United States Fire Administration

Fiscal Year 2009 Report to Congress

March 31, 2010

FEMA

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Foreword

On behalf of the Department of Homeland Security, the Federal Emergency Management Agency, and the United States Fire Administration (USFA), I am pleased to submit the USFA Annual Report for Fiscal Year 2009 as required by Public Law 93-498, the Federal Fire Prevention and Control Act of 1974, which includes the first Triennial Report as required by The United States Fire Administration Reauthorization Act of 2008, Public Law 110-376.

This report provides a summary of the USFA's activities by assisting the Nation's fire service through emergency response and grant support, National Fire Academy training activities, public education and awareness initiatives, research and technology development, and data collection and analysis.

Pursuant to Congressional requirements, this report is being provided to the following Members of Congress:

The Honorable John D. Rockefeller, IV
Chairman, Committee on Commerce, Science and Transportation
United States Senate
Washington, DC 20510

The Honorable Kay Bailey Hutchison
Ranking Member, Committee on Commerce, Science and Transportation
United States Senate
Washington, DC 20510

The Honorable Bart Gordon
Chairman, Committee on Science and Technology
United States House of Representatives
Washington, DC 20515

The Honorable Ralph M. Hall
Ranking Member, Committee on Science and Technology
United States House of Representatives
Washington, DC 20515

The Honorable David Wu
Chairman, Subcommittee on Technology and Innovation
Committee on Science and Technology
United States House of Representatives
Washington, DC 20515

The Honorable Adrian Smith
Ranking Member, Subcommittee on Technology and Innovation
Committee on Science and Technology
United States House of Representatives
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The Honorable David E. Price
Chairman, Subcommittee on Homeland Security
Committee on Appropriations
United States House of Representatives
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The Honorable Harold Rogers
Ranking Member, Subcommittee on Homeland Security
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The Honorable Robert Byrd
Chairman, Subcommittee on Homeland Security
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United States Senate
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The Honorable George Voinovich
Ranking Member, Subcommittee on Homeland Security
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Bennie Thompson
Chairman, Committee on Homeland Security
United States House of Representatives
Washington, DC 20515

The Honorable Peter King
Ranking Member, Committee on Homeland Security
United States House of Representatives
Washington, DC 20515

The Honorable Joseph Lieberman
Chairman, Committee on Homeland Security and Governmental Affairs
United States Senate
Washington, DC 20510

The Honorable Susan Collins
Ranking Member, Committee on Homeland Security and Governmental Affairs
United States Senate
Washington, DC 20510

If you have any questions regarding this report, please do not hesitate to contact our Office of Legislative Affairs at (202) 646-4500.

Sincerely,

Kelvin J. Cochran
United States Fire Administrator

Executive Summary

In Fiscal Year (FY) 2009, firefighters across our Nation continued to respond to over 4,500 calls per day that range from emergency medical services, complex transportation extrications involving public transit such as the Washington, DC Metro system, to residential fires, and to conflagrations as seen in the 2009 California Station forest fire. These fire responses continued to be as diverse in scope as they are in size. The Nation's estimated 1.2 million firefighters continued their efforts to prevent, respond to, and help residents recover from all hazards. The United States Fire Administration (USFA) recognizes the challenges presented by the Nation's fire problem, and continues its efforts to contribute to the safety of not only the residents of this Nation, but our firefighters and emergency responders and allied professionals as well.

This report is submitted in response to Public Law 93-498, and outlines the FY 2009 high impact initiatives in support of USFA's vision to be America's fire and emergency services leader. Additionally, pursuant to Reauthorization Act of 2008, this report contains USFA's first Triennial Report as referenced under Appendix 5.2.

In FY 2009, USFA continued to provide career and volunteer fire service education and training at the National Fire Academy (NFA) through a vast amount of courses and programs to include, but not limited to, fire prevention and suppression technologies, incident management, leadership and advanced managerial skills, fire and arson investigation, hazardous materials response and Emergency Medical Services (EMS) delivery. Additionally, NFA continued to train allied professionals, including code enforcement officials, architects, city managers, administrators, and planners, as well as maintain a cooperative relationship with state fire marshals, institutions of higher learning, state fire training facilities, and numerous fire service organizations. This year, NFA provided training certificates to approximately 120,000 fire service and allied professional students.

Furthermore, USFA continued to manage its public education and information efforts; and operate the National Fire Data Center for the collection, analysis, publication, dissemination and marketing of information related to the Nation's fire problem and USFA programs. Given that all statistical data is captured on a calendar year basis, USFA continued to face the challenge of collecting information from the National Fire Incident Reporting System (NFIRS) as well as current reporting information from outside agencies such as NFPA, in order to meet the reporting requirements established by Congress. Therefore, some of the data elements presented in this report are not yet available for 2009. In addition, USFA continued to manage the research and technology efforts in fire detection, prevention, suppression and first responder health, safety and effectiveness as well as support special programs that enhance USFA and partner roles in all-hazard preparedness and response. Actual studies and research are accomplished in partnership with a wide range of organizations that share USFA's interest in reducing the Nation's fire loss.

Since the establishment of the USFA, the Nation's fire loss has decreased significantly while at the same time population growth has increased substantially. Since the creation of the USFA and its programs of public education and awareness initiatives, training, research, technology development, data collection and analysis, and partnering with other fire safety interests, the non-fire-service death and injury rates have improved steadily. USFA remains committed to providing a solid foundation for our fire and emergency services stakeholders in prevention, preparedness, and response.

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Burlando Hall at the National Emergency Training Center in Emmitsburg, MD

I. Legislative Requirement

This document responds to the reporting requirements set forth in the Federal Fire Prevention and Control Act of 1974 (Public Law 93-498), which states:

The Director shall report to the Congress and the President not later than ninety calendar days following the year ending September 30, 1980 and similarly each year thereafter on all activities relating to fire prevention and control, and all measures taken to implement and carry out this Act during the preceding calendar year. Such report shall include, but need not be limited to—

1. thorough appraisal, including statistical analysis, estimates, and long-term projections of the human and economic losses due to fire;
2. survey and summary, in such detail as is deemed advisable, of the research and technology program undertaken or sponsored pursuant to this Act;
3. summary of the activities of the Academy for the preceding 12 months, including, but not limited to—
   a. an explanation of the curriculum of study;
   b. a description of the standards of admission and performance;
   c. the criteria for the awarding of degrees and certificates; and
   d. a statistical compilation of the number of students attending the Academy and receiving degrees or certificates;
4. a summary of the activities undertaken to assist the Nation's fire services;
5. a summary of the public education programs undertaken;
6. an analysis of the extent of participation in preparing and submitting Fire Safety Effectiveness Statements;
7. a summary of outstanding problems confronting the administration of this Act, in order of priority;
8. such recommendations for additional legislation as are deemed necessary or appropriate; and
9. a summary of reviews, evaluations, and suggested improvements in State and local fire prevention

II. Background

On May 4, 1973, the National Commission on Fire Prevention and Control issued a report, *America Burning,* which focused its attention on the Nation's fire problem and the needs of the fire services and allied professions. As a result, Congress established USFA through Public Law 93-498, the Federal Fire Prevention and Control Act of 1974, to help decrease the tragic losses and to promote the professional development of the fire and emergency response community.

As part of the 2008 USFA Reauthorization Act, EMS was formally integrated into the mission objectives of the USFA. The USFA must provide resources to support the effort of the fire-based EMS as this becomes a more favorable option for local community life safety strategies. Our strategy addresses our commitment to the EMS role of the USFA and our efforts to engage Federal, state, and local EMS organization leaders to use USFA as a dependable resource for EMS needs of the fire service.

USFA's position within the Federal Government has changed several times since its creation. USFA, with its NFA, National Fire Data Center (NFDC) and National Fire Program (NFP) offices, was originally created within the United States Department of Commerce (DOC). As a result of Reorganization Plan Number 3, USFA was transferred from the DOC to the Federal Emergency Management Agency (FEMA) in 1979, and remained a component of FEMA until October 1, 2005.

On October 1, 2005, as a result of the Department of Homeland Security's (DHS) Second Stage Review (2SR), USFA was transferred from FEMA to the newly-formed Preparedness Directorate within DHS. USFA continued to focus on reducing incidents of fire and fire-related deaths, injuries and property damage, and better preparing the Nation's fire service as the primary local emergency responder.

On March 31, 2007, under the Post-Katrina Management Reform Act of 2006, USFA was transferred back to FEMA.

On March 30, 2008, USFA underwent an internal realignment, consolidating resources and functions. Some elements of NFP were brought under NFA; NFP was divided into three internal branches, including the NFDC; and resources and functions of the National Preparedness Network (PrepNET) and Information Technology support were reassigned to the National Emergency Training Center (NETC) Management, Operations and Support Services Division (MOSS). Subsequently, MOSS was divided into two internal branches. This realignment provides more flexibility, capability, and connectivity in the organization to be responsive to emergent requirements in support of FEMA/DHS.

The USFA's mission is to provide national leadership to foster a solid foundation for our fire and emergency services stakeholders in prevention, preparedness, and response.

USFA is an integral part of DHS and FEMA and it will continue to support FEMA's commitment to all hazards emergency management. Building on FEMA's vision to transform the agency into the Nation's preeminent emergency management and preparedness agency, USFA developed a 5-year

Aerial view of the National Emergency Training Center campus

Strategic Plan for Fiscal Years 2009–2013[1] with its focus and emphasis on the following performance goals:

1. reduce risk at the local level through prevention and mitigation;
2. improve local planning and preparedness;
3. improve the fire and emergency services' capability for response to and recovery from all hazards;
4. improve the fire and emergency services' professional status; and
5. lead the Nation's fire and emergency services by establishing and sustaining USFA as a dynamic organization.

USFA continues to review and revise its Strategic Plan, as necessary, to establish plans that best achieve the USFA goals, objectives, and strategies in support of public education and awareness initiatives, training, research, technology development, data collection and analysis, and partnering with other fire safety interests.

[1]Available at: **http://www.usfa.dhs.gov/downloads/pdf/strategic_plan.pdf**

III. Analysis/Discussion

The National Fire Problem

The Nation's fire loss has decreased significantly since the creation of USFA. Over the last 10 years (1999-2008)[2], the overall trend in fires has declined by 16 percent (Table 1).[3] During this same period of time, there was also a 12-percent decline in civilian deaths and a 26 percent drop in civilian injuries. Fires, deaths, and injuries continued their downward trends from the previous 10-year period (1998-2007). From 1999 to 2008, dollar loss was up 43 percent, unadjusted. However, when adjusted for inflation over the 10 years, this loss was up only by 10 percent. Although the adjusted dollar loss figures have increased since 1999, this can reasonably be explained by normal increases in construction costs and prices in general.

Although America's fire death rate is improving, it continues to be higher than more than half of the industrialized countries of the world. Fire departments in the United States respond to an estimated average of 4,500 fire calls each day. Over the past 10 years, fires in the United States have averaged about 1,634,150 each year. During this same period, there have been approximately 3,625 deaths and 18,765 injuries reported annually as the result of fires. This represents a decline from previous periods. To put this in national context, the combined average annual losses in the United States from floods, hurricanes, tornadoes, earthquakes, other natural disasters, and terrorist attacks is a fraction of the casualties from fires. Annually, direct property loss from fires is estimated at $11.6 billion (when adjusted to 2008 dollars, the annual direct property loss increases to $13.2 billion) and the total cost of fire–including adding fire protection to buildings, paid fire departments, the equivalent cost of volunteer fire departments, insurance overhead, fire-related losses, fire injuries, and other direct and indirect costs to the American economy—is estimated to be more than $182 billion.[4]

Fire losses affect all groups and races, rich and poor, North, South, East, and West, urban and rural. But the problem is higher for some groups than for others. African-Americans and Native American Indian males have much higher fire death rates than the national average.

Approximately 50 percent more men die in fires than women. It is also known that men incur more injuries trying to extinguish the fire and rescue people than do women. Males aged 15 to 54 tend to have a slightly higher proportion of injuries, while young and older females have more injuries than males. Notably, older adult females have twice the proportion of fire injuries than older males.

People with limited physical and cognitive abilities, especially older adults (age 65 and older), are at a higher risk of death and injury from fire than other groups. As baby boomers enter retirement age, the demographic profile of the United States is expected to change dramatically. Over the coming decades, the older population will increase and a corresponding increase in fire deaths and injuries among older adults is likely.

[2] The NFIRS data for 2009 is currently being updated and not available for release until June 2010.

[3] The trend is based on the computed best-fit linear trend line (which smoothes fluctuations in the year-to-year data) and presents the change over time based on this trend line.

[4] Preliminary Fire in the United States 15th ed (2003–2007), USFA.

Table 1: Fires and Fire Loss Estimates and Trends (1999-2008)

Year	Fires	Deaths	Injuries	Adj. Dollar Loss (in Millions)
1999	1,823,000	3,570	21,875	$12,954
2000	1,708,000	4,045	22,350	$14,012
2001*	1,734,500	3,745	20,300	$12,866
2002	1,687,500	3,380	18,425	$12,371
2003	1,584,500	3,925	18,125	$14,401
2004	1,550,500	3,900	17,875	$11,163
2005	1,602,000	3,675	17,925	$11,765
2006	1,642,500	3,245	16,400	$12,076
2007	1,557,500	3,430	17,675	$15,201
2008	1,451,500	3,320	16,705	$15,478
10 Year Trend	-15.8%	-11.6%	-25.5%	9.5%

Note: In 2001, data excludes 2,451 deaths, 800 injuries, and $33,440,000 in property loss resulting from September 11, 2001. Dollar loss values are adjusted to 2008 dollars. The computation of the trend is based on the simple linear regression Method of Least Squares.

Sources: NFPA's *Fire Loss in the U. S.* (1999–2008) and Consumer Price Index

In the past, children age 4 and younger were also considered to be at a high risk of death from fire; however, the data indicates that the trend appears to be changing. The relative risk of children age 4 and younger dying in a fire is slightly less than that of the general population.[5] In the future, additional analysis is required to confirm that this is a true trend change.

[5] *Ibid.*

- Fires and Fire Losses by General Property Type
  - Over the years, there has been little change in the proportion of fires, deaths, injuries, and dollar loss by the type of property involved. In terms of numbers of fires, the largest category continues to be outside fires (44 percent)—in fields, vacant lots, trash, etc. (Table 2). While there are many of these fires, they are not the source of most fire damage. Residential and nonresidential structure fires together comprise 37 percent of all fires, with residential structure fires outnumbering nonresidential structure fires by over 3 to 1. What may surprise some is the large number of vehicle fires. In fact, nearly one out of every six fires to which fire departments respond involves a vehicle.
  - By far, the largest percentage of deaths, 73 percent in 2008, occurred on residential properties, with the majority of these in one- and two-family dwellings. Vehicles accounted for the second largest percentage of fire deaths at 18 percent. Great attention is given to large, multiple-death fires in public places such as hotels, nightclubs, and office buildings. But the major attention-getting fires that kill 10 or more people are few in number and have constituted only a small portion of overall fire deaths. Firefighters generally are doing a good job in protecting public properties in this country. Furthermore, these properties generally are required by local codes to have built-in fire suppression systems. The area with the largest problem is where it is least suspected—in people's homes. Prevention efforts continue to be focused on home fire safety.

Table 2: Fires and Fire Losses by General Property Type (2008)

	Fires (percent)	Deaths (Percent)	Injuries (Percent)
Residential Structures	28.9	73.1	77.2
Nonresidential Structures	8.2	4.3	8.4
Vehicles	16.2	18.3	7.4
Outside	43.8	2.2	3.8
Other	2.8	2.1	3.2

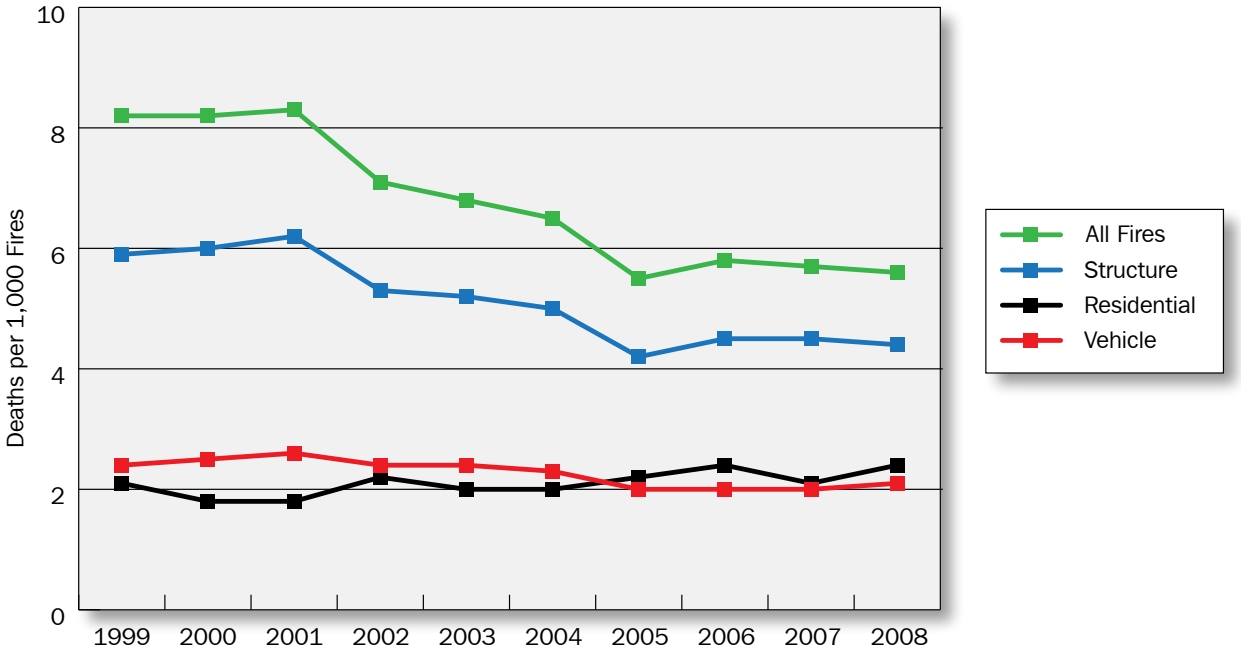
Note: Totals may not add to 100 percent due to rounding.

Source: 2008 NFIRS 5.0 data

[3] *Ibid.*

- National Fire Death Trends
  - From 1999-2008, residential structures have the highest fire death rates ranging from 5.5 to 8.4 deaths per 1,000 fires. Structure fire death rates range from 4.2 to 6.3 deaths per 1,000 fires over the same time period. Death rates per 1,000 fires are lowest for vehicle fires. Although death rates are highest for residential structures and all structures, the overall trends decline over the 10- period. For all fires and vehicle fires, death rate trends remain relatively constant (Figure 1).

Figure 1: National Fire Death Rate Trends (1999–2008)



Source: 1999–2008 NFIRS data

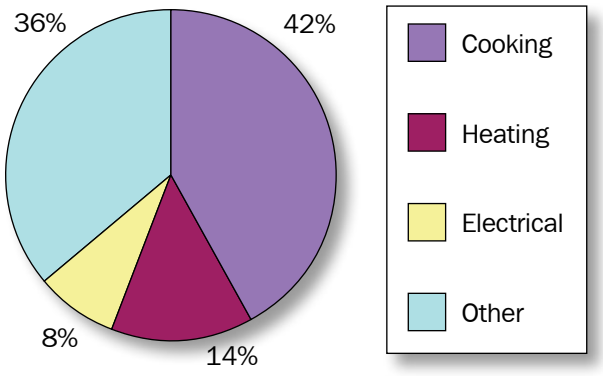
Table 3: Residential Structure Fires and Fire Loss Estimates and Trends (1999–2008)

Year	Fires	Deaths	Injuries	Adj. Dollar Loss (in Millions)
1999	383,000	2,920	16,425	$6,581
2000	379,500	3,445	17,400	$7,094
2001	396,500	3,140	15,575	$6,860
2002	401,000	2,695	14,050	$7,247
2003	402,000	3,165	14,075	$7,107
2004	410,500	3,225	14,175	$6,779
2005	396,000	3,055	13,825	$7,579
2006	412,500	2,620	12,925	$7,465
2007	414,000	2,895	14,000	$7,836
2008	403,000	2,780	13,560	$8,550
10 Year Trend	7.0%	-11.3%	-21.2%	22.0%

Note: Dollar loss values are adjusted to 2008 dollars. Sources: NFPA's *Fire Loss in the U. S.* (1999–2008) and Consumer Price Index

- Residential Structure Fires and Fire Losses
  - In residential structures during the same 10 year period, the trends in fires increased 7 percent; civilian fire deaths declined 11 percent; and civilian fire injuries declined 21 percent (Table 3). From 1999 to 2008, adjusted dollar loss was up 22 percent which can be attributed to increases in construction costs.
  - As noted above, there were an estimated 403,000 residential structure fires in the United States in FY 2008. The leading causes of these residential structure fires:
    - Cooking (42 percent);
    - Heating (14 percent); and
    - Electrical malfunction (8 percent).
  - Figure 2 illustrates the leading causes of residential structure fires in the United States in 2008. These remained unchanged from the previous year.

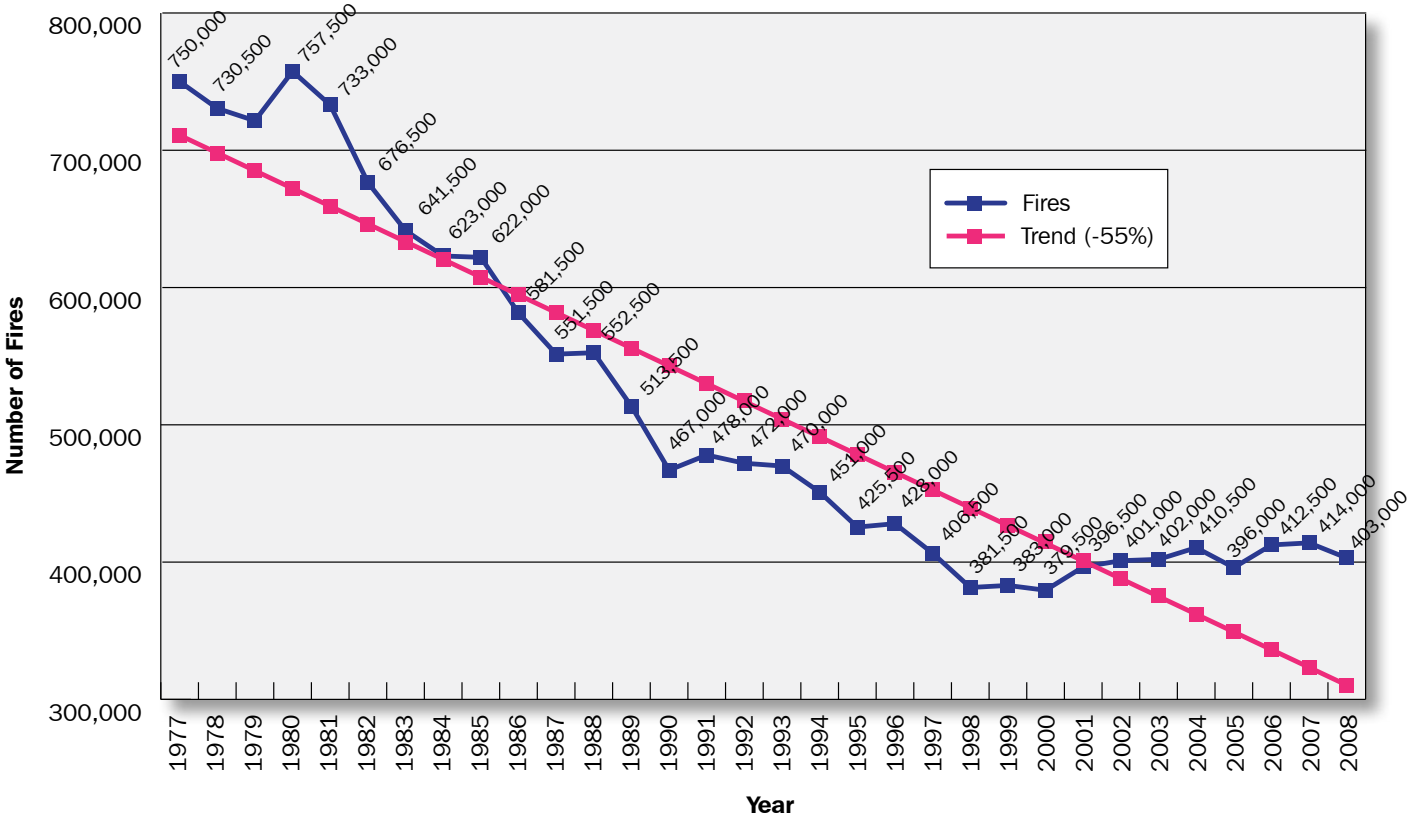
Figure 2: Leading Causes of Residential Structure Fires (2008)



Note: Percentages are adjusted for incidents with unknown causes.
Source: 2008 NFIRS 5.0 data and the 2008 NFPA annual survey.

