



**NASSAU COUNTY FIRE
COMMISSION
OFFICE OF THE FIRE MARSHAL**
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Chief Fire Marshal

FIRE MARSHAL BULLETIN

July 30, 2021 (revised)

To: NCFM-Licensed (Fire) Alarm System Contractors

Re: Low Frequency Alarm Signal Requirements

The **2020 International Fire and Building Codes** requires low frequency signal notification devices in 'R' occupancies and in some 'I' occupancies to be installed in accordance with **NFPA 72-2016, Section 18.4.5.3** (Audible appliances provided for the sleeping areas to awaken occupants shall produce a low frequency alarm signal...)

SMOKE ALARM. An assembly incorporating the detector, the control equipment and the alarm sounding device in one unit, operated from a power supply either in the unit or obtained at the point of installation.

SMOKE DETECTOR. A device that senses visible or invisible particles of combustion and transmits a signal to the fire alarm control panel to initiate the appropriate response to those signals.

The activation of any of the following appliances inside or adjacent to a sleeping area must activate a low frequency signal:

- single station smoke alarm or multi-station smoke alarms that actuate an *alarm* signal to the building fire alarm system
- carbon monoxide alarms that actuate an *alarm* signal to the building fire alarm system
- multi-criteria alarms that actuate an *alarm* signal to the building fire alarm system
- audible notification devices located within the tenant space and actuated by alarm signals from the building fire alarm control system

Single and multiple station alarms in dwelling units do not have to provide low frequency audibility under NFPA 72-2016 if they do not actuate an *alarm* signal to the building fire alarm system.

It is not required to use the low frequency signal in hallways, lobbies, and other tenantless or public spaces. Tenant rooms require use of the low frequency signals, but other spaces that might require

audible signals may use any listed audible appliance regardless of the frequency content of the signal being produced.

For those with moderately severe to profound hearing loss, visible notification appliances shall be installed in accordance with the requirements of **NFPA 72-2016, Section 18.5.5.7** in the following situations:

1. Where required by governing laws, codes, or standards for people with hearing loss.
2. Where provided voluntarily for those with hearing loss

Tactile notification appliances may be installed in accordance with the requirements of NFPA 72-2016, Section 18.10 if used in addition to audible or visible, or both, notification appliances.

Low frequency alarm signals shall comply with the following:

1. The alarm signal shall be a square wave or provide equivalent awakening ability.
2. The wave shall have a fundamental frequency of 520 Hz \pm 10 percent.
3. The minimum sound level at the pillow shall be 75 dBA, or 15 dB above the average ambient sound level, or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater.