

Quick Suppression

Standpipe fire hose stations help save lives, protect property

USING THERMAL IMAGING CAMERAS in addition to water from standpipes, firefighters extinguished a fire in a power-generating turbine that was protected by a sprinkler. Constructed of steel framing with concrete floors, walls and roof deck, the building had a smoke detection system, a wet-pipe sprinkler system and a dry-pipe standpipe system that provided full coverage.

When a worker discovered the fire, he immediately shut down the turbine and reported the blaze to the fire department. When firefighters arrived at the scene, fire crews entered the turbine room with two thermal imaging cameras to locate the seat of the blaze. When water from the sprinkler system failed to extinguish it, firefighters successfully extinguished it with the hose line.

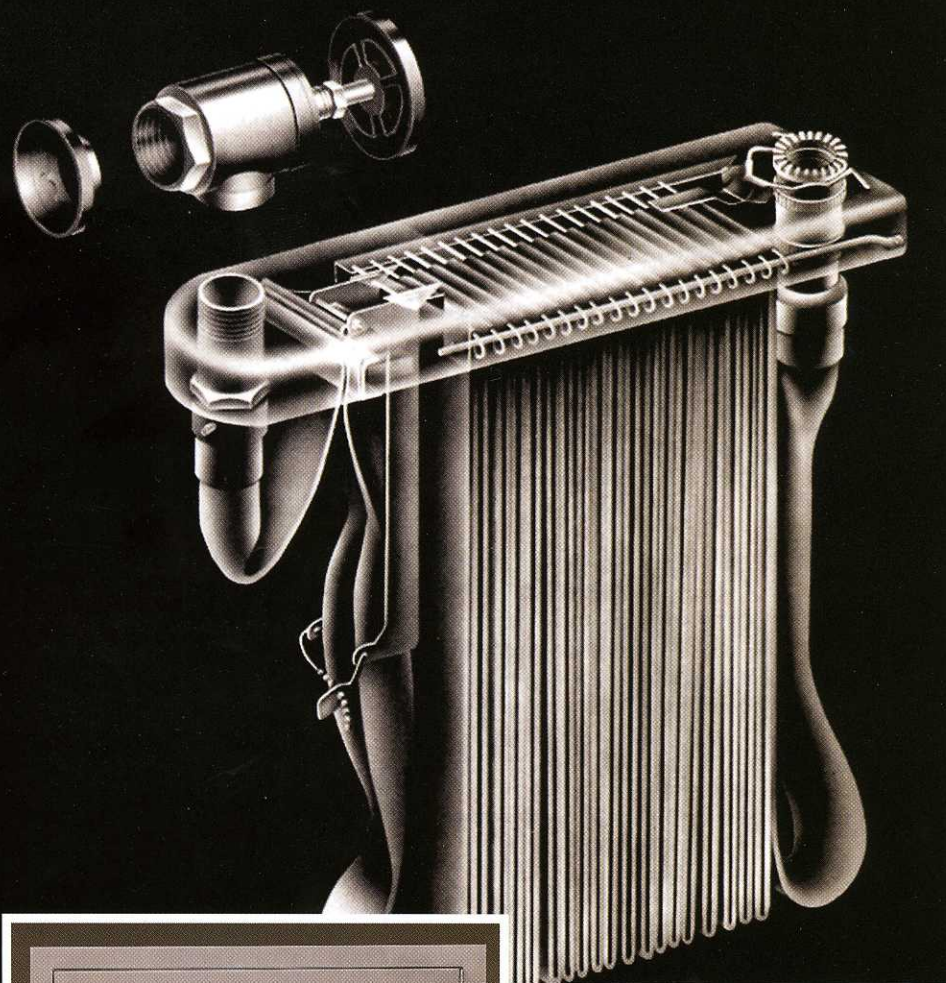
This fire fighting story, which took place in Maryland in 2004, is an example of how a standpipe fire hose station can be an immediate, first line of defense against fire during those first critical minutes.

A standpipe fire hose station is life saving fire equipment that still serves a purpose in modern fire protection. Standpipe and hose systems provide a means for manual application of water to fires in buildings. They do not take the place of automatic extinguishing systems, which are an important form of protection in large buildings.

There are three classes of standpipe systems. Class I Systems (2-1/2 in. 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 manual fire fighting. Class II Systems (1-1/2 in. hose lines) are provided for use by trained building occupants until the fire department arrives. Finally, Class III Systems will provide (1-1/2 in.) hose stations to supply water for use by trained building occupants and [2-1/2 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. Fire hose stations are needed in commercial structures that include: office buildings, dormitories, airports, hotels, elder care facilities, correctional facilities, hospitals, industrial plants, retail malls and anywhere fire department response time exceeds five minutes.

The benefits of standpipe fire hose stations

There are four key advantages to using the manual fire equipment. The first benefit is its quick suppression. Standpipe hose systems can be used in the incipient



"An interior pre-connected hose provides the first line of defense in many key applications, such as large storage and commercial buildings and especially where response from a volunteer fire department may be delayed."

stage (after everyone is safe, and the fire department has been called), often extinguishing the fire before automatic systems activate.

According to Darrell Harguth, the former assistant chief/fire marshal, Contra Costa County, Calif., an occupant hose holds value in today's commercial structures. "Employees can control or extinguish fires by using an occupant hose long before the fire has developed to the point of activating the sprinkler system. An occupant hose has always been — and should continue to be — an important element of balanced fire protection. It is essential for employees' safety and building protection." The second key benefit of standpipe fire hose stations is that they require only one person for operation. Standpipe hose systems do not depend on heat, smoke or flame to spread before water is applied to the fire. This manual equipment provides total reliability in case automatic systems fail.

