



Tuesday e-Tech Alert September 7, 2004

Minimum Design Areas for Dry Systems with Extended Coverage Sprinklers

When extended coverage sprinklers are used at 20 ft. x 20 ft. spacing, calculating the minimum five sprinklers results in a design area of 2000 sq. ft. Recent speculation within the industry over whether this area would need to be increased by an additional 30% for dry systems is unnecessary, since the NFPA 13 Committee specifically addressed the subject during the preparation of its 2002 edition. During the proposal stage, the NFPA 13 Committee on Sprinkler System Discharge Criteria initiated proposal 13-207, calling for a 30 percent increase in area or a minimum of seven sprinklers in the design area for extended coverage sprinklers used in dry systems. However, during the public comment period the NFPA 13 Committee reversed itself by accepting a comment submitted by the NFSA Engineering and Standards Committee. The NFPA 13 Committee agreed with the NFSA that the use of standard sprinklers in a dry system contemplates a fire producing enough heat to operate sprinklers over a 1950 sq. ft. area, and there is no evidence to suggest the fire would operate additional extended coverage sprinklers beyond this area.

In summary, the design area for a dry-pipe sprinkler system utilizing extended coverage sprinklers at 20 ft. x 20 ft. spacing is only required to be 5 sprinklers as long as these sprinklers actually cover at least 1950 sq. ft. of floor area.

Horizontal Supports for Sprinkler Piping

The issue of horizontal supports for sprinkler systems comes up in various ways other than protection against earthquakes. It might be as simple as the determination of whether the anchoring to a wall of a vertical drop of an inspector's test connection must be done using a listed hanger. The answer in this case is "no", since there is no such requirement in the standard. Any such horizontal support is considered a restraint and would, like restraints required for earthquake protection, be approved but not necessarily listed.

The issue also arises in connection with the potential impact loads associated with water rushing into dry, preaction and deluge systems. At present, NFPA 13 essentially considers the additional loads associated with water impact to be addressed within the safety factors of components. In other words, the fact that a mechanical coupling must successfully pass a hydrostatic test at four times its rated working pressure is expected to ensure that it can withstand potential water impact loads as well. This philosophy does not consider the potential movement of the system due to its inherent flexibility, however, and the resultant impact on vertically oriented hanging methods. In the past,

sprinkler contractors have found it appropriate to employ some aspects of earthquake protection based on movement of the system during testing. The NFPA Committee on Hanging and Bracing of Water-Based Fire Protection Systems is expected to take up this subject for consideration during the development of the 1996 edition of NFPA 13.

“No Hanger” Warning Signs for Hotels

An attorney in the Los Angeles area is attempting to build a case that it is unreasonable to omit a warning against hotel guests hanging clothing on sprinklers. The case stems from a 2003 incident in which an 18-year old girl stood on a bed to hang garments from a sidewall sprinkler. The sprinkler was activated and hundreds on thousands of dollars in water damage occurred. The hotel’s insurance company subrogated against the family of the girl, with the claim made against the personal liability insurance provided within a homeowner’s policy. The insurance company holding the homeowner’s policy is attempting to argue that the hotel had a duty to warn its guests against this possibility.

Most in the fire sprinkler industry have seen the small “no hanging” signs that we believe were first introduced by the Marriott hotel chain, but are now being used by other hotel chains as well. At some point such signs may be formalized as an industry standard. Contractors providing sprinkler systems for hotels may want to consider that what seems unusual today may become the standard tomorrow. Consider how fast the “caution: coffee is hot” warning spread following the publicized lawsuit against McDonalds. If the “no hanging” warning signs are not specifically addressed in construction documents, contractors may want to qualify their bids and contracts to clarify that such signs, if desired, are the responsibility of the hotel following the completion of construction.

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Next NFSA Technical Tuesday Online Seminar: September 14, 2004

Subject: Residential Sprinkler Obstructions

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For more information go to www.nfsa.org

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