



Tuesday e-Tech Alert **August 10, 2004**

Misplaced Sections in NFPA 13 Create Problems

At least two misplaced sections in the 2002 edition of NFPA 13 have been creating problems for sprinkler contractors. One gives the appearance of requiring column protection despite the presence of in-rack sprinklers, and the other implies that back-up electrical generators may be needed for some ESFR sprinkler installations.

In the 1999 edition, a single exception at the end of Section 7-9.8 clarified that steel column protection is not required where in-rack sprinklers are provided for either Class I through IV commodities and plastics or rubber tire storage. When the standard was re-organized for the 2002 edition, the exception went with the rubber tire criteria. As such, the exception to the requirement for column protection in 12.3.1.7 now appears in 12.4.1.2. Since it references 12.3.1.7 it clearly applies, but is difficult to locate 44 pages back in the book.

Another misplaced section in the 2002 edition is 12.3.2.3.2, within the rules for ESFR sprinkler protection of Class I through IV commodities up to 25 ft (7.6 m) in height. It reads as follows: "Detection systems, concentrate pumps, generators, and other system components that are essential to the operation of the system shall have an approved standby power source." The wording of this section is actually intended to apply to high-expansion foam systems, addressed in 12.3.2.5.2. In the 1999 edition of the standard, the same wording appeared as 7-3.2.2.4.5 for high-expansion foam systems. Nevertheless, the mistake has led to efforts to require back-up electrical generators for ESFR systems relying on electrical power.

Corrections will be made in the 2006 edition of the sprinkler standard.

Conflict in NFPA 13 Requirements for Ventilated Uninsulated Attics?

There appears to be a conflict in the wording of NFPA 13 relative to the temperature rating of sprinklers in uninsulated ventilated attics. The wording, which has remained unchanged for decades, appears in Table 8.3.2.5(b) and Section 8.3.2.5(5) of the 2002 edition of the standard. With the exception of flat metal roofs, Table 8.3.2.5(b) appears to make a clear distinction on the basis of whether attics and roof spaces are ventilated or unventilated. The ventilated conditions fall under the column of ordinary degree temperature ratings, and the unventilated under the intermediate degree temperature ratings. However, the wording of Section 8.3.2.5(5) states: "Sprinklers in an

unventilated, concealed space, under an uninsulated roof, or in an unventilated attic shall be of the intermediate temperature classification.” The use of the “or” between “uninsulated roof” and “unventilated attic” might suggest that intermediate rated sprinklers are required under uninsulated roofs even within ventilated attics. Alternatively, the phrasing might intend that the requirement is only applicable to sprinklers in unventilated concealed spaces under uninsulated roofs. Because of the age of the wording of these sections, however, there are fundamental questions as to how much ventilation was contemplated. Would a typical ridge vent provide sufficient ventilation to avoid the need for intermediate rated sprinklers under a dark roof on a hot sunny day?

The increased use of fast response sprinklers makes it more important than in the past that sprinklers are not overheated even for short periods of time. It is conservative to use intermediate rated sprinklers in uninsulated attic and roof spaces, even if such spaces are ventilated, if there is an expectation that maximum temperatures will exceed 100° F (38° C) in accordance with Table 6.2.5.1.

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Next NFSA Technical Tuesday Online Seminar: August 24, 2004

Subject: Special Considerations for Detention and Correctional Facilities

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