Coffee Break Training - Fire Protection Series

Inspection Techniques: Standpipes in Marinas and Boatyards

No. FP-2011-5 February 1, 2011

Learning Objective: *The student shall be able to identify the standpipe requirements for marinas and boatyards.*

Despite the fact that there is plenty of water near a marina, too often boat fires spread quickly to other exposures because there is no way to effectively deploy and apply hose streams. To remedy this problem, the model fire codes require that Class I standpipe systems be provided for piers, bulkheads, and buildings where the hose lay distance from the fire apparatus exceeds 150 ft (45 m). (See Coffee Break Training 2006-41 for an explanation of standpipe classes.)

This Class I standpipe outlet serves the fixed pier at a riverfront marina.

According to the National Fire Protection Association (NFPA) 303, *Fire Protection Standard for Marinas and Boatyards*, a *pier* is a structure extending over the water and supported on a fixed foundation (fixed pier), or on flotation (floating pier), that provides access to the water. A *bulkhead* is a vertical structural wall (usually of stone, timber, metal, concrete, or synthetic material) constructed along and generally parallel to the shoreline. Its purpose is to hold the earth out of the water, as well as to provide suitable water depth at the waterside face so boats will not hit the bottom.

Where installed, standpipe systems should be designed in accordance with NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*. Due to the generally outdoor nature of piers and bulkheads, hose racks, hoses, and standpipe cabinets are not be required on piers and bulkheads.

Supply piping for standpipes on piers and bulkheads must be sized for the minimum flow rate for Class II systems (100 gpm at 65 psi outlet pressure, or 378 Lpm at 4.5 bar), however, manual dry standpipes are permitted. Manual dry standpipes have no connected water supply, and rely on the fire department to connect to a water supply to pump into the standpipe system.

In areas subject to changes in water levels, such as lakes, rivers, or tidal basins, flexible standpipe connections are permitted on floating piers where acceptable to the code official.

Class I standpipes also must be provided in all buildings used for the rack storage of boats. For additional information, refer to NFPA 303, NFPA 1, *Uniform Fire Code*™, Chapter 28, or *International Fire Code*®, Chapter 9.