to conclusion, knowing that only an arrest could allow first responders and the public to sleep easy. I know it was difficult to repeatedly tell the public that fires were, "under investigation," but it was the only way the investigation could proceed without tipping off the suspects.

Staff Changes

Joseph Klucznik became the new deputy director of the MFA in February. Joe recently retired as chief of the East Providence (RI) Fire Department after 20 years with the department. He has extensive experience as an instructor at the Rhode Island Fire Academy and at the Community College of Rhode Island.

Sheila Remondi, who has been our chief financial officer for many

Continued on page 3

Training More Firefighters

Reducing Wait Time



Recruit Program Changes at the MFA

At their monthly meeting on March 6, 2013 the Massachusetts Fire Training Council (MFTC) voted to change the delivery model for the career Recruit Training Program. The Massachusetts Firefighting Academy (MFA) will no longer deliver the recruit training program in the current 12-week format to groups of 72 students. Beginning July 1, the program will be delivered in a modular format over nine weeks to groups of 24 students. Thirteen days of the reduction in time is saved through the economy of working with 24 instead of 72 students. For example, the group of 24 will be able to complete

flammable gas practical training in one day as opposed to the three days currently needed for the larger group. We have not removed any critical program content and graduates will still be certified to the level of Firefighter I/II and Hazardous Materials - Operations Level Responder.

The revised program will increase the number of graduates annually from our current level of 288 to 408, a 42% increase. In addition to shortening the wait time for recruits, the new program will also reduce the cost to departments for backfill, overtime and direct payroll costs for the recruits.

MFA will be notifying chiefs who

have already submitted applications of the revised start and end dates for their firefighters. MFA will also be providing additional information to all chiefs on the changes to the program and the revised schedule of start and end dates.

Please keep in mind that per MFTC policy, the fire academy will only accept completed application packets and applicants will be placed in classes in the order that applications are received.

Please contact MFA director Ed Walker (edmund.walker@state.ma.us or 978-567-3114) with specific questions.

Arrest of Serial Arsonists

This fall, the southeastern portion of Massachusetts suffered a series of arson fires that began to appear related to each other to the State Police fire investigators on the South Team. Mark Sargent, 45, and Jean-Marie Louis, 23, the son of Sargent's girlfriend, both of Middleboro, were charged January 30, 2013 with setting an arson fire in West Bridgewater. Since then, the fires that started in October 2012 have stopped. It is anticipated that through more police work, additional charges will be forthcoming. However, these two have not been convicted of setting any fires and are presumed innocent in our judicial system.

Because these arrests are part of a larger investigation that is ongoing, many details cannot yet be shared publicly, but there is much that can be reported about this large-scale investigation that touched many communities in four counties. The State Police assigned to our agency are working closely with several local fire and police agencies, multiple district attorney's offices and the State Police assigned to them, and the federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) which has been a key member of the team. The investigation and arrests are a shining example of cooperation between a large number of police, law enforcement, and judicial agencies.

The arrests come as part of an on-going investigation into over two dozen arson fires in Barnstable, Norfolk, Plymouth and Bristol Counties starting in October of 2012. The fires occurred over a large geographic area, adding to the complexity of the investigation. Fortunately no one was injured in any of these fires, though some buildings of historical value were lost. Investigators are hard pressed to point to past examples of serial arsonists affecting such a large territory. Most arsonists set fires inside a small, familiar area.

Serial arson frightens the public and creates anxiety. Our investigators realize this and know that arrests are the only solution. Investigators worked doggedly on these cases, giving up family time at Christmas and New Year's. It is important for the public to know how hard fire and law enforcement officials were working to solve this case as quickly as possible.



Arson investigator at work.

From the Fire Marshal continued from page 1

years, has been promoted to director of administrative services. Her thorough knowledge of our budget and deep understanding of our administrative functions makes her a key partner to the senior staff team.

Our new human resources director is Mary Travers. Mary's most recent experience was as the human resources manager for Artisan Industries. She has over 14 years experience in human resources, including

recruitment, benefits management, safety committees, development of training and orientation programs, and conflict resolution. Mary has her Masters degree in Human Resource Administration and her Professional in Human Resources (PHR) certification from the Society for Human Resource Management. Mary has also served in the military for over 20 years, and is currently a commissioned lieutenant in the U.S. Navy Reserve.

Jennifer Mieth is the new full-time public information officer (PIO) at DFS after serving as both the PIO and the head of the Fire Data and Public Education Unit since DFS was created 17 years ago. Cynthia Ouellette, a former teacher, assistant principal, and professor at Rhode Island College, joins us as the new coordinator of the Fire Data and Public Education Unit.

Fitness Training for Recruits Pays Off

Improved Retention and Decreased Injuries

James Hagerty, Assistant Coordinator

The Massachusetts Firefighting Academy (MFA) Recruit Firefighter Training program has undergone numerous changes over its thirty years. Schedules, topics, and lesson are revised to ensure our recruits can perform safely and effectively on the fireground. The MFA staff prides itself on a proactive approach to training. Examples of this approach are the recent development of the *Saving Our Selves* and *Rapid Intervention* Programs, as well as *Ethanol Training*.

This proactive approach has led the MFA staff to address firefighter health and fitness, one of the most misunderstood topics in firefighting. The first obstacle in addressing firefighter fitness is the perception that physical training (PT) is a punitive response to a negative action. In the military, errors lead to push-ups. In athletics you run laps as a consequence for errors or poor performance. No

wonder that PT frightens or angers many. The MFA wants to change this paradigm. By demonstrating and emphasizing that our workload and effort are equal to that of any professional athlete, we are working to eliminate the negative reaction to physical training.

America has become a nation of sedentary individuals. Over seventy percent of Americans are classified as obese or out of shape. The fitness team at MFA has been addressing this problem for fifteen years. A firefighter must be able to rescue a 200 pound unconscious victim. But many recruits arrive for training unable to perform one proper push-up. This problem is not necessarily the recruit's fault; they live typical lives.

MFA recruits become *occupational athletes*. This term contrasts with *professional athlete*. Studies show that the amount of energy and physical demand on a

firefighter often surpasses that of a professional athlete. During fireground activities, it is typical for a firefighter to have a core temperature above 103°F and a heart rate well above age maximum. Add the physical and emotional stress of making a rescue and the importance of fitness is clear. MFA instructors emphasize that the PT training ground is where the rescue is made. Recruits must train their bodies to meet the physical stresses encountered on the fire ground so when the time comes for a rescue, it's just another day at the office.

The MFA, together with the Military Performance Division of the U.S. Army Research Institute of Environmental Medicine (US-ARIEM) developed a comprehensive recruit orientation program. The orientation provides firefighters with instruction in nutrition, hydration and physical





fitness to properly prepare their bodies for the physical demands of the program, as well as the rigors of the profession. New recruits, under the direction of the Massachusetts Fire Training Council, must attend the recruit fitness orientation program at least six weeks prior to the start of his or her scheduled recruit class because a standard course for body adaptation takes a minimum of six weeks.

The MFA training is a functional movement program. Recruits train their bodies for the movements of the profession. A general fitness program is designed for linear movement: push-ups, overhead press and bench press. Recruits must learn how to pull a ceiling. The motion includes standing to the side, reaching out, and pulling from an angle, so we instruct recruits in an angle ceiling pull squat with an SCBA cylinder. When a firefighter enters a smoke-filled environment, they crawl, so we instruct recruits in push-ups while traveling

between rungs of a ladder. The recruits are occupational athletes and are continuously reminded that the fireground is the playing field and they must be ready when the game begins.

The new approach for entry into and preparation for the recruit program has paid off in retention of recruits and in the reduction of common injuries reported in previous classes.

