

American Fire Sprinkler Association

Technical Update

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“We are designing an ESFR system in an open warehouse with 28-inch deep bar joist, on the bottom of the bar joist they are mounting light fixtures that measure 48 3/8-inches long by 17 5/8-inches wide. The sprinkler deflector will be approximately 16-inches above the top of the light fixture using NFPA 13, 1999 edition. Does the light fixture meet the design criteria of section 5.11.5.2 exception No. 1?”

We have reviewed the 1999 Edition of NFPA 13 as the applicable standard. Our informal interpretation is that exception No. 1 can be applied from section 5.11.5.2 for isolated obstructions such as light fixtures less than 2 feet wide.

The light fixture is less than 2 feet wide and located below the ESFR sprinkler deflector. This exception will allow the fixture if it is located horizontally 1-foot or greater from the nearest edge of the obstruction. The 4-foot length is not considered unless it impacts two or more adjacent fire sprinklers. Although width is not defined, thus opening the door for arguments that it is the length, the intended direction is portrayed by other sections stating width and showing it in Figures. You suggested spacing the lights centered between four ESFR sprinkler heads on an attached sketch. The light fixture location in relation to the fire sprinkler heads would be ideal and also meets the requirements of continuous obstructions in section 5-11.5.3 exception No. 3. Hopefully, the customer will buy into the placement of the light fixtures. That depends on optimum lighting for selecting products from an aisle.

Technical Update is prepared by the Technical Services Dept. of the AFSA: Vice President of Engineering and Technical Services Roland Huggins, a PE registered in fire protection engineering; Phill Brown, a NICET IV certified automatic sprinkler technician and NFPA Certified Fire Protection Specialist (CFPS) and Tom Wellen, a degreed fire protection engineering technologist. This is provided with the understanding that the AFSA assumes no liability for this opinion or actions taken on it and they are not to be considered the official position of the NFPA or its technical committees.

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