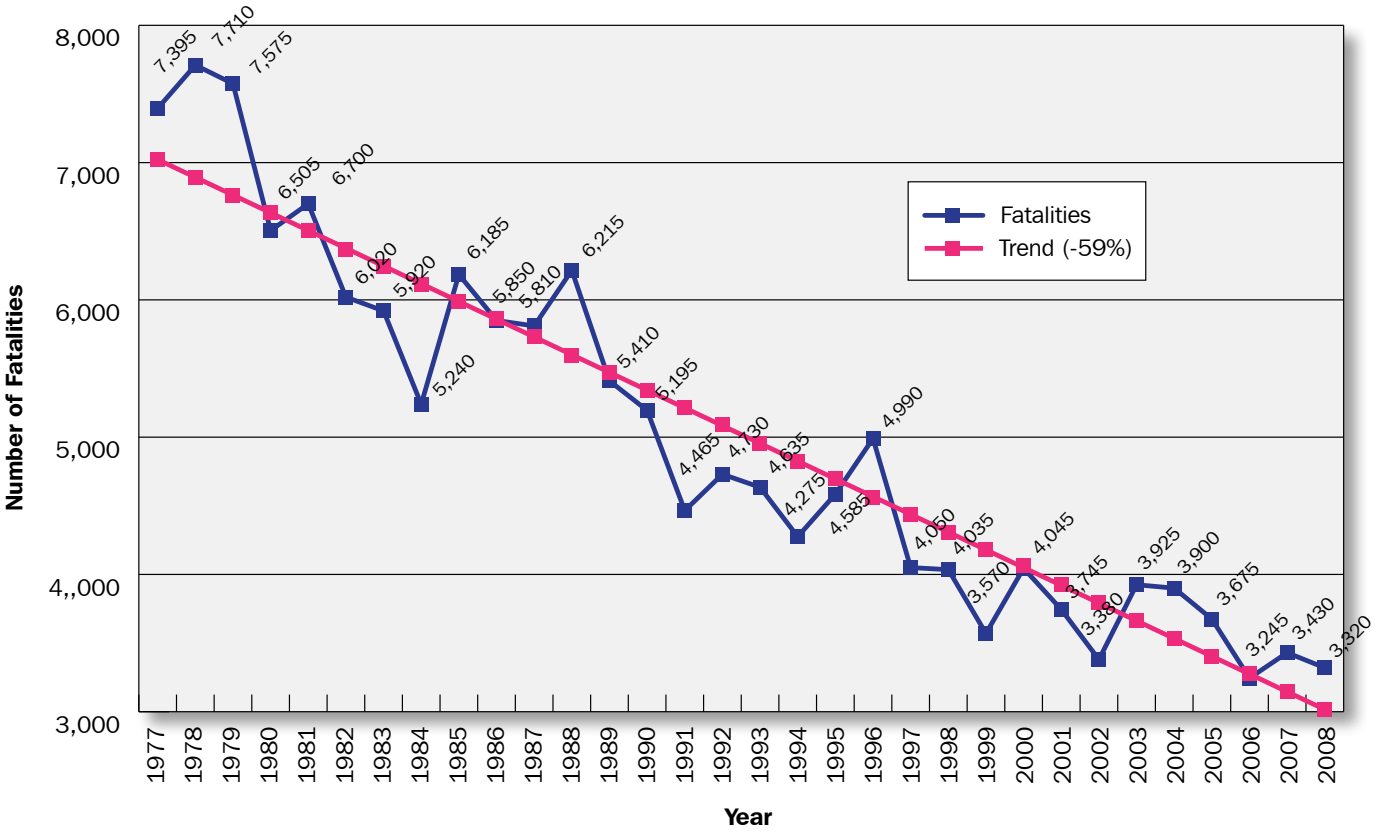
- Figure 3 shows the decline in the estimated numbers of residential structure fires from 1977 to 2008. Over this time period, residential structure fires were at their highest in the late 1970s and early 1980s, and reached their lowest point in 2000 at 379,500 fires. The numbers of residential structure fires steadily declined throughout the mid-1980s and 1990s. At the turn of the century, fires began to plateau and slightly increase in the mid-2000s. The trend in residential structure fires declined 55 percent over the past 32 years.

Figure 3: Number of Residential Structure Fires (1977–2008)



Source: 1997–2008 NFPA annual survey.

Figure 4: Number of Civilian Fire Fatalities (1977-2008)



Note: The fire death estimate for 2001 does not reflect those deaths (2,451) resulting from the events of September 11, 2001.
Source: 1977–2008 NFPA annual survey.

- Civilian Fire Fatalities
  - Figure 4 shows a substantial decline in the estimated numbers of civilian fire fatalities from 1977 to 2008. Over this time period, fire fatalities were at their highest in the late 1970s and reached their lowest point in 2006 at 3,245 deaths. The numbers of civilian fire fatalities steadily declined throughout the 1980s and 1990s with a few noticeable peaks in 1985, 1988, and 1996. The trend in civilian fire fatalities declined 59 percent over the past 32 years.

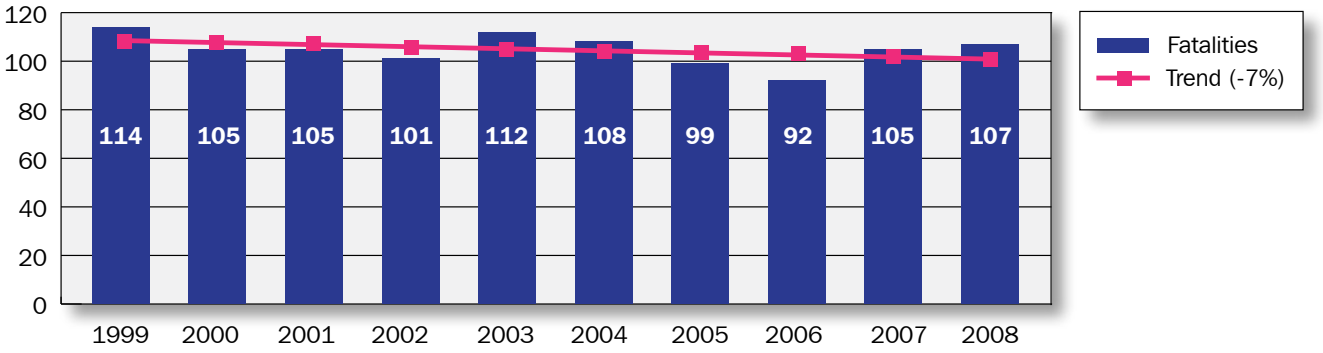
Table 4: Number of Firefighters in the United States (1999–2007)

Year	Total Firefighters	Career	Volunteer
1999	1,065,150	279,900	785,250
2000	1,064,150	286,800	777,350
2001	1,078,300	293,600	784,700
2002	1,108,250	291,650	816,600
2003	1,096,900	296,850	800,050
2004	1,100,750	305,150	795,600
2005	1,136,650	313,300	823,350
2006	1,140,900	316,950	823,950
2007	1,148,800	323,350	825,450
2008	1,148,850	321,700	827150

Source: NFPA's *U.S. Fire Department Profile Through 2007*

- U.S. Fire Service
  - Table 4 shows the numbers of firefighters in the United States from 1999 to 2008. In 2008, there were an estimated 1,148,850 firefighters in the United States. Volunteer firefighters accounted for approximately 72 percent of all firefighters. The remaining 28 percent were career firefighters.
  - For 32 years, the USFA has tracked the number of onduty firefighter fatalities and conducted an annual analysis. Through the collection of information on the causes of onduty firefighter deaths, the USFA is able to focus on specific problems and direct efforts toward finding solutions to reduce the number of firefighter fatalities in the future. The data developed for these reports are also widely used in other firefighter fatality prevention efforts.
  - One hundred and eighteen (118) firefighters died while onduty in 2008 (**http://www.usfa.dhs.gov/fireservice/fatalities/statistics/index.shtm**). This total includes firefighters who died under circumstances related to the Hometown Heroes Act of 2003, Public Law 108-182. The Act presumes that a heart attack or stroke are in the line of duty if the firefighter was engaged in nonroutine stressful or strenuous physical activity while on duty and the firefighter became ill while on duty or within 24 hours after engaging in such activity.
  - The number of onduty firefighter fatalities, with the exception of the fatalities related to the events of September 11, 2001, has decreased when looking at the past 10 years (Figure 5). The overall trend of total firefighter fatalities from 1999-2008 has declined by 7 percent.

Figure 5: Total On-Duty Firefighter Fatalities by Year (1999–2008)



Note: **Does not include** fatalities associated with the attacks on the World Trade Center (WTC) in New York City on September 11, 2001. Also does not include Hometown Hero Act fatalities. The computation of the trend is based on the simple linear regression Method of Least Squares.

Source: *USFA's Firefighter Fatalities in the United States in 2008*

- Firefighting continues to be extremely strenuous physical work and remains one of the most dangerous and physically demanding activities that the human body performs. While improvements has been made in the overall reduction of firefighter fatalities and injuries, firefighter fatalities during interior operations in residential occupancies has been trending upwards over the most recent ten years. Research conducted at the National Institute of Standards and Technology and at Underwriters Laboratories in the past five years provides compelling evidence that the use of "lightweight" building materials and synthetic interior furnishings increases risks to both firefighters and to building occupants. The increasing use of these assemblies and materials in residences has been shown to result in shorter times to flashover, shorter times to untenable conditions inside the residence, and faster building collapse. The USFA recognizes and continues to embrace further firefighter fatality reduction and injury prevention efforts to these areas in addition to the promotion of residential fire sprinklers.

IV. Summary of Initiatives/Activities

Section 4.1 – Assisting the Nation's Fire Service

Section 4.1.1 – Emergency Response Support

The USFA develops and manages response support programs designed to increase the capacity of both the Nation's fire and emergency services and the general public to better prevent, mitigate, prepare for, and respond to local, regional and national emergencies.

- The All Hazards Incident Management Team (AHIMT) developed a pilot program for national deployment in coordination with and endorsed by the National Wildfire Coordinating Group member agencies. This program has assisted in the establishment of 68 Type 3 AHIMT nationwide with a target audience of all 50 states and Urban Area Security Initiative regions. During the 2009 disaster season, the AHIMT teams deployed 6 times in support of national level situations.

Wildland Fires Program

- In conjunction with the DHS Office of Intelligence and Analysis, State and Local Program Office, USFA developed the Fire Service Information Sharing (FSIS) network. The FSIS incorporates fire service interests into national standards, protocols, and mechanisms for Homeland Security information and intelligence sharing.
- The Emergency Management and Response-Information Sharing and Analysis Center distributed a monthly Infogram to approximately 35,000 first responders, and periodically distributed a Critical Infrastructure Protection (CIP) bulletin to approximately 11,000 emergency services leaders in an effort to coordinate CIP and emerging threat information.

The EMR-ISAC Infogram is distributed monthly.

- USFA continues to provide subject-matter expertise on Emergency Support Function #4 (ESF #4) Firefighting regarding structural/urban/suburban fire and fire–related activities in support of the National Response Framework (NRF). USFA developed an after-action report of the 2007–2008 activations, *ESF #4 Firefighting–Structural Support Cadre: Analysis of After Action Findings*. This report identified actions and steps needed to maximize effectiveness and address identified gaps in operational capabilities.
- The NRF team conducted an exercise focus group to assist in the creation of a fire and emergency services exercise template on Pandemic Influenza Preparedness to enhance response capabilities.

- In coordination with DHS National Operations Center senior leadership, USFA developed an operations program for the state and local Fire Desk Watch Officer position as mandated by the USFA Reauthorization Act of 2008. USFA anticipates filling the position in FY 2010.

Section 4.1.2 – Grants

The USFA continues to collaborate with FEMA's Grant Programs Directorate (GPD) in the administration of the Assistance to Firefighters Grant Program (AFG), the Staffing for Adequate Fire and Emergency Response Grant Program (SAFER), and Fire Prevention and Safety Grant Program (FP&S). This collaboration includes assisting with the planning and conduct of fire service outreach and the development of funding priorities. Additionally, USFA continues to assist in the development and review of program guidance materials, grant announcements for the fire service "trade press," and the maintenance of the Web site connections to assist applicants with grant information and applications.

The USFA also continues to assist GPD in the administration of the peer review process, which includes recruiting representatives from the fire service to participate on the peer review panels and providing space and logistical support. By providing the facilities and logistical support at no cost to the grant's program, additional funds are made available for grants.

In FY 2009, the USFA hosted two Fire Grant workshops and two minigrant application reviews. Additionally, USFA staff solicited panel members for a peer review process from national fire organizations for the AFG, SAFER, and FP&S grant programs.

Section 4.2 – National Fire Academy Activities

In accordance with Public Law 93-498, USFA's NFA was created to "…advance the professional development of fire service personnel and other persons engaged in fire prevention and control activities." The NFA provides the career and volunteer fire service with courses and programs in fire prevention and suppression technologies, incident management, leadership and advanced managerial skills, fire and arson investigation, hazardous materials response and EMS delivery. NFA also trains allied professionals, including code enforcement officials, architects, city managers, administrators, and planners.

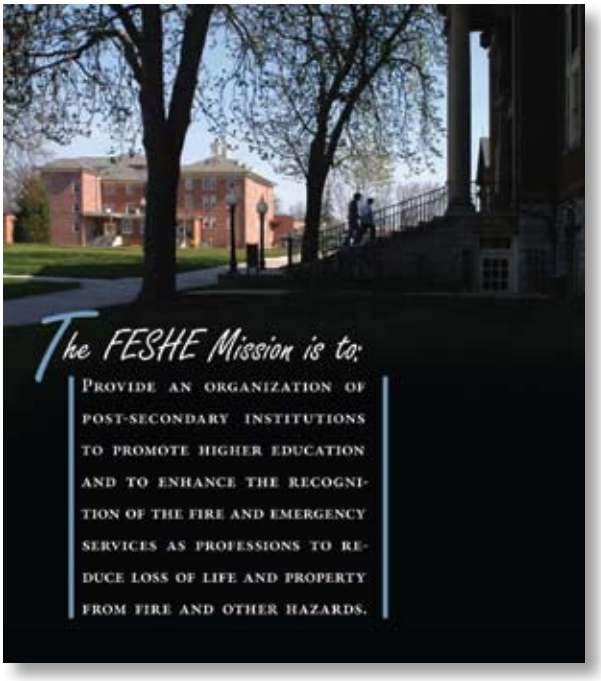
As part of the 2008 USFA Reauthorization, Congress tasked the NFA to report every 3 years on modifications made to NFA's training and education curriculum. In accordance with the Reauthorization Act of 2008, USFA has included under Appendix 5.2 the first Triennial Report to Congress on changes that were made to the NFA curriculum in FY 2008 and 2009. Furthermore, pursuant to this act, USFA submitted on August 17, 2009, a feasibility study on providing incident command training for fires at ports and in marine environments titled *Maritime Firefighting, Incident Command Training for Marine Related Fires*, included under Appendix 5.3.

NFA provided 3,811 course offerings, reaching 120,725 students, and resulting in 261,045 student days of instruction. This was accomplished through delivery of NFA-sponsored courses, state and local partner sponsored courses, technology-based self-study programs, and higher education courses. Courses are delivered at the National Emergency Training Center (NETC) campus in Emmitsburg, Maryland, and throughout the United States in

cooperation with state and local fire training agencies, colleges and universities, and online through NFA Online.

The following provides a breakdown of the different delivery methods and NFA activities:

- NFA-sponsored courses: NFA courses delivered on campus and throughout the country accounted for 548 course offerings to 13,193 students resulting in 57,646 student days of instruction. These deliveries include all NFA Sponsored On- and Off-Campus Programs as well as the Off-Campus Hazardous Materials Program.
- State and Local Partner sponsored courses: These deliveries held throughout the country accounted for 3,263 course offerings to 62,068 students resulting in 173,122 student days of instruction. These deliveries include all NFA's state and local sponsored 2-day, 6-day, college, and endorsed programs.
- Technology-Based Self-Study Program courses: The program offers a variety of subjects delivered through Web-based (NFA Online) and CD-ROM formats. In FY 2009, 45,464 students completed NFA Self-Study Programs, resulting in 32,287 student days.
- NFA Endorsement of State courses: Recognizing that NFA cannot develop all state and local training curricula, the NFA continues to endorse some courses developed at the state training academies as equivalent to NFA courses in quality and content. These courses submitted by the states are peer-reviewed.
  - To date, 195 courses have been approved. In FY 2009, 898 course offerings were delivered to 16,279 students, resulting in 74,857 student days of instruction. (Note: These numbers are reflected in the state and local sponsored courses reported under "State and Local Partner sponsored courses.")



The FESHE program mission

- Fire and Emergency Services Higher Education (FESHE) Program: The program provides higher education and is a national peer-driven network of colleges and universities that develop products including model course outlines that enhance their degree programs.
- Degrees at a Distance (DDP): Through a network partnership with seven colleges and universities, NFA's DDP initiative provides fire service personnel the opportunity to pursue an academic degree through independent study.
- State Training Assistance: Each of the 50 State Fire Training Systems was eligible to receive $28,000 in State Fire Training Assistance which is used to deliver NFA courses. All 50 states participated in the program, and in FY 2009 distributions totaled $1,400,000.
- The Training Resources and Data Exchange (TRADE) system: The system is based on ten regional networks that correspond to the ten FEMA Regions. The collaborative relationship

between USFA and the TRADE network, whose members are State Fire Training Directors and the Training Chiefs of the Nation's largest fire departments, demonstrates that successful linkages are essential to enable the training community to better address issues of fire training and life safety issues for firefighters. USFA approved and awarded $93,000 in grants to the 10 TRADE Regions in FY 2009.

- Training Evaluation Center: NFA continued a systematic study of resident courses with students and their supervisors to determine the long-term training effectiveness. During FY 2009, 603 students and 430 supervisors responded. As with previous year responses, students indicated they were able to transfer the training skills and learning to their jobs and their supervisors reported improved performance as follows:

Long Term	2008	2009
Students reporting they were able to apply NFA training at home	96.5%	93.7%
Students reporting NFA training improved their job performance	96.3%	92.4%
Students reporting they shared NFA training with their peers	99.6%	96.7%
Students reporting they conducted formal courses with NFA material	27.8%	23.0%
Students reporting they established new policies and procedures based on NFA training	68.6%	60.4%
Students reporting that newly established policy/procedures improved their department operations	82.9%	79.5%
Supervisors reporting improved performance from NFA training	84.7%	85.1%
Supervisors reporting improved departmental performance	81.1%	86.5%
Supervisors who say they will recommend NFA training to others	93.6%	97.0%
Supervisors reporting that NFA benefits outweigh costs	88.1%	91.2%

Note: Data reported was derived from NFA Long-Term Evaluation Forms sent to both students and their supervisors 4 to 6 months after the NFA training class ended.

- Work continues on the prototype delivery system, EZ Training, which is designed to reach volunteer firefighters who are unable to participate in a more structured training program. Work will continue on this project in FY 2010 and include several states' pilots followed by nationwide implementation.
- American Council on Education (ACE): The USFA continued to offer courses that have been reviewed and approved by the ACE College Credit Recommendation Service. Many NFA students continue to seek academic credit for NFA courses to apply to their college and university degree programs. An annual review of NFA courses is conducted, and ACE makes recommendations for credit equivalencies. The annual review was held in September 2009. The ACE Review Team recommended credit equivalencies for 12 new NFA courses and reaffirmed their previous credit recommendations for 21 courses.
- Through the International Association for Continuing Education and Training (IACET), the NFA is awarding Continuing Education Units (CEUs) for its 10- and 6-day residential courses, as well as all NFA Online courses. Additionally, a timeline was established for NFA to begin granting CEUs for its off-campus 6- and 2-day courses.
- Significant Curriculum Enhancements: NFA continues to aggressively review and update its curriculum to address student needs and emerging issues. In the past fiscal year, NFA spent approximately $908,000 to modernize more than 21 existing courses and created 8 new ones. Among the new developments are the following:
  - Arson Mitigation Curriculum
    - USFA completed development and pilot testing of its new course entitled *Forensic Evidence Collection* in partnership with the American Board of Criminalists, the Bureau of Alcohol, Tobacco and Firearms, and Explosives (ATF). This course targets the scene fire/arson investigator, laboratory forensic specialists, and bomb technician community as a key component in addressing increasing incidents of explosions and fires using incendiary and improvised explosive devices.
  - Hazardous Materials Program Curriculum
    - USFA was instrumental in DHS's adoption of NFPA 472, *Standard for Competencies of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents,* and NFPA 473, *Standard for Competencies for EMS Personnel Responding to Hazardous/Weapons of Mass Destruction Incidents.* These adoptions will aid in standardizing the training curriculums and ensuring that responders have the knowledge, skills, and abilities to meet the demands of responding to hazardous materials and terrorism incidents. The adoption was completed with the assistance of the Interagency Board for Equipment Standardization and Interoperability and DHS's Science and Technology Directorate. Since the adoption by DHS of NFPA 472 and 473, references have been included in both the Target Capability and Resource typing and Credentialing projects further standardizing the competencies of responders and enhancing preparedness for national mutual aid.
  - Emergency Medical Services/Firefighter Health and Safety Curriculum
    - NFA hosted a focus group to inventory the national needs for EMS management training and education. NFA is working with other national organizations to assure there is no training redundancy in program development and delivery.

Graduates of the Executive Fire Officer Program

- Executive Development Curriculum
  - The EFOP is a significant component of the 2-week Resident Delivery Program. The EFOP participants include senior fire executives and other individuals ("Key Leading" audience) who have demonstrated the ability to exercise leadership.
  - In FY 2009, there were 205 senior fire executives and key leaders of fire and emergency services organizations that began the 4-year program. At any time, there are over 800 fire officers participating in some phase of the program. This year, USFA received and reviewed 325 application packages, and selected 225 applicants to begin the program in FY 2010.
- Fire Prevention Technical Curriculum
  - NFA has begun studying the feasibility of delivering technical training on fire protection systems and equipment through Electronic Performance Support Systems (EPSS) rather than the traditional hands-on method employed. An electronic environment will enable a larger number of students to have instant and limitless access to training on fire protection systems and equipment such as sprinklers, fire pumps, fire detection and alarm, and other specialty systems.
  - In response to the growing national movement to require automatic sprinklers in one- and two-family dwellings, NFA is developing several 2-day courses to help local building and fire code officials deal with the policy and technological challenges associated with these systems.

