

MINIMIZING RISK IN THE FACE OF **Emergency**

A propane cooking grill set fire to a fourth-floor apartment balcony. Fast-acting flames quickly engulfed neighboring units and crept toward the attic. Had an occupant-use standpipe hose connection been available for residents, firefighter extinguishing efforts would not have been prolonged. In the end, what could have been a manageable fire, resulted in property loss totaling more than US\$2 million.


Situations like this apartment fire emphasize the importance of a complete and balanced fire protection design—a plan that does not rely on a single safeguard to save lives and protect property. Today, many commercial


property and lives are at risk. The National Fire Protection Association estimates that in 2006, direct property damages from fire totaled US\$11.9 billion and another US\$41.3 billion in costs related to human loss (*NFPA study: The Total Cost of Fire in the United States, March 2009*). It is imperative for building owners, managers and architects to ensure that their commercial properties and building occupants are protected with the essential balanced fire plan equipment.

Strategically placing standpipe hose systems throughout commercial buildings is a critical component of a balanced fire protection design. Building owners and safety managers can rest assure that their standpipe hoses—at a relatively low price compared to the cost of fire damage or loss of life—will withstand over time and serve as a reliable piece of safety equipment for building occupants.

Attributes of standpipe hose systems

Key life- and property- saving attributes of standpipe hose systems include:

 **Quick suppression.** Standpipe fire hose stations do not depend on heat, smoke or flame to spread before water can be applied to the fire. While calling the fire department is the first step after the onset of a fire, these stations provide on-site protection at the fire's earliest stages—offering quick and effective response to minimize damage and save lives.

 **Simple, one person operation.** The simplicity of the equipment's operation provides the opportunity for trained staff to control or extinguish a fire while it is still small—before the fire develops sufficiently to activate the sprinkler system. Operation is easy. Open the valve completely and pull the hose entirely off the rack. The water will flow when the hose is free and the nozzle is open. This manually-activated equipment provides total reliability in the event of failure of automatic systems.

Tools and Tips for **Fire Safety**

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buildings rely on sprinklers as a primary fire extinguishing method. While sprinklers are an important component of a balanced fire protection plan, they occasionally fail—as evidenced by recent recalls by many manufacturers. To best protect property and building occupants, multiple fire equipment safeguards must be in place—including standpipe rack hose systems, which allow occupants to defend against fire in its early stages.

Fire emergencies are unpredictable and often costly. When safety is compromised, both



Minimal water damage. Fire hoses installed within standpipe stations can minimize water damage, as water is released directly at the fire base versus blanket spray from automatic sprinkler stations. In addition, they can be shut off immediately after the fire is extinguished.







Occupant safety and rescue. In some cases, fire spreads too quickly—sometimes before occupants have time to exit. Standpipe fire hose stations can clear a path of safety, otherwise blocked by flames, and provide temporary protection for occupants attempting to escape the building.

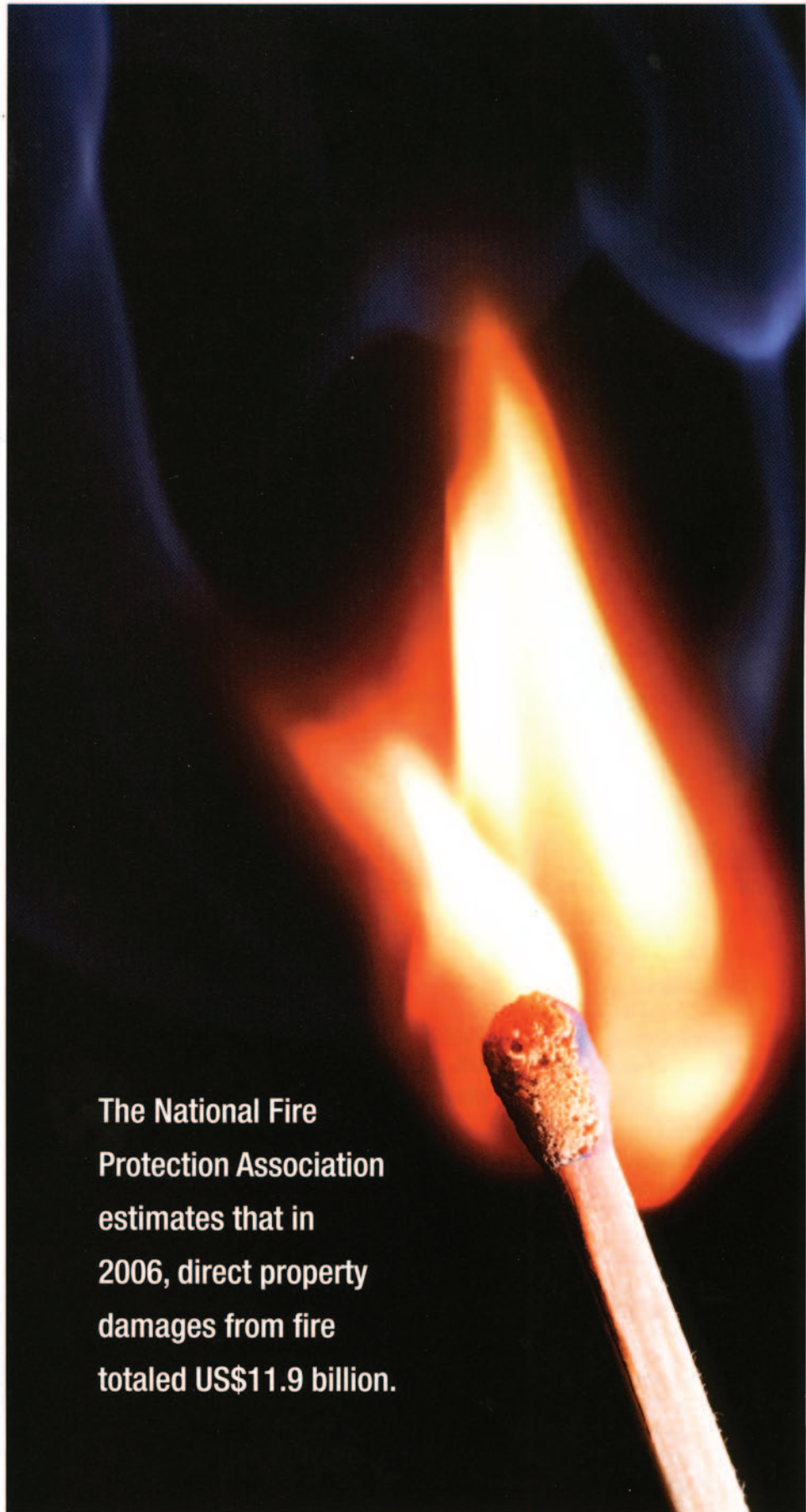
The Fire Equipment Manufacturers' Association recommends standpipe rack hose stations for commercial structures—including office buildings, dormitories, airports, hotels, health care facilities, apartment complexes, correctional facilities, industrial plants, retail malls and anywhere fire department response time could exceed five minutes.

Implementing a balanced fire protection plan

To be clear, standpipe hose stations do not take the place of automated sprinklers, suppression systems or portable fire extinguishers. Rather, a balanced fire protection design includes a mix of appropriate actions and fire equipment that together provide a chain of survival.

The following steps should be taken in the event of a fire:

-  Notify the fire department.
-  Begin evacuation, making sure everyone is safe.
-  If it is safe to do so, use an occupant fire hose as your first defense against small fires.
-  Activate (if not automated) fire/smoke alarm sounds.
-  Activate (if not automated) sprinkler/suppression system.
-  Wait for fire department response.



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Standpipe rack hose facts:

NFPA defines standpipe rack hose stations (14-2003 Ed. 1-4.28) as “an arrangement of piping, valves, hose connections and allied equipment installed in a building or structure, with the hose connections located in such a manner that water can be discharged in streams or spray patterns through attached hose and nozzles, for the purpose of extinguishing a fire, thereby protecting a building or structure and its contents in addition to protecting the occupants.”

There are three classes of standpipe systems:

- **Class I Systems** [2 ½ in. (64 mm) hose connections] are provided for use by fire departments and those trained in handling heavy water streams. In high rise buildings without sprinklers and beyond the reach of fire department ladders, Class I systems provide water supply for the primary means of fire fighting manually.
- **Class II Systems** [1 ½ in. (38 mm) hose lines] are provided for use by trained building occupants until the fire department arrives.
- **Class III Systems** [1 ½ in. (38 mm)] provide hose stations to supply water for use by trained building occupants and [2 ½ in. (64 mm)] hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy water streams.



The evolution of fire hoses

Vast improvements in the technology, design, materials and service standards have been made since the introduction of fire hoses in the 1930s. During the 1950s and '60s, advancements included recessed stations and transparent cabinets. Additionally, rubber-lined hoses were introduced, minimizing mildew and rot—a common issue with unlined natural fiber hoses.

Improvements in the 1970s and '80s brought thermoplastic liners and woven jackets—technologies that are still used today to eliminate the chance for decomposition or mildew growth. In addition, modern hose designs use a tighter weave pattern that, when coupled with its strong adhesive liner, is similar to the hose quality used to fight forest fires.

Architects, engineers, building owners and managers must now consider the most effective

options, using best practices to safeguard buildings and ultimately protecting property and saving lives. **FMJ**

For more information on standpipe fire hose stations, including interactive training and maintenance, please visit www.rackhosetraining.com. For additional fire-related education materials, visit the Fire Equipment Manufacturers' Association Web site at www.femalifesafety.org.



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