The new approach for entry into and preparation for the recruit program has paid off in retention of recruits and in the reduction of common injuries reported in previous classes. In the past five recruit classes, with the exception of individuals with underlying medical problems,

no one has needed medical attention after the first day of fitness training. In the past, an average of nine recruits needed medical attention. Along with this drastic reduction in initial injuries, we have almost eliminated small strains and muscle pulls suffered when recruits enter their phase burns. In the past, recruits had an average of fifteen to twenty reports of pulls and strains per 72 students.

The new approach to firefighter health and fitness training has not gone unnoticed. Many training programs at MFA have added a fitness component to their programs. Students report that they have changed their training program or started to address their physical conditioning. Students are not only working towards an injury-free career, but addressing their overall health, as well as their financial security.

New Mulch Regulation in Effect

527 CMR 17.00 Lumber & Forest Product Regulation, includes Mulch

Spring is the traditional time for sprucing up landscaping around buildings. This spring will be the first with a new mulch fire safety regulation in effect. The regulation was developed in response to several significant fires in the Commonwealth involving mulch-wood products. State Fire Marshal Stephen D. Coan and fire chiefs across the state want to alert landscaping companies, nurseries, building owners and managers about the proper placement and storage of mulch in order to prevent fires.

Revised Regulation Has New Mulch Safety Provision

The revised regulation, 527 CMR 17, took effect last September and prohibits the new application of mulch within 18” around combustible exteriors of buildings, such as wood or vinyl. Brick and concrete buildings are not affected. Residential buildings with six units or less are exempted from the regulation, but all homeowners may want to adopt these safety practices. The regulation applies to all other buildings including commercial properties.

The Department of Fire Services has produced a **Mulch FireFACTOR**. This one-page, 2-sided educational hand-out on mulch fire safety and the regulation is available at www.mass.gov/DFS. Under *Key Resources* in the left column, click *Fire Safety Topics & Flyers*, then *Mulch Fire Safety*.

Storage and Manufacturing of Mulch

The revised regulation also has safety requirements for those who store or manufacture mulch. It limits the size of mulch piles and requires a distance of 30-feet between piles and 25-feet from the lot line. Large piles of mulch can spontaneously combust easily due to the heat they generate, so it is important to be vigilant and employ good housekeeping. The distance between mulch piles prevents a fire in one from spreading to another or to an adjacent building.

PREVENTING MULCH FIRES

Mulch is a combustible material that can be easily ignited by improperly discarded smoking materials. Hundreds of small and large fires are started this way every year. The risk is that what starts as a small outdoor mulch fire can quickly spread to buildings. A mulch fire can be well underway before someone notices or is alerted by smoke alarms or sprinkler systems activating.

New Regulation on Mulch Safety

- The new regulation, 527 CMR 17, took effect last September and prohibits the new application of mulch within 18” around combustible exteriors of buildings, such as wood or vinyl but not brick or concrete. Residential buildings with six units or less are exempted from this regulation, but all homeowners may also wish to adopt these safety practices. The regulation applies to all other buildings including commercial properties.



Photo courtesy of photos-public-domain.com

Tips for Property Managers, Building Owners & Landscapers

- Provide a minimum of an 18-inch clearance between landscape mulch beds and combustible building materials, such as wood, vinyl siding and decks.
- Use non-combustible mulch such as rock or pea stone around gas meters and combustible portions of the structure.
- Provide proper receptacles for smoking materials at all entrances to public buildings and in designated smoking areas. Place them at least 18” away from the building, do not mulch in these areas and remember to regularly empty smoking receptacles.
- Grounds and maintenance crews should be aware when conditions are favorable for mulch fires and increase surveillance of mulch beds.
- Keep mulch beds moist when possible.

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FireFACTORS
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Commonwealth of Massachusetts
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DFS - Feb. '13

Permits Required to Store 300+ Cubic Yards of Mulch

Permits are required from the fire department wherever more than 300 cubic yards of mulch is produced or stored.

Tips for Landscapers, Property Managers and Building Owners

Here are some tips for property managers and building owners on how to prevent mulch fires:

- Keep wood mulch 18” away from combustible exteriors of buildings such as wood or vinyl siding. Do not put mulch up against a building.
- Use materials such as pea stone or crushed rock for the first 18” as a barrier around the foundation of the building.
- Provide proper receptacles for smoking materials.

S.A.F.E. Evaluation

Proving Fire Education Works

Cynthia Ouellette, Department of Fire Services

What is S.A.F.E.?

The Student Awareness of Fire Education (S.A.F.E.) Program is a grant program issued to fire departments in order to place trained firefighters in classrooms for fire prevention education. These firefighters work closely with classroom teachers to conduct fire and life safety education programs for students in grades K-12. High quality fire and life safety educators are the foundation of the S.A.F.E. Program. Since its inception 18 years ago, S.A.F.E. has proved to be a successful initiative that fulfills its mission; it enabled students to recognize the dangers of fire and the hazards posed by tobacco products.

In FY 2011 over
914 firefighters visited
17,166 classrooms
and taught
305,384 students fire
safety education.

Proven Success

Many components contribute to the success of S.A.F.E. in teaching students and families key fire safety behaviors. These include: training and certification of fire and life safety educators; establishing partnerships in the classroom; a *Curriculum Planning Guidebook* developed by the Department of Fire Services (DFS) in conjunction with the Massachusetts Public and Life Safety Education Task Force to help firefighters develop programs and design lesson plans; celebrating *young heroes*, children

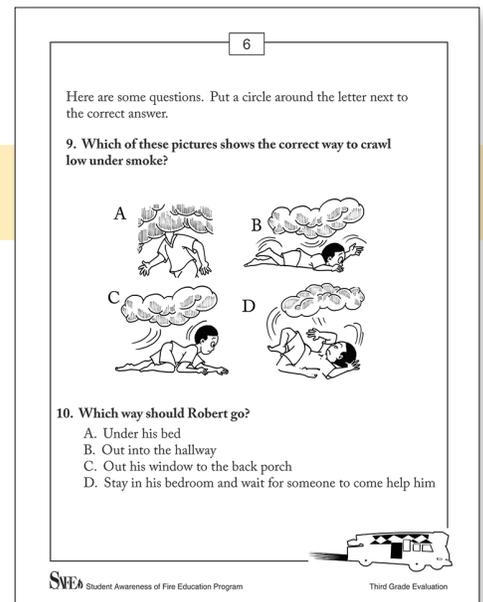
who have responded appropriately to an emergency situation; and the evaluation of the S.A.F.E. program. The *young heroes* program is one of our success stories. Since 1995 we have acknowledged over 284 young heroes. Someone close to each of these young heroes survived a serious incident due to the actions of the youngster. It is a joy to celebrate these actions. But it is the process of evaluating all students that provides the most data indicating our success and guides our future steps.

Child Fire Deaths Declining

In FY 2011, 206 communities received S.A.F.E. grants. This is an increase from the 201 who received S.A.F.E. grants in FY 2010 and is substantially greater than the 130 communities who initially received grants in FY 1996. During this span of the S.A.F.E. Program (1995-2011), child fire deaths dropped by 92%. **The one thing that is happening in Massachusetts to improve fire safety exclusively for children that is not happening for other age groups is consistent, comprehensive, statewide, school-based fire safety education.**

Did They Learn What We Taught?

Over the last several years the need for consistent, quantitative data to show the effectiveness of individual S.A.F.E. programs has been a grant requirement. Many cities and towns are actively compiling data by scoring pre- and post-tests, using essays, homework assignments and demonstrations to test whether fire safety messages are being conveyed effectively. DFS has developed evaluation



tools for grades 3, 6, and 10 (available soon), to help measure the effectiveness of the S.A.F.E. Program. Analyzing evaluation feedback provides important information which allows firefighters to: review programs; identify areas that need improvement; and confirms the provision of appropriate information to students.