Section 4.3 – Fire Prevention, Public Education and Awareness

The USFA generates fire safety messages for the general public, and develops and provides public education programs designed for specific at-risk populations. Partnerships and liaisons are established with both public and private organizations to ensure that fire safety messages are not only delivered to targeted at-risk populations, but also that the messages are prepared in a recipient friendly format. Over the past year, USFA supported or participated in the following:

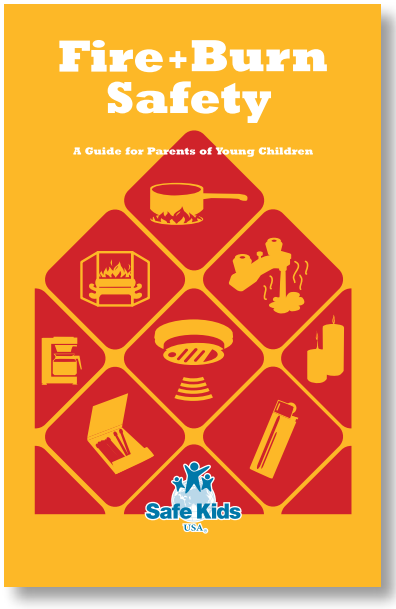
- Volunteer Fire Service: USFA supported the National Volunteer Fire Council (NVFC) in delivering six training workshops on retention and recruitment and grant writing, updating the State Benefits Guide, developing a safety checklist focusing on health and safety issues for volunteer fire and emergency service personnel using the Behavior, Equipment, Standards and Training (BEST) practices, and developing a guide for communicating with Federal and state elected officials. As partners in National Firefighter Health Week, tips on health and safety issues for volunteer fire and emergency service personnel were disseminated through NVFC's website and conference displays.

Arson Awareness Week Campaign

- Arson Awareness Week: Arson for Profit was the 2009 theme which focused public attention on the alarming statistics about arson-for-profit and expanded the resources to reduce this crime. In partnership with the Coalition Against Insurance Fraud; ATF; and Explosives; and the International Association of Arson Investigators, the message was delivered via a 60-second radio public service announcement as well as newspaper, television and Web reports.
- The Prevention Advocacy Resources and Data Exchange (PARADE) network is comprised of state and local fire marshals from across the United States. The fifth National PARADE Conference was attended by 130 individuals, representing 22 state fire prevention programs, and the prevention bureaus of 71 metropolitan fire departments. Participating organizations and members had the opportunity to display and share noteworthy fire prevention, public fire education, and fire and life safety materials. The membership unanimously adopted two resolutions: one in support of the International Residential Code requirement for fire sprinklers in one- and two-family dwellings and townhouses, and another in support of banning the sale of novelty lighters.
  - Electronic-PARADE, an electronic forum and clearinghouse for information sharing, grew to approximately 800 registered members and had approximately 13,500 messages posted.

PARADE conference participants

- Novelty and Toylike Lighters: USFA issued a statement in support of a ban on the sale and distribution of novelty and toylike lighters that are linked to incidents of deaths, injuries, and property loss. USFA helped to bring national attention to this problem by keeping constituents up-to-date on the issues, developments, and available resources.
- Safe Kids Worldwide: USFA provided technical advice and financial support for publishing a storybook for children ages 3 to 6 about the dangers of fire with a focus on not playing with matches or lighters, and telling an adult if they find them. The book is called *Brecker Bunny Asks for Help: A Lesson in Fire Safety*. The storybook was printed and distributed to the 450 Safe Kids coalitions that reach out to 16 countries. *Fire+Burn Safety: A Guide for Parents of Young Children* was also completed this year.



***Fire+Burn Safety* Guide**

The guide provides fire and burn safety tips in a room-by-room format with additional pages about smoke alarms, escape plans, and the importance of locking up matches and lighters as a complement to the storybook focus.

- Sleep Safe Fire Safety Program: In partnership with the Indian Health Service, the USFA continues to provide fire safety/prevention education and smoke alarms to Head Start families on reservations. Tribal representatives are provided training in delivering the Sleep Safe Fire Safety Program.
- The Hotel/Motel Fire-Safe List, intended to promote fire and life safety in places of public accommodation, experienced a 52 percent increase in registration activity over the previous year. This added 2077 new properties to the National Master List. Federal employees on official travel are required to use accommodations that adhere to the life safety requirements, and the USFA encourages the traveling public to use the list when making their personal lodging accommodations.
- The Learning Resource Center (LRC) increased emphasis on its presence on the Web and leveraging the Internet to provide the first responder community with a world class All-Hazards Information Portal.
  - Visits to the LRC Web site almost quadrupled, totaling 237,158.
  - The EFOP students will soon have 24/7 access to many of the leadership, fire service, risk assessment, emergency management and homeland security related e-books. This effort is still in its pilot phase but over 100 EFOP students now have ready access to our e-books from home or work.
    - Working with FEMA and the Google Books Project, USFA is building a repository of online books which will make the intellectual products of the USFA available to a growing audience.

The Learning Resource Center

  - The LRC made three dozen historic Office of Civil Defense-era publications available to users, making them the focus of renewed attention to the wider emergency management community in a readily accessible online format.
  - The number of titles on fire and all-hazards topics available for download will soon surpass 17,000.
  - Current awareness service of distributing weekly news roundups to key stakeholders making it easier to stay abreast of topics of special interest was launched.
  - The weekly GovDelivery email has grown to over 15,000 subscribers.
- National Repository of Prevention and Education Resources: The newly launched Exchange is a centralized repository from which national, state, and local fire prevention practices and public education materials can be searched via the Web and shared. This is one-stop shopping for professionals and will include the resources developed by the recipients of the Fire Prevention and Safety Grant Program.
- The Media Production Center, in partnership with the National Institute of Standards and Technology (NIST), produced an interactive DVD entitled,

"Understanding, Surviving, and Fighting the Wind Driven Fire". The interactive DVD set includes video from 8 laboratory experiments performed at NIST and 14 experiments performed in a 7-story apartment building on Governors Island, New York.

Wind-Driven Fires DVD

- Social Networking: USFA established a Twitter account to provide outreach to our audiences, identify emerging trends, and network with fire service organizations. The account has 1,726 followers and 1,494 tweets have been made to the account this fiscal year. A blog ran briefly early in the year and addressed topics such as emergency responder rehabilitation, pioneers in the American fire service, effectiveness of lights and siren response, the impact of fuel costs on emergency services departments, new requirements for retro reflective safety vests, and an offduty firefighters "duty to act." USFA is working with FEMA External Affairs to assist in formulation of policy and procedures for new online tools and we expect to re-launch the blog once the new guidance is promulgated.

Section 4.4–National Fire Data Center

Section 4.4.1–Research and Technology:

USFA provides Federal fire focus for applied research and technology. The selection of specific initiatives is influenced by recommendations from the fire service and emergency response community, constituent associations, building code organizations, the fire protection engineering profession, and private sector and Federal fire researchers. Actual studies and research are accomplished in partnership with a wide range of organizations that share USFA's interest in reducing the Nation's fire loss. In FY 2009, USFA's significant initiatives in research and technology were as follows:

- Firefighting Tactics Under Wind Driven Conditions: Worked with NIST on evaluating several firefighting tactics under wind driven conditions resulted in two technical reports, *Fire Fighting Tactics Under Wind Driven Conditions: Laboratory Experiments* and *Fire Fighting Tactics Under Wind Driven Fire Conditions: 7-Story Building Experiments,* as well as an accompanying DVD set, that documented and discussed firefighting tactics demonstrated to reduce the thermal hazard created by a wind-driven fire.
- Emergency Vehicle and Roadway Safety: USFA, in partnership with the International Fire Service Training Association (IFSTA), completed the *Emergency Vehicle Visibility and Conspicuity Study*. The report highlighted the results of a U.S. Department of Justice - National Institute of Justice (NIJ) funded project intended to enhance emergency vehicle and roadway operations safety for firefighters, law enforcement officers, and other emergency responders.

- Study of Warning Lamp Effects: Conducted a research partnership funded by the U.S. Department of Justice — National Institute of Justice (NIJ) with the Society of Automotive Engineers (SAE) on Emergency Vehicle Lighting which is documented in the SAE report — *Effects of Warning Lamp Color and Intensity on Driver Vision*.
- Communications Technology: Funded by the DHS Safety Community (SAFECOM), USFA with the International Association of Fire Fighters (IAFF) completed a project to produce a manual, *Voice Radio Communications Guide for the Fire Service*, which provided information on current communications technology and critical homeland security issues and concepts.
- Study of Municipal Water Supply Systems: USFA completed a DHS Science and Technology Directorate funded project with the Society of Fire Protection Engineers (SFPE) Educational and Scientific Foundation, which studied and evaluated the latest trends and technologies related to municipal water supply systems to enhance effective fire protection. From this study two reports were released, "Water Supply Systems Concepts" and "Water Supply Evaluation Methods."
- Third-Generation Residential Smoke Alarm Concept Study: Currently, USFA continues to conduct a multiyear project to seed the development of the next generation of residential smoke alarms. The study aims to develop prototype technology for the two major components of a residential smoke alarm–the smoke sensor and the alarm sounding device. An improved smoke sensor that can overcome the inherent limitations in the currently used 40-year old sensors while reducing nuisance alarms is a key objective of the first phase of this study. In the second phase of this project, USFA will seek to develop a sounding device that can produce the lower frequency sound in a package compatible with current smoke alarm housing. Recent research shows that changing the frequency of the sound could significantly improve awakening of elderly and very young building occupants. This USFA led project is a collaborative effort with the Consumer Product Safety Commission and the Department of Energy's Oak Ridge National Laboratory.
- EMS: With funding provided by the DHS Office of Health Affairs (OHA), USFA initiated a project with IFSTA to update and revise the December 1999 edition of the USFA document, *Funding Alternatives for Fire and Emergency Service* (FA-141). In addition, USFA initiated a project with the International Association of Fire Chiefs (IAFC) to develop a comprehensive guide for a target audience of physicians who serve at local-level EMS departments of all types (volunteer or career), municipal third service, hospital based, fire department, and the private sector.
- Firefighter Safety: USFA partnered with NIST to examine the enhancement of thermal performance of self-contained breathing apparatus (SCBA) face pieces to increase the protection of firefighters.

Section 4.4.2 – Data Collection and Analysis

Stakeholders at the local, state and Federal levels have challenged USFA to enhance the NFIRS to be of greater value to the fire service by providing current, relevant and accessible data to make more effective decisions, plans and justifications for fire department operations and administration. The current system's code base is a decade old and in need of modernization. Additionally, because of

NFIRS Website

limited resources for the initial project development and on-going system maintenance, adequate functionality was never developed and implemented in several key areas of the system.

Recent resources for NFIRS enhancements have been provided as outlined in the USFA Reauthorization Act of 2008 and have led to an opportunity for USFA to make long needed upgrades to the system. These upgrades began with a project to develop a web version of the NFIRS client Data Entry Tool as directed by legislation.

Further, a comprehensive requirements analysis of the NFIRS system identified 10 different strategic need areas requiring improvement. An analysis of alternatives was then conducted to identify the viable solutions that would meet the strategic needs identified in the requirements analysis. The final report produced a blueprint of how to build a modernized NFIRS that best meets the strategic needs in prioritized phases. The blueprint's first phase objective, Data Warehouse & Mining, began in October 2009.

In order to facilitate a modular approach to the NFIRS enhancement process, the work has been separated into discrete phases which may be developed in tandem, or serially as dictated by available resources:

1. Data Warehouse & Mining;
2. Portal Implementation, Security Model Upgrades, Advanced Design of Enterprise NFIRS Application;
3. NFIRS Incident Reporting Application with Rules Engine; and
4. Enhanced User Interface, and Geographic Information Systems (GIS) Services and Administrative Applications.

- USFA provided NFIRS Support as follows:
  - Responded to over 2,000 telephone and email requests for assistance;
  - Disseminated NFIRS reporting status updates to states and metropolitan NFIRS Program Managers;
  - Provided monthly technical advisories and coding advisories to states and metropolitan NFIRS Program Managers;
  - Provided onsite technical support to states and localities including;
    - California,
    - Kansas,
    - Louisiana,
    - Oregon, and
    - Philadelphia.
  - Designed an FY 2010 training workshop with the focus on timely and complete NFIRS reporting; the workshop is for state and metropolitan NFIRS Program Managers, and the workshop is hosted by the USFA at the NETC.
- The National Fire Department Census has 26,343 fire departments registered. In FY 2009, approximately 5,300 registered departments were contacted to provide updates and 300 new departments registered.
- Topical Report Series are designed to explore facets of the United States fire problem as depicted through data collected in USFA's NFIRS. Each topical

report briefly addresses the nature of the specific fire or fire-related topic, highlights important findings from the data, and may suggest other resources to consider for further information. Also included are recent examples of fire incidents that demonstrate some of the issues addressed in the report or that put the report topic in context. During FY 2009, the following topical reports were completed and posted to the USFA Web site:

- *Medical Facilities Fire,*
- *Multiple-Fatality Fires in Residential Buildings,*
- *Outdoor Fires,* and
- *Highway Vehicle Fires*.

Section 4.5 – Facilities

- USFA continues to maintain a Five-Year Facility Maintenance Plan for maintenance of NETC. Over the years, renovation and equipment replacement projects were undertaken on a priority basis. In recent years, with the exception of FY 2008, funding for preventive maintenance has been very limited resulting in many deferred projects.
  - In FY 2009, USFA collaborated with FEMA in preparing the *NETC Master Facilities Report* to Congress for the maintenance and modernization of the Emergency Management Institute and USFA campuses located at the NETC in Emmitsburg, Maryland.
- USFA supported the FEMA Alternative Housing Test and Evaluation project in FY 2009, which is the first-of-its-kind collaborative project between the Disaster Assistance Directorate and NETC. This initiative evaluates alternatives for disaster housing units through student participation.

This past year, the Joint Housing Solutions Group acquired alternate units in coordination with USFA and placed the units at NETC to create an evaluation laboratory.

Section 4.5.1 – National Fallen Firefighters Memorial Weekend

- Every October, the National Fallen Firefighter Foundation (NFFF) sponsors the official national tribute to all firefighters who die in the line of duty during the previous year. USFA supported this effort by hosting the 27th National Fallen Firefighter Memorial weekend at NETC on October 4–5, 2008. There were approximately 6,000 visitors and family members who attended the National Fallen Firefighters Memorial Weekend in Emmitsburg, Maryland. The event honored 101 firefighters who died in the line of duty in 2007 as well as 9 firefighters who had died in previous years.[6]

[6] National Fallen Firefighters Foundation, **www.firehero.org**

V. Appendices

Section 5.1 – Glossary of Terms

All hazards: Describes an incident, natural or man-made, that warrants action to protect life, property, environment, and public health or safety, and to minimize disruptions of government, social, or economic activities.

Allied professions: Architects, engineers, designers and related professionals having an interest in the safety and sustainability of the built environment.

Disaster: An unexpected occurrence inflicting widespread destruction and distress and having long-term adverse effects on agency operations. Each agency defines what a long-term adverse effect is in relation to its most critical program.

Emergency: Any incident, natural or manmade, that requires responsive action to protect life or property. Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, an emergency means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

Emergency medical services (EMS): A system which provides personnel, facilities, and equipment for the delivery of medical care services under emergency conditions.

Fire and emergency services: Local and non-governmental fire, emergency medical, police and other emergency organizations that provide a broad range of services for prevention, preparedness and response.

First responder: Local and nongovernmental police, fire and other emergency personnel who, in the early stages of an incident, are responsible for the protection and preservation of life, property, evidence, and the environment. This includes emergency response providers as defined in Section 2 of Homeland Security Act of 2002, as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) who provide immediate support services during prevention, response and recovery operations. First responders may include personnel from Federal, state, local, tribal, territorial, or nongovernment organizations.

Geographic Information System (GIS): A GIS integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

Incident Command System (ICS): A standardized onscene emergency management system designed to provide an integrated organizational structure that reflects the complexity and demands of single or multiple incidents used by government and private agencies. The ICS is designed to overcome jurisdictional boundaries to enable effective incident management by integrating facilities, equipment, personnel, procedures, and communications within a common organizational structure. It is used for small as well as large and complex incidents to organize field-level incident management operations.

Mitigation: Provides a critical foundation in the effort to reduce the loss of life and property from natural and/or manmade disasters by avoiding or lessening the impact of a disaster and providing value to the public by creating safer communities. Mitigation seeks to fix the cycle of disaster damage, reconstruction, and repeated damage. These activities will have a long-term sustained effect.

National Fire Incident Reporting System (NFIRS): A standard national reporting system used by U.S. fire departments to report fires and other incidents to which they respond and to maintain records of these incidents in a uniform manner. The NFIRS has two objectives: to help state and local governments develop fire reporting and analysis capability for their own use, and to obtain data that can be used to more accurately assess and subsequently combat the fire problem at a national level.

National Response Framework (NRF): Guide to how the Nation conducts all-hazards incident management. It is built on flexible, scalable, and adaptable coordinating structures to align key roles and responsibilities across the Nation. The NRF is intended to capture specific authorities and best practices gained from managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters.

Public Law 93-498: Public Law 93-498, the Federal Fire Prevention and Control Act of 1974, was signed into law on October 29, 1974. With the passage of Public Law 93-498, the USFA and its training delivery arm, the NFA, were created.

Public Law 110-376: USFA Reauthorization Act of 2008.

Preparedness: Continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and improving in an effort to ensure effective coordination during incident response.

Prevention: Actions to avoid an incident or to intervene to stop an incident from occurring. Prevention involves actions taken to protect lives and property. It involves applying intelligence and other information to a range of activities that may include such countermeasures as deterrence operations; heightened inspections; improved surveillance and security operations; investigations to determine the full nature and source of a threat; public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and, as appropriate, specific law enforcement operations aimed at deterring, preempting, interdicting, or disrupting illegal activity and apprehending potential perpetrators and bringing them to justice.

Recovery: The development, coordination, and execution of service and site restoration plans; the reconstitution of government operations and services; individual, private-sector, non-governmental, and public assistance programs to provide housing and promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental, and economic restoration; evaluation of the incident to identify lessons learned; postincident reporting; and development of initiatives to mitigate the effects of future incidents.

Response: Activities that address the short-term, direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans and of mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes. As indicated by the situation, response activities include applying intelligence and other information to lessen the effects or consequences of an incident; increased security operations; continuing investigations into the nature and source of the threat; ongoing public health and agricultural

surveillance and testing processes; immunizations, isolation, or quarantine; and specific law enforcement operations aimed at preempting, interdicting, or disrupting illegal activity, and apprehending actual perpetrators and bringing them to justice.

Safety: The condition of being safe; freedom from danger, risk, or injury.

Strategic and tactical skills: The ability to evaluate and plan *the general command and control of an incident,* while deploying resources to achieve incident objectives of life safety, incident stabilization and property conservation.

Strategic Plan: Plan that reflects the current focus and emphasis on USFA and its partners and the fire and emergency services which provides the agency's mission, vision and goals. (Source: **http://www.usfa.dhs.gov/downloads/pdf/strategic_plan.pdf**)

Tribal: A unit of Native American sociopolitical organization consisting of a number of families, clans, or other groups who share a common ancestry and culture, and are recognized by the United States government as a legitimate tribe.

5.1.1 – Acronyms List

ACE: American Council on Education

AFG: Assistance to Firefighters Grant Program

AHIMT: All Hazard Incident Management Team

BEST: Behavior, Equipment, Standards and Training

CEU: Continuing Education Units

CIP: Critical Infrastructure Protection

DDP: Degrees at a Distance Program

DHS: Department of Homeland Security

EFOP: The Executive Fire Officer Program

EMR-ISAC: Emergency Management and Response-Information Sharing and Analysis Center

EMS: Emergency Medical Services

EPSS: Electronic Performance Support Systems

ESF-4: Emergency Support Function-4

FEMA: Federal Emergency Management Agency

FP&S: Fire Prevention and Safety Grant Program

FSIS: Fire Service Information Sharing

FOUO: For Official Use Only

FY: Fiscal Year

GIS: Geographic Information System

GPD: Grant Programs Directorate

I&A/SLPO: Intelligence and Analysis, State and Local Program Office

IACET: International Association for Continuing Education and Training

IAFC: International Association of Fire Chiefs

IAFF: International Association of Fire Fighters

ICS: Incident Command System

IFSTA: International Fire Service Training Association

LRC: Learning Resource Center

NETC: National Emergency Training Center

NFA: National Fire Academy

NFDC: National Fire Data Center

NFFF: National Fallen Firefighter Foundation

NFIRS: National Fire Incident Reporting System

NFP: National Fire Programs

NFPA: National Fire Protection Association

NIJ: National Institute of Justice

NIST: National Institute of Standards and Technology

NOC: National Operation Center

NRF: National Response Framework

NWCG: National Wildfire Coordinating Group

NVFC: National Volunteer Fire Council

OHA: Office of Health Affairs

PARADE: Prevention Advocacy Resources and Data Exchange

PrepNET: National Preparedness Network

SAE: Society of Automotive Engineers

SAFECOM: Safety Community

SAFER: Staffing for Adequate Fire and Emergency Response Grant Program

SCBA: Self-Contained Breathing Apparatus

SFPE: Society of Fire Protection Engineers

TRADE: Training Resources and Data Exchange

UASI: Urban Area Security Initiative

USFA: United States Fire Administration

5.2 – Fiscal Years 2008–2009 Triennial Report to Congress

Executive Summary

In the United States Fire Administration Reauthorization Act of 2008, Congress tasked the National Fire Academy (NFA) to report every 3 years on modifications made to NFA's training and education curriculum. The first report was to cover the period from reauthorization through FY 2009, and was to address "…changes made to the National Fire Academy curriculum, including:

- the basis for such changes, including a review of the incorporation of lessons learned by emergency response personnel after significant emergency events and emergency preparedness exercises performed under the National Exercise Program; and
- the desired training outcome of all such changes."

This report is submitted in compliance with that directive, as the first triennial report to Congress on changes that have been made to the NFA curriculum in Fiscal Years 2008 and 2009. Excluding this introduction, this report contains the following sections:

National Needs and NFA Delivery System Changes: This provides a brief discussion of emergent needs and new training challenges that surfaced nationally in the period FY 2008-2009 and that affected NFA's training curricula, followed by NFA training delivery system changes that were made during this period.

Changes to NFA Courses, by Curriculum Area: This provides a detailed report of all changes to the NFA curriculum during FY 2008-2009, including all new courses developed and all existing courses revised. For the changes in each of the 12 curriculum areas presented, an explanation is provided of the emergent national needs in the Nation's emergency services prompting the curriculum changes, the focus and scope of the new and revised courses, and the expected training outcomes and national impacts to be achieved.

Lessons Learned Applied to NFA Curriculum: Lessons learned from incidents, responses, and events in the emergency services are the source of most of the substance of NFA's curriculum. New protocols, procedures, understandings of risk, and emergency management techniques are being incorporated into the courses on a routine basis to keep them fresh and relevant to the students. There are many hundreds of these inputs that are accepted by NFA course managers into the different courses in the curriculum each year, and the volume of reporting on all such changes far exceeds the scope of this report. These inputs are collected from current national and international events, students, contract instructors and staff as part of the latter's responsibility to keep their curricula current. This section presents a sampling of how the lessons learned from Hurricane Katrina, from the 2008-2009 wildfire season, and from 10 significant incidents from the FY 2008-2009 period have been incorporated into the NFA curriculum.

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1. Legislative Requirement

This document responds to the reporting requirements set forth in the United States Fire Administration Reauthorization Act of 2008 (Public Law 110-376), which states:
Triennial Report.—Sub section 7 (15 U.S.C. 2206) is further amended by adding at the end the following:

Triennial Report.—In the first annual report filed pursuant to section 16 for which the deadline for filing is after the expiration of the 18-month period that begins on the date of the enactment of the United States Fire Administration Reauthorization Act of 2008, and in every third annual report thereafter, the Administrator shall include information about changes made to the National Fire Academy curriculum, including—

1. the basis for such changes, including a review of the incorporation of lessons learned by emergency response personnel after significant emergency events and emergency preparedness exercises performed under the National Exercise Program; and
2. the desired training outcome of all such changes.

Report on Feasibility of Providing Incident Command Training for Fires at Ports and in Marine Environments.—

1. In General.—Not later than 1 year after the date of the enactment of this Act, the Administrator of the United States Fire Administration shall submit to Congress a report on the feasibility of providing training in incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.
2. Contents.—The report required by paragraph (1) shall include the following:
   A. A description of the necessary curriculum for training described in paragraph (1).
   B. A description of existing training programs related to incident command in port and maritime environments, including by other Federal agencies, and the feasibility and estimated cost of making such training available to appropriate fire service personnel.
   C. An assessment of the feasibility and advisability of the United States Fire Administration developing such a training course in incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.
   D. A description of the delivery options for such a course and the estimated cost to the United States Fire Administration for developing such a course and providing such training for appropriate fire service personnel.

2. FY 2008-2009 National Needs and NFA Delivery System Changes

2.1 – Emergent Initiative/Activities

FY 2008 and 2009 saw the emergence of a number of challenges facing the Nation's fire and emergency services that have had broad impact on fire service training, including the curriculum and programs of the NFA.

The growing prevalence and diversity of *hazardous materials* in transportation, storage and use in all communities across the Nation, the new building industry trends toward lightweight and highly combustible residential construction, the growing hazards from stressed infrastructures such as aging bridges and gas or water lines, the increases in size, strength and frequency of wildfires—all these and many more emergent challenges were faced on a daily basis in FY 2008–2009 by the Nation's fire and emergency services. NFA's training mission requires that the NFA curriculum keep pace with these dynamic changes in threats to the public. New hazards and challenges, and the lessons learned from responses to these emergent risks, were one of the principal driving forces for the ongoing curriculum changes and updates made in FY 2008–2009 that are described in this report.

In the same period, the *financial crisis* that gripped the Nation has also had an impact on fire and emergency services training. Departments have experienced significant budget cuts and are challenged to maintain full service levels and provide proper protection to the public with fewer personnel and resources. Fire departments—like other local governmental agencies—simply are being asked to do more with less. As a result, it is more difficult for departments to accommodate time off the line for personnel to stand down for training. Concurrently, in the volunteer services, the financial challenges facing the American family have reduced the available free time for volunteers to attend training. The impact of this on NFA has been the need to modify the curriculum and to provide a broader range of alternative development and delivery methodologies to better accommodate the limited time the NFA audience has to attend training. This has been another important driver of NFA curriculum changes in FY 2008–2009 and will continue to influence transformation during the next few years.

Generational change in the fire and emergency services is another challenge that has resulted in changes in the NFA curriculum in FY 2008–2009. Approximately every 25 to 30 years America's career fire services see wholesale retirements and recruitments. For volunteer departments, there is an ongoing challenge to recruit and retain qualified personnel. The physical and regulatory demands of today's emergency responses are forcing more older and experienced officers to stand down and be replaced with younger, less experienced fire officers. This coupled with the favorable trend of fewer structural fires results in first line officers who lack sufficient experience to effectively fulfill their responsibilities in more complex incidents when those rarer large incidents do occur. This is a serious emerging national challenge, and has been another important issue that was addressed in the NFA curriculum changes made in FY 2008–2009. As a Nation, we simply must prepare the next generation to be proficient at routine as well as extraordinary incidents.

The *construction industry* continues to explore ways to reduce the overall cost of building while addressing environmental issues such as forest sustainability. As a result, there are many new products on the market that employ "manufactured

wood" made from materials that in the past were discarded or burned. The design, engineering and application of these products falls into the generic category of "lightweight" construction. There is a growing body of evidence that this type of construction – while uniquely strong under normal load conditions—may lose its structural integrity quickly when exposed to fires. The result is unanticipated catastrophic failure of building elements leading to structural collapse, often in the first few minutes of the fire services' arrival. In FY 2008–2009 nearly a dozen fire fighters suffered line-of-duty deaths while operating at so-called lightweight construction buildings, prompting a national effort to promote awareness and training of this potential hazard.

After many years of cooperative effort, America's fire services were successful in getting a requirement for *one- and two-family dwelling automatic sprinklers* into the predominant national dwelling building code: the International Code Council's International Residential Code®. In response to the pending change, there is a significant national need to train both fire and building code officials to perform technically competent compliance plan reviews for these systems.

The nationwide economic crisis that has affected local jurisdictions' *ability to deliver traditional emergency response services* provides an opportunity for reevaluating life safety and fire protection strategies in the built environment. Rather than continued emphasis on "after the fact" response to mitigate and control emergencies, there now exists an opportunity to make a dramatic cultural shift that emphasizes responsible risk management and incident prevention behaviors.

Finally, *growing missions* of local fire and emergency services to integrate with and support national response priorities for major disasters, terrorist threats, and other incidents of national significance have been responsible for additional changes to NFA's curriculum in FY 2008–2009. Lessons learned from Hurricane Katrina and other major events, from large-scale terrorist and disaster exercises at the Federal and state level, and the growing requirements for all responders to more effectively use National Incident Management System/Incident Command System (NIMS/ICS) in routine as well as large incident response—all these are new challenges that arose in FY 2008–2009 and that have been addressed in the changes to NFA's curriculum.

2.2 – FY 2008-2009 Curriculum Format and Delivery System Changes

As mandated by Congress, this report documents the changes to NFA's courses and curriculum that were made in FY 2008–2009, and that is the focus of Sections 3 and 4, below. However, the courses and curriculum are not the only arenas of change that NFA undertook during that period to improve the quality and impact of its training.

The delivery systems that carry the courses to the students play an equal part in the overall impact of NFA training, especially given the endemic challenges we all face in reaching many of the Nation's fire and emergency services students with training. In FY 2008–2009, NFA undertook a number of delivery system changes and improvements to better serve the training needs of the Nation's fire and emergency services, and to broaden the national impact and reach of NFA training.

In this period, NFA reformatted its resident delivery system to provide an even mix of 6- and 10-day programs, instead of just offering 10-day programs as had been the tradition at the National Emergency Training Center (NETC) in Emmitsburg,

Maryland. The purpose of this change was to better accommodate the more limited schedule availability of senior officers, and the staffing challenges of resource-strapped fire and emergency services departments around the Nation. It has been found to be much easier for senior officers and their departments to accommodate each officer's absence from work for 1 (long) week rather than 2 weeks. Typically, 6- and 10-day courses are offered in residence at NETC while 2-day courses predominantly are offered in the field and are sponsored by state fire service training organizations.

In order to not compromise any training impact with this change to 6-day on-campus formats, NFA also has added more blended learning experiences to its curriculum in the form of online precourse instruction and post-course applications of the material taught in the courses.

The emphasis on blended learning solutions also enhanced the richness and diversity of online training that is offered through NFA Online, the new NFA Internet-based training delivery system that was fully placed into operation during this period and has experienced a very high success rate in reaching the Nation's fire and emergency services. Approximately 45,500 students completed NFA Online courses in FY 2009. Concurrent with the growth of NFA Online, in FY 2009 NFA also began exploratory use of social media, including podcasts, Facebook, Adobe Connect for webinars, and Twitter as additional means of engaging students with NFA programs. The test use of these alternative methodologies continues into FY 2010.

Another new alternative methodology that NFA has expanded with great success in FY 2008–2009 is the new NFA Coffee Break Training program. This program provides short (such as 5 minutes in length) high interest online sustainment training to fire and emergency services personnel that they can take at home or at work, at any time convenient to their schedules. The program is designed to reach large portions of the target audience with highly current material and information, but without presenting any training time footprint or requirement that would disrupt work. The program has been very positively received by the fire and emergency services, has drawn a growing international audience as well, and subscriptions now number well over 33,000 regular weekly users of the program.

Finally, in FY 2008–2009, NFA significantly enhanced the systems used to recruit, train, and manage the national instructor cadre who deliver the NFA instructor-led curriculum both on and off campus. The quality, experience and professionalism of NFA instructors always has been a hallmark of NFA training, and that high level of talent and instructor credibility has proven to be critical to NFA's success in providing effective senior level training and professional development to experienced and seasoned officers and executives. The challenge has been the ongoing recruiting, vetting, and training of new instructors to maintain high quality levels while at the same time bringing in fresh instructors with new ideas and field experiences to the programs. In FY 2008–2009, NFA developed and implemented new instructor recruitment, vetting, and evaluation procedures that have had significant positive impact in enlarging and diversifying the qualified instructor pool for NFA instructor-led course delivery.

3. Changes to NFA Courses by Curriculum Area

As requested by Congress, provided below is an accounting of all changes made to the NFA curriculum during FY 2008-2009, including all new courses developed and all existing courses revised. These changes are explained for each of the following 12 curriculum areas:

- Incident Management
- Management Science
- Hazardous Materials/Weapons of Mass Destruction
- Executive Development
- Emergency Medical Services
- Fire Prevention: Technical
- Arson Investigation
- Fire Prevention: Management
- Responder Safety, Health and Wellness
- Planning and Information Management
- Fire Prevention: Public Education
- Training Program Management

For each curriculum area, an explanation is provided of the emergent national needs in the Nation's emergency services prompting the curriculum changes, the list of courses changed, the focus and scope of the new and revised courses, and the expected training outcomes and national impacts to be achieved.

3.1 – Incident Management

This is NFA's curriculum that addresses the full range of competencies to command and control all-hazard incidents. The goal of this program is to foster a national corps of fire and emergency services officers fully trained and prepared to command response to incidents of all sizes and involving all hazards. For all levels and complexities of incidents from routine responses to major emergencies, this curriculum addresses use of the ICS, strategic and tactical recognition primed decisionmaking, and the command skills and techniques needed by the mid- and senior-level officers of the Nation's emergency services.

The curriculum includes 10- , 6- , and 2-day courses, and online programs. The training is heavily simulation-based, the techniques and command skills taught directly reflect lessons learned in response and command of major incidents, and the material is constantly kept current with new issues stemming from current response events. Simulation is an effective means to transfer important performance skills to those who—because of the dwindling number of fires nationwide— have less opportunity to experience live fire events.

Stakeholder feedback indicates that many emergency services officers today lack the depth of command experience possessed by their mentors from previous generations. This is perceived to be due to several factors: including reduced number of fires, higher employee turnover, reduced staffing, competing demands for nonfire emergency responses (i.e., technical rescue, emergency medical services, hazardous materials incident control) and reduced time available (because of departmental resource and budget shortages) to stand down for significant fire-related training and exercises.

In FY 2008 and 2009, four of the major courses underwent formal and major revisions. In addition, the foundational simulation training system underwent a complete overhaul, including replacing and

upgrading all the incident simulations with new, higher quality 3-D environments. The four courses formally revised were:

- *Executive Analysis of Fire Service Operations in Emergency Management* (10-day)
- *Managing Company Tactical Operations: Decision-making* (2-day)
- *Incident Command for Highrise Operations* (2-day)
- *Wildland/Urban Interface Firefighting for Structural Company Officer* (2-day)

During FY 2008 and 2009, NFA training staff also assisted USFA in developing and fielding the All Hazards Incident Management Team (AHIMT) curriculum, involving command team and position-specific training for AHIMT personnel throughout the country. The NIMS/ICS doctrine relies heavily on skill sets that are attuned to specific positions with the command structure. During this period, USFA successfully trained hundreds of senior-level AHIMTs across the United States. This highly successful program was an important part of FEMA and DHS post-Katrina efforts to establish qualified and experienced command teams that could mobilize quickly and respond to major disasters and emergencies throughout the country. The AHIMT program is now managed by FEMA's Emergency Management Institute.

In FY 2010, NFA will supplement its long-standing classroom-based incident management curriculum with a major increase in online simulation training curricula. This work was started in FY 2009. The goal of this new effort will be to address emergent needs with online, on-demand simulation drill and practice in incident size up, decisionmaking, and command. The target benchmarks will be new strategies to reach the bulk of the national training audiences with short simulation practice that meets both time demands on the officers and provides sufficient artificial experience to close the experience "gap" of the Nation's cadre of officers.

3.2 – Management Science

This is the NFA curriculum area that addresses the management and administrative competencies of the Nation's fire and emergency services officers. Some of the programs are offered on campus at the NETC and some are designed for delivery by NFA and by our state partners at sites throughout the country. Prior to FY 2008, this curriculum had not been updated for a number of years, and the content in a number of the courses was considered by NFA constituents to be somewhat dated. Accordingly, in FY 2008–2009 NFA undertook a major revision to this curriculum area, including the updating of eight courses and addition of two new courses.

- A new 2-day course entitled *Changing Safety Culture* is being developed to help foster cultural change in the fire service for a stronger focus on responder and public safety, with the goal of reducing firefighter deaths and injuries and improving public safety programs.
  - A new 6-day course was developed entitled *Public Assistance for Community Recovery*, to teach fire service managers to better institute data management and recordkeeping during response that will support more accurate and timely financial applications after disasters, with the goal of facilitating local community recovery from disasters.

Eight of the core courses of this curriculum have been updated to reflect more current leadership and supervisory practices, contemporary management science, and emerging management lessons learned

from a range of recent major incidents and disasters. Case studies and practices pertinent to the emergency medical services (EMS) discipline have been included. These courses include:

- *Leadership I for Fire and EMS: Strategies for Company Success* (2-day)
- *Leadership II for Fire and EMS: Strategies for Personal Success* (2-day)
- *Leadership III for Fire and EMS: Strategies for Supervisory Success* (2-day)
- *Effective Leadership Skills for Fire and EMS Organizations* (10-day)
- *Communications for Emergency Services Success* (10-day)
- *Strategic Organizational Issues for Fire and EMS* (10-day)
- *Managing Fire and EMS in a Changing Environment* (2-day)
- *Shaping the Future* (2-day)

Work ongoing for FY 2010 and beyond includes expansion of online management science training, such as the Leadership I, II, and III for Fire and EMS series, and expansion of use of shorter methodologies such as webinars and podcasts to address new fire and emergency services management issues.

3.3 – Hazardous Material/Weapons of Mass Destruction

Hazardous materials and weapons of mass destruction (WMD) continue to pose a threat to local, state, and national jurisdictions. This is the NFA curriculum area that addresses full technical and command training for hazardous materials and WMD incidents. The goal of this program is to foster full national competency through training of all responders to be able to safely and efficiently perform their assigned roles in hazardous materials and WMD incidents.

The national standards for this program are Occupational Safety and Health Administrations regulations at 29 CFR1910.120 and National Fire Protection Association (NFPA) 471, *Recommended Practice for Responding to Hazardous Materials Incidents,* 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents,* and 473, *Standards for Competencies for EMS Personnel Responding to Hazardous Materials/ Weapons of Mass Destruction Incidents,* as well as standards developed by DHS under the target capabilities and universal task list programs. Courses in this curriculum area include 2- , 6- ,and 10-day, and online programs. Many of the NFA programs are integrated in the curricula of other Federal, state and local training partners and this leverage is critical to NFA's strategic goal of helping ensure that all responders are properly trained.

In FY 2008 and 2009, there were major changes in the base NFPA 472 standard that have spawned the need for a number of new courses in NFA's curriculum. In response, during that same period NFA has developed and released the following four new courses:

- *Hazardous Materials Operations Level Core Course* (2-day)
- *Hazardous Materials Operations Level Mission Specific Course* (2-day)
- *Hazardous Materials Special Operational Teams Management Course* (6-day)
- *Advanced Life Support Response to Hazardous Materials Incidents Course* (2-day)

And significantly revised the following courses:

- *Emergency Response to Terrorism: Self-Study and Interactive Courses* (NFA Online[1])
- *Chemistry for Emergency Response* (10-day)
- *Hazardous Materials Operating Site Practices* (10-day)
- *Hazardous Materials Incident Management* (6-day)

Work begun in FY 2009 that will continue into FY 2010 and beyond includes design, development and testing of a 21-unit online curriculum addressing core operations, and development of a comparable curriculum addressing mission-specific training for respective response audiences. An estimated 60 to 70 percent of America's volunteer fire service and related audiences presently are not being reached by traditional hazardous materials training programs, and the goals of these new NFA initiatives will be to address this critical national problem.

3.4 – Executive Development

Improvements to the professionalism of America's fire service cannot be accomplished without strong leadership among local fire and EMS officials. This is the NFA curriculum area that supports the Executive Fire Officer Program (EFOP); one of the centerpieces of NFA's education and training of the senior officer corps of the Nation's fire and emergency services. The goal of this curriculum is to reduce loss and enhance the safety of the public through exceptional fire service leadership and management performance. The key to exceptional performance among fire service principals is to have high professionalism, skill and competence to evaluate and respond to emerging issues, and to concurrently effectively groom the next leadership generation.

Part of being an exceptional performer is knowing how one is perceived by one's peers. The EFOP has for years employed a "360-degree self-assessment" tool for its enrollees. In FY2009 this tool was migrated from a paper-based format to an online, automated instrument.

The NFA EFOP is a 4-year course of instruction in which mid-level and senior fire officers take one intense senior-level 10-day course each year, followed by an original applied research paper written during the year between courses. The student's four research papers are vetted and evaluated by panels of professional and academic experts and the work has formed the body of a major library of fire research papers in all facets of senior-level management of the emergency services. NFA's EFOP has existed for 25 years, and has graduated 2,757 candidates. There are about 800 students enrolled in the program at any time. Today, acceptance into and graduation from the EFOP is considered a significant professional fire service honor, and many senior officer and chief-of-department hiring requirements include being a NFA EFOP graduate.

The four courses of the EFOP address executive development, executive leadership, executive management of prevention and risk reduction programs, and senior level command of major incidents. The four courses are updated constantly with references to new and emergent issues, executive level challenges, and senior command lessons learned from major incidents nationally. In FY 2008 and 2009, executive issues stemming from wildland fire challenges, post-Katrina lessons learned, and recent major urban fires lessons learned formed the bulk of the course updates. In addition, there were major revisions in FY 2008 and 2009 to the personal assessment instrumentation and systems used in

1 NFA Online is the NFA's learning management system. It can be found at www.nfaonline.dhs.gov

both *Executive Development* and *Executive Leadership*, and significant revisions and additions to the requirements of the annual applied research paper.

In FY 2009, there also was a major methodology revision to the risk reduction course in the EFOP curriculum entitled *Executive Analysis of Community Risk Reduction* (see section 3.8 Fire Prevention: Management). In FY 2010, two more of the EFOP courses are scheduled for major methodology updates: *Executive Development* and *Executive Leadership*.

3.5 – Emergency Medical Services

For the past 20 years, fire-service-based EMS has been a growing sector of local emergency services planning, development and delivery. In many jurisdictions, fire department responses to medical emergencies account for more than 85 percent of the agencies' service demand.

Acknowledging this growing national mission, Congress requires NFA to play a leadership role in fire service-based EMS training and program development. The goal of this program is to promulgate more effective EMS program management by the Nation's emergency response community while not competing with state and local training organizations that are very successful at delivering hands-on emergency medical field skills.

In FY 2008 and 2009, NFA began an expansion of its EMS curriculum and programs pursuant to Congressional directives by:

- convening a national advisory work group where more than 20 national experts representing a cross section of fire service-based EMS programs and the medical community participated in a curriculum needs analysis meeting
- updating the previous core course of the curriculum, Management of EMS (6-day)
- and by developing two new major courses:
  - *National Incident Management System Command for EMS*, addressing ICS command training for EMS incidents (Simulation), and
  - *EMS Quality Management* (6-day), addressing improving national adherence to core quality and performance standards for EMS systems and service organizations.

In FY 2010, NFA will follow this initial work to address its enhanced national mission in EMS with a second national curriculum planning stakeholder's meeting followed by development of several new 6- and 2-day, and NFA Online EMS courses and programs.

Emergent challenges to be addressed in FY 2010 and beyond include new competency standards and measures in the EMS arena, evolving partnerships among different response disciplines in EMS management as part of a national health care strategy, and the challenges of EMS service delivery in tight economic times.

3.6 – Fire Prevention: Technical

The modern built environment is sophisticated and complex. New construction materials and techniques — coupled with demands for reduced costs and environmental sustainability — require knowledgeable building and fire code officials to oversee construction. The Fire Prevention: Technical curriculum addresses the full-range of competencies to evaluate buildings and facilities for life safety and fire protection.

The curriculum addresses all levels and complexities of building design, use and occupancy, including many of the fire protection features and systems that are found within structures. The goal of this program

is to develop a national corps of fire and building code officials fully trained and prepared to make informed decisions about life safety and fire protection issues.

The curriculum includes 10- , 6- ,and 2-day courses and NFA Online programs. The training is heavily application-based, the techniques and evaluative skills taught directly reflect lessons learned that are incorporated into the latest editions of building and fire codes and standards. The curriculum also includes weekly training vignettes that are distributed to more than 33,000 worldwide subscribers and serves as a means to address lessons learned in a contemporaneous fashion.

In FY 2008 and 2009, seven new courses were developed to address identified national needs and to respond to changes in the built environment. In addition, two long-standing courses were revised and will be given to state training systems to reach a broader audience. The seven new courses were:

- *Commissioning New Occupancies for Code Officials* (2-day) to give code officials strategic skills to verify all integrated fire protection and life safety features are operational.
- *Hot Topics in Fire Protection* (6-day), a "current events" course for code officials to identify emerging issues and trends, and to conduct solid research with them.
- *Using the Windows® Calculator to Verify Hydraulic Calculations* (NFA Online), to give code officials a ubiquitous and easy-to-use tool to validate complex fire protection system designs.
- *Water-Based Fire Protection Systems Plan Review* (6-day), for code officials to evaluate sophisticated fire protection designs.
- *Residential Sprinkler Plan Review* (2-day), to respond to the new requirements in the International Code Council's International Residential Code®.
- *Fire Protection Components Identification* (NFA Online), providing plans examiners the ability to comprehend fire protection system design elements in a two-dimensional environment.
- *History of Automatic Sprinklers* (NFA Online), to provide historical context to the development of fire protection systems and equipment.

The revised courses include *Fire and Life Safety Plan Review* (6-day) that was provided to the state fire training systems to reach a broader audience, and *Fire Inspection Principles* (10-day) that is parsed into *Evaluating Life Safety Objectives* and *Fire Hazard Analysis* for distribution to the state fire training systems.

In FY 2010, two additional courses will be added: *Special Hazards and Highly Protected Risks* (6-day) to address unusual and significant risks in the built environment, and *Fire and Life Safety Modeling Analysis* (10-day) to provide students the special computer simulation methodology skills needed to review and evaluate highly sophisticated building designs and their ability to resist fire.

3.7 – Arson Investigation

Arson-for-profit (considered a "white collar crime") and fire as a terroristic tool continue to plague some sectors of the United States. This NFA curriculum area addresses training in fire and arson investigation, program management, evidence preservation and arson courtroom testimony. The purpose of this program is to reduce arson loss nationally by improving the national success rate in arson investigations, arson arrests, and arson convictions. Keys to this are improving the ability of arson investigators to both do more systematic field investigations and to more effectively support the criminal

prosecution process leading to convictions. NFA training in this area includes a range of 6- and 10-day courses, and a full online pre-course curriculum in a wide range of pre- and post course arson-specific training. This curriculum is developed and conducted in partnership with the Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) and the International Association of Arson Investigators (IAAI). The resident curriculum is very dynamic and includes intensive classroom instruction, simulation and live-burn building scene investigation practice, and extensive mock courtroom testimony and cross-examination practice.

In FY 2008 and 2009, NFA completed a full revision of the entire arson curriculum, addressing current and emerging techniques, tools, and challenges in the arson investigation arena. The revised curriculum includes new procedures, regulations, tips and techniques, and lessons learned from current investigation experiences and legal decisions, especially the new investigation strategies that have evolved from the recent increase in residential and commercial arsons stemming from the national mortgage and foreclosure crisis. Courses that received major revisions in FY 2008 and 2009 include:

- *Fire Arson Origin and Cause Investigations* (10-day)
- *Interview Interrogation Techniques and Courtroom Testimony* (10-day)
- *Fire Dynamics/Fire Modeling* (10-day)
- *Fire Cause Determination for Company Officers* (6-day)
- *Forensic Evidence Collection* (10-day)

In addition, in FY 2008 and FY 2009, NFA partnered with the ATF to significantly expand and improve the infrastructure of the on-campus burn buildings used to practice actual incident scene investigation skills. Also, NFA worked with IAAI to adapt and refine IAAI's online CFITrainer.net program to provide critically needed prerequisite instruction for the new and expanded Arson Investigation curriculum.

