



FIRE RISK MANAGEMENT, INC

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Date: 13 November, 2013

Memo Report

From: W. Mark Cummings, P.E.

To: Mr. Tim Biron; R.B. Allen Co., Inc.

Subject: Code Review; ICW Proposed Fire Alarm System Alterations at 1 City Center (8th Fl), Portland, ME

As requested, Fire Risk Management, Inc. (FRM) has performed a review of the proposed fire detection/alarm/notification system that is to be installed within the renovated portion of the 8th floor of the building located at 1 City Center in Portland, ME. The focus for this review is confined to the portion of the 8th floor that is being renovated. No other building information was provided beyond that area.

Background

A portion of the 8th floor of the building located at 1 City Center is being renovated to accept a new office space. As a result, the existing fire detection/alarm/notification system is being modified to support the new space configuration for this area.

This building is a high rise building and it is assumed that it is fully protected with an automatic fire sprinkler system. The specific age of the building is unknown and therefore the specific “codes of record” for this building are not known. The code editions that are currently adopted by the City of Portland were used as references for this renovation, which is typical for alterations of this nature and scope.

Discussion

The primary codes used as reference for this review are the Life Safety Code[®], NFPA 101, for a “Business” occupancy, and the National Fire Alarm Code[®], NFPA 72. Additionally, the applicable sections of the City’s Code of Ordinances (Ch. 10) and the Fire Department Rules and Regulations were also used to support this review.

In general, the review indicates that the proposed modifications to the building’s fire alarm system will be code compliant. In fact, it appears that this proposed design will exceed the requirements of NFPA 72; as pertaining to the types and numbers of devices installed. Specifically, this design includes the installation of smoke detectors throughout all common areas within the office space; corridors, reception area, etc. As outlined above, it is assumed that this building is fully protected with an automatic fire sprinkler system. As such, it would be unnecessary to install smoke detection within these areas, along with the electrical closet. It is unknown if a smoke detector exists at the location where the terminal cabinet and power booster panel are located. The proposed design does not indicate that a smoke detector is installed, or will be, in this room. If a smoke detector is not currently provided, one must be installed above these panels to meet code requirements.

The proposed design also includes the installation of speaker/strobes within each of the two “executive” offices. Since these offices are primarily intended for only one occupant, along with the fact that speaker/strobes are indicated as being installed immediately outside each of these rooms and the sound level within these areas would likely be code-compliant without the need for devices inside the offices, these too could likely be deleted from the design; while still providing a code compliant system.

The battery calculations provided with the submittal documents only address the power requirements for the newly installed devices. It is assumed that the batteries indicated on the cut sheets provided would be

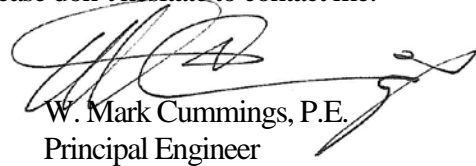
installed in the new power booster panel, but would likely only support the power to the strobes and not the speakers; which are typically powered directly from the main fire alarm panel/system. The calculations do not address if these additional devices (speakers) can be supported by the existing emergency power supply for the main fire alarm system.

Summary and Recommendations

A review has been completed of the design documents that outline the planned renovations of the fire alarm system on the 8th floor of the building at 1 City Center in Portland, ME. Although the design modification appears to be compliant with all code requirements, it is recommended that several items/issues be verified prior to installation and, if necessary, modify the proposed design accordingly:

1. Verify that a smoke detector exists at the location of the terminal cabinet and power booster panel. If not, add a detector at this location.
2. Verify the need for smoke detection throughout the new office area.
3. Verify the need for speaker/strobes in the executive offices.
4. Verify the ability of the emergency batter power system to support all additional speakers.

There is no requirement that would prohibit the installation of additional initiating or notification devices beyond that which the codes require. However, these can represent a potential source for nuisance alarms and do represent additional capital and life cycle costs, without the benefit of increased life safety. For that reason, consideration should be given to ensuring the need for all devices included within the design. If you have any questions regarding what has been outlined above, please don't hesitate to contact me.


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