Impressive Results

In FY 2011 data have shown what third grade students learned about ten key fire S.A.F.E. behaviors, and where improvements need to be made. In this second year using the evaluation tool, 59 communities evaluated 8,481 3rd grade students who scored an average of 81% on post-tests. This was nearly a threefold increase over the 3,395 third graders evaluated in 16 communities in FY 2010, whose post-test average was 76%.

Evaluation finds areas of success and areas for improvement. Ninety-seven percent (97%) of students knew that smokers should smoke outside, however, only 66% of students could identify the ways smoking materials are dangerous. Students are aware that societal changes are moving smoker's outdoors (and coincidentally outdoor smoking fires are also

Continued on page 10

Safeguard Fire Protection Piping

with Proper Flushing



The importance of ensuring that new underground fire protection piping has been properly flushed cannot be understated. Some recent consequences of improper flushing include:

- Pumps on four vehicles were seriously damaged because of a handful of crushed stone from hydrants.
- Standpipe hose line was suddenly blocked by a 2¼” stone caught in the reducer and a combination nozzle was destroyed by dirt and small gravel.
- A new town building had its fire pump’s impeller ruined by a torpedo level left inside the pipe. The level was sucked up during the pump’s acceptance testing.
- One building was a total loss when the sprinkler head immediately adjacent to a fire did not operate properly because it was clogged with stones.

Each incident took place in Massachusetts. In each case, the new fire protection system was supposedly properly flushed. Although there were no injuries, substantial costs were incurred; all of which could have been avoided if the systems were properly flushed.

During a fire, the water needed by a fire protection system exceeds that for domestic systems. The increased water demand can dislodge larger foreign material and carry it into the fire protection system. Once in the system, the chances increase that the material will become an obstruction because pipe diameters decrease

the farther they travel into the system. Typically, an obstruction occurs at the pump’s impeller, in a piping reduction, or at a sprinkler head. The way to reduce the chances of an obstruction is to ensure that all underground piping that supplies water-based fire suppression systems is flushed at installation in accordance with its respective NFPA installation standard.

Flushing is accomplished by flowing large amounts of water through the underground piping and discharging the water outside. The water must be discharged through burlap bags to verify the presence of foreign materials. For proper flushing, NFPA requires a minimum flow rate no less than one of the following: (1) the calculated water demand flow rate; (2) a flow rate to achieve a velocity of 10 ft/sec; or (3) the maximum flow rate. Flushing must continue until water runs clear and there is no accumulation of foreign material in the burlap bags.

Fire departments are encouraged to witness system flushing to ensure it is performed properly. A brief outline on proper flushing criteria can be found on the Contractor’s Material

and Test Certificate for Underground Piping. In accordance with the Massachusetts State Building Code, this certificate must be submitted to fire and building departments prior to witnessing the system’s acceptance testing and issuance of a certificate of occupancy.

One common misunderstanding is that when a water purveyor flushes the underground piping, that flushing satisfies the NFPA flushing requirements. However, water purveyors’ industry practice on flushing uses approximately a quarter of the required flow rates of NFPA fire protection flushing requirements.

An obstruction investigation is required per NFPA 25 if underground piping is connected to an above ground fire suppression system’s piping prior to proper flushing.

For more information, contact fire protection specialists in the Division of Fire Safety (formerly the Office of the State Fire Marshal). For jurisdictions south of, or containing the Massachusetts Turnpike, contact Jake Nunnemacher at 978-567-3377 or jacob.nunnemacher@state.ma.us. For jurisdictions north of the Turnpike, contact Dana Haagensen at 978-567-3376 or dana.haagensen@state.ma.us.

Reduce the chances of an obstruction by ensuring that all underground piping that supplies water-based fire suppression systems is flushed at installation in accordance with NFPA installation standards.

Proposed Sprinkler Legislation

for New One- and Two-Family Dwellings

Proposed legislation would create a new section, 26J, of Chapter 148 of the General Laws that would allow cities and towns to require the installation of sprinklers in new construction of one- and two-family homes through local adoption. If a community adopts this legislation, then it would take effect in that community starting with building permits issued one year from the date of passage. This would give owners and builders, additional time to respond to the planning and costs associated with the installation of sprinkler systems.

This approach is similar to several other sprinkler “local option” laws such as C 148 S 26I (Sprinklers in New Buildings with 4+ Units), 26H (Sprinklers in Boarding and Lodging Houses) and the original 26G (Sprinklers in Buildings of Additions of more than 7,500 gross square feet). The method and manner of installation will be covered by the provisions of the State Building Code.

Heads of local fire departments would enforce the provisions of this legislation and appeals would be filed with and heard by, the *Board of Building Regulations and Standards Appeals*

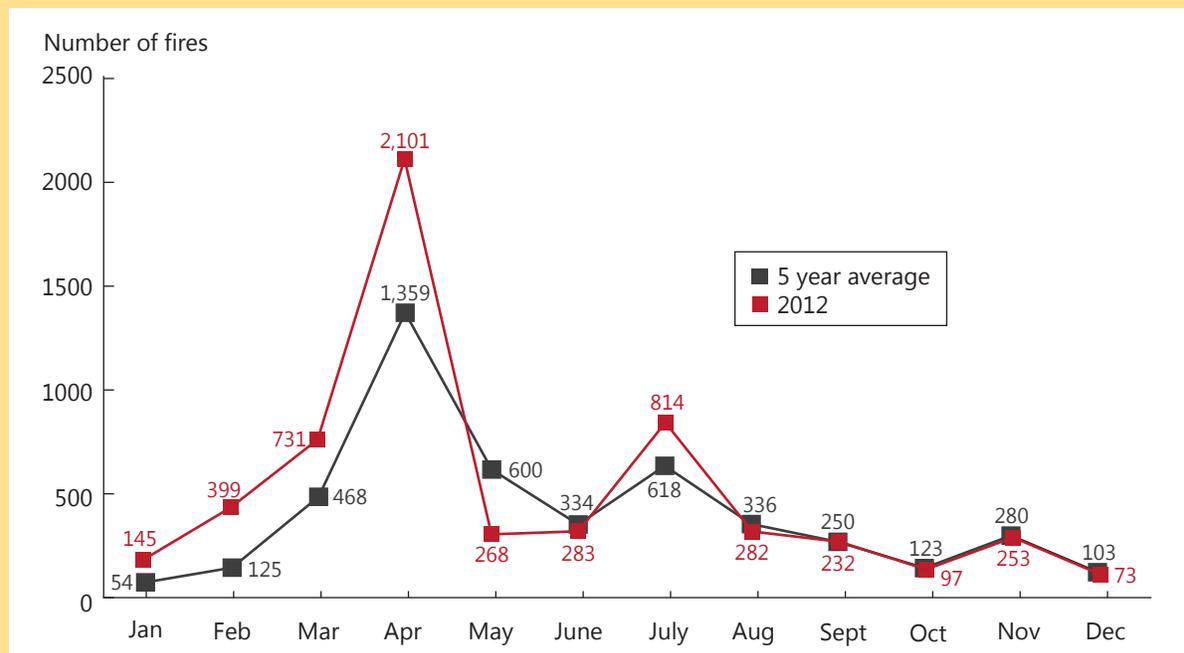
Board (BBRS), as currently provided in section 100 of Chapter 143.

Another important new provision of this bill would be to allow sprinkler systems to be shut off by permission of the head of the fire department when the property is used seasonally as defined by the *Board of Fire Prevention Regulations* (BFPR). This would allow for certain vacation properties that are not occupied for large portions of the year (summer homes), to legally receive permission to shut down sprinkler systems so that heating systems in the homes can be shut down for winter.

Brush Fires: Springtime Hazard

Springtime means brush fires for the Massachusetts fire service. April is the peak of the Massachusetts brush fire season as illustrated in this graph. On average, the Commonwealth experiences 120% more brush fires in April than it does in its next highest month, July. Last year (2012), we had almost no snow pack and the spring was warm and dry. As a result, there was an extremely bad brush fire season; there were 258% more brush fires in April than in July.