"The tools of our trade include the time-honored direct application of water on a fire, when the fire is at its initial stage of ignition," says Larry Larson, deputy fire chief of the Hillsborough Fire Department in California. "An interior pre-connected hose provides the first line of defense in many key applications, such as large storage and commercial buildings and especially where response from a volunteer fire department may be delayed."

The third benefit of fire hose stations is that they provide minimal water damage. The equipment can minimize water damage since water can be applied directly at the base of the fire versus indiscriminate spray from automatic systems. Additionally, the hose systems can be turned off immediately.

Finally, fire hose stations will help provide occupant safety and rescue in times of need. A standpipe fire hose can be used to allow time for evacuation, defend a means of egress or defend occupants who cannot evacuate the building.

Proper use of standpipe fire hose stations

It is important to remember that someone should only fight a fire with a standpipe fire hose station under the following circumstances:

- The fire department has been called.
- Everyone is safe.
- The fire is small and does not appear to be spreading.
- The fire is not between an occupant and the exit.

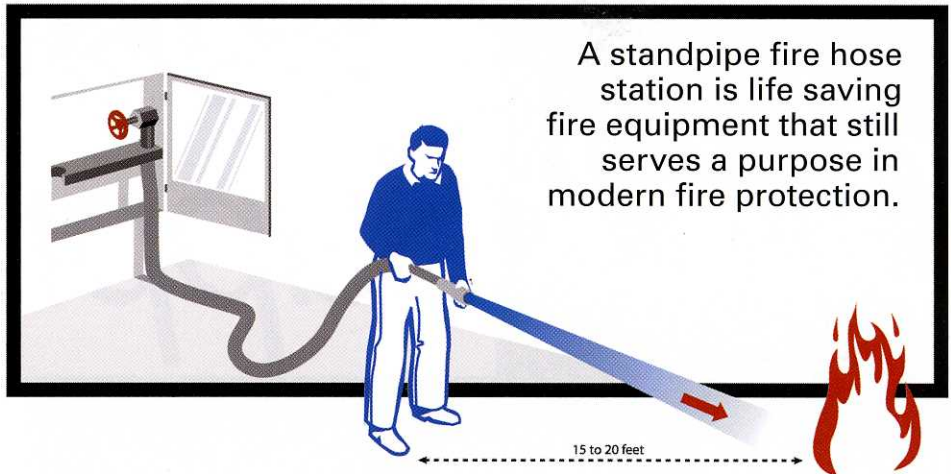
If the above conditions are present, then operating a fire hose station is quick and simple. Here are three steps to remember when learning how to operate the equipment:

- Open valve completely.
- Pull hose entirely off rack.
- Water will flow when hose is free and nozzle is open.

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 enough to activate the sprinkler system and long before arrival of the fire department. Fire prevention codes need to maintain requirements to install first aid firefighting equipment in all occupancies," adds Robert L. Davis, acting fire marshal, Contra Costa County Fire Protection District.

Fire hose stations require regular maintenance

According to NFPA requirements, fire hose stations should usually be inspected or checked every 90 days. The business owners or building occupants are responsible for making sure that the fire hose station is checked regularly and maintained. As long as the following questions are regularly reviewed,



building occupants should be able to identify key concerns with the fire equipment and contact the local fire authorities if a repair or maintenance check is needed. Consult with a local fire department if there are questions.

- Are the operating instructions legible?
- Does the cabinet appear to be intact with no cracks or breaks in the glass?
- Is the cabinet door easy to open?
- If a locked cabinet is installed, does the lock function properly?
- Will rack swing out at least 90 degrees from the cabinet?
- Are any safety seals broken or missing?
- Is there any obvious damage or corrosion to the hose valve?
- Is the valve handle missing?
- Does the hose appear to be folded neatly on the hose rack?
- Is the hose connected to the rack nipple or valve?
- Is the hose intact with no breaks, holes or tears?
- Is the hose nozzle missing?
- Are all warning labels and tags free from damage?
- Are the valves, hose, nozzles and fire extinguishers easily accessible?

Standpipe fire hose stations play a critical role in fire protection

Many fire protection specialists around the country believe that standpipe fire hose stations are a critical part of any building's fire protection plan. With proper training and education, building occupants can use a fire hose station to knock down a fire before rescue personnel arrive. And often times, a rack hose can extinguish a fire prior to the activation of an automatic sprinkler system and does not require heat or smoke to be activated.

The equipment requires a trained individual about the benefits and appropriate circumstances for using a standpipe fire hose station, as well as the three simple steps to properly operate it.

Recognizing a need for education and training on the proper operation and maintenance of standpipe fire hose stations, The Fire Equipment Manufacturers' Association (www.fema.lifesafety.org) recently launched a new Web site, www.rackhosetraining.com. OSHA requires building owners provide education and training on fire hose stations if that equipment is to be included in a building's fire protection plan, but after some research, FEMA did not find any training programs that meet those requirements. In response, FEMA created a free Web site, www.rackhosetraining.com to teach anyone how to use this important fire equipment.

ABOUT THE AUTHOR

Pat Jaugstetter is the president of the Fire Equipment Manufacturers' Association (FEMA), The Life Safety Group.

Reprinted with permission from the April 2006 issue of *Access Control & Security Systems*® (www.securitysolutions.com)
Copyright 2006, Prism Business Media. All rights reserved.

AC-97-EK

FEMA | the life safety group
Saving Lives, Protecting Property