UM System AHJ Code Determination

Code Determination Number: 13

Date:   October 13, 2023

Code Edition: 2019 NFPA 72 National Fire Alarm and Signaling Code

Code Section: Section 21.3.7 Fire Alarm Initiating Device(s) Inside Elevator Hoistways, and A 21.3.7

**Questions (from Consultants):**

The section states that fire alarm initiating device(s) required to be installed inside elevator hoistways are required to be accessible for service, testing, and maintenance from outside the elevator hoistway.

Section A 21.3.7 provides proposed methods for providing access (re. provide an access hatch door for spot type fire detectors, or to provide an air sampling-type detector outside the hoistway, where heat detection is required- provide linear heat detectors with connection points outside the hoistway or spot type heat detectors with an access hatch door).

Which of these is acceptable to the AHJ? Or should we just specify air sampling-type detectors for all projects?

**Answer (from UM System):**

**For new buildings:** the fire alarm initiation device(s) can be any which are approved for use in an elevator hoistway, as described in NFPA 72. Our preference is to avoid installation of a rated access hatch door in the hoistway and instead provide an initiation device that can be tested and serviced outside the hoistway (re. install an air sampling-type detector with test points located outside the hoistway).

**For elevator renovations and/or fire alarm upgrade work in existing hoistways**: Detailed discussions should occur between the campus maintenance staff and design consultants regarding the desired fire initiating device, with respect to the best option for testing, service and maintenance.

Example scenarios for discussion are provided below.

**Scenario 1**: The top of the existing elevator shaft is more than 10 feet above the top of the elevator car. Workers cannot safely test or service the fire initiating device due to the excessive heights, and it is infeasible to provide a rated access hatch door. An air sampling-type detector may be the best option in this scenario (if existing fire alarm panel and device compatibility have been verified). Design shall include test points which are located outside the elevator hoistway.

**Scenario 2**: The existing hydraulic elevator has a heat detector and spot type detector already installed in the pit, which requires assistance from elevator maintenance contract personnel when testing those devices, and testing of a spot type detection device at the top of the hoistway is easily accessed from the elevator car. Consult with the UM AHJ for approving a variance for omitting the hoistway access hatch door requirement.

**Scenario** **3**: It has been determined that the intended air sampling-type detector is incompatible with the existing fire alarm panel, requiring new fire alarm panel upgrades (which is not planned in this scope of work). A top of hoistway spot detector could easily be tested and serviced from the elevator car. Consult with the UM AHJ for approving a variance for omitting the hoistway access hatch door requirement.

Contact the UM AHJ for any other scenarios encountered.