



Tuesday e-Tech Alert August 31, 2004

Informal Interpretations of Interest

Reprinted below are a few of the recent informal interpretations provided to NFSA members through the “Engineer of the Day” program. These interpretations have not been balloted in accordance with the NFPA Regulations Governing Committee Projects and therefore should not be relied upon as official positions of the NFPA or its technical committees:

Noncombustible Spaces Above Cloud Ceilings

Q: Are sprinklers required in a noncombustible plenum space above a “cloud ceiling”?

A: Yes. Since the space above a cloud ceiling is not a concealed space, it is open to hot gasses from a fire, which could theoretically damage structural members prior to sprinkler activation at the lower level. NFPA 13 requires sprinklers in all building areas except as specific omissions are allowed.

Overlapping Sprinkler Systems

Q: If the hazard has been increased in a sprinklered area, can a new system be overlaid on the original to produce the higher needed density, as an alternative to removing the system and starting anew?

A: Yes, so long as several other conditions are met:

1. All areas of the building must be protected by sprinklers from both systems, meaning that the new system will likely require sprinklers near all walls.
2. The location of sprinklers on the old and new systems must be staggered such that the minimum distance between sprinklers is not violated, which may be difficult for sprinklers near walls. For spray sprinklers, NFPA 13 allows the use of baffles.
3. Since every sprinkler in the design area is considered to flow water, the number of new system sprinklers in the design area will likely be high compared to the original system. This is a consequence of the inefficiency associated with putting sprinklers near walls.

4. 4. The water supply must be capable of supplying both systems simultaneously.

In past years, the concept of overlapping systems was actually promoted by one insurance authority as an enhancement of reliability, since protection from one system could remain in place while the other system was being serviced.

Criss-Cross Obstructed Construction

Q: Where solid structural members 8 inches deep support perpendicular solid structural members 6 inches deep, and both types of members are spaced 6 ft on center, is the construction considered obstructed? If so, should sprinklers be spaced 1 to 6 inches below the 6-inch deep members or 1 to 6 inches below both sets of members?

A: The answer to the first question is yes, since solid structural members spaced less than 7-1/2 ft on center fall within the category of obstructed construction. Since the lower 8-inch deep members do not extend to the ceiling, they will not trap heat as in panel construction. Sprinklers should therefore be located with deflectors 1 to 6 inches below the higher members, positioned far enough from the lower members to meet the “beam rule” of Section 8.6.5.1.2.

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Next NFSA Technical Tuesday Online Seminar: September 14, 2004

Subject: Residential Sprinkler Obstructions

Instructor: Victoria B. Valentine, P.E.

For more information go to www.nfsa.org

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