Brush Fires in Massachusetts by Month, 2008 - 2012*



* 2012 data are preliminary.

2013 License Examination Schedule

- You must pre-register for all license exams. Completed applications must be received by 5:00 p.m. on the deadline date listed below. If your application is received after the applicable deadline, you will not be allowed to sit for the exam.
- All exams start promptly at 10:00 a.m.
- All license exams are offered at both DFS locations: One State Road in Stow (park in the remote lot at the top of the hill) and One Prince Street (Northampton State Hospital) in Northampton (observe designated visitor parking only). Directions available at www.mass.gov/dfs.
- Effective January 1, 2011, all license exams will be graded by computer.

Examinations	Examination Dates All exams start promptly at 10:00 a.m.	Deadlines for Applications
Fire Suppression Commercial Hood Cleaning	July 24, 2013 (Wednesday) October 23, 2013 (Wednesday)	July 5, 2013 (Friday) October 4, 2013 (Friday)
Cannon/Mortar Fireworks Special Effects Blasting Blasting R&D	May 22, 2013 (Wednesday) August 21, 2013 (Wednesday) November 20, 2013 (Wednesday)	May 3, 2013 (Friday) August 2, 2013 (Friday) November 1, 2013 (Friday)

For licensing questions, contact Lydia Bogar at 978-567-3700 or at Lydia.Bogar@state.ma.us.

S.A.F.E. Evaluation continued from page 7

increasing) but are not clear on the key dangers posed by tobacco products.

We are experiencing great success in teaching match and lighter safety to students with 87% knowing they should not touch matches or lighters and 82% recognizing that they should, *tell a grown-up*. Eighty-seven percent (87%) of students also recognize the correct action to take in a fire is to *crawl low under smoke*, a 6% increase over FY 2010. In the area of home escape plans, students were able

to identify two ways out, an increase of 7%; identify the correct escape action, an increase of 5%; and that a family meeting place should be outside the building, an increase of 3%.

A basic behavior that every fire educator teaches is to *stop, drop, and roll*. Evaluation showed that 89% of students knew that *stop, drop and roll* is the correct response to a clothing ignition, (a 6% increase from last year), and 71% identified the correct way to perform *stop, drop and roll* from a choice of four different illustrations. While 71% seems like a great number, we had assumed that all students understood this concept. But the results show that 29% of students are not performing this basic behavior correctly, usually they are not covering their faces. The analysis points out behaviors that need

correcting, allowing fire educators to return to classrooms to re-teach the behavior in more effective ways. Evaluation is critical to fire education programs because results prove where and when we are successful, and where we need to improve.

Students who participate in the S.A.F.E. Program are well trained in fire safety. And as more departments evaluate their fire education programs, more firefighters will be able to deliver what we know to be successful: consistent, comprehensive fire safety education which keeps our children safe.

For a full copy of the *FY 2011 S.A.F.E. Annual Report*, go to www.mass.gov/dfs and click on *Public Education*. To see or download the 3rd and 6th grade evaluation materials and instructions, click on *Resources for Fire Educators* from the Public Education page.



Fire Is Everyone's Fight™

Reducing Home Fire Injury, Death and Property Loss

The fire problem in the United States is an ongoing and continuous battle for the fire service and the public alike. According to the U.S. Fire Administration (USFA), 81% of all fire deaths and 76% of all fire injuries occurred in residential buildings. Each year there is an estimated:

- 365,500 residential building fires reported to U.S. fire departments
- 2,560 deaths
- 13,275 injuries
- \$6.6 billion in property loss

This is a call to action for USFA, fire and life safety partner organizations and the American public. We must join together to help reduce the number of home fires, and the resulting deaths, injuries and loss of property. We rely on the fire service to fight fires once they occur; however, the prevention of fires is up to all of us . . . Fire is Everyone's Fight™.

Fire is Everyone's Fight™

Fire is Everyone's Fight™ is designed to unite the fire service and many others in a collaborative effort to reduce home fire injuries, deaths and property loss. It invites fire departments, safety advocates, community groups, schools and others to rally behind a common and compelling theme. USFA and its partners will communicate and reinforce key lessons across many proven fire safety and prevention initiatives and programs.

Partners Across the Nation The Motivating Force

USFA recognizes the power of partnership as a critical means of marketing and delivering accurate and consistent safety messages into the community. Fire is Everyone's

Fight™ is based on social marketing research commissioned by the grassroots Vision 20/20 fire safety consortium with funding from an Assistance to Firefighters Grant from the Federal Emergency Management Agency. USFA is asking partners to use the Fire is Everyone's Fight™ tagline with existing or new materials. Based on partner resources, they may implement a number of strategies, such as sharing information with

USFA recognizes the power of partnership as a critical means of marketing and delivering accurate and consistent safety messages to the community.

staff, member organizations, community groups, and other stakeholders. By leveraging Fire is Everyone's Fight™ resources, supporting dissemination or advertising efforts and encouraging state and local chapters to join in the initiative, the fire safety community can present a consistent, repetitive message that helps diverse members of our society take action to reduce their risk of fire. This includes support for public service announcement (PSA) placements, educational outreach to community organizations, local media relations activities and other activities.

Partners may:

- Incorporate the theme Fire is Everyone's Fight™ into their existing fire prevention materials or create



new fire prevention and safety materials with the theme.

- Provide a list of the audiences to which the partners reach out on a regular basis (older adults, parents, teachers, local businesses, etc.)
- Provide a list of communications tools that the partners have resources and access to produce (radio PSAs, TV PSAs, newsletters, websites, blogs, etc.)
- Help identify new tools and resources to fill gaps and strengthen outreach efforts.
- Identify barriers and challenges to address collaboratively.

Fire is Everyone's Fight™ Resources

USFA will lead an effort to determine what resources are already available to the public as well as fire and life safety organizations, highlighting those that have been evaluated for effectiveness. Once this inventory of the materials is completed, USFA will work with its partners to identify the gaps. Where possible, USFA will develop new resources to meet key needs. Partners will be asked to use their resources as well to assist in filling these gaps and providing new information, products and/or materials to the public.

USFA will include a Fire is Everyone's Fight™ web page and a range

Continued on page 13

Reuse, Recycle and Reassess

Why sprinkler protection of one kind of existing storage may not work for another

By Matt Klaus

In these tough economic times, many companies are shying away from constructing new customized storage facilities and are scooping up empty warehouses for dimes on the dollar. In some cases, they aren't even purchasing new space, but repurposing existing warehouse space to accommodate new products or new storage operations. The problem is that many of these owners do not understand that storage sprinkler protection is not a one-size-fits-all.

Some owners believe it is role of the AHJ or the inspector performing the NFPA 25 inspection to identify deficiencies in protection associated with storage commodities and arrangements, but NFPA 25 defines this as an owner's responsibility.

This is especially true when looking at older buildings that use smaller K-factor sprinklers. Without the proper analysis of the existing system's capabilities compared to the new hazards being presented, the result can be a significantly deficient system. In many instances, system deficiencies are caught during the permitting of a building as the new certificate of occupancy is being issued. Unfortunately, there are many cases where the authority having jurisdiction (AHJ) has not been trained on the new storage requirements, and the sprinkler protection scheme gets lost in the shuffle.

More common are the instances where the AHJ is never involved, and

as a consequence, there is no regulatory review of a change in storage hazard. This is typical when building owners change one or more of the criteria associated with the development of a sprinkler protection scheme for the storage hazard.

NFPA 25, Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, requires an owner to take the proper steps to confirm that the sprinkler system can handle the storage arrangements present whenever a change in hazard occurs. A review of the sprinkler system for effectiveness should be conducted wherever there is a change in one or more of the critical characteristics that drive sprinkler system design for storage areas. These changes include, but are not limited to commodity classification change; change in storage height; change in clearance to ceiling; change in packaging, such as encapsulated to exposed; the addition of solid shelving; change in storage type, such as from shelf storage to rack storage; and change in pallet type.

