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July 23, 2011

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

Re: Formal Interpretation Request-NFPA 13
Sprinkler System Design Criteria-Storage Buildings/Roof Vents

Ladies and Gentlemen:

Section 12.1.1.1 in the 2010 edition of NFPA 13 provides requirements for the design of roof vent systems where roof vents are provided in storage buildings which are protected by a sprinkler system. (Specifically, NFPA 13 contains requirements which address the temperature rating of the element that causes vent activation.) It appears that the provisions of section 12.1.1.1 in NFPA 13 are intended to prevent the automatic opening of roof vents should the sprinkler system perform as intended and successfully control the fire.

13-325 Log #CP43 AUT-SSD in the Report on Proposals A2009 indicates that the rationale for the proposal for section 12.1.1 in NFPA 13 is as follows:

“Substantiation: *The intent of the standard is that roof vents and draft curtains should not be used in conjunction with storage protection. Previous language was unenforceable.*”

Information in Annex F.3 included in the 2007 edition of NFPA 204 and the proposed 2012 edition of NFPA 204 recommends that the concept of the “ganged” operation of roof vents be utilized for the design of roof vent systems. The “ganged” operation of roof vents is initiated by either sprinkler system water flow indicator activation, a smoke detection system or by a manually-activated switch. The purpose of the concept of the “ganged” operation of roof vents is to reduce or eliminate the delay in opening of roof vents (caused by sprinkler activation) in sprinklered buildings. Given this, the concept of the “ganged” operation of roof vents appears to be contrary to the express purpose of the provisions contained in section 12.1.1.1. in the 2010 edition of NFPA 13.

Given the fact that the concept of the “ganged” operation of roof vents appears to be contrary to the purpose of section 12.1.1.1 in the 2010 edition of NFPA 13, and that the substantiation for the roof vent provisions contained in NFPA 13 states *“the intent of the standard is that roof vents and draft curtains should not be used in conjunction with storage protection”*, Schulte & Associates would like to request a formal interpretation on the following questions relating to sprinkler system design criteria in storage buildings provided with “ganged” roof vents:

Is it the intent of section 12.1.1.1 in NFPA 13 to permit the design criteria for storage occupancies contained in NFPA 13 to be utilized where the concept of the “ganged” operation of roof vents is utilized (as recommended by NFPA 204) where the opening of multiple roof vents is initiated by the activation of the sprinkler system water flow indicator?

Is it the intent of section 12.1.1.1 in NFPA 13 to permit the design criteria for storage occupancies to be utilized where the concept of the “ganged” operation of roof vents is utilized (as recommended by NFPA 204) where the opening of multiple roof vents is initiated by the activation of a smoke detection system?

Is it the intent of section 12.1.1.1 in NFPA 13 to permit the design criteria for storage occupancies to be utilized where the concept of the “ganged” operation of roof vents is utilized (as recommended by NFPA 204) where the opening of multiple roof vents is initiated by a manually-activated switch?

When considering the answers to the questions above, it should be noted that there has been no comprehensive testing of the interaction of control mode sprinklers and roof vents where the “ganged” operation of roof vents is utilized. (The only research on this subject, a fire modeling study published in February 2008, was discredited due to the improper use of fire modeling.)

I appreciate your consideration of the above.

Yours Very Truly,

Richard C. Schulte
Schulte & Associates