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Initiating Device and Notification Appliance

Changes to the NFPA 72® 2025 Edition

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The 2025 edition of NFPA 72® provides changes that both streamline installation standards as well as increase options available for designers. This includes the requirements for both the initiating devices in Chapter 17 and the notification appliances in Chapter 18. Let's look at a few of these changes.

Chapter 17 – Initiating Devices

As a part of the manual of style clean-up process, it was found that detection requirements regarding joist and beam construction using girders were provided in Chapter 3 under the definition of girders. Those requirements have been moved to Chapter 17 and placed in the heat detection (§17.6.3.3.3) and smoke detection (§17.7.4.2.4.2) sections. Additionally, a new paragraph was added at §17.7.4.2.4.3 (6) to address situations in which there is a large gap between a beam and the ceiling and smoke detection is provided.

A very significant change to §17.7.4.2.3.1 clarifies that the prescriptive-based spacing requirements for spot-type smoke detectors apply to ceiling heights up to and including 40 feet (12.2 m). Above 40 feet in height, a performance-based design must be used. Previously, NFPA 72® was silent about maximum ceiling heights for smoke detectors. This change is based on research published by the NFPA's Fire Protection Research Foundation as summarized in the reports Smoke Detector Spacing for High Ceiling Spaces (2017) and Smoke Detector Spacing for High Ceiling Spaces – Phase II (2023) which are available on the Research Foundation's website. It is important for designers to review these reports in detail and know that additional changes to this section will be considered for the 2028 edition of NFPA 72®.

The Gas Detection section has been updated to reference compliance with NFPA 715. Closely related to this are two new sections for acoustic leak detection (§17.11) and thermal image fire detection (§17.12). An acoustic leak detector is a device that detects the presence of a gas leak through detection of the sound produced by a pressurized gas release. A thermal image fire detector is a device that senses overheated combustible material by imaging in the long-wave infrared wavelengths using a focal plane array. As noted in NFPA's enhanced content, "though thermal image fire detectors are technically radiant energy detectors, the current definition for radiant energy detectors was originally written for traditional (non-imaging) flame and spark detectors," and as

such, a new definition was warranted. These new sections, definitions, and references provide direction on the use of these unique detection devices.

The installation requirements for carbon monoxide detectors have been updated to better correlate with, and not conflict with, national model codes. The changes were made based on the NFPA's Fire Protection Research Foundation report from 2007 entitled, "Development of a Technical Basis for Carbon Monoxide Detector Siting." In support of these changes, a new definition of a "Carbon Monoxide Source" was added in Chapter 3, which would include any equipment or permanently installed appliance, fireplace, or process used inside a building that produces or emits carbon monoxide gas. The Code also now addresses where carbon monoxide detectors must be installed in "Unconditioned Areas", including any non-exterior areas without climate controls or provisions for heating, ventilating, or air conditioning.

Finally, new requirements were added regarding signage at manual stations used for releasing systems. Signage is now required to be placed on the device or within 1 foot of a manual station used for releasing systems to prevent the inadvertent activation of these devices during testing or other non-required times.

Chapter 18 – Notification Appliances

The most significant change to Chapter 18 was the addition of the Restricted Audible Mode Operation (RAMO) notification sequence. A discussion of this was included in the February 2025 Edition of The ASCET Informer.

In Chapter 18, a sizable amount of text was added in §18.3.7 to provide guidance on notification appliance circuit voltage drop calculations. This information includes both DC-power-sourced notification appliance circuits for visual strobe and audible horn appliances and AC-power-sourced notification appliance circuits for audible textual appliances (i.e., loudspeakers). The requirements allow for two different methods for calculating voltage drop, which now must be either end-line-loaded or point-to-point methods of calculation. It also provides detailed direction on the voltage, current draw, and other variables that must be considered in a voltage drop calculation.

Language was added in §18.4.6.4 to clarify that audible sleeping room requirements apply to bedrooms, living rooms, spare rooms, dens, and other spaces where sleeping could occur. A low frequency audible alarm signal is required in all areas where sleeping could occur, not just in rooms specifically identified as "bedrooms". It is important for designers to consider this expanded definition of sleeping rooms when designing audible notification.

These changes to Chapter 17 and 18 of the 2025 edition of NFPA 72® provide some unique opportunities for designers to provide even better coverage of their initiating devices and notification appliances.

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