Larger companies may have someone to handle such analyses, but many smaller companies would need to contract with someone to conduct the analysis, if they were even aware that such action was necessary. Some owners believe it is role of the AHJ or the inspector performing the NFPA 25 inspection to identify deficiencies in protection associated with storage commodities and arrangements, but NFPA 25 clearly defines this as an owner's responsibility.

In some cases, the sprinkler system design might be appropriate for the commodity being stored and the storage arrangement being used, but



changes in storage operation can limit system effectiveness. Optimizing rack loading is becoming more and more critical to many owners trying to maximize their warehouse volumes. In maximizing the efficiency of their rack loads, however, owners can unknowingly block flue spaces or, where in-rack sprinklers are used, create obstructions to the sprinkler spray pattern, compromising an otherwise properly designed system. In addition to large changes in which new product or new racking is used, it is important to understand that even small changes such as rack optimization can have a major impact on sprinkler system effectiveness.

Making the most of available storage space can be cost-effective, but failing to understand if the sprinkler system is properly designed when taking into account variables associated with stored goods can be costly.

Matt Klaus is a senior fire protection engineer at NFPA and staff liaison for NFPA 13, 13R, & 13D.

Reprinted with permission from the NFPA Journal, September/October 2012

Coding Tips for Brush Fires

Mulch Fires

Mulch fires should be coded as Incident Type = 140: Natural vegetation fire, other & Item 1st Ignited = 72: Light vegetation (not crop) – Includes mulch, grass, leaves, needles, chaff, & compost.

Fire vs. Wildland Fire Modules

Even when using third party software there is the option of using the Fire Module instead of the Wildland Module. In MA, we strongly recommend using the Fire Module for these types of fires. The Wildland Module is an **optional** module that may be used for any of the following Incident Types: 140-143, 160, 170-173, 561, 631 and 632. If a software program does not allow this option, contact the vendor to remind them.

Permit Fires and Unauthorized Burning

When responding to a permit fire that requires extinguishment, code it as an Incident Type = 631: Authorized controlled fire or 632: Prescribed fire. If the fire expands beyond the focus of the permit, then use an Incident Type = 140-143.

- Do not use Cause of Ignition = 1: Intentional. This code is reserved for arsons.

- Use either Cause of Ignition = 2: Unintentional or 4: Act of Nature depending on the reason the fire got out of control.

When responding to an illegal burning use Incident Type = 561: Unauthorized burning.

Fireworks Incidents

When fireworks are involved in igniting a fire the Heat Source should be coded as 54 – Fireworks (includes sparklers, paper caps, party poppers, & fireworks). Code everything else as applicable. Please note in the narrative if the fireworks involved were from a professional licensed display, or were from an unlicensed person using any grade of fireworks.

Grill Fires

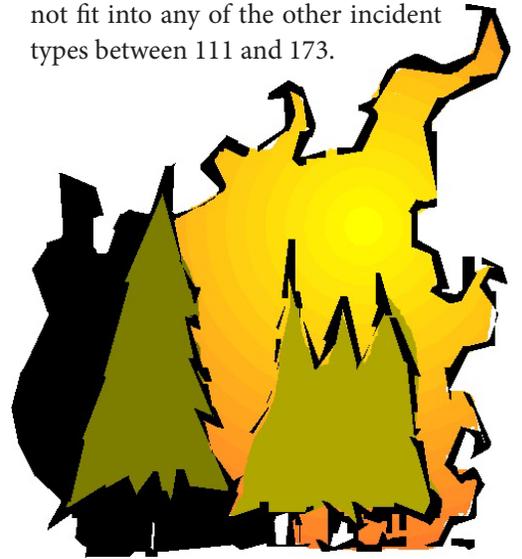
Fires involving grills usually fall into two categories: Building Fires or Outside Equipment Fires.

If the grill is on a deck or patio then the Incident Type would be coded as a 111 – Building Fire because the deck or patio is usually attached to the building. The Equipment Involved in Ignition = 643 – grill, hibachi, barbecue. Complete the remaining equipment subfields as applicable. The Cause of Ignition

should be coded as 2 – Unintentional or 3 – Failure of Equipment or Heat Source (if some part of the grill failed).

If the grill is not on a part of a structure, code the Incident Type as a 162 – Outside Equipment Fire. The Equipment Involved in Ignition = 643 – grill, hibachi, barbecue. Complete the remaining equipment subfields as applicable. The Cause of Ignition should be coded as 2 – Unintentional or 3 – Failure of Equipment or Heat Source (if some part of the grill failed).

Do not code any fires as Incident Type = 100: Fire, other, unless it does not fit into any of the other incident types between 111 and 173.



Fire is Everyone's Fight™ continued from page 11

of trademarked graphics for use on partner materials. Other resources for partner discussion and sharing will be available via the “Fire is Everyone's Fight” web page.

How You Can Support Fire is Everyone's Fight™

Fire is Everyone's Fight™ is a national effort led by the U.S. Fire Administration. The fire safety and prevention

network will grow as momentum builds with the support of many different organizations, communities and the public at large. This network will use a wide range of fire safety and prevention resources to communicate the importance of taking action to protect ourselves and the people we love from fire.

Learn how your organization can support the development of this

exciting initiative and share your ideas with USFA about ways to help it grow in communities across America. For more information, contact: Teresa Neal at (301) 447-1024 or Teresa.Neal@fema.dhs.gov. For more information, visit the USFA webpage at www.usfa.fema.gov/fireservice/prevention_education/strategies/fire_is_everyones_fight/

Fire Chiefs' Leadership in Fire Education Award

Presented to Everett Fire Chief Butler, 2012



Everett Fire Chief David T. Butler and Captain Rick Tustin.

Capt. Rick Tustin, president of the Massachusetts Association of Fire and Safety Educators, (MaSAFE), presented the *Fire Chiefs' Leadership in Fire Education Award* to Everett Fire Chief David T. Butler at the Fire Chiefs' Association of Massachusetts' (FCAM) annual professional development conference on February 6, 2013 in Boxborough. A citation was also presented to Chief James M. Vuona of Shrewsbury.

Tustin said, "Despite the many challenges the City of Everett faces, Chief Butler embraces a community risk reduction model to keep the citizens safe. His educational programs reach everyone in the community, ranging from preschoolers to the elderly, and include outreach to the city's newest residents." Tustin added, "I am impressed with Chief Butler's vision that community risk reduction is the job of everyone in his department." Chief Butler said, "I appreciate this honor but it reflects more on the great people in the Everett Fire Department and in the other agencies we collaborate with."

MaSAFE created the Fire Chief's Leadership in Fire Education Award to honor fire chiefs for excellence in leadership of community fire education efforts. Often these efforts are behind the scenes and not readily noticed. No community fire educator can be successful without the support of the fire chief. Introducing the award, retired Mendon Fire Chief Charlie Johnson said, "Fire chiefs know that our responsibility is to not only respond to and

suppress fires, but also to prevent them from happening. There is no better way to accomplish this than with prevention through education."

Chief David T. Butler Everett Fire Department

Chief Butler has maintained a fire prevention division staffed with a deputy chief and three lieutenants despite tough economic conditions in an inner-ring suburb. He has supported a community risk reduction model of prevention and education to reduce harm in his community. The Everett Fire Prevention Division delivers the S.A.F.E. Program to the city's school children from pre-K to high school. Everett High School had more entries than any other school in the state's YouTube™ Burn Awareness video contest last year. Everett has also won a scholarship to the NFPA's *Remembering When* national conference with their local Council on Aging as part of their older adult program. The city also has a juvenile firesetting intervention program and works closely with local service organizations that help newcomers to this county.