Work began in FY 2009 that continues into FY 2010 to develop strategies to expand the impact of this new curriculum to broader audiences. This work includes development and release of prerequisite arson investigation introductory training for use by state fire training system partners, conversion of *Analysis of Arson Management* to an NFA Online program, and conversion of the *Forensic Evidence Collection* course to a 10-day format from a 6-day format with the addition of documentary and electronic forensic analysis to address white-collar crimes.

3.8 – Fire Prevention: Management

This NFA curriculum area addresses training mid- and senior-level fire officers and community leaders in managing fire and emergency prevention programs in local communities. The purpose of this program is to reduce loss at the local community level nationally (1) through preventing the occurrence of fires, accidents, hazardous materials releases, and all other preventable incidents in the local community, and (2) through mitigating or limiting the damage done by fires, accidents, and other incidents when they do occur.

It is recognized that the greatest potential for saving lives and property from disasters and hazards of all types lies in prevention and risk reduction. In the public safety arena, Benjamin Franklin's adages[2]

2 It is coincidental that Benjamin Franklin is recognized as the "father" of America's fire service for founding the world's first fire company in Philadelphia in 1736.

that "a stitch in time saves nine" or "an ounce of prevention is worth a pound of cure" have never been truer than today. However, actually accomplishing effective fire prevention and risk reduction in local communities is a very complicated endeavor. Prevention and risk reduction programs are historically underfunded and under resourced. Local community prevention managers face a daunting task due to new hazardous materials appearing daily in transportation routes and modes, competing local land use development and planning concerns, local government budget cuts curtailing inspection, code enforcement and other safety measures, financially strapped local industries reducing systems maintenance, and a thousand other complex challenges.

Yet prevention and risk reduction are two of the most important, albeit unheralded, functions that local government can perform to effectively protect the public. Since their inception, NFA and USFA have had the national responsibility to lead the Nation to embrace the prevention mission, and NFA is committed to the principle that the key to this mission is the proper training of the Nation's fire and emergency services leadership in managing local prevention and risk management programs.

To better meet the emergent risk reduction and prevention challenges in today's local communities, NFA fully redeveloped two of its core courses in this curriculum area in FY 2008 and 2009.

- *Executive Analysis of Community Risk Reduction* (10-day), training students in NFA's EFOP to lead local communities in better prevention program and risk reduction program management.
- *Community Risk Reduction Strategies* (6-day), providing students a variety of strategic tools they can employ in their own jurisdictions for successful risk reduction outcomes.

NFA also developed a new 2-day program, *Residential Sprinklers Policy Development,* addressing the many political and administrative challenges facing adoption of residential sprinkler regulations at the local level, for delivery by NFA and our state partners.

3.9 – Responder Safety, Health, and Wellness

Firefighting consistently ranks near the top of America's most dangerous professions, and the USFA is committed to reducing death and injuries that occur while firefighters are serving their communities. More than 200 American volunteer and career firefighters died in the line of duty, and thousands more were injured, during the FY 2008-2009 period.

The NFA Responder Safety, Health, and Wellness curriculum emphasizes incident scene safety officer skills and safe fireground operating procedures to reduce risk. The curriculum also addresses the management of fire departmental health and wellness programs.

The Incident Safety Officer curriculum focuses on improving the monitoring of incident scene risks during response and reducing unsafe fireground operations, and has as its goal reducing the death and injuries of emergency responders due to avoidable exposure to operational risks during response. The Incident Safety Officer assists the Incident Commander in identifying evolving risks at an incident and in accordance with NIMS/ICS doctrine, has the authority to override operational assignments to remove responders from those risks.

In FY 2008 and FY 2009, training in this area has become as a higher priority because of the increased risks to responders in structural firefighting. These increased risks stem from reduced local response agency funding and staffing so that response crews have fewer personnel on the fire ground, from the

reduced experience of first line officers (due to generational turnover and fewer calls) in recognizing threats in unusual incidents, and from an identified increase in structural fire hazards. The principle increase in structural fire hazards is the result of the new trends for lightweight construction techniques and materials in the building industry, especially in residential construction. Because these light weight structures burn more rapidly and fail in a less predictable fashion than older buildings, there is a corresponding increase in reported fire fighter "near misses," injuries, and deaths in structural fire response.

One of the keys to ameliorating firefighter injuries and deaths is increased Safety Officer training so they can better identify hazards and modify response strategies and tactics to avoid the hazards. In response to this growing problem, NFA has fully revised and updated the core curriculum in the 2-day course, *Incident Safety Officer*.

Starting in FY 2009 and continuing into FY 2010, NFA will be working to expand the reach of this Responder Safety, Health, and Wellness curriculum with online training in hazard identification and lightweight construction incident strategies and tactics to reduce responder risk. The goal of this effort will be to reach larger numbers of the target response audience, especially the Nation's volunteer fire service, with this training through the NFA Online delivery system.

The Health and Wellness program has the goal of improving the physical preparedness of responders for the high stresses of fire and emergency medical services response operations to reduce firefighter injuries and death due to heart attacks and related physical ailments.

Recent studies have indicated that the physical demand of fire service operations, especially demands on the cardiovascular system during interior firefighting and rescue operations while wearing heavy protective clothing and self-contained breathing apparatus (SCBA), significantly exceeds the upper limits of safe demand and also well exceed the demands of all other measured occupations. This hazard has been exacerbated by the uneven physical conditioning of the career and volunteer fire service, especially where volunteers constitute nearly 80 percent of the fire service personnel who respond to emergencies and may not have organized mandatory fitness standards as a number of career organizations do. The effect of this hazard has been direct on the fire service: today, most fatal (47.5 percent of 80 year-to-date) and near-fatal injuries to firefighters are heart attacks or are related to heart problems during response.

The NFA Health and Wellness program is targeting this national problem by undertaking training of the leadership and mid-level management of the fire service in the better management of Health and Wellness programs in local departments, including establishing and maintaining departmental baseline fitness testing, physical conditioning programs, diet management, and ongoing physical testing and evaluation.

In FY 2008 and 2009, the core course of this curriculum, *Health and Safety Officer* (6-day), was extensively revised and is now fully current with the latest health and wellness and incident safety research, protocols and standards, lessons learned from major incidents and lessons learned from routine incident national risk patterns.

Planning was started in FY 2009 for subsequent work in FY 2010 and beyond to expand the reach of this curriculum with additional online courses for fire service managers on managing departmental health and safety programs in mid-sized and smaller departments using the NFA Online national delivery system.

3.10 – Planning and Information Management

Data and data analysis for local risk assessment, response planning, budgeting, asset management, and emergency response reporting are important tools for the modern decisionmaker. The goal of this curriculum area is to improve response and reduce loss from emergencies through more accurate data collection and analysis leading to better risk-reduction programs and better response planning and preparedness.

The keys to achieving these goals include training fire and emergency services officers to better understand and use data in risk assessment and response planning, preparing officers to guide departments in more cooperative participation in local cross-discipline planning teams and systems, and educating officers to ensure the inclusion of proper standards for response services in the local community response plans.

In FY 2008 and 2009, the nationwide economic downturn generated pressure within local communities to lessen service levels in response planning and to permit increased emergency response time to counteract reduced funding for services. This trend and related issues have presented a range of challenges in terms of identifying, quantifying, and reducing the unintended risks to the community that these potential service reductions can cause. In response to these growing planning needs, in FY 2008 and 2009, NFA has updated its entire planning curriculum to provide better tools to local response agencies to identify and reduce these risks as part of the planning process.

In FY 2008 and 2009, NFA has developed and launched a new course:

- *Standards of Cover* (6-day pilot delivery)

And has fully revised the following three courses:

- *Executive Planning* (6-day)
- *Technology Use in Planning and Information Management* (6-day)
- *National Fire Incident Reporting System Program Management* (6-day)

Planning began in FY 2009 for work in FY 2010 and beyond to expand the reach of this curriculum by developing more online training to build planning and data management skills. NFA staff will work closely with the National Fire Programs Division to derive appropriate training and educational opportunities from its congressionally-mandated major overhaul of the NFIRS program.

3.11 – Fire Prevention: Public Education

There is a tremendous range in public risk behaviors that are addressed by local and national fire service public education efforts. Unintentional fires, accidental poisonings, stairway trips and falls, head injuries, drowning, and automobile accidents are just a few examples of risk behaviors that affect our communities.

This NFA curriculum area trains fire service and EMS personnel and officers to effectively reach out to the local population with public education programs and activities to ameliorate these behaviors. The goal of this program is reduction of risk and loss at the local level through fostering improved public safety and risk-reduction behaviors. This includes fire cause reduction such as reducing smoking-caused fires and reducing kitchen fires; fire loss and injury reduction such as use of smoke detectors for early warning, fire exit planning, and children's stop, drop, and roll instruction; and increasing public injury avoidance behavior such as accident avoidance and

safe evacuation strategies in the face of floods or other natural disturbances.

Changing public behavior generally is recognized as having a great potential gain for reducing loss from fire and emergencies at the local level, but it is also one of the most difficult goals to achieve. In FY 2008 and 2009, this national challenge has been exacerbated by the economic downturn that has significantly reduced the public's responsiveness to programs championing safer public behavior. Fire service public education program managers face reduced staffing and resources themselves, and then must face a resistant public in some economic sectors that is less and less willing to select safer behaviors when presented with cost choices (such as using less expensive but dangerous heating sources in winter).

In FY 2008 and 2009 NFA has responded to this emerging national problem with the development of two new courses to help provide to public education program managers new strategies for coping with these challenges:

- *Demonstrating Your Fire Prevention Program's Worth* (6-day)
- *Special Interests—Future Directions in Public Education* (6-day)

In FY 2010, NFA is planning to develop online training and tools to further help to address these problems and to reach a much larger audience through delivery using the NFA Online training delivery system.

3.12 – Training Program Management

The NFA is tasked by Public Law 93-498 to "improve the professionalism of America's fire service." While NFA is in an enviable position to provide national leadership to foster a solid foundation for stakeholder fire and emergency services for prevention, preparedness and response, the ultimate responsibility for performance improvement lies with state and local organizations through regular high-quality training and evaluation. The NFA Training Program Management curriculum is intended to aid local fire and EMS officials in the development and delivery of training programs and courses that meet recognized performance standards.

In FY 2008 and 2009, NFA maintained, updated, and continued to offer its two popular courses in this curriculum to enable local fire and EMS officials to build their own effective programs:

- *Training Program Management* (10-day)
- *Fire Service Course Design* (6-day)

In addition, NFA continued constant "needs assessments" among its stakeholders to identify important training gaps and solutions that local fire services can employ.

4. Lessons Learned Applied to NFA Curriculum

As previously noted in this report, lessons learned from incidents, responses, and events in the emergency services are the source of most of the substance of NFA's curriculum. New protocols, procedures, understandings of risk, and emergency management techniques are being incorporated into the courses on a routine basis. NFA has used the case study method throughout its history with great success.

There are many hundreds of these inputs that are accepted by NFA course managers into the different courses in the curriculum each year, and the volume of reporting on all such changes far exceeds the scope of this report. These inputs are collected from current national and international events, students, contract instructors and staff as part of the latter's

responsibility to keep their curricula current. This section presents a sampling of how the lessons learned from Hurricane Katrina, from the 2008–2009 wildfire season, and from eight major hazardous materials and structural fire incidents from the FY 2008-2009 period have been incorporated into the NFA curriculum. As requested by Congress, each example includes a description of the incident, the lessons learned, NFA courses that were changed to address the lessons learned, and the desired training outcome.

4.1 – Oleum Transfer Incident

INCIDENT: On October 11, 2008, a transfer operation overflowed an oleum process tank, filling a vent system and releasing the oleum into a storage building at Indspec Chemical Corporation in Petrolia, Pennsylvania. (Oleum is a concentrated sulfuric acid containing dissolved sulfur trioxide. It fumes on contact with air and has an oily consistency and pungent odor.)

The oleum release created a mist cloud of sulfuric acid that filled the building and flowed out into the facility and surrounding community. Plant personnel evacuated the facility, while emergency responders evacuated about 2,500 residents from the towns of Petrolia, Bruin, and Fairview. The incident was investigated and reported by the United States Chemical Safety Board.

LESSONS LEARNED for responders that are germane to the NFA curriculum include the need for improved risk assessments in planning, improved use of reverse 9-1-1 for mass notification and evacuation, and improved public/private coordination in use of unified command.

NFA COURSES CHANGED: This material has been incorporated into *Hazardous Material Operating Site Practices* course, *Hazardous Material Incident Management* course, and *Executive Analysis of Fire Department Operations*.

DESIRED TRAINING OUTCOME: Students will return to departments and work with Local Emergency Planning Commissions to correct gaps in local risk assessments for product transfer stations, recommend to local Fire Department the use of reverse 9-1-1, and recommend to local fire department exercises with local private sector in incidents involving product release and evacuations.

4.2 – Post-Katrina

LESSONS LEARNED from the response to Hurricane Katrina have been well researched and analyzed in full in many post disaster studies and publications by FEMA and DHS, and do not need to be re-documented in this report. Three of the lessons learned for the response to this disaster that have had a specific impact on NFA's curricula are:

- The need for incident command teams (All Hazard Incident Management Teams, or AHIMTs) to be pre-trained and ready for deployment as self-contained units to disaster response mobilizations in which local incident command structures have been destroyed or overwhelmed to the point that new, replacement command structures and teams need to be provided.
- The need for local fire and emergency services managers to better understand the need for and be able to supervise full and proper documentation of their activities during initial and ongoing response to disasters, so that this information can be used post incident to expedite their applications for assistance in local recovery.

- The need for local jurisdictions to better integrate the response protocols of the different local response agencies and disciplines that would participate in the response to large incidents, and to better plan for integrated local communications and resource tracking for such incidents.

NFA COURSES CHANGED: This material has been incorporated in a new course, *Recovery Planning*, into the AHIMT national curriculum that was newly developed during FY 2008 and 2009, and in revisions to the courses *Command and Control of Multi-Alarm Incidents, Executive Analysis of Fire Executive Planning*, and *Executive Analysis of Fire Service Operations in Emergency Management*.

DESIRED TRAINING OUTCOME: Trained AHIMTs will return to local jurisdictions ready to (1) respond on a regional basis as command teams to manage response to disasters; (2) change local standard operating procedures (SOPs) to do proper data management and recordkeeping during response to disasters in order to facilitate and expedite local disaster recovery; and (3) better integrate local response agencies into a better coordinated response team.

4.3 – Wildfire Season

LESSONS LEARNED from the 2008–2009 Wildfire seasons have been well researched and analyzed in full in many post disaster studies and publications by the Department of the Interior, the National Interagency Fire Center, and many other national and state wildfire response organizations, and do not need to be re-documented in this report.

Three of the lessons learned from these recent fire seasons that have had a specific impact on NFA's curricula:

- The need to be able to mobilize and quickly train larger numbers of responders to provide supplemental staffing for large wildland fire operations in situations where existing resources have been depleted. This provides a curriculum need for a shorter, more expeditious wildland firefighting training curricula that would function as a supplement for responders who already have extensive training, experience and competency in structural firefighting.[3]
- The need for online simulation training as refresher and sustainment training for wildland responders in reading and interpreting indicators of changing fire conditions in the field that might lead to dangerous changes in fire direction, behavior and spread.
- The need for better public understanding of fire risks and participation in the reduction in fuel load in wildland/urban interface areas, specifically around residential structures.

NFA COURSES CHANGED: This material has been incorporated into a new course **Introduction to Wildland/Urban Interface Fire Fighting for the Structural Company Officer**, into a new wildfire simulation training program developed in partnership with the National Wildfire Coordinating Group, and into *Community Risk Reduction Planning*.

DESIRED TRAINING OUTCOME: Responders already trained and experienced in structural firefighting will be more quickly trained as wildland firefighters, and as a result more resources will be available to support wildland firefighting nationally in the 2010 fire seasons and beyond. More wildland firefighters will receive online refresher skill training in reading and interpreting hazardous fire conditions, and as a result will make safer decisions regarding protection from dangerous fire spread

3 The skill sets for risk assessment, strategy options and tactics for wildland and structural environments are dramatically different.

while in the field. Public behaviors will be influenced through improved wildland/urban interface public outreach programs, and as a result fire load and fire risk will be reduced in wildland/urban interface areas surrounding private residences.

4.4 – Mill Complex Fires

INCIDENT: On July 21, 2007, 78 mutual-aid departments and over 400 firefighters responded to a fire in a large, three-story multiuse commercial complex that was built as a large addition to an historic fabric mill in Uxbridge, Massachusetts. The fire was started by unauthorized welding performed in a noncode-compliant environment in one of the commercial occupancies.

Although the entire complex was protected by fire sprinkler systems, part of the sprinkler system in the area of origin had been padlocked in the closed position, which allowed the fire to reach strength sufficient to overwhelm the remaining sections of the sprinkler system. All of the 350,000-square-foot-structure was destroyed, except for the 10,000-square-foot-original mill structure. Because of the size of the fire and area addressed by the sprinkler system, the water system of Uxbridge was soon depleted and local lakes were used as draft water sources for the duration of the incident.

The mutual aid and ICS were managed exceptionally well at this incident and serve as a model for regional mutual-aid response, but the size and complexity of incident, including interior fireload based on the diversity of business activities within the structure, deficiencies in the fire protection systems, and the unpredictable compartmentalization of the building presented significant and insurmountable challenges to the response.

LESSONS LEARNED for responders that are germane to the NFA curriculum include: (1) the need for better preincident planning and more current knowledge of the interior compartmentalization of large, multiuse structures within the call area; (2) improved code inspection and enforcement including testing of sprinkler systems, fireloading inspections of local businesses, and industrial processes fire code compliance; and (3) better water supply planning for possible fires at very large structures within the call area.

NFA COURSES CHANGED: This material has been incorporated into Command and Control of Multi-Alarm Incidents, *Executive Analysis of Fire Executive Planning, Community Risk Reduction Planning*, and *Executive Analysis of Fire Service Operations in Emergency Management*. One of the weekly training vignettes described in Section 3.6 addressed alternative water supplies.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will perform more effective preincident inspections of large, complex multi-use commercial buildings, and prefire planning including planning for adequate water supply, (2) will perform more effective inspections and do better fire code enforcement with industrial systems in multiuse buildings; and (3) will do better inspections of sprinklers and other fire protection systems in public and commercial facilities within their response districts.

4.5 – Heavy Timber Warehouse Fire

INCIDENT: On September 14, 2007, the Richmond (Indiana) Fire Department responded to a basement fire in a four-story brick and heavy timber warehouse (built circa 1890). The warehouse was

used to store raw materials and finished product for a manufacturer of plastic sheeting and roll stock. The sprinkler system had been disconnected due to poor maintenance.

Responders were unable to reach the seat of the fire in the basement because of obstructions and high heat (for example, the lens of the firefighter's handheld thermal imaging camera (TIC) melted). With the heavy plastics fuel load in the warehouse and high heat conditions, the fire spread throughout all floors of the warehouse once it reached the elevator shaft. Defensive operations focused on exposures which included several adjacent manufacturing buildings and railcars to the rear offloading polypropylene pellets into silos. The response escalated to seven alarms, nearly 10 million gallons of water were used before the fire was controlled (which well exceeded city water supply and required mobile tender shuttles), and losses included the entire warehouse, several of the exposure buildings, and over $22 million in property loss. Investigations determined the fire started in an electric motor in a pump and auger setup in the basement, which is in noncompliance with fire code.

LESSONS LEARNED for responders that are germane to the NFA curriculum include (1) the need for better code inspection and enforcement, including enforcement of the maintenance of operable fire protection systems, proper fuel loading in industrial storage, and safe industrial processes in highly combustible environments; (2) better preincident planning and more current knowledge of the industrial storage structures within the call area; and (3) command decisionmaking for faster escalation of level of response when needed during offensive operations.

NFA COURSES CHANGED: This material has been incorporated into Executive Analysis of *Fire Service Operations in Emergency Management, Command and Control of Multi-Alarm Incidents, Incident Safety Officer, Executive Analysis of Fire Executive Planning, Community Risk Reduction Planning*, and *Executive Analysis of Community Risk Reduction*. DESIRED TRAINING OUTCOME: Students will return to departments and (1) will perform more effective preincident inspections of large industrial warehouses and pre-fire planning including review of fire load and planning for adequate water supply, (2) will do better inspections of sprinklers and other fire protection systems in public and commercial facilities within call area, and (3) will more effectively attend to burn time and resource needs during initial offensive operations at major fires.

4.6 – Chemical Warehouse Fire

INCIDENT: On October 29, 2007, a four-alarm fire destroyed a chemical warehouse, loading area, and tractor-trailer at a solvents facility in Des Moines, Iowa. The fire was spectacular, with massive frequent explosions over a period of 4 hours causing fireballs over 300-feet- high and 55 gallon-drums rocketing into the air.

The response was highly successful, and was a model multi-agency unified response involving all 15 National Response Framework Emergency Support Functions. Importantly, command was able to prevent spread to adjacent bulk chemical tank farms and parked chemical railcars by immediately opting for a full defensive strategy that also minimized environmental spill and runoff concerns by letting the loading area and warehouse burn. However, the response encountered many challenges that lead to important lessons learned, such as hazard spread that

forced unexpected abandonment of apparatus, poor interoperability of radio communications between responding agencies that forced face-to-face communication, and challenges keeping the public informed through media because of lack of emergency notification system.

LESSONS LEARNED for responders that are germane to the NFA curriculum include (1) need to better anticipate possible hazard spread early and assign perimeters and locations for Command Post and Staging that do not need to be frequently changed as incident evolves, (2) need to either solve the communication interoperability problems during multiagency response or re-establish protocols and SOPs supporting ongoing face-to-face communication, and (3) more effectively plan for emergency notification systems such as reverse 9-1-1 that do not depend upon the media to inform the public during evacuations.

NFA COURSES CHANGED: This material has been incorporated into *Hazardous Materials Operating Site Practices, Hazardous Materials Incident Commander, Executive Analysis of Fire Service Operations in Emergency Management, Command and Control of Multi-Alarm Incidents*, and *Executive Analysis of Fire Service Planning*.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will modify local department SOPs to increase initial isolation distances for major hazardous materials release incidents (2) will champion interoperable communications within jurisdiction and concurrently will review response plans to better accommodate face-to-face communications until interoperable communications are achieved, and (3) will champion improvements to local department emergency notification systems including reverse 9-1-1.

4.7 – Vacant Building Fire

INCIDENT: At 2:30 a.m. on a frigid Monday morning, January 28, 2008, Lawrence Fire Department responded to a fire in a large, three-story wood-frame vacant building in downtown Lawrence, Massachusetts. On arrival, the building was fully involved with fire showing out of almost every window, and the fire was already threatening an adjacent large three-story building with stores on the first floor and assisted living apartments on the second floor.

The incident challenges included a delayed alarm and a well-advanced fire upon arrival, freezing weather, water supply disruptions due to weather, heavy winds causing rapid fire spread to multiple exposures, search and evacuation challenges of residences that included assisted living occupants, complex major incident command and control and mutual-aid response. This was a very major six alarm response with model mutual-aid collaboration from over 14 departments, and involved very difficult operations under very challenging physical conditions.

The toll of the fire was complete destruction of the initial fire building and 11 exposed structures, and 3 structures damaged. But the important achievement was no lives were lost. In spite of the delayed alarm, massive fire, bitter cold and wind, and numerous other challenges, all residents were safely evacuated and protected, and the incident eventually brought under control.

LESSONS LEARNED for responders that are germane to the NFA curriculum include (1) the

need for early detection systems for vacant buildings, especially those undergoing remodeling with compartmentalization removed; (2) the need for preincident planning for inclement weather water supply challenges; and (3) the need for improved public education regarding structural evacuation notifications and personal exit route planning, especially for facilities with some assisted living residents.

