

# Fire Alarms for Assembly Occupancies

Assembly occupancies (Group A) are often occupied by people not familiar with the building and how to exit in an emergency. A one-size fits all approach to fire alarm systems does not work well for these types of occupancies because use characteristics can vary greatly depending on the venue or event. The Minnesota State Fire Code (MSFC) provides specific requirements for initiation, notification, and monitoring in assembly occupancies.

## **New and Existing Assembly Occupancies With an Occupant Load of 300 or More Automatic Initiation**

- Automatic fire detectors must be installed in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, kitchens, trash-collection rooms, storage rooms, and similar areas.
- Automatic smoke detectors must be installed above fire alarm control panels and power supplies in areas that are not constantly attended (See MSFC Section 907.4.1).
- Automatic smoke detectors installed in air distribution or air-handling systems for shutdown purposes, or to control fire/smoke damper operation, must initiate a supervisory signal, and not a general emergency alarm. (See MSFC Section 907.3.1.1).
- Automatic smoke detectors installed to control or recall elevators or to control doors for elevators, elevator lobbies, or elevator shafts must initiate a supervisory signal, and not a general emergency alarm. Elevator recall and firefighters emergency operation for elevators must only be controlled by the designated elevator smoke detectors and should not be initiated by other building fire detectors or alarm signals (See MSFC Section 907.3.2).

## **Notification**

- A fire alarm activation must trigger an audible and visual notification appliance at a constantly attended location within the building for the purposes of initiating emergency action.
  - Occupant notification shall be done through voice announcements, either live or prerecorded, initiated by the person in the constantly attended location.
  - A general evacuation signal or approved emergency voice alarm communications system is permitted when there is no constantly attended location.
  - A pre-signal feature and positive alarm sequencing in accordance with NFPA 72 is permitted where there is a constantly attended location.

Assembly areas located inside a Group E occupancy such as auditoriums, gymnasiums, media centers and large common spaces shall have fire alarm systems installed per the requirements for a Group E.

## **Exceptions to Fire Alarm Systems in Assembly Occupancies**

- Assembly areas used only for worship purposes.



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- For new assembly occupancy (having an occupant load less than 1,000), where an approved automatic sprinkler system is installed throughout the building.
- For existing assembly occupancy (regardless of occupant load), where an approved automatic sprinkler system is installed throughout the building.
- Assembly uses intended for participation in or viewing outdoor activities such as bleachers, grandstands, or open stadiums (Group A-5).

## **New Assembly Occupancies with Occupant Load of 1,000 or More Notification**

Activation of the fire alarm system requires an immediate initiation of a pre-recorded message announcement through an approved emergency voice/alarm communication system.

## **Monitoring**

Fire alarm systems in assembly occupancies are not required to be monitored. Where sprinkler systems are provided, valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit and monitored by an approved supervising station service (See MSFC Section 903.4):

- In new buildings with more than six limited area sprinklers.
- In existing buildings when the number of sprinklers is 100 or more.

## **Nuisance Alarms**

Fire alarm equipment consists of precise sensors and other sensitive electronics. To limit nuisance alarms, fire alarm panels and devices should be selected and installed to provide the proper fire protection without compromising the integrity of the equipment. Fire alarm equipment should only be installed in locations where:

- Ambient conditions do not exceed the voltage, temperature, and humidity limits specified by the product manufacturer or product listing.
- Vibration or jarring does not exist.
- Devices are not subject to high air movement.
- There is no electrical or radio frequency (RF) interference.
- Devices are not subject to normal ambient smoke such as in kitchens or garages.
- Devices are not subject to normal ambient humidity such as in bathrooms with showers.
- Where ambient conditions prohibit installation of an automatic smoke detector, an automatic heat detector shall be permitted (See MSFC 907.4.3).

## **Questions**

Contact the SFMD 651-201-7221 or by email at [fire.code@state.mn.us](mailto:fire.code@state.mn.us)