Chief Butler encourages all his staff to obtain the training needed to perform their jobs well and to obtain professional certifications in their areas of expertise. He has not only found the funding for the fire prevention bureau in the regular budget but has also aggressively pursued available grants. He has provided training to line firefighters so they can work closely with the fire prevention bureau especially identifying illegal basement apartments in their response areas. His vision is that community risk reduction is the job of everyone in his department.

Chief James M. Vuona Shrewsbury Fire Department

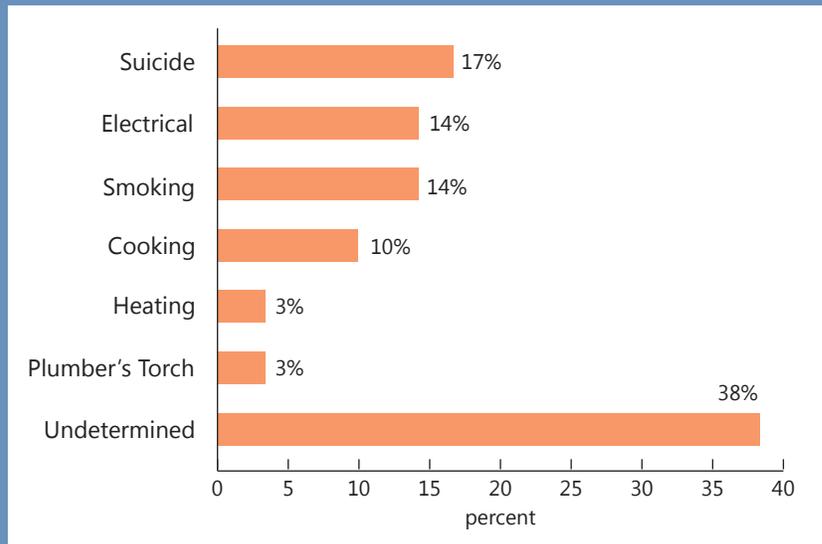
Chief Vuona has instilled the mantra of customer service in each and every firefighter in his department every time they interact with the public. As the former fire prevention officer, Vuona built strong programs with the schools, other town offices, and businesses. With strong succession planning he was able to pass those programs to new personnel who have strengthened and improved those community relationships. His staff says, "The chief takes every opportunity for public education whether it's the traditional S.A.F.E. Program, the Spirit of Shrewsbury Day, fire station tours, working with scouts, the senior center, or persuading the housing authority to install heat limiting burners and in-hood extinguishers."

Continued on page 17

2012 Fire Deaths Down 30%

Preliminary data show a decrease from 2011

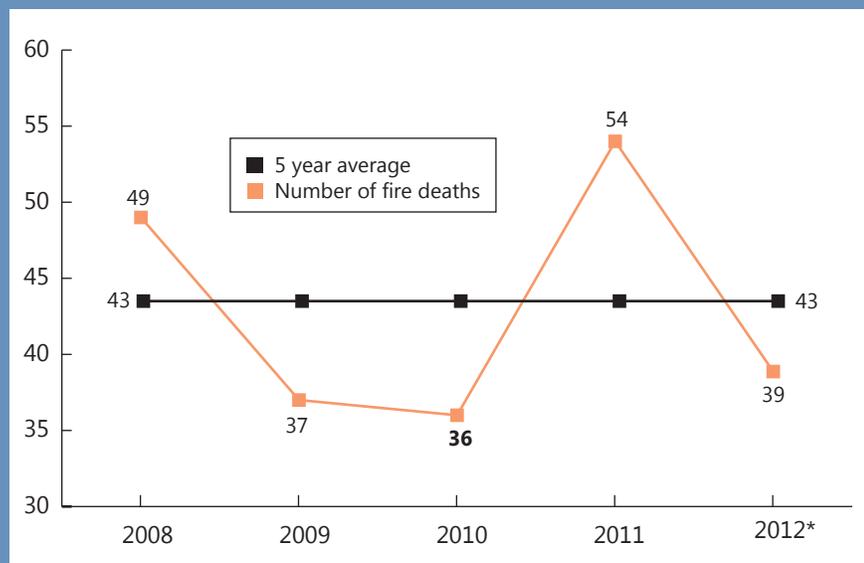
Figure 1
Causes of Massachusetts Structure Fire Deaths, 2012



Preliminary figures show there were 39 civilian fire deaths in 2012, the third lowest number of fire deaths on record since World War II. This is a 28% drop from the 54 fire deaths in 2011. For the second year in a row, smoking was not the leading cause of fire deaths. Suicide was the leading cause of structure fire deaths in 2012 (see figure 1).

Figure 2 illustrates fire deaths over the past five years along with the average number of fire deaths for those same years. Fire deaths in 2012 were 11% lower than the five-year average.

Figure 2
Fire Deaths in Massachusetts, 2008 - 2012*



* 2012 data are preliminary.

UL Warns of Counterfeit UL Mark on Fire Sprinkler

Release 13PN-06

On January 31, 2013, UL notified distributors, contractors, fire departments, regulatory agencies, and authorities having jurisdiction, that the fire sprinkler identified below bears a counterfeit UL Mark for the United States and Canada. The sprinkler was not manufactured by Nanjing Fire Protection Technology Co. Ltd. and the thermo bulb was not manufactured by Job, GmbH.

The fire sprinkler has not been evaluated by UL to the appropriate Standards for Safety and it is unknown if the fire sprinkler complies with any safety requirements.

Name of Product

Fire Sprinkler, Model NX005

Identification

On the product: The counterfeit fire sprinkler can be identified by "NX" and

"C-I" marking on the wrench boss of the fire sprinkler frame and may have model NX005 on the sprinkler deflector. Sprinklers manufactured by Nanjing Fire Protection Technology Co. Ltd. that are authorized to bear the UL Mark do not have "NX" and "C-I" marking on the wrench boss.

UL is a global independent safety science company offering expertise across five key strategic businesses: Product Safety, Environment, Life & Health, Verification Services and Knowledge Services. Our breadth, established objectivity and proven history mean we are a symbol of trust and enable us to help provide peace of mind to all.



Photographs of the product with the counterfeit UL Mark.

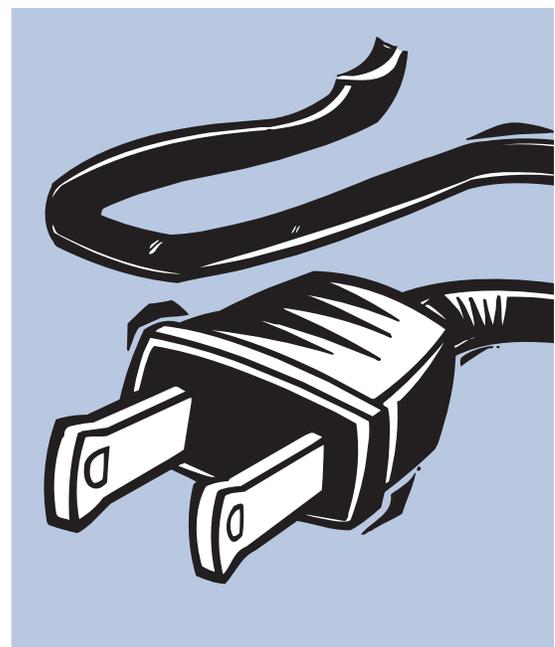
May is Electrical Safety Month

May is electrical safety month and a great time to promote awareness of electrical safety. The Department of Fire Services (www.mass.gov/dfs), the National Fire Protection Association (www.nfpa.org), and the U.S. Fire Administration (www.usfa.fema.gov) all have useful educational materials to teach electrical safety to young and old.

Electrical Fires Leading Cause of Fire Deaths

There were 760 structure fires caused by electrical problems in Massachusetts in 2011. These fires caused 14 civilian deaths, one fire service death, 27 civilian injuries, 81 fire service injuries and an estimated dollar loss of \$30.6 million, accounting for 14% of the total dollar loss from fire in 2011. The average loss per fire was \$40,337.

In 2012, electrical fires were once again the leading cause of structure fire deaths. Suicide tied with electrical fires in 2012.



Lightweight Construction and Fire Sprinklers

Safety information for firefighters, homeowners and communities

The *Fire Sprinkler Initiative*, a project of the *National Fire Protection Association (NFPA)*, has created a presentation highlighting the dangers of lightweight construction and the corresponding benefits of home fire sprinklers.

Lightweight construction began to appear 25 years ago. These less expensive engineered wood systems are routinely used in floors and roofs of new homes. According to a Centers for Disease Control/NIOSH Alert (<http://www.cdc.gov/niosh/docs/2005-132/pdfs/2005-132.pdf>), more than 60 percent of roof structures in the U.S. are constructed with lightweight wood truss construction techniques. While more affordable than traditional/dimensional materials, lightweight construction poses serious risks for residents of the homes and emergency responders.

The NFPA slide show includes information on lightweight construction and its behavior in a fire scenario, as well as a video demonstration of a side-by-side live burn of a room with legacy furnishings and a room with modern home contents. The modern contents room hits flashover point (the simultaneous ignition of everything) and becomes an inferno more than 25 minutes earlier than the room with older furnishings.

Firefighters entering homes made with lightweight construction are at increased risk. The joists in these buildings are less secure and structural collapse is a greater possibility. Interviews with firefighters who have experienced the damage to lightweight building materials are also incorporated into the slideshow.

“Lightweight construction poses hazards to firefighters and must be considered before firefighting operations



Lightweight truss construction

begin,” said Ken Willette, NFPA division manager of Public Fire Protection and a former fire chief. “An uncontrolled fire within such a structure will compromise its integrity, increasing the risk of structural collapse as firefighting operations commence. Home sprinklers minimize that risk and increase safety for firefighters and occupants alike.”

Home fire sprinklers significantly reduce the dangers posed by lightweight construction. Fitting a home with sprinklers reduces the chance of death by fire by 80 percent, and reduces property loss by 71 percent.

For the full presentation, and more information regarding sprinklers and lightweight construction safety, visit the Fire Sprinkler Initiative resource for firefighters’ page at www.firesprinklerinitiative.org/resources/lightweight-construction-and-firefighter-safety.aspx.

Fire Education Award continued from page 14

Past Recipients

Topsfield Fire Chief Ronald P. Giovannacci was the 2011 honoree. Worcester Fire Chief Gerard Dio was the 2010 honoree. Retired Chief David LaFond of Holyoke received the award in 2009 and Retired Chief Ronald Scott of Mattapoisett received the first award in 2008.

About the Award

The Massachusetts Public Fire and Life Safety Education Task Force and the Massachusetts Association of

Safety and Fire Educators annually presents an excellence in leadership award to honor fire chiefs for their community fire education efforts. This award is designed to recognize fire chiefs for their involvement and commitment to making our world safer from fire and other preventable injuries. The award seeks to honor those who not only support fire

education, but who also communicate a vision and the value of fire education within an entire department and across the entire community.



March Graduations

at Massachusetts Firefighting Academy



March 29, 2013

Recruit Class #198

On March 29, 2013, Recruit class #198 graduated from the Massachusetts Firefighting Academy's sixty-day Recruit Firefighting Program. The Massachusetts Firefighting Academy (MFA), a division of the Department

of Fire Services (DFS), offers this program, tuition-free. The ceremony took place at DFS in Stow, MA.

67 Graduates from 40 Fire Departments

The 67 male graduates represent the 40 departments of Auburn, Bedford, Bellingham, Braintree, Chelmsford,

Concord, Danvers, Dracut, East Longmeadow, Framingham, Franklin, Gardner, Gloucester, Greenfield, Holyoke, Hopedale, Leominster, Lexington, Longmeadow, Lowell, Lynn, Mansfield, Mashpee, Melrose, Middleborough, Nahant, North Andover, Northampton, Norton, Orleans, Plainville, Salem, Somerville, Stoughton, Wayland, Westfield, Westford, Winchester, Winthrop and Woburn.

Guest Speaker Marshfield Fire Chief Kevin Robinson

The guest speaker was Marshfield Fire Chief Kevin Robinson. Last November a Marshfield firefighter was trapped in a structural collapse in a neighboring town. The immediate implementation of rapid intervention team mode and a recently practiced mayday policy led to a quick rescue. Chief Robinson, also an instructor at the MFA, said, "This incident underscores that a firefighter's training only starts with the recruit program and continues throughout our careers."



Members of Class 198 during training.

Mobile Live Fire Training

Anywhere in Massachusetts

Mobile Training Props

The Massachusetts Firefighting Academy has several mobile training props that are used in training programs. The props can also be requested by fire departments to assist them in local training initiatives and for the direct delivery of programs. This is the second in a series of *All Hands Herald* articles highlighting the training props.

Mobile Live Fire Training

The Mobile Training Unit (MTU) is a live fire training prop. The 53-foot trailer can be delivered to fire departments anywhere in Massachusetts. The MTU uses propane gas as fuel instead of ordinary class “A” combustibles so it can be placed almost anywhere. With moveable wall panels and many props, firefighters can combat kitchen, bedroom and living room fires and experience a rollover. In one day, student firefighters can practice multiple scenarios including moving hose lines up and down stairs and through a structure. There is both an outside and inside stairway, and an inside vertical ladder that allows for various uses such as confined space rescue, firefighter survival skills and rapid intervention training.

Inside the MTU, different areas can be compartmentalized with steel partitions. Portable fire pans mean that a stove prop, a paint locker prop or a trash barrel prop can be used. A computerized control booth in the trailer allows instructors to see and hear students during fire scenarios. The control booth operator can ignite or extinguish the fire and regulate its intensity in any of the five locations in the trailer.

The MTU is a practical solution for distant fire departments that are unable to send their members to a live fire training class at the Stow facility.

The MTU can be used for a wide variety of fire and emergency response training activities including refreshing hose handling skills, improving teamwork for experienced firefighters, and as a pre-course before the more advanced Structural Firefighting Practices. Although limited in size, this unit is capable of providing multiple training scenarios.



The MTU is a practical solution for distant fire departments that are unable to send their members to a live fire training class at the Stow facility. Departments that have already taken advantage of this opportunity have been very pleased with the level of training that they have received.

The MTU instructional team evaluates conditions and student levels and then applies their own experience when developing and conducting training. The MTU program follows NFPA 1403 guidelines including a 30-minute student orientation. Classes are limited to eighteen students and are conducted by Massachusetts Firefighting Academy burn qualified instructors.

For more information contact MFA Deputy Director Joe Klucznik at (978) 567-3220 or joseph.klucznik@state.ma.us.



Fire Marshal Advisories

State Fire Marshal Stephen D. Coan has sent recent advisories to local fire chiefs in order to spread awareness of dangers and to prevent dangerous situations from happening. All advisories are posted on the DFS website under *OSFM Advisories* and as part of the monthly *DFS Briefs*.

If you have any questions, or require assistance, please contact the Code Compliance and Enforcement Unit at (978) 567-3375, or in western Massachusetts at (413) 587-3181.

March 1, 2013

527 CMR 17.00 – Forest Products

Spring is the traditional time for sprucing up landscaping outside buildings and this spring will be the first one with the new mulch fire safety regulation in effect. Fire chiefs may wish to conduct education efforts through the media and directly with local landscaping companies and business organizations. DFS has created a *FireFACTOR* on mulch that you may wish to use.

527 CMR 17.00 entitled *Forest Products* was revised last year using the provisions contained in NFPA 1.

New Mulch Requirement

There is a new requirement, effective September 1, 2012, that prohibits the new application of mulch within 18” around combustible exteriors of buildings such as wood or vinyl but not brick or concrete (see diagram in regulation for specifics) Residential buildings with six units or less are exempted from this regulation. This provision was added due to several significant fire events within Massachusetts that were related to the combustion of mulch-wood products.

March 1, 2013

BBRS Interpretation

The Board of Building Regulations and Standards (BBRS) has issued several official interpretations regarding sprinkler requirements.

One interpretation of particular importance deals with the use of antifreeze in sprinkler systems. This interpretation would allow the use of anti-freeze in compliance with the 2013 edition of NFPA 13 for the use of anti-freeze requirements, but the 2007 edition for the installation requirements.

The 2013 edition allows for the use of listed antifreeze to be used. However, we are not aware of any such listed antifreeze that is currently available. These conditions effectively ban the use of antifreeze until such a listed product exists. Please review the entire advisory for all the specifics relating to antifreeze.

You can also view official interpretations of the BBRS at: <http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/buildings/official-building-code-interpretations/>

BBRS Official Interpretation No. 2012_08a

Date: January 8, 2013

Subject: 8th Edition 780 CMR, Requirements for Antifreeze when used in sprinkler systems.

Background/Discussion: Requirements for sprinklers and for the use of antifreeze in sprinklers are found in a number of sections of the code, including but not necessarily limited to:

- **903.3.1.1** which states that antifreeze can only be utilized in fire sprinkler systems in accordance with requirements of NFPA 13-2010
- **903.3.1.2** which reads like Section 903.3.1.1 but for 13D systems
- **903.3.1.4** which states that

antifreeze shall not be used in sprinkler systems that protect dwelling units.

This interpretation is intended to clarify code requirements for when antifreeze may be used in sprinkler systems.

Question 1: Is antifreeze allowed in sprinkler systems?

Answer 1: Yes. But compliance to the antifreeze requirements¹ of the 2010 NFPA 13, 13R, and 13D are no longer applicable since these requirements have been superseded by the antifreeze requirements of the 2013 standards. So if antifreeze is used in any sprinkler system, *the design must comply with the 2007 standard* with the exception of the antifreeze, which must comply with the antifreeze requirements in the applicable 2013 standards. These 2013 standards require antifreeze that is *listed*. At this point in time the BBRS is not aware of any listed antifreeze products. Note, there is an exception to this in the 2013 NFPA 13D standard which allows non-listed antifreeze, if approved by the authority having jurisdiction.

¹Staff commentary: NFPA has determined that the antifreeze specified in the 2010 standards may be a safety concern when used in certain applications. Because of this, NFPA recommends that the 2013 standards be used instead. The BBRS has begun a review of the 2013 standards for possible code adoption and has issued this official interpretation so that the regulated community can be apprised of this issue and account for it in the design of projects.

BBRS Official Interpretation No. 2012_08b

Date: January 8, 2013

Subject: 8th Edition 780 CMR, Requirements for the use of NFPA 13R.

Background/Discussion: Requirements for sprinklers in R-Use building is found in:

- **Table 903.2** of which note “a” contains the sprinkler requirements

Continued on page 21

License Actions

This report details recent compliance and enforcement actions taken by the Office of the State Fire Marshal against companies and individuals for violations of MGL c. 148 and 527 CMR. The effective date of these actions and details are included. While other actions may be pending,

only those individuals and companies who have had administrative hearings with decisions rendered are listed here. Call the Licensing Desk at 978-567-3700 for any questions regarding the status of any license or certificate of competency.

Name	Type of License	Disposition
Bilodeau, David C.	Fireworks Certificate of Competency	Suspended for three years until October 1, 2015; must retest after that date to be licensed.
Conlan, Jeffrey L.	Hoodcleaning Certificate of Competency	Suspended for 90 days until April 13, 2013; 60 days probation to serve until June 12, 2013.
Connors, Richard A.	Hoodcleaning Certificate of Competency	Suspended for one year until January 7, 2014; six months probation to serve until July 5, 2013.
Hunt, Christopher B.	Fire Equipment Certificate of Competency	Suspended for three years until April 3, 2016; one year probation to serve until April 3, 2014.
Keefe, Christopher M.	Blasting Certificate of Competency	Suspended for one year until January 7, 2014; 90 days probation to serve until April 8, 2013. Note: Reinstated on April 8, 2013.
Lurssen, Byron A.	Fire Equipment Certificate of Competency	Default suspended February 12, 2013. Indefinite pending hearing.
Onesty, Michal C.	Hoodcleaning Certificate of Competency	Suspended for six months until September 27, 2013; 90 days probation to serve until June 29, 2013.
S. Vitale Pyrotechnic Industries d/b/a Pyrotecnico Fireworks	Pyrotechnic Users Certificate	One year suspension until July 10, 2013.
Suffredini, David C.	Fireworks Certificate of Competency	Permanent revocation.
Tecce, James E.	Fire Equipment Certificate of Competency	Permanent revocation; prohibited from holding any personal or business permit or license issued by the Department of Fire Services.
Tremblay, Peter A.	Fireworks Certificate of Competency	Suspended for two years until July 13, 2014; must retest after that date to be licensed.

Fire Marshal Advisories continued from page 20

for R-Use and mandates NFPA 13 systems in some cases and 13D systems in other cases, but makes no specific mention of 13R systems. This interpretation is intended to clarify code requirements for when a NFPA 13R sprinkler system may be used in R-Use buildings.

Question 1: Table 903.2 explicitly speaks to NFPA 13 and 13D systems

but is an NFPA 13R system allowed in certain cases for an R-Use?

Answer 1: Yes. The code does recognize, by default, the use of NFPA 13R systems for R-Use with an aggregate area¹ less than 12,000 sq. ft. and the building is 4 stories or less in height. An R-Use of 12,000 sq. ft. or greater requires a NFPA 13 system. Also, per note “a” of Table 903.2 a NFPA 13D system may be used for buildings of

entire R-Use, other than R-1 Occupancies and R-2 Dormitories, having no more than three dwelling units and also less than 12,000 aggregate sq. ft.

¹ For the purposes of section 903.2, the aggregate building area shall be the combined area of all stories of the building and fire walls shall not be considered to create separate buildings.



Department of Fire Services
Commonwealth of Massachusetts
978-567-3100
www.mass.gov/dfs

Cooking Safety Campaign

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● Launched April 1

Cooking is the leading cause of fires in Massachusetts. Cooking caused 11,295 fires, 39% of all fires reported in 2011. Cooking is also the leading cause of fire-related injuries in the state.

Starting April 1, 2013, the Department of Fire Services (DFS) will be airing a television public service announcement (PSA) with local celebrity chef Ming Tsai on stations in the Boston and Springfield media markets. The PSA supports and reinforces local educational efforts, which are the most effective way to educate the public. In addition, fire departments can request that their local cable access stations download the PSA from MyACCESS TV, if they are members.

The **Cooking Fire Safety Campaign** has two messages:

Stand By Your Pan (prevention) and **Put A Lid On It** (proper response).

DFS offers an on-line toolkit for local fire departments that includes:

- Customizable local press release
- Tri-fold pamphlet for education
- Link to the Ming Tsai PSA on YouTube™
- Cooking lesson outline
- Two cooking safety logos
- Bookmark
- Newspaper advertisement

You can find these resources at www.mass.gov/DFS. Type *Cooking Toolkit* in the search box.

Hazard Kitchen Teaching Prop

DFS has two Hazard Kitchens that local fire departments can borrow to make interactive presentations. DFS also has a limited supply of oven mitts donated by the MA-RI FAIR Plan to go along with the Hazard Kitchens to reward those who learn by doing. Contact the Fire Data & Public Education Unit at (978) 567-3381 or 3388 to make reservations for the Hazard Kitchen teaching prop.



**COOKING
#1 CAUSE OF
HOME FIRES**

**PUT A LID
ON STOVETOP
FIRES**

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