NFA COURSES CHANGED: *Executive Analysis of Fire Service Operations in Emergency Management, Command and Control of Multi-Alarm Incidents, Executive Analysis of Fire Service Planning*, and *Public Education Planning*.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will champion local code modifications and improve inspections of alarms and early detection systems for vacant buildings and those being remodeled (2) will do preincident contingency planning for potential water supply disruptions due to weather, drought, and other negative conditions, and (3) will improve public education on fire exit planning and support planning for the evacuation of assisted living residents.

4.8 – Sugar Refinery Explosion

INCIDENT: On February 07, 2008, there was a massive explosion at the Imperial Sugar Co. refinery in Chatham County, Georgia. Fourteen workers were killed and dozens were injured, some severely. Port Wentworth Fire Department initially responded and reported victims wandering the front of the grounds, some severely burned and some with melted skin "dripping off them."

The incident was unusually complex because of the nature of the facility. The refinery was over 100 years old and most of the structures in it were built of materials such as creosote-impregnated wood having a high fuel load. The facility was a complicated warren of warehouses, 100-foot-tall silos, bagging rooms connected with conveyors, and six-and eight-story buildings with narrow, maze-like walkways between.

Access to the explosion site and to subsequent fire areas in the refinery was limited and very dangerous to responders. In addition, the sugar itself was burning in silos and throughout different areas of the refinery, and the burning sugar presented a very unusual and difficult product hazard—it behaved like lava, burning at 4000 °F (2,204 °C), molten and flowing and then entrapping areas and hardening when cooling. It presented very difficult challenges to responders, especially when searching the refinery for burn and explosion victims.

The biggest operational challenges were the fires in the 100-foot-high sugar silos that could not be reached by apparatus. In spite of the very difficult challenges, the incident was handled very well and the response was an excellent mutual-aid response with textbook use of NIMS/ICS, especially given the duration of over 7 days. As a result, all injured victims were very efficiently and promptly transported and treated, all deceased victims were found and their remains handled in accordance with local customs. The only response challenges not stemming from the unusual hazards of the refinery were communication problems with responding departments from outside the immediate mutual-aid area, and lack of references in the industry in sugar silo fire tactics.

LESSONS LEARNED for responders that are germane to the NFA curriculum include (1) the need to thoroughly inspect and preplan industrial sites, especially sites with potential combustible dust

hazards and older sites with potential unpredictable compartmentalization and modified layout, (2) the need to ensure response plan alternative protocols to maintain communication with occasional mutual-aid partners having incompatible communication systems, and (3) the need for responders to understand the unusual tactics needed for unusual facilities and hazards, such as sugar silos, in their first due area.

NFA COURSES CHANGED: *EMS Quality Assurance (new course), Executive Analysis of Fire Service Operations in Emergency Management, Command and Control of Multi-Alarm Incidents*, and *Executive Analysis of Fire Service Planning*.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will identify, thoroughly inspect and preplan industrial sites within their jurisdiction, especially sites with potential combustible dust hazards and older sites with potential unpredictable compartmentalization and modified layout, (2) will champion revision to response plans to include SOPs for handling face-to-face communication with occasional mutual-aid partners having incompatible communication systems, and (3) will identify target hazards within their first due area that may require unusual tactics, and will research and understand the tactics needed for those unusual hazards.

4.9 – Tornado

INCIDENT: On Sunday, May 25, 2008, at 4:59 pm, an EF-5 (Enhanced Fujita scale) tornado struck the town of Parkersburg, Iowa, a city of 1,889. An EF-5 tornado is the most powerful level of tornado. In a matter of minutes, 290 of Parkersburg's 576 homes were destroyed and another 120 were damaged. The high school, city hall and 22 businesses were destroyed. Total dollar damage still is being assessed, and may be in the hundreds of millions of dollars. There were 5 fatalities and approximately 70 injuries, the number of which probably would have been greater except for new warning systems that had been installed just days earlier.

Minutes before arrival of the tornado, the fire chief moved all apparatus briefly outside of the path and called for support from neighboring communities, and so was able to return, establish command, and begin organized search and rescue immediately following the departure of the tornado. Over the ensuing days and weeks, the response was characterized by its ever-increasing size of the response organization as teams and resources flowed in from neighboring jurisdictions and from the state. As the response shifted from search and rescue to response and recovery, Iowa's Incident Management Teams (IMTs) (built on the USFA model) were mobilized to assist in command. Two weeks after the tornado, the city was hit by the worst flood in its history, and the response organization that was addressing recovery from the tornado continued in the additional role of response and recovery from the flood. The overall response to these back-to-back disasters was a model of large scale coordinated mutual aid under the IMT structure, and the lessons learned by responders underscore the importance of effective use of NIMS/ICS.

LESSONS LEARNED for responders that are germane to the NFA curriculum include (1) the importance of multidiscipline and multijurisdictional training and exercising, to best prepare to work together in disasters, (2) the importance of public information, including daily community briefings

and use of a joint information center to coordinate public communications, (3) for responders during early response to such disasters, the importance of text messaging as a stable communication tool when other avenues are overwhelmed, and (4) the importance of using experienced command personnel such as IMTs to more effectively manage the complex response and recovery operations under NIMS/ICS.

NFA COURSES CHANGED: *Executive Analysis of Fire Service Operations in Emergency Management*, and *Executive Analysis of Fire Service Planning*.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will champion, support and conduct multidiscipline and multijurisdictional training and exercising, (2) will ensure effective public information protocols and procedures are reflected in current disaster response plans, and (3) will champion, support and conduct thorough NIMS/ICS training and sustainment training for all emergency services personnel in their jurisdiction.

4.10 – Passenger Freight Train Collision

On Friday, September 12, 2008, during afternoon rush hour, a Metrolink commuter train collided head-on with a freight train in the Los Angeles suburb of Chatsworth. Subsequent investigations determined that the Metrolink conductor was text messaging at the time and missed moving onto a side track to let the freight train pass. Twenty-five people were killed and 133 injured in what has been called the worst railroad accident in California history.

Responders faced a fire, many trapped and injured passengers, and a maze of very difficult extrication challenges. The fire was handled quickly but the extrication of injured passengers and bodies was difficult and more time-consuming. As injured victims were extricated, they were triaged and prepared for transport. An unusually high number (47 percent) of the victims were triaged as "immediate" transport priority.

This presented an unusual secondary triage challenge because of transport limitations. The accident's remote location required that victims be transported by helicopter, but because of the immediate surroundings, only one helicopter could land at a time. As a result, the "immediate" triage group needed to be triaged a second time, to be sequenced in priority order for transport.

The overall response included immediate implementation of ICS and Unified Command, early establishment of communications with hospitals to poll for bed availability, to coordinate a range of victim and incident scene management operations, and mutual aid to cover stations depleted for the train wreck response. Many of the responding organizations had responded together in a smaller but somewhat similar rail accident a number of years earlier, many had practiced and exercised together in response drills since that time, and most attributed the success of this response to those opportunities to work and train together prior to the response.

LESSONS LEARNED for the responder that are germane to the NFA curriculum include (1) the importance of establishing protocols beyond START (Simple Triage and Rapid Treatment) Transport for subsequent retriage of "immediate" victims when necessitated by limited transport capacity, (2) the importance of Unified Command including or coordinating with health organizations to help accomplish predetermination of bed space availability prior to transport, and (3) the importance of multidiscipline and multijurisdictional training and

exercising, to establish the relationships and partnerships necessary to manage effective response to mass casualty incidents.

NFA COURSES CHANGED: *Executive Analysis of Fire Service Operations in Emergency Management, Executive Analysis of Fire Service Planning* and *EMS Quality Assurance*.

DESIRED TRAINING OUTCOME: Students will return to departments and (1) will champion, support and conduct multidiscipline and multijurisdictional training and exercising, (2) will champion and support coordination with and command partnership with health systems in response planning for mass casualty incidents, and (3) will champion and support establishing protocols beyond START for retriage of "immediate" victims when needed.

5.3 – Maritime Firefighting Fiscal Year 2009 Report to Congress

Incident Command Training for Marine-Related Fires

August 17, 2009

Executive Summary

As part of the United States Fire Administration Reauthorization Act of 2008, USFA—and specifically the National Fire Academy—has been tasked with providing a report to Congress on the feasibility of providing Incident Command training for marine-related fires (Section 4, part d) of the United States Fire Administration Reauthorization Act of 2008.

The report includes the following:

A. A description of the necessary curriculum for training as described in the first paragraph of the Congressional requirement.
B. An overview of existing training programs related to incident command in port and maritime environments, as well as a discussion of the feasibility and estimated cost to make same available.
C. An assessment of the feasibility and advisability of having the United States Fire Administration develop such or similar courses in incident command.
D. A description of the delivery options and the estimated cost for the United States Fire Administration to develop and provide such a course.

Forward

I am pleased to present the following report, *Maritime Firefighting – Incident Command Training for Marine-Related Fires*, which has been prepared by the Federal Emergency Management Agency, United States Fire Administration. The report has been compiled in response to United States Fire Administration Reauthorization Act of 2008.

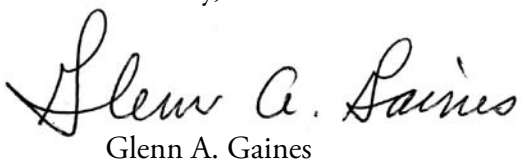
The report documents the feasibility of providing Incident Command training for marine-related fires (Section 4, part d) and includes:

A. A description of the necessary curriculum for training;
B. A description of existing training programs related to incident command in port and maritime environments;
C. An assessment of the feasibility and advisability of the United States Fire Administration developing such a training course in incident command; and
D. A description of the delivery options and the estimated cost to the United States Fire Administration for developing such a course.

Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

Inquiries relating to this report may be directed to me at (202) 646-4223.

Sincerely,



Glenn A. Gaines
Acting Administrator

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1. Legislative Requirement

This document responds to the reporting requirements set forth in the United States Fire Administration Reauthorization Act of 2008. As part of the United States Fire Administration Reauthorization Act of 2008, USFA—and specifically the National Fire Academy—has been tasked with providing a report to Congress on the feasibility of providing Incident Command training for marine-related fires (Section 4, part d) of the United States Fire Administration Reauthorization Act of 2008. Specifically, the language states:

1. **IN GENERAL** – Not later than 1 year after the date of the enactment of this Act, the Administrator of the United States Fire Administration shall submit to Congress a report on the feasibility of providing training in incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.
2. **CONTENTS** – The report required by paragraph (1) shall include the following:
   A. A description of the necessary curriculum for training described in paragraph (1)
   B. A description of existing training programs related to incident command in port and maritime environments, including by other Federal agencies, and the feasibility and estimated cost of making such training available to appropriate fire service personnel.
   C. An assessment of the feasibility and advisability of the United States Fire Administration developing such a training course in incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.
   D. A description of the delivery options for such a course and the estimated cost to the United States Fire Administration for developing such a course and providing such training for appropriate fire service personnel.

2. Background

United States Fire Administration

As an entity of the Department of Homeland Security's Federal Emergency Management Agency, the mission of the United States Fire Administration (USFA) is to foster a solid foundation in prevention, preparedness, and response by providing national leadership to local fire and emergency services. Included among the programs and services offered by USFA is the National Fire Academy, the Nation's pre-eminent provider of training for fire and other public-safety professionals.

National Fire Academy

The mission of the National Fire Academy (NFA) is to promote the professional development of the fire and the emergency response community and its allied professionals. The NFA supports State and local training organizations to fulfill their obligation to the career and volunteer fire and emergency services. The NFA also develops, delivers and manages educational and training programs having a National focus which is outside the State and local training mission or exceeds State and local capabilities because of cost or audience. The programs are designed to support the DHS and FEMA goals to help State and local response agencies prevent, mitigate, prepare for, and respond to local, regional and national emergencies.

The NFA performs several functions in the completion of its mission. These functions include, but are not limited to:

- Serving as the USFA's National focal point for advancing the professional development of fire service and emergency response personnel and allied professionals engaged in fire prevention and control, risk reduction and life safety activities.
- Providing education and training through resident, off-campus and distance deliveries in management, executive development, emergency medical services, incident management, planning and information management, hazardous materials, emergency response to terrorism, arson prevention / detection, community risk reduction / fire prevention and protection, public education, the National Response Framework / National Incident Management System.
- Expanding and maintaining the delivery of technology-based training programs that includes the use of web-based curriculum as well as a National simulation exercise system that uses computer-based multi-media and interactive scenarios.
- Conducting courses, seminars, workshops, conferences, executive forums, symposia, and other educational and training opportunities at the National Emergency Training Center (NETC).
- Developing state-of-the-art training and exemplary training models, materials, courses, programs, and curricula suitable for distribution to and use by State and local fire training organizations.
- Encouraging and strengthening new and existing programs and partnerships with Federal, State and local fire service training agencies, State and local Governments, colleges, and universities, by providing technical assistance and advice.
- Developing doctrine and training to support the implementation of the National Incident Management System (NIMS)/National Response Framework (NRF) and the practice of Incident Command System in all related emergency response disciplines.
- Working with National Fire Programs staff, the Emergency Management Institute, the National Preparedness Directorate, other FEMA and DHS organizations, public and private standards making bodies and professional organizations to advance community risk reduction strategies.

On January 6 and 7 2009, the Deputy Superintendent of the National Fire Academy and the US Fire Administrator's Executive Officer visited the Port of Los Angeles / Long Beach for a meeting hosted by the Long Beach Fire Department. They met with senior leaders of the organizations and agencies which would respond to an incident in the port area, including the Los Angeles City Fire Department, the Los Angeles County Fire Department, the California State Fire Marshal, the US Coast Guard and the Department of Homeland Security. During the day-long meeting, they learned about the economic, technical and political challenges facing responders and the resources that could be brought to bear on an incident. They discussed the need for common incident command training for the many (and sometimes disparate) agencies which would be required for the successful resolution of an emergency incident.

3. Curriculum for Training

A description of the necessary curriculum for training as described in paragraph (1) of the United States Fire Administration Reauthorization Act of 2008: ***Incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.***

The National Technology Transfer and Advancement Act (NTTAA) of 1995 requires all federal agencies to use technical standards that are developed or adopted by voluntary consensus standards bodies unless such use is impractical or inconsistent with law. The Office of Management and Budget issued Circular A-119 in February, 1998; the Circular provided guidance to promote consistent application across government. In December, 2007, the Department of Homeland Security issued a parallel, "Guidance Participation in the Development and Use of Non-Government Standards."

Guidance on, "curriculum for training in incident command for…personnel…for fires at …ports and in marine environments…" can be found in National Fire Protection Association Standard 1005, Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters (2007 Edition) (NFPA 1005).

Key Incident Command Standards listed in the NFPA 1005 are:

- Knowledge of marine vessel and facility types, the potential products to be found (5.1.1)
- Reading & Using Maps and Navigational Charts (5.2.1) and (5.3 (B))
- Effect of tide, wakes/waves, currents, firefighting agents, vessel movement or combinations thereof on vessel stability (5.3.5 (A)
- Estimation of deviation from normal position using measuring devices and communication equipment (5.3.5)
- Transmitting and receiving messages via marine facility and vessel communications equipment (5.4.1)
- Establishing communications with marine facility or vessel representatives (5.4.2)
- Locating and utilizing fire control plan and other documents (5.4.3)
- Communicating with vessel personnel and other agencies responding to an incident (5.4.4)
- Deploying an incident management system at an incident, establish site control and information exchange so that all major parties involved in the incident (fire department, ship's master, US Coast Guard or other marine agency for that jurisdiction (e.g. port state control) and facility representatives) and their responsibilities are identified and a command post is established. (5.5)
- Developing and monitoring an initial action plan for an incident, so that an accurate size- up of the incident is performed, the nature and location of the incident are accurately reported, hazards are identified, resources required are identified and ordered, assignments to other responders are made, incident progress is monitored and information is accurately transferred to the next Incident Commander. (5.5.2)
- Controlling access to a vessel so that all emergency responders are accounted for, and unauthorized personnel are prevented from boarding the vessel. (5.5.3)
- Evacuating a vessel or exposure so that all nonessential personnel are removed from the hazard area to an area of refuge (5.5.4)

Most important, however, is the Standard's reference, "effective October 1, 2004, federal policy requires that all incidents that include the participation of federal agencies, or for which state and local agencies seek federal reimbursement must use the National Incident Management System (NIMS)." (A5.5.1)

The Occupational Safety and Health Administration, "OSHA General Duty Clause" (found in 29 CFR 1910 part 121 and elsewhere) requires that:

a. Each employer

1. shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
2. shall comply with occupational safety and health standards promulgated under this Act;
3. shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

This has been interpreted as requiring an employer to maintain records on the training an employee has been given to perform the tasks required by his or her job.

4. Existing Training Programs

A description of existing training programs related to incident command in port and maritime environments, including by other Federal agencies, and the feasibility and estimated cost of making such training available to appropriate fire service personnel.

The US Coast Guard (September 3, 2008) has identified the courses necessary to meet its maritime firefighter certification standard, and lists 83 public and private institutions across the United States which provide marine firefighting training. The majority of these institutions offer some combination of Basic Marine Firefighting and Advanced Marine Firefighting; both courses are Standards of Training, Certification, and Watchkeeping (STCW)-95 compliant. Firefighting, on average, is 16 to 17.5 hours, while advanced firefighting is 32 hours. All students must pay to attend these courses, although in the case of public institutions providing training to public-sector employees, this cost is borne by sponsoring department's training budget. Many of these institutions reside within State government—either police services or fire training—while others are for-profit institutions focusing exclusively on maritime training and education.

As an example of a public institution offering maritime firefighting training, the University of Maryland's Maryland Fire and Rescue Institute which offers a 39-hour course in Shipboard Firefighting Operations which includes incident management; this course is also endorsed by the National Fire Academy (NFA).

Another example is the Washington State Patrol (WSP), which through the State Fire Marshal's Office provides Basic Firefighting, Advanced Firefighting, or the "Combination" Marine Firefighting, which merges the Basic and Advanced courses. WSP lists the Basic Firefighting course at 17.5 hours at a cost of $385 per student, while the Advanced Firefighting course is 32 hours at a cost of $595 per student; the combined offering costs $915 per student.

Louisiana State University also provides Advanced Marine Firefighter training, offering the course to both public and private sector personnel. The course is 40 hours in length, costs $650 per student and, according to LSU, meets the training requirements listed in the STCW Code, 46 CFR 10.205(I)(2), as well as 46 CFR 10.205(g) and 10.401(g)(1).

An example of a private organization offering maritime firefighting training is the Tri-State Maritime Safety Association (TMSA). Of the seven courses offered by the Tri-State Maritime Safety Association, one is an 8-hour class in Marine Firefighting Incident Management. It addresses pre-fire planning, NIMS Incident Command System (ICS)/

Unified Command, legal and environmental issues, port resources, communications, post-incident activities and case histories. Courses offered by TMSA are NFPA 1405 (Guide for Land Based Firefighters who Respond to Marine Vessels) and NFPA 1005 (Professional Qualifications Standard for Marine Firefighters) compliant.

New England Maritime is another private training institution offering courses to merchant marines and other water-based workers; it, too, offers both the Basic and Advanced Marine Firefighting courses. The Basic course is conducted over two days, and is offered quarterly; the cost is $400 per student. The Advanced course is a five-day delivery and, like the basic course, is offered quarterly; the cost to attend is $750 per student.

In addition to identifying the basic standards necessary to be certified in marine firefighting, the US Coast Guard provides a course in the National Incident Management System online. Further, in every major port in the US, the USCG conducts exercises using NIMS ICS as required by law/CFR for various contingencies (oil/hazmat spills, marine firefighting, port security, etc.).

Beyond field training, the International Fire Service Training Association (IFSTA) has published one instruction manual—*Marine Fire Fighting*—specific to maritime firefighting strategy, tactics, and management. This manual is available to fire or other public-safety training institutions. Further, a second IFSTA manual *Marine Fire Fighting for Land-based Firefighters* provides a chapter on shipboard firefighting and Incident Command, including a crosswalk between fire department ranks and typical maritime ranks.

The DHS/FEMA Emergency Management Institute's (EMI) *Integrated Emergency Management Course* tailors its classes to specific communities and States. This exercise based training typically takes 6–9 months of preparation by EMI staff for an intensive, week-long class in Unified Command and Emergency Operations Center (EOC) management held at National Emergency Training Center. Communities or States then work together in exercises and simulations which focus on specific risks faced by that jurisdiction.

The course brings together Federal, State, regional, and local emergency responders, including fire, law enforcement and emergency medical services from the jurisdictions which would be involved in the response. The training class can also include federal law enforcement, military and regulatory responders, private entities and volunteer organizations which would have an interest in the incident. Chief Elected and Appointed officials, members of the local media and allied responders also routinely participate in the classes.

The EMI develops locality-specific classes and exercises that focus on the NIMS, but allow Command and Staff students to apply them to the circumstances peculiar to their own environment.

The Master Exercise Practitioner Program (MEPP), offered through the EMI at the NETC, offers a series of courses focused on the design, development, conduct, evaluation, and the after-action/improvement process for emergency management exercises. This program requires a thorough understanding of the Homeland Security Exercise and Evaluation Program (HSEEP) as well as NIMS and how NIMS can be used across a variety of disciplines. In addition to local- and state-level attendees, the US Coast Guard has sent dozens of its personnel through the course, ensuring continued cross-training of not just personnel, but also of state and local responders and planners.

The USFA's NFA develops courses and delivers training that is national in scope and not readily available to emergency responders through other agencies or institutions. The NFA does not develop courses with a local focus because their applicability is not general nationwide. Because river and intracoastal waterway risks touch the majority of the States, the NFA has created generic maritime scenarios for its incident command courses. Costs of attendance at NFA are shared between the local employer and the USFA. There are no fees for the training. Lodging and transportation are provided to eligible students.

Working through State and local training staff—for example, through the State fire training director—would be the optimal way to coordinate scheduling and delivery of port-specific ICS training for public safety personnel. Priority should be given to delivering the course to those staff who would respond to a maritime environment, and are qualified to but have not yet received the training; it may be that funding could be obtained through dedicated appropriation or existing grants such as the Port Security Grant Program component of the Department of Homeland Security Grant Program.

Given the above prices cited for Basic and Advanced Marine Firefighting, the baseline cost for course delivery alone is $385 per student for the Basic class, and $595 for the Advanced class. This cost does not include associated costs such as backfill and/or overtime pay for the students to be away from their duty station to attend the training, as well as travel costs associated with attending the course. A port-specific, multi-jurisdictional incident command course could be delivered by the Emergency Management Institute with sufficient advance notice.

5. Assessment

An assessment of the feasibility and advisability of the United States Fire Administration developing such a training course in incident command for appropriate fire service personnel for fires at United States ports and in marine environments, including fires on the water and aboard vessels.

The USFA's NFA develops courses and delivers training that is not readily available to emergency responders through other agencies or institutions. For example, the NFA does not conduct technical or task level fire fighter training because such training is delivered by State and local fire service training agencies; it does deliver high level generic incident command training to classes of students from diverse fire departments across the nation. While there may be a call for specialized training (e.g. silo, subway or hi-rise rescue), the NFA does not develop these courses because applicability is not general nationwide.

Because river and intracoastal waterway risks touch the majority of the States, the USFA's NFA has created generic maritime scenarios for its incident command courses.

Training for all levels of command at a Port or Marine incident is already available in several venues across the nation. Locality-specific and risk-specific incident command training is routinely presented at the EMI.

Because of the high cost and limited audience, it is not advisable to spend taxpayer dollars replicating these programs at the USFA when they are already available through others.

6. Delivery Options

A description of the delivery option(s) for such a course and the estimated cost to the United States Fire Administration for developing such a course and providing such training for appropriate fire service personnel.

The cost for the USFA to develop an incident command course for a fire service audience (including needs assessment, exercises, simulations and pilot offerings) is approximately $300,000. (A revision to the more generic Executive Analysis of Fire Service Operations in Emergency Management currently underway is budgeted for $200,000.) In FY 2007, a more focused, position-specific All-Hazards Incident Management Team curriculum cost $2,322,405 to develop; it was funded through FEMA's NIMS Integration Center and is now hosted by State and local training agencies.)

