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TO: Heads of Fire Departments and Building Departments

FROM: Peter J. Ostroskey, State Fire Marshal

Charles Borstel, Commissioner, Division of Professional Licensure

DATE: March 30, 2018

SUBJECT: EMERGENCY PLANNING AND PREPAREDNESS IN SCHOOLS

In response to recent events involving violence in schools, most notably the Parkland, FL school shooting, many communities are questioning what can be done to increase safety within their schools. When considering the best ways to prevent, prepare for, and respond to all types of emergencies in schools, building and life safety should be the primary consideration. Every school has been required to have an all hazard evacuation plan since 2000, and fire, police and school officials are required to meet before the start of each school year to review the plan. A good opportunity now presents itself to meet and review the plan again to ensure current concerns are addressed in the plan.

Fire service personnel are encouraged to work with other public safety personnel and school officials to promote a comprehensive approach to school safety and a response to all emergencies that develop in our communities. We need to make certain that the planning and proposed actions are thoroughly examined, code compliant, and continuously evaluated and communicated in order to protect our citizens from any negative consequences during incidents. We do not want well-intended initiatives to result in unintended consequences. A continued dialogue with all stakeholders will lead to the best understanding and development of effective procedures and best practices. A summary of requirements applicable to Massachusetts schools is provided below. **Remember that the best response begins with effective planning.**

Fire Evacuation Drills

We know that the incidence of fires is a relatively common occurrence in schools and the prompt and orderly evacuation of building occupants is appropriate and necessary. While the number of actual fires in schools in Massachusetts has been declining over the last 5 years (2012 - 2016) based on Massachusetts Fire Incident Reporting System (MFIRS) data, we still experience an average of 161 school fires annually which result in over \$5M (averaged) in losses each year.

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In order to comply with the Massachusetts Comprehensive Fire Safety Code, 527 CMR 1.00, fire evacuation drills must be conducted on a regular basis and should include expected and unexpected times and varying conditions to simulate conditions possibly encountered in an actual emergency (527 CMR 1.00: 10.5.4). The following is a summary of the requirements of 527 CMR 1.00: 20.2.4.2:

- The responsible school official must formulate a plan for the protection and evacuation of all occupants in the event of fire and must include alternate means of egress.
- The school official plan must ensure that staff are properly trained on the plan and fire drill procedures.
- All students must be advised of the fire drill procedure or take part in a fire drill within three days of the start of school.
- The head of the fire department, or a designee, must visit the school at least four times a year for the purpose of conducting fire drills and ensuring that staff understand the procedures. These drills should be conducted without advance warning (except for the school official).
- Records of fire exit drills must be kept on the school grounds and provided to the head of the fire department at least twice a year.
- Fire exit drills must include the complete evacuation of all persons from the building.
- A drill of the multi-hazard evacuation plan, required by the provisions of St. 2000, c.159, s. 363, shall be permitted to be substituted for one of the required fire drills.

Practicing fire drills is essential to ensuring an effective response to fire alarms during a real emergency. Drills should be scheduled in advance but notification of a drill should be limited to those personnel necessary for the successful conduct of the drill. Inadvertently posting the drill date and time publicly could allow for the drill to be used to do harm.

Since staff members should have received advanced training in recognizing hazards, they should be the first to enter a hallway. Hazards could include smoke, fire, or an intruder intending to do harm. Staff should practice situational awareness and be prepared to use alternate egress means or make decisions based on the hazards presented. The following are questions that may be posed to staff members during training:

- Do we leave? Or do we stay and shelter in place?
- If we cannot escape through the primary means, what is the alternate means?
- Are windows or other escape routes available?
- What methods can be used to notify officials if the primary egress is blocked?

When assessing emergency plans, these questions should be considered and the resulting answers should be included in the plan and at a minimum, practiced through staff training exercises.

Lockdown Plans

Lockdown plans can be incorporated within the multi-hazard evacuation plan, and practiced as one of the minimum four required drills each year. When explaining and conducting these drills, consideration and sensitivity should be incorporated into the discussion of this type of emergency plan.

Per St. 2000, c. 159, s. 363: "Notwithstanding any general or special law to the contrary, the superintendent of each school district shall, prior to the beginning of the school year, meet with the fire chief and police chief of the city, town or district to formulate a school specific "Multi-hazard evacuation plan" for each school under the superintendent's supervision. Said multi-hazard evacuation plan shall encompass, but not be limited to, evacuations for fires, hurricanes and other hazardous storms or disasters in which serious bodily injury might occur, shootings, and other terrorist activities, and bomb threats. Said plan shall be designed for each school building after a review of each building. Said plan shall include, but not be limited to: (1) establishment of a crisis response team; (2) a designation as to who is in charge of said team and designated substitutes; (3) a communication plan; (4) crisis procedures for safe entrance to and exit from the school by students, parents and employees; and (5) policies for enforcing school discipline and maintaining a safe and orderly environment during the crisis. Each district, with the assistance of the local police and fire departments, shall annually review and update as appropriate said plan. At the beginning of each school year, students at each school shall be instructed as to the plan that is developed."

Fire Alarms

Fire alarms are a primary feature of fire safety in public buildings. They provide early detection and notification of a potential fire and initiate the evacuation sequence. While a fire alarm system may be used by a school intruder to inflict harm on the building occupants, removing fire alarms or altering the response to a fire alarm notification signal is not the best solution. Delayed evacuation or a "shelter-in-place" fire alarm response may have deadly consequences in the event of a rapidly growing fire.

Fire alarm tones are standardized across all public buildings and in the home. Children may become confused if taught to react differently to a fire alarm signal in a school vs. the home. Additionally, if people are conditioned to ignore a fire alarm signal until instructed to evacuate by a speaker system or authority figure, the advantages of early detection and notification intended by a fire alarm system are lost. Removing required fire alarms from public buildings directly conflicts with the intention of the building and life safety codes and disregards the history of lives saved from fires directly resulting from the effective and reliable technology of fire alarms.

School staff and students must be made aware that any fire alarm activation has the potential to be a result of a catastrophic event. Regardless of whether there is smoke and/or fire along the egress path or an intruder, the staff personