



CHAPTER 8

Other Fire Prevention Functions

LEARNING OBJECTIVES

Upon completion of this chapter, you should be able to:

- List and describe government functions that are sometimes assigned to fire prevention bureaus.
- Describe the rationale used to justify assigning nontraditional functions to fire prevention bureaus.
- Discuss how assigning nontraditional functions to fire prevention bureaus can benefit the public.
- Discuss how assigning nontraditional functions may impact the mission of fire prevention bureaus.

Case Study



In a January 27, 2014, press release, Massachusetts State Fire Marshal Stephen D. Coan declared February 2–8, 2014, as National Burn Awareness Week. “While we traditionally associate burns with fires, the leading burn injury in Massachusetts is hot liquid scalds to children under five,” Coan stated. Scalds from cooking liquids and grease, hot liquids, tap water, food, and steam were responsible for 46 percent of the burn injuries reported to the Massachusetts Burn Injury Reporting System in 2012.

The press release went on to state that children under the age of 5 years accounted for more than half of all scald burn victims, the majority of whom were injured from hot beverages such as coffee, tea, and soup. To prevent scald burns in households with young children, Fire Marshal Coan offered the following tips:

1. Don’t hold babies or toddlers while drinking hot coffee or tea. Put your hot beverage down, because a wiggling baby can move your arm and spill the drink.
2. Put drinks and soups toward the center of the table away from curious fingers. Babies like to grab things.
3. Consider replacing tablecloths with place mats to prevent children from pulling everything on the table onto themselves.
4. Create a 3-foot safety zone around the stove and barbecue where children are not allowed, even when no cooking is taking place.
5. Turn pot handles inward over the stove.
6. Constantly supervise a young child in the bathtub. Place children facing away from faucets, so that they cannot turn on the hot water.

The press release also included recommendations for treating burns and a reminder to call 911 for medical assistance with any burn that is not extremely minor.

1. Is the issuing of a press release that focuses on scalds a proper function of the State Fire Marshal? Why or why not?
2. How would you respond to a question by the news media inquiring why the Health Department is not the designated agency for discussing scalds?

Information for this case study came from: January 27, 2014 - State Fire Marshal Announces Burn Awareness Week, <http://www.mass.gov/eopss/agencies/dfs/dfs-press-releases/january-27-2014-state-fire-marshal-announces-burn-.html>

Introduction

Fire departments in the United States have historically possessed an elastic quality. It likely originates from the very nature of the organization, which must be able to mobilize quickly and rapidly respond to almost any emergency situation. Whether for a child trapped in a chimney, a corrosive liquid spill, or a city block-sized lumberyard fire, most communities

depend on the fire department to come to the rescue. Many fire departments have added the title *Emergency Manager* to their list of responsibilities because fire departments are all-hazard emergency responders. Homeland security and civil defense are discussed later in this chapter. It is therefore natural that fire prevention bureaus have branched into other functions that sometimes complement and often enhance their fire prevention and protection efforts.

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Some bureaus are tasked with functions that appear to have little to do with life safety and property protection. The danger here is that the original mission can be superseded by tasks that are perceived as perhaps more glamorous or more news friendly. Ensuring that child safety seats are properly installed in automobiles is a worthy cause; any program aimed at protecting the lives of the public is a worthy one.

Tip

Fire prevention inspections are neither glamorous nor news friendly. Do not allow the bureau's original mission to be superseded by other activities that, while well-meaning and of value, take the focus off the mission of life safety and property protection.

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Do not let the life safety mantra totally obscure the issue of property protection. If life safety is the only measure of success for a fire prevention bureau, consider the following: The Centers for Disease Control and Prevention reported 3,782 victims of drowning in 2010.¹ That same year, the National Fire Protection Association reported 3,120 fire fatalities.² As the number of drowning fatalities is higher than those for fire, does that mean we should we throw away our codebooks, don swimsuits, and hang around the pool looking for swimmers in distress?

To take the point even further: The National Safety Council report listed 4,600 choking fatalities the same year.³ Given these figures, should we prioritize drowning and choking victims over fire victims? Combined with universal swimming instruction, a national "Chew Your Food" campaign could have strong potential for reducing the number of fatal accidents each year. But then, we would be forgetting that we have fire problem. "America today has the highest fire losses in terms of both frequency and total losses of any modern technological society," reported *America at Risk* in 2000.⁴ Our mission extends beyond life safety. Fire threatens

the economic viability of every community. When people lose their jobs, the impact is far greater than just the loss of disposable income. People may put off routine medical and dental care for themselves and/or their children. People get sick. Families are uprooted.

Some government functions neatly dovetail into the fire prevention bureau's traditional mission of property protection and safety from fire. The enforcement of construction and property maintenance codes has been successfully integrated into some fire departments across the United States. The cities of Bedford, New Hampshire; Olathe, Kansas; and Fairfax, Virginia, charge their fire departments with construction regulation: The building official works for the fire chief. Marquette, Michigan, and Cortland, New York, are among the local governments that have tasked the fire department with enforcing their property maintenance codes. This type of integration requires a particularly strong and confident fire chief who is able to see the big picture across multiple functions and is willing to rely on staff members with technical skills vastly different from those of most fire fighters.

For other localities, the investigation of hazardous waste and environmental crimes is a natural extension of materials regulation, emergency incident mitigation, and fire investigation. Fire prevention bureaus are perhaps one of the only agencies with the knowledge base and operational experience to handle such complex cases. Additionally, fire departments and fire prevention bureaus have a vested interest, as fire fighters respond to every fire, explosion, and hazardous materials release.

Tip

The integration of governmental functions such as construction regulation and property maintenance regulation requires a strong, confident fire chief who is willing to rely on staff members with technical skills vastly different from a traditional fire fighter's.

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Construction Regulation

Construction regulation requires technical competence in structural, mechanical, electrical, and plumbing engineering and the associated trades. Model codes contain specific requirements for construction officials and their assistants. Certification is sometimes mandated but always desirable. **Professional registration** or licensure in the fields of engineering or architecture is also highly advantageous **Figure 8-1**.

Few fire chiefs or chief fire marshals have the education, training, and/or desire to become professional engineers or architects, but they do not need to be engineers or architects to manage construction regulation as part of their department's overall mission of life safety and property protection **Figure 8-2**. Within fire departments where construction regulation has been successfully integrated, the title of building official and its regulatory responsibilities belong to a manager who reports to the fire chief or fire marshal. Chief mechanical, plumbing, and electrical inspectors and their staffs report to the building official.

The Bureau of Construction, Office of Code Enforcement, and Office of Building Regulation all refer to a division within the fire department or within the fire prevention bureau. The specific name that an



Figure 8-1 Fire departments that regulate construction typically employ civilian engineers or architects.

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Figure 8-2 Fire departments have a vested interest in regulating construction, as evidenced by this blocked fire department connection at a construction site.

Courtesy of Duane Perry.

organization uses is less important than its function: to oversee every building and structure from the time it starts as a blueprint, through to construction, renovation, and finally destruction by demolition or fire.

Some cities have consolidated all inspection functions within one agency, other than the fire department, in an attempt to reduce duplication. The notion that all inspections are essentially the same and that cross-training can overcome all is too simplistic. When jurisdictions transfer the building official and associated staff to the fire department, it is not because they are interested in streamlining government or reducing redundancy. When construction regulation falls within the mission of the fire department, it is rightly recognized for what it really is—a public safety function.

Tip

Fire prevention, building construction, property maintenance, and zoning inspections each require a different level of knowledge and experience. Cross-training personnel with no background knowledge or experience will not develop a competent inspector.

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Fire departments operate 24 hours a day, every day, and have resources and infrastructure that can enhance construction regulation. When construction engineers and inspectors are part of the fire department, both cultures mesh, expanding the knowledge base and operational capabilities of both groups. Fire departments benefit from the technical knowledge of structural engineers; engineers benefit from the knowledge of fire behavior and fire department tactics that can only be gained from direct personal contact.

Property Maintenance Code Enforcement

Property maintenance codes provide minimum standards for existing structures for light, ventilation, space, heating, sanitation, protection from the weather, life safety, and fire safety. Property maintenance codes address both indoor and outdoor conditions and are used by many urban and suburban jurisdictions to ensure that properties are maintained and to prevent blighted neighborhoods. They are the only model codes to require a specific amount of living space per occupant. Fire code occupant loads and means of egress requirements strictly address exiting as a safety issue.

Although some might claim that property maintenance codes go well beyond the prevention of fire, few would argue that many of the code provisions are directly involved with fire safety or have an impact on fire safety. Faulty or improperly maintained heating, lighting, ventilation, and electrical distribution equipment are major fire causes. Consider, for example, cases where landlords provide substandard central heating systems and tenants may rely instead on space heaters. From 2005 to 2007, portable heater fires in residential buildings accounted for an estimated average of 900 fires in the United States each year. These fires resulted in an average of approximately 45 deaths, 100 injuries, and \$48 million in property loss.⁵

Property maintenance codes are typically adopted in concert with ordinances that mandate

the registration and inspection of residential rental properties. These ordinances typically require inspection with each change of tenancy. Some ordinances mandate inspections at 1- or 2-year intervals. Because 70 to 75 percent of civilian fire deaths and injuries occur in residences, property maintenance code inspections have significant potential to reduce the rate of deaths and injuries, especially in jurisdictions with large stocks of rental properties.⁶

Tip

Property maintenance code inspections of residential rental properties have significant potential to reduce the rate of deaths and injuries, as 70 to 75 percent of civilian fire deaths and injuries occur in residences.

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Political Considerations

Public perception of property maintenance code inspection programs is highly influenced by media reports and the views of neighborhood leaders. Frequent contact among code officials and civic, religious, and social groups within the community can do much to dispel concerns that programs are intrusive and conducted for reasons other than property maintenance. Inspectors are legally obligated to report illegal activity encountered during inspections. Using the inspection process as a pretext to gain entry for other purposes is illegal and sure to destroy relationships with community leaders and eliminate the goodwill of the tenants.

Tip

Inspectors are required to report illegal activity or violations of other codes they encounter during inspections.

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Vacant Structures

One of the most important objectives of property maintenance codes is securing vacant or abandoned properties **Figure 8-3**. These properties can become targets of vandalism and havens for illegal activity, and in many cases may serve as temporary shelters for individuals who are homeless. Vacant and abandoned properties are frequently involved in fires and have been the scenes of numerous multiple fire fighter fatalities. On December 4, 1999, six firefighters were killed at a fire in an abandoned cold storage warehouse in Worcester, Massachusetts. The fire started when a couple living in the abandoned building knocked over a candle. The fire fighters died attempting to rescue the couple they believed to be trapped inside; the individuals they went to rescue had already evacuated the building.

Tip

Inspectors should be vigilant and ensure abandoned buildings are secured, since vacant and abandoned properties are frequently involved in fire.

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Tip

Fire and building codes require that vacant structures be secured or demolished in order to prevent them from being used for unsafe or illegal activities.

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Figure 8-3 No other organization has a greater vested interest in securing vacant structures than the fire department.

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No other organization has the same vested interest in securing vacant and abandoned buildings. The frequency with which abandoned structures have become havens for people who are homeless has created a crisis for the fire service. Abandoned structures do not justify placing fire fighters at risk, but when reports from bystanders indicate that the structures are occupied, incident commanders are placed in a no-win situation. A proactive campaign to reduce or eliminate these structures, whether by means of barricading or through demolition (with demolition being the preferred course of action), can help reduce or eliminate the threat of fire and the potential for fire fighter injury and death.

Hazardous Waste and Environmental Crime Investigation

When the term *hazardous materials* first appeared in fire codes in the 1980s and 1990s, some fire prevention bureaus scoffed at the idea of hazardous materials regulation. A common response to the new code provisions was, “Let the hazmat team do it,” though such comments were usually made before the code was opened. The hazardous materials section had previously been the materials handling section, and although there were some new provisions, the materials were the same as before.

Fire prevention bureaus have been regulating the storage, handling, and use of hazardous materials for

as long as there have been fire codes. Fire departments have been extinguishing fires and mitigating spills, leaks, and releases since before there were fire codes. No other organization has more experience with such a wide range of materials, incidents, or situations. In many jurisdictions, fire prevention bureaus were the logical organization for hazardous materials and hazardous waste regulation, beyond the scope of the fire code, and for the investigation of environmental crimes such as illegal discharge of hazardous materials **Figure 8-4**.



Figure 8-4 In many jurisdictions, fire departments and fire prevention bureaus were the logical pick to investigate hazardous waste crimes.

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Tip

Although specific fire code language regarding hazardous materials is less than a generation old, fire prevention bureaus have been regulating the storage, handling, and use of hazardous materials since there have been fire codes.

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Fire departments are one of the few organizations that can contain and neutralize a hazardous materials release and, without skipping a beat, collect evidence of any associated crime and identify and arrest the suspect. The sheer amount of protective equipment, ongoing training, and staffing resources needed to safely manage these incidents preclude many traditional law enforcement agencies from performing these investigations without the assistance of the fire department. Hazardous waste crime scenes are not unlike fire scenes. Fire department standard operating procedures that provide for fire scene security and safety during fire investigations can be carried over to hazardous waste crime or environmental crime scenes.

Homeland Security and Civil Defense

Fire departments are among the first to respond to acts of domestic terrorism. Fire prevention bureaus have a key role in ensuring that emergency plans and security measures developed by other government agencies, business, and industry do not conflict with emergency response procedures. Never has the need for emergency planning and drills been greater.

Tip

Fire departments are among the first to respond to acts of domestic terrorism.

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Fire prevention bureaus have extensive experience with fire department access roads, emergency egress and ingress, and special locking arrangements and systems. The threat of terrorist attack does not reduce the need for traditional fire protection and emergency egress systems—it enhances it. Poorly planned and implemented security measures can do significantly more harm than good. When the Pentagon was attacked on September 11, 2001, the ability to rapidly evacuate was critical. The ability to strategically position fire apparatus could have been impacted if barriers had been installed without proper planning.

Tip

Fire resistance-rated construction, fire protection systems, and adequate means of egress become even more important with the threat of terrorist attacks.

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Safety and security are complementary, not competing, goals. Formal communications between safety and security agencies must be established at the highest organizational levels to ensure effective communications and cooperation are maintained at all levels. Working groups with representatives from multiple agencies can assist business and industry in developing effective safety and security measures. Security managers sometimes hear conflicting recommendations when agencies with different missions are contacted individually. Group meetings with representatives of all the agencies in attendance can greatly reduce this possibility.

Tip

Safety and security may appear to be competing goals, but they are complementary.

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