The cost to deliver the class to 25 students, including contract instructor fees and student stipends, would be approximately $18,000.

The Emergency Management Institute's (EMI) *Integrated Emergency Management Course* tailors its classes to specific communities or States. After 6–9 months of preparation by EMI staff, key local leaders gather at the National Emergency Training Center for an intensive, week-long class in Unified Command and Emergency Operations Center (EOC) management. They then work exercises and simulations which focus on specific risks faced by that community.

The course brings together Federal, State, regional, and local emergency responders, including fire, law enforcement and emergency medical services from the jurisdictions which would be involved in the response. The training class can also include federal law enforcement, military and regulatory responders, private entities and volunteer organizations which would have an interest in the incident. Chief Elected and Appointed officials, members of the local media and allied responders also routinely participate in the classes.

The EMI could develop a locality-specific class which may include fire, hazardous materials or diseased passengers in the scenarios. It would focus on the commonalities of the National Incident Management System, but allow Command and Staff students to apply them to the circumstances peculiar to their own environment.

This curriculum is already in place at EMI. During a typical budget cycle the program is conducted for approximately 15 communities and 10 States annually with the only local or state costs associated with the program being the costs of meals and the time commitment for the participants.

7. Conclusion

Based on this analysis, we conclude that it is not advisable for the United States Fire Administration to develop a training course in incident command for fire service personnel for fires at United States ports and in marine environments.

Municipalities and agencies requiring such training may obtain it through one or more of the programs listed. Multi-jurisdictional incident management training is available through the Federal Emergency Management Agency's Emergency Management Institute.

8. Glossary of Abbreviations/Acronyms

DHS Department of Homeland Security

EMI Emergency Management Institute

FEMA Federal Emergency Management Administration

ICS Incident Command System

IFSTA International Fire Service Training Association

LSU Louisiana State University

NETC National Emergency Training Center, Emmitsburg Maryland

NFA National Fire Academy

NFPA National Fire Protection Association

NIMS National Incident Management System

NRF National Response Framework

NTTAA National Technology Transfer and Advancement Act of 1995

OSHA Occupational Safety & Health Administration

STCW Standards of Training, Certification and Watchkeeping

TMSA Tri-State Maritime Safety Association

USCG United States Coast Guard

USFA United States Fire Administration

WSP Washington State Patrol

Section 5.4 – State Profiles

The following section provides state-specific statistical information related to the participation in USFA programs as well as describes the opportunities and partnerships between the USFA and each state in Fiscal Year 2009.

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Alabama

In FY 2009:

- 114 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,596 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 935 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 51 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and twenty (420) Alabama fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.27 deaths and 4.9 injuries per 1,000 fires in Alabama compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.78 deaths and 14.63 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Alabama			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	87.10	83.58	Structures*	77.13	85.71
**Residential*	*80.65*	*80.60*	**Residential*	*72.89*	*77.40*
Vehicles	9.68	8.96	Vehicles	18.37	7.31
Outside	0.00	4.48	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 795 Alabama fire departments have registered with the National Fire Department Census.

Alabama has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Alaska

In FY 2009:

- 78 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 436 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 259 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 3 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and five (105) Alaska fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 7.63 deaths and 28.93 injuries per 1,000 fires in Alaska compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 16.93 deaths and 60.32 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Alaska			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	94.74	93.06	Structures*	77.13	85.71
**Residential*	*84.21*	*79.17*	**Residential*	*72.89*	*77.40*
Vehicles	5.26	5.56	Vehicles	18.37	7.31
Outside	0.00	1.39	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 145 Alaska fire departments have registered with the National Fire Department Census.

David Tyler, Alaska Division of Fire & Life Safety, served as the Region X Prevention Advocacy Resources and Data Exchange (PARADE) State Co-Chair.

Alaska has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Arizona

In FY 2009:

- 147 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 380 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 715 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 32 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Eighty six (86) Arizona fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.05 deaths and 4.98 injuries per 1,000 fires in Arizona compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.64 deaths and 30.27 injuries per 1,000 residential structure fires in the State compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Arizona			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	81.25	80.26	Structures*	77.13	85.71
**Residential*	*68.75*	*77.63*	**Residential*	*72.89*	*77.40*
Vehicles	6.25	14.47	Vehicles	18.37	7.31
Outside	6.25	2.63	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 241 Arizona fire departments have registered with the National Fire Department Census.

Fire Marshal Phil Mele, State Fire Marshal's Office, served as the Region IX PARADE State Co-Chair. Division Chief Eric Kriwer, Prescott Fire Department, served as the Region IX PARADE International Fire Marshal's Association Representative. Fire Marshal Jim Ford, Scottsdale Fire Department, served as the Region IX PARADE Metro Co-Chair.

Daniel Uthe, Tucson Fire Department, served as a member of the National Fire Prevention Professional Development Committee. The Committee works with the National Fire Science Curriculum Committee, a component of the Fire and Emergency Services Higher Education (FESHE) Program, in the development of model curricula for fire prevention personnel.

Paul Wobosel, Arizona State Fire Marshal's Office, served as the Region IX Training Resources and Data Exchange (TRADE) State Co-Chair.

Arizona has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Arkansas

In FY 2009:

- 50 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,893 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 342 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 33 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Six hundred and forty six (646) Arkansas fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.76 deaths and 6.08 injuries per 1,000 fires in Arkansas compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.72 deaths and 16.30 injuries per 1,000 residential structure fires in the State compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Arkansas			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	82.22	86.87	Structures*	77.13	85.71
**Residential*	*80.00*	*76.77*	**Residential*	*72.89*	*77.40*
Vehicles	17.78	6.06	Vehicles	18.37	7.31
Outside	0.00	6.06	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 668 Arkansas fire departments have registered with the National Fire Department Census.

California

In FY 2009:

- 250 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,335 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 3,037 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 180 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Five hundred and two (502) California fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.53 deaths and 6.35 injuries per 1,000 fires in California as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 3.39 deaths and 20.87 injuries per 1,000 residential structure fires in the State compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

California			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	55.05	81.94	Structures*	77.13	85.71
**Residential*	*48.62*	*71.81*	**Residential*	*72.89*	*77.40*
Vehicles	38.53	7.05	Vehicles	18.37	7.31
Outside	5.50	8.37	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 835 California fire departments have registered with the National Fire Department Census.

Ralph DeLaOssa, Long Beach City College, served as the Chair for the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs. Terry Koeper, Crafton Hills College, served as a member of this Committee as the Coordinating Liaison.

Sebastian Wong, Las Positas College, served as a member of the National EMS Management Degree Program Committee.

California has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Colorado

In FY 2009:

- 175 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 244 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 725 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 38 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and sixty (260) Colorado fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.21 deaths and 13.49 injuries per 1,000 fires in Colorado as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.96 deaths and 49.05 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Colorado			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	72.73	87.06	Structures*	77.13	85.71
**Residential*	*69.70*	*80.60*	**Residential*	*72.89*	*77.40*
Vehicles	18.18	4.48	Vehicles	18.37	7.31
Outside	9.09	7.96	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 324 Colorado fire departments have registered with the National Fire Department Census.

Colorado has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Connecticut

In FY 2009:

- 67 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 95 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 150 personnel attended the Connecticut State Weekend Program held on the NETC campus.
- 261 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 61 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and thirty seven (237) Connecticut fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.27 deaths and 15.51 injuries per 1,000 fires in Connecticut as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 2.88 deaths and 31.84 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Connecticut			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	88.89	84.09	Structures*	77.13	85.71
**Residential*	*88.89*	*80.45*	**Residential*	*72.89*	*77.40*
Vehicles	11.11	8.64	Vehicles	18.37	7.31
Outside	0.00	3.18	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 244 Connecticut fire departments have registered with the National Fire Department Census.

Gary Santoro, Wethersfield Fire Department, served as the Region I Prevention Advocacy Resources and Data Exchange (PARADE) International Fire Marshal's Association (IFMA) Representative. Roger Martin, Hartford Fire Department served as the Region I PARADE Metro Co-Chair.

Dr. Sandy Bogucki, Yale University School of Medicine, served as a member of the NFA Board of Visitors.

Delaware

In FY 2009:

- 23 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 277 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 71 personnel attended the Delaware State Weekend Program held on the NETC campus.
- 767 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 9 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Sixty one (61) Delaware fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.51 deaths and 4.19 injuries per 1,000 fires in Delaware as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 1.47 deaths and 9.59 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Delaware			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	33.33	86.67	Structures*	77.13	85.71
**Residential*	*22.22*	*86.67*	**Residential*	*72.89*	*77.40*
Vehicles	66.67	0.00	Vehicles	18.37	7.31
Outside	0.00	13.33	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 57 Delaware fire departments have registered with the National Fire Department Census.

District of Columbia

In FY 2009:

- 53 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 40 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- Four personnel from the District of Columbia participated in State Weekend Programs held on the NETC campus.
- 22 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 8 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Department Census

Since September 2001, three District of Columbia fire departments have registered with the National Fire Department Census.

Michael Ward, George Washington University, served as Chair of the National EMS Management Degree Program Committee. Erik Gaull, NFA Contract Instructor, served as a member of this committee.

The District of Columbia has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Florida

In FY 2009:

- 309 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 1,750 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 38 personnel attended the Florida State Weekend Program held on the NETC campus.
- 3,401 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 86 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and twenty seven (427) Florida fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.86 deaths and 12.53 injuries per 1,000 fires in Florida as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.65 deaths and 38.49 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Florida			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	62.75	82.87	Structures*	77.13	85.71
**Residential*	*60.78*	*74.46*	**Residential*	*72.89*	*77.40*
Vehicles	32.35	8.13	Vehicles	18.37	7.31
Outside	0.98	4.06	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 469 Florida fire departments have registered with the National Fire Department Census.

James Goodloe, Florida State Fire Marshal Division, served as the Region IV PARADE State Co-Chair. Deputy Chief Steven Peavey, City of Altamonte Springs, served as the Region IV PARADE International Fire Marshal's Association Representative Co-Chair.

Debra Mertz, Gulf Coast Community College, and Val Williams, Palm Beach Community College, served

as members of the National Fire Science Degree Program Committee (associate group). This Committee develops model fire science courses for adoption by associate degree programs.

Barbara Klingensmith, Florida State Fire College, served as the Coordinating Liaison for the National Fire Science Degree Program Committee (bachelor group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations. Charles Smeby, University of Florida, served as a member of this Committee.

Jeff Lindsey, Estero Fire Rescue, served as a member of the FESHE Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development.

Gerri Penney, Palm Beach County Fire Rescue, served as Chair of the National Fire Prevention Professional Development Committee. James Goodloe, of the Florida Division of State Fire Marshal, served as a member of this committee as well. The Committee works with the National Fire Science Degree Program Committee, a component of FESHE, in the development of model curricula for fire prevention personnel.

Jeff Lindsey, Estero Fire Rescue, served as a member of the National EMS Management Degree Program Committee.

Battalion Chief Vicki Sheppard, Palm Beach County Fire & Rescue, served as the Region IV Training Resources and Data Exchange (TRADE) Metro Co-Chair.

Florida has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Georgia

In FY 2009:

- 87 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 5,308 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 95 personnel attended the Georgia State Weekend Program held on the NETC campus.
- 2,464 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 61 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and ninety four (294) Georgia fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.16 deaths and 8.33 injuries per 1,000 fires in Georgia as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.09 deaths and 22.51 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Georgia			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	69.01	82.12	Structures*	77.13	85.71
**Residential*	*66.20*	*75.91*	**Residential*	*72.89*	*77.40*
Vehicles	26.76	9.49	Vehicles	18.37	7.31
Outside	0.00	7.30	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 460 Georgia fire departments have registered with the National Fire Department Census.

Georgia has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Hawaii

In FY 2009:

- 37 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 525 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 176 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 6 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four (4) Hawaii fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 0.52 deaths and 4.15 injuries per 1,000 fires in Hawaii as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 0.00 deaths and 22.05 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Hawaii			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	0.00	93.75	Structures*	77.13	85.71
**Residential*	*0.00*	*87.50*	**Residential*	*72.89*	*77.40*
Vehicles	100.00	0.00	Vehicles	18.37	7.31
Outside	0.00	6.25	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 11 Hawaii fire departments have registered with the National Fire Department Census.

Idaho

In FY 2009:

- 55 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 620 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 286 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 31 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and sixty eight (168) Idaho fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.55 deaths and 10.37 injuries per 1,000 fires in Idaho as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.03 deaths and 28.48 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Idaho			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	40.00	59.02	Structures*	77.13	85.71
**Residential*	*40.00*	*55.74*	**Residential*	*72.89*	*77.40*
Vehicles	53.33	14.75	Vehicles	18.37	7.31
Outside	6.67	24.59	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 179 Idaho fire departments have registered with the National Fire Department Census.

Idaho has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Illinois

In FY 2009:

- 147 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 6,803 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 958 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 143 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One thousand and fifteen (1015) Illinois fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.93 deaths and 18.92 injuries per 1,000 fires in Illinois as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.60 deaths and 48.40 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Illinois			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	77.67	90.06	Structures*	77.13	85.71
**Residential*	*70.87*	*80.57*	**Residential*	*72.89*	*77.40*
Vehicles	18.45	5.12	Vehicles	18.37	7.31
Outside	1.94	3.31	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1079 Illinois fire departments have registered with the National Fire Department Census.

Deputy Fire Marshal George Michehl, Buffalo Grove Fire Department, served as the Region V Prevention Advocacy Resources and Data Exchange (PARADE) International Fire Marshal's Association (IFMA) Representative Co-Chair.

Gary Kistner, Southern Illinois University, College of Applied Sciences and Arts, served as Chair of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations.

Indiana

In FY 2009:

- 66 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 1,467 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 209 personnel attended the Indiana State Weekend Program held on the NETC campus.
- 1,522 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 66 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Seven hundred and fifty nine (759) Indiana fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.79 deaths and 10.00 injuries per 1,000 fires in Indiana as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.80 deaths and 27.41 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Indiana			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	76.92	85.32	Structures*	77.13	85.71
**Residential*	*71.79*	*73.39*	**Residential*	*72.89*	*77.40*
Vehicles	20.51	6.88	Vehicles	18.37	7.31
Outside	2.56	4.59	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 760 Indiana fire departments have registered with the National Fire Department Census.

Iowa

In FY 2009:

- 65 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 430 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 253 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 28 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Three hundred and fifty (350) Iowa fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.48 deaths and 13.09 injuries per 1,000 fires in Iowa as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 10.91 deaths and 34.46 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Iowa			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	90.48	87.34	Structures*	77.13	85.71
**Residential*	*90.48*	*75.95*	**Residential*	*72.89*	*77.40*
Vehicles	4.76	3.80	Vehicles	18.37	7.31
Outside	0.00	6.33	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 709 Iowa fire departments have registered with the National Fire Department Census.

Fire Marshal Craig Fraser, City of Ankeny Fire Department, served as the Region VII Prevention Advocacy Resources and Data Exchange International Fire Marshal's Association Representative Co-Chair.

Chief Randy Novak, Iowa Fire Service Training Bureau, served as a member of the NFA Board of Visitors. Chief Novak also served as the Region VII Training Resources and Data Exchange (TRADE) State Co-Chair.

Kansas

In FY 2009:

- 117 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 615 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 203 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 40 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and fifteen (415) Kansas fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.63 deaths and 11.77 injuries per 1,000 fires in Kansas as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 8.65 deaths and 35.35 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Kansas			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	76.67	76.87	Structures*	77.13	85.71
**Residential*	*76.67*	*70.15*	**Residential*	*72.89*	*77.40*
Vehicles	23.33	17.16	Vehicles	18.37	7.31
Outside	0.00	4.48	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 469 Kansas fire departments have registered with the National Fire Department Census.

Kentucky

In FY 2009:

- 73 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 1,683 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 497 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 64 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Five hundred and fifty six (556) Kentucky fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.58 deaths and 9.55 injuries per 1,000 fires in Kentucky as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.31 deaths and 27.52 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Kentucky			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	83.78	86.86	Structures*	77.13	85.71
**Residential*	*81.08*	*82.48*	**Residential*	*72.89*	*77.40*
Vehicles	16.22	7.30	Vehicles	18.37	7.31
Outside	0.00	2.19	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 673 Kentucky fire departments have registered with the National Fire Department Census.

Larry Collins, Eastern Kentucky University, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations. Mr. Collins also served as the Chair for the FESHE Steering Committee. This Committee

assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development.

Kentucky has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Louisiana

In FY 2009:

- 140 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 797 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 249 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 34 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and four (204) Louisiana fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.89 deaths and 5.27 injuries per 1,000 fires in Louisiana as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.86 deaths and 16.71 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Louisiana			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	84.21	79.25	Structures*	77.13	85.71
**Residential*	*84.21*	*73.58*	**Residential*	*72.89*	*77.40*
Vehicles	15.79	15.09	Vehicles	18.37	7.31
Outside	0.00	1.89	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 368 Louisiana fire departments have registered with the National Fire Department Census.

Louisiana has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Maine

In FY 2009:

- 36 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 371 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 122 personnel attended the Maine State Weekend Program held on the NETC campus.
- 246 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 20 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and seventy eight (178) Maine fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.61 deaths and 10.23 injuries per 1,000 fires in Maine as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 2.58 deaths and 16.10 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Maine			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	66.67	76.32	Structures*	77.13	85.71
**Residential*	*66.67*	*65.79*	**Residential*	*72.89*	*77.40*
Vehicles	16.67	13.16	Vehicles	18.37	7.31
Outside	16.67	2.63	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 338 Maine fire departments have registered with the National Fire Department Census.

Maryland

In FY 2009:

- 200 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 4,544 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 204 personnel attended the Maryland State Weekend Program held on the NETC campus.
- 1,125 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 68 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and forty nine (249) Maryland fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.35 deaths and 9.79 injuries per 1,000 fires in Maryland as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.78 deaths and 26.84 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Maryland			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	86.49	88.96	Structures*	77.13	85.71
**Residential*	*75.68*	*84.42*	**Residential*	*72.89*	*77.40*
Vehicles	10.81	5.19	Vehicles	18.37	7.31
Outside	0.00	2.60	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 263 Maryland fire departments have registered with the National Fire Department Census.

Robert Ryan, City of College Park, served as the Region III Prevention Advocacy Resources and Data Exchange (PARADE) International Fire Marshal's Association Representative Co-Chair.

W. Faron Taylor, Maryland State Fire Marshal's Office, served as a member of the National Fire Prevention Professional Development Committee. The Committee works with the National Fire Science Curriculum Committee, a component of the FESHE Program, in the development of model curricula for fire prevention personnel.

Bruce Walz and Stephen Dean, University of Maryland Baltimore County, and Angel Burba, Howard County Community College, served as members of the National EMS Management Degree Program Committee.

Robert Cumberland, Cumberland Valley Volunteer Fireman's Association, served as a member of the NFA Board of Visitors.

Battalion Chief Michael Robinson, Baltimore County Fire Department, served as the Region III Training Resources and Data Exchange (TRADE) Metro Co-Chair.

Maryland has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Massachusetts

In FY 2009:

- 88 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 287 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 82 personnel attended the Massachusetts State Weekend Program held on the NETC campus.
- 397 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 73 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Three hundred and forty two (342) Massachusetts fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.62 deaths and 11.15 injuries per 1,000 fires in Massachusetts as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 3.04 deaths and 16.84 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Massachusetts			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	89.80	80.77	Structures*	77.13	85.71
**Residential*	*87.76*	*70.41*	**Residential*	*72.89*	*77.40*
Vehicles	10.20	7.10	Vehicles	18.37	7.31
Outside	0.00	5.92	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 359 Massachusetts fire departments have registered with the National Fire Department Census.

John Sullivan, Worcester Fire Department, served as a member of the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs.

Joseph Guarnera, Anna Maria College, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations.

Guy Colonna, NFPA, served as a member of the National Industrial Fire Safety Professional Development Committee.

Massachusetts has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Michigan

In FY 2009:

- 192 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,065 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 106 personnel attended the Michigan State Weekend Program held on the NETC campus.
- 669 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 73 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Seven hundred and seventy two (772) Michigan fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.00 deaths and 16.35 injuries per 1,000 fires in Michigan as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.14 deaths and 37.00 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Michigan			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	88.89	89.80	Structures*	77.13	85.71
**Residential*	*85.71*	*81.63*	**Residential*	*72.89*	*77.40*
Vehicles	9.52	5.83	Vehicles	18.37	7.31
Outside	1.59	3.50	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 945 Michigan fire departments have registered with the National Fire Department Census.

Fire Marshal Ronald Farr, Michigan Bureau of Fire Services, served as the Region V Prevention Advocacy Resources and Data Exchange (PARADE) State Co-Chair. Assistant Fire Marshal Osric Wilson, Detroit Fire Department, served as the PARADE Metro Co-Chair.

Michael Greis, Michigan Fire Fighters Training Council, served as the Region V Training Resources and Data Exchange (TRADE) State Co-Chair.

Minnesota

In FY 2009:

- 85 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 827 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 793 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 31 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Seven hundred and nine (709) Minnesota fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.94 deaths and 15.15 injuries per 1,000 fires in Minnesota as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.13 deaths and 31.32 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Minnesota			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	64.41	86.34	Structures*	77.13	85.71
**Residential*	*64.41*	*73.57*	**Residential*	*72.89*	*77.40*
Vehicles	27.12	9.69	Vehicles	18.37	7.31
Outside	5.08	3.08	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 716 Minnesota fire departments have registered with the National Fire Department Census.

Don Beckering, Minnesota State Colleges and Universities, served as a member of the FESHE Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development. Mr. Beckering also served as a member of the National Fire Prevention Professional Development Committee. The Committee works with the National Fire Science Curriculum Committee, a component of the FESHE Program, in the development of model curricula for fire prevention personnel.

Mississippi

In FY 2009:

- 51 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 254 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 36 personnel attended the Mississippi State Weekend Program held on the NETC campus.
- 358 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as on duty fatalities.

Since 1981, 53 firefighters have died in the line-of-duty and been honored at the annual National Fallen Firefighters Memorial Tribute held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Six hundred and ninety eight (698) Mississippi fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.47 deaths and 5.05 injuries per 1,000 fires in Mississippi as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 10.02 deaths and 15.50 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injures per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Mississippi			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	76.39	84.76	Structures*	77.13	85.71
**Residential*	*73.61*	*78.10*	**Residential*	*72.89*	*77.40*
Vehicles	15.28	6.67	Vehicles	18.37	7.31
Outside	8.33	4.76	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 382 Mississippi fire departments have registered with the National Fire Department Census.

Missouri

In FY 2009:

- 133 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 3,800 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 1,578 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Five firefighters were reported as onduty fatalities.

Since 1981, 76 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Five hundred and forty six (546) Missouri fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.73 deaths and 7.94 injuries per 1,000 fires in Missouri as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 3.79 deaths and 16.86 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Missouri			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	83.72	78.17	Structures*	77.13	85.71
**Residential*	*72.09*	*70.05*	**Residential*	*72.89*	*77.40*
Vehicles	9.30	12.69	Vehicles	18.37	7.31
Outside	2.33	6.09	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 732 Missouri fire departments have registered with the National Fire Department Census.

Fire Inspector Mark Kilby, Missouri Division of Fire Safety, served as the Region VII PARADE State Co-Chair. Fire Marshal Charles Coyle, St. Louis Fire Department, served as the Region VII PARADE Metro Co-Chair.

David Becker, International Association of Fire Chiefs (IAFC), served as a member of the National EMS Management Degree Program Committee.

Montana

In FY 2009:

- 51 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 614 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 194 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 20 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and eighty eight (188) Montana fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.46 deaths and 11.22 injuries per 1,000 fires in Montana as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.50 deaths and 44.98 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Montana			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	55.56	82.93	Structures*	77.13	85.71
**Residential*	*55.56*	*73.17*	**Residential*	*72.89*	*77.40*
Vehicles	22.22	12.20	Vehicles	18.37	7.31
Outside	0.00	2.44	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 259 Montana fire departments have registered with the National Fire Department Census.

Nebraska

In FY 2009:

- 36 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 269 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 244 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 23 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and ten (210) Nebraska fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.38 deaths and 14.74 injuries per 1,000 fires in Nebraska as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 8.08 deaths and 54.55 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Nebraska			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	90.00	91.94	Structures*	77.13	85.71
**Residential*	*80.00*	*87.10*	**Residential*	*72.89*	*77.40*
Vehicles	0.00	3.23	Vehicles	18.37	7.31
Outside	10.00	3.23	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 369 Nebraska fire departments have registered with the National Fire Department Census.

Kim McKay, Lincoln Fire Department, served as the Region VII Training Resources and Data Exchange (TRADE) Metro Co-Chair.

Nevada

In FY 2009:

- 55 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 476 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 309 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- One firefighter was reported as an onduty fatality.

Since 1981, 14 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Forty four (44) Nevada fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.68 deaths and 5.49 injuries per 1,000 fires in Nevada as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.81 deaths and 15.50 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Nevada			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	66.67	69.39	Structures*	77.13	85.71
**Residential*	*60.00*	*59.18*	**Residential*	*72.89*	*77.40*
Vehicles	26.67	12.24	Vehicles	18.37	7.31
Outside	0.00	16.33	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 85 Nevada fire departments have registered with the National Fire Department Census.

Mark Rivero, Las Vegas Fire and Rescue, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations.

Bruce Evans, Community College of Southern Nevada, served as the Vice Chair of the National EMS Management Degree Program Committee.

Warren Hioki, College of Southern Nevada, served as a member of the High School to College Pathways Committee.

Chief Russ Cameron, Clark County Fire Department, served as the Region IX Training Resources and Data Exchange (TRADE) Metro Co-Chair.

New Hampshire

In FY 2009:

- 52 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 742 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 108 personnel attended the New Hampshire State Weekend Program held on the NETC campus.
- 246 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 16 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and seventy six (176) New Hampshire fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.13 deaths and 19.00 injuries per 1,000 fires in New Hampshire as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 3.67 deaths and 38.24 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

New Hampshire			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	80.00	91.01	Structures*	77.13	85.71
**Residential*	*70.00*	*82.02*	**Residential*	*72.89*	*77.40*
Vehicles	10.00	3.37	Vehicles	18.37	7.31
Outside	0.00	1.12	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 210 New Hampshire fire departments have registered with the National Fire Department Census.

Robert Field, Manchester Fire Department, served as the Region I Training Resources and Data Exchange (TRADE)Metro Co-Chair.

New Jersey

In FY 2009:

- 98 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 654 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 208 personnel attended the New Jersey State Weekend Program held on the NETC campus.
- 1,349 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 124 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Six hundred and fifty eight (658) New Jersey fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.98 deaths and 13.13 injuries per 1,000 fires in New Jersey as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 3.71 deaths and 25.05 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

New Jersey			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	84.91	91.48	Structures*	77.13	85.71
**Residential*	*81.13*	*82.39*	**Residential*	*72.89*	*77.40*
Vehicles	11.32	4.55	Vehicles	18.37	7.31
Outside	1.89	2.27	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 688 New Jersey fire departments have registered with the National Fire Department Census.

Ronald Kanterman, Merck Manufacturing, served as the Chair for the National Industrial Fire Safety Professional Development Committee.

New Mexico

In FY 2009:

- 41 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 316 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 329 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 29 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and sixty five (265) New Mexico fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.84 deaths and 2.33 injuries per 1,000 fires in New Mexico as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.23 deaths and 8.57 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

New Mexico			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	53.33	63.16	Structures*	77.13	85.71
**Residential*	*53.33*	*57.89*	**Residential*	*72.89*	*77.40*
Vehicles	26.67	26.32	Vehicles	18.37	7.31
Outside	6.67	10.53	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 238 New Mexico fire departments have registered with the National Fire Department Census.

Larry Perez, Dona Ana Branch Community College, served as a member of the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs.

New York

In FY 2009:

- 84 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,896 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 290 personnel attended the New York State Weekend Program held on the NETC campus.
- 2,078 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Nine firefighters were reported as onduty fatalities.

Since 1981, 674 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One thousand and forty (1040) New York fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.15 deaths and 8.55 injuries per 1,000 fires in New York as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 1.85 deaths and 15.00 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

New York			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	82.89	91.47	Structures*	77.13	85.71
**Residential*	*78.95*	*86.50*	**Residential*	*72.89*	*77.40*
Vehicles	13.16	2.13	Vehicles	18.37	7.31
Outside	1.32	1.24	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1605 New York fire departments have registered with the National Fire Department Census.

Fire Marshal William Timmons, Town of Gatees, served as the Region II PARADE International Fire Marshal's Association Representative Co-Chair. Fire Marshal Robert Drexler, Monroe County Fire Bureau, served as the Region II PARADE Metro Co-Chair. Chief Paul Martin, New York Fire Prevention & Control, served as the Region II PARADE State Co-Chair.

Deputy Chief William Mitson, Syracuse Fire Department, served as the Region II Training Resources and Data Exchange (TRADE) Metro Co-Chair. Andrew Dickinson, New York Fire Prevention & Control, served as the Region II TRADE State Co-Chair.

New York has begun the six-step process for implementation of an integrated, competency-based, professional development system.

North Carolina

In FY 2009:

- 229 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,532 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 215 personnel attended the North Carolina State Weekend Program held on the NETC campus.
- 1,446 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 97 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Eight hundred and thirty eight (838) North Carolina fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.58 deaths and 8.54 injuries per 1,000 fires in North Carolina as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.77 deaths and 25.09 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

North Carolina			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	76.09	83.06	Structures*	77.13	85.71
**Residential*	*76.09*	*74.19*	**Residential*	*72.89*	*77.40*
Vehicles	10.87	12.50	Vehicles	18.37	7.31
Outside	6.52	2.82	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1011 North Carolina fire departments have registered with the National Fire Department Census.

Deputy Fire Marshal Jonathan Leonard, Charlotte Fire Department, served as the Region IV Prevention Advocacy Resources and Data Exchange (PARADE) Metro Co-Chair.

Steve Sloan, North Carolina Fire Marshal's Office, served as the Region IV Training Resources and Data Exchange State Co-Chair.

North Carolina has begun the six-step process for implementation of an integrated, competency-based, professional development system.

North Dakota

In FY 2009:

- 27 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 95 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 82 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 5 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and eighty two (182) North Dakota fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.64 deaths and 8.50 injuries per 1,000 fires in North Dakota as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 15.28 deaths and 41.48 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

North Dakota			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	77.78	90.48	Structures*	77.13	85.71
**Residential*	*77.78*	*90.48*	**Residential*	*72.89*	*77.40*
Vehicles	22.22	0.00	Vehicles	18.37	7.31
Outside	0.00	9.52	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 301 North Dakota fire departments have registered with the National Fire Department Census.

Deputy Fire Marshal Katy Gierke, State Fire Marshal's Office, served as the Region VIII Prevention Advocacy Resources and Data Exchange State Co-Chair.

Ohio

In FY 2009:

- 162 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 298 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 130 personnel attended the Ohio State Weekend Program held on the NETC campus.
- 981 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 103 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One thousand two hundred and ten (1210) Ohio fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.97 deaths and 18.77 injuries per 1,000 fires in Ohio as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.83 deaths and 46.31 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Ohio			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	89.73	90.35	Structures*	77.13	85.71
**Residential*	*83.56*	*78.31*	**Residential*	*72.89*	*77.40*
Vehicles	8.22	5.21	Vehicles	18.37	7.31
Outside	2.05	4.45	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1142 Ohio fire departments have registered with the National Fire Department Census.

Harry Burdick, Marion City/County Emergency Management Agency, served as a member of the National Industrial Fire Safety Professional Development Committee.

Chief Doug Ott, Akron Fire Department, served as a member of the High School to College Pathways Committee. Chief Ott served as the Region V Training Resources and Data Exchange (TRADE) Metro Co-Chair.

Captain Jack Reall, Columbus Firefighters Union, served as a member of the NFA Board of Visitors.

Ohio has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Oklahoma

In FY 2009:

- 64 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 325 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 345 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 43 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and thirty one (431) Oklahoma fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.59 deaths and 4.46 injuries per 1,000 fires in Oklahoma as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 7.09 deaths and 19.95 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Oklahoma			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	77.78	84.16	Structures*	77.13	85.71
**Residential*	*75.00*	*75.25*	**Residential*	*72.89*	*77.40*
Vehicles	13.89	4.95	Vehicles	18.37	7.31
Outside	5.56	6.93	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 709 Oklahoma fire departments have registered with the National Fire Department Census.

Fire Marshal Robert Doke, Oklahoma State Fire Marshal, served as the Region VI Prevention Advocacy Resources and Data Exchange (PARADE) State Co-Chair. Major Mike Barnes, Edmond Fire Prevention Office, served as the Region VI PARADE International Fire Marshal's Association Representative Co-Chair.

Chris Neal, International Fire Service Training Association, served as a member of the NFA Board of Visitors.

Oregon

In FY 2009:

- 134 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 677 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 393 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 65 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Two hundred and fifty two (252) Oregon fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.75 deaths and 18.14 injuries per 1,000 fires in Oregon as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 8.31 deaths and 54.69 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Oregon			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	69.77	81.73	Structures*	77.13	85.71
**Residential*	*55.81*	*75.96*	**Residential*	*72.89*	*77.40*
Vehicles	23.26	9.62	Vehicles	18.37	7.31
Outside	6.98	3.85	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 297 Oregon fire departments have registered with the National Fire Department Census.

Fire Marshal Jeff Donahue, Polk County Fire District #1, served as the Region X Prevention Advocacy Resources and Data Exchange (PARADE) International Fire Marshal's Association Co-Chair.

LaRon Tolley, Western Oregon University, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations.

Johnny Mack, Chemeketa Community College, served as a member of the FESHE Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development.

Paula Simone, Central Oregon Community College, served as a member of the High School to College Pathways Committee.

Pennsylvania

In FY 2009:

- 165 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,327 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 317 personnel attended the Pennsylvania State Weekend Program held on the NETC campus.
- 2,075 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 258 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Seven hundred and thirty one (731) Pennsylvania fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.07 deaths and 11.37 injuries per 1,000 fires in Pennsylvania as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.59 deaths and 22.96 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Pennsylvania			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	83.33	84.85	Structures*	77.13	85.71
**Residential*	*83.33*	*75.76*	**Residential*	*72.89*	*77.40*
Vehicles	12.50	11.36	Vehicles	18.37	7.31
Outside	4.17	1.52	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1794 Pennsylvania fire departments have registered with the National Fire Department Census.

Gary Fulton, Pennsylvania State Fire Academy, served as a member of the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs.

Bob Seitz, University of Pittsburgh, served as a member of the National EMS Management Degree Program Committee.

Pennsylvania has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Rhode Island

In FY 2009:

- 24 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 99 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 112 personnel attended the Rhode Island State Weekend Program held on the NETC campus.
- 222 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 11 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Sixteen (16) Rhode Island fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.06 deaths and 21.41 injuries per 1,000 fires in Rhode Island as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 0.00 deaths and 29.94 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Rhode Island			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	0.00	71.43	Structures*	77.13	85.71
**Residential*	*0.00*	*71.43*	**Residential*	*72.89*	*77.40*
Vehicles	100.00	21.43	Vehicles	18.37	7.31
Outside	0.00	0.00	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 71 Rhode Island fire departments have registered with the National Fire Department Census.

Vincent Quinterno, Rhode Island State Fire Marshal's Office, served as the Region I Prevention Advocacy Resources and Data Exchange (PARADE) State Co-Chair.

South Carolina

In FY 2009:

- 91 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 2,785 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 79 personnel attended the South Carolina State Weekend Program held on the NETC campus.
- 1,657 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 62 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Three hundred and fifteen (315) South Carolina fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.99 deaths and 7.43 injuries per 1,000 fires in South Carolina as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.36 deaths and 25.43 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

South Carolina			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	82.86	89.31	Structures*	77.13	85.71
**Residential*	*80.00*	*85.50*	**Residential*	*72.89*	*77.40*
Vehicles	11.43	4.58	Vehicles	18.37	7.31
Outside	2.86	3.05	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 443 South Carolina fire departments have registered with the National Fire Department Census.

South Dakota

In FY 2009:

- 49 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 340 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 125 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 11 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and ninety five (195) South Dakota fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 9.73 deaths and 15.09 injuries per 1,000 fires in South Dakota as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 32.18 deaths and 54.46 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

South Dakota			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	80.00	80.65	Structures*	77.13	85.71
**Residential*	*65.00*	*70.97*	**Residential*	*72.89*	*77.40*
Vehicles	15.00	16.13	Vehicles	18.37	7.31
Outside	5.00	3.23	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 282 South Dakota fire departments have registered with the National Fire Department Census.

Tennessee

In FY 2009:

- 115 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 1,425 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 901 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 67 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Six hundred and forty four (644) Tennessee fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.98 deaths and 8.47 injuries per 1,000 fires in Tennessee as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 8.62 deaths and 23.37 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Tennessee			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	83.33	85.36	Structures*	77.13	85.71
**Residential*	*82.14*	*78.24*	**Residential*	*72.89*	*77.40*
Vehicles	16.67	7.53	Vehicles	18.37	7.31
Outside	0.00	5.86	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 609 Tennessee fire departments have registered with the National Fire Department Census.

Travis Ford, Volunteer State Community College, served as a member of the High School to College Pathways Committee.

Tennessee has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Texas

In FY 2009:

- 412 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 3,857 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 5,453 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Five firefighters were reported as onduty fatalities.

Since 1981, 157 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One thousand and thirty eight (1038) Texas fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.59 deaths and 7.40 injuries per 1,000 fires in Texas as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.89 deaths and 29.76 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Texas			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	70.29	82.45	Structures*	77.13	85.71
**Residential*	*68.12*	*73.76*	**Residential*	*72.89*	*77.40*
Vehicles	23.91	10.09	Vehicles	18.37	7.31
Outside	2.90	6.21	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 1431 Texas fire departments have registered with the National Fire Department Census.

Fire Marshal David Kerr, Plano Fire Department, served as the Region VI Prevention Advocacy Resources and Data Exchange (PARADE) Metro Co-Chair.

Debra Carlin, City of Dallas Fire Rescue, served as a member of the National Fire Prevention Professional Development Committee. The Committee works with the National Fire Science Curriculum Committee, a component of the FESHE Program, in the development of model curricula for fire prevention personnel.

David White, Industrial Fire World, served as the Vice Chair for the National Industrial Fire Safety Professional Development Committee.

Walter Thieme, Del Mar College, served as a member of the High School to College Pathways Committee.

Helen Johnson, State Firemen's and Fire Marshals Association, served as the chairperson of the NFA Board of Visitors.

Mike Wisby, Texas Emergency Extension Service, served as the Region VI Training Resources and Data Exchange (TRADE) State Co-Chair, and Captain Bob Smith, Garland Fire Department, served as the Region VI TRADE Metro Co-Chair.

Utah

In FY 2009:

- 54 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 324 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 143 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 10 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and thirty eight (138) Utah fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 0.98 deaths and 13.88 injuries per 1,000 fires in Utah as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 4.36 deaths and 45.30 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Utah			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	100.00	80.28	Structures*	77.13	85.71
**Residential*	*100.00*	*73.24*	**Residential*	*72.89*	*77.40*
Vehicles	0.00	7.04	Vehicles	18.37	7.31
Outside	0.00	8.45	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 186 Utah fire departments have registered with the National Fire Department Census.

Fire Marshal Steve Cox, South Davis Metro Fire Agency I, served as the Region VII Prevention Advocacy Resources and Data Exchange International Fire Marshal's Association Representative Co-Chair.

Gary Noll, Utah Valley State College, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations.

Utah has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Vermont

In FY 2009:

- 19 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 898 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 32 personnel attended the Vermont State Weekend Program held on the NETC campus.
- 93 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 18 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

One hundred and sixty six (166) Vermont fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.31 deaths and 7.85 injuries per 1,000 fires in Vermont as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 1.95 deaths and 15.58 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Vermont			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	66.67	100.00	Structures*	77.13	85.71
**Residential*	*66.67*	*88.89*	**Residential*	*72.89*	*77.40*
Vehicles	3.33	0.00	Vehicles	18.37	7.31
Outside	0.00	0.00	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 194 Vermont fire departments have registered with the National Fire Department Census.

Virginia

In FY 2009:

- 233 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 3,099 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 101 personnel attended the Virginia State Weekend Program held on the NETC campus.
- 2,141 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Three firefighters were reported as onduty fatalities.

Since 1981, 53 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and eighty two (482) Virginia fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 2.39 deaths and 15.52 injuries per 1,000 fires in Virginia as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 6.38 deaths and 43.65 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Virginia			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	85.29	87.78	Structures*	77.13	85.71
**Residential*	*76.47*	*80.54*	**Residential*	*72.89*	*77.40*
Vehicles	11.76	4.52	Vehicles	18.37	7.31
Outside	2.94	3.39	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 520 Virginia fire departments have registered with the National Fire Department Census.

Fire Marshal Charles Altizer, Virginia State Fire Marshal's Office, served as the Region III Prevention Advocacy Resources and Data Exchange (PARADE) State Co-Chair. Fire Marshal James Dawson, Jr., Chesterfield Fire & EMS, served as the Region III PARADE Metro Co-Chair.

Aubrey Buddy Hyde, Jr., Southside Virginia Community College, served as a member of the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs. Mr. Hyde also served as a member of the FESHE Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development. Mr. Hyde also served as the Chair for the High School to College Pathways Committee.

Chief Adam Thiel, Alexandria Fire Department, served as a member of the National Fire Science Degree Program Committee (bachelor's group). This Committee addresses issues of undergraduate preparation for graduate degree programs and develops models for advanced degrees in fire and emergency services concentrations. Mr. Thiel also served as a member of the FESHE Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development. Mr. Thiel also served as a member of the NFA Board of Visitors.

Jill Cook, American School Counselor Association, served as a member of the High School to College Pathways Committee.

Chief Don Hansen, Virginia Department of Fire Programs, served as the Region III Training Resources and Data Exchange (TRADE) State Co-Chair.

Virginia has begun the six-step process for implementation of an integrated, competency-based, professional development system.

Washington

In FY 2009:

- 245 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 1,160 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 790 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 50 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and seven (407) Washington fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 1.89 deaths and 10.05 injuries per 1,000 fires in Washington as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 5.12 deaths and 29.30 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Washington			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	73.33	84.10	Structures*	77.13	85.71
**Residential*	*71.11*	*76.57*	**Residential*	*72.89*	*77.40*
Vehicles	22.22	12.13	Vehicles	18.37	7.31
Outside	0.00	2.51	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 400 Washington fire departments have registered with the National Fire Department Census.

Fire Marshal Lisa Jones, Spokane Fire Department, served as the Region X Prevention Advocacy Resources and Data Exchange (PARADE) Metro Co-Chair.

Judith Kuleta, Bellevue Community College, served as a member of the National Fire Science Degree Program Committee (associate's group). This Committee develops model fire science courses for adoption by associate degree programs. Ms. Kuleta also served as a member of the National Fire Prevention Professional Development Committee. The Committee works with the National Fire Science Curriculum

Committee, a component of the FESHE Program, in the development of model curricula for fire prevention personnel.

Jim Broman, Lacey Fire District, served as a member of the Fire and Emergency Services Higher and Education (FESHE) Steering Committee. This Committee assists in the development of the annual FESHE conference agenda and develops model solutions in the area of professional development.

Jim Crawford, Vancouver Fire Department, served as a member of the FESHE Steering Committee. The Committee works with the National Fire Science Curriculum Committee, a component of the FESHE program, in the development of model curricula for fire prevention personnel.

Robert Jones, Washington State Patrol/Fire Protection Bureau, served as the Region X Training Resources and Data Exchange (TRADE) State Co-Chair. Lawrence Mummey, Spokane Fire Department, served as the Region X TRADE Metro Co-Chair

Washington has begun the six-step process for implementation of an integrated, competency-based, professional development system.

West Virginia

In FY 2009:

- 31 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 306 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 94 personnel attended the West Virginia State Weekend Program held on the NETC campus.
- 664 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Two firefighters were reported as onduty fatalities.

Since 1981, 37 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and forty four (444) West Virginia fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.84 deaths and 11.41 injuries per 1,000 fires in West Virginia as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 9.08 deaths and 27.23 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

West Virginia			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	88.24	93.07	Structures*	77.13	85.71
**Residential*	*82.35*	*83.17*	**Residential*	*72.89*	*77.40*
Vehicles	8.82	2.97	Vehicles	18.37	7.31
Outside	0.00	1.98	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 395 West Virginia fire departments have registered with the National Fire Department Census.

Wisconsin

In FY 2009:

- 119 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 623 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 78 personnel attended the Wisconsin State Weekend Program held on the NETC campus.
- 550 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.
- Four firefighters were reported as onduty fatalities.

Since 1981, 48 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Four hundred and eighty (480) Wisconsin fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.40 deaths and 12.42 injuries per 1,000 fires in Wisconsin as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 9.06 deaths and 30.80 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Wisconsin			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	86.96	88.10	Structures*	77.13	85.71
**Residential*	*86.96*	*80.95*	**Residential*	*72.89*	*77.40*
Vehicles	13.04	5.95	Vehicles	18.37	7.31
Outside	0.00	3.57	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 763 Wisconsin fire departments have registered with the National Fire Department Census.

Wyoming

In FY 2009:

- 34 fire service personnel attended NFA resident courses on the Emmitsburg campus.
- 469 personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 229 personnel completed NFA self-study programs.
- Received a grant totaling $28,000 through the NFA State Training Grant Program.

Since 1981, 14 firefighters have died in the line of duty and been honored at the annual National Fallen Firefighters Memorial held in Emmitsburg, Maryland.

National Fire Incident Reporting System (NFIRS)

Seventy four (74) Wyoming fire departments reported fire incidents to NFIRS in 2008. According to NFIRS data, there were 3.02 deaths and 9.05 injuries per 1,000 fires in Wyoming as compared to the national average of 2.12 deaths and 10.36 injuries per 1,000 fires for that year. There were 13.99 deaths and 27.97 injuries per 1,000 residential structure fires in the state compared to 5.35 deaths and 27.74 injuries per 1,000 residential structure fires nationally. The overall percentages of deaths and injuries that occurred in the primary property types are:

Wyoming			Nation		
Property Type	Percent of Deaths	Percent of Injuries	Property Type	Percent of Deaths	Percent of Injuries
Structures*	80.00	53.33	Structures*	77.13	85.71
**Residential*	*80.00*	*53.33*	**Residential*	*72.89*	*77.40*
Vehicles	20.00	26.67	Vehicles	18.37	7.31
Outside	0.00	13.33	Outside	2.55	4.46

National Fire Department Census

Since September 2001, 107 Wyoming fire departments have registered with the National Fire Department Census.

Fire Inspector Justin Smith, Casper Fire EMS, served as the Region VIII Prevention Advocacy Resources and Data Exchange Metro Co-Chair.

Philip Oakes, Wyoming Fire Marshal's Office, served as the Region VIII Training Resources and Data Exchange (TRADE) State Co-Chair. Chief Ken King, Casper Fire/EMS Training Division, served as the TRADE Metro Co-Chair.

Wyoming has begun the six-step process for implementation of an integrated, competency-based, professional development system.

U.S. Territories

In FY 2009:

- Six fire service personnel attended NFA resident courses on the Emmitsburg campus.
- Five personnel participated in off-campus NFA courses offered in the region, state, or local community.
- 81 personnel completed NFA self-study programs.

National Fire Department Census

Since September 2001, 10 U.S. Territories fire departments have registered with the National Fire Department Census.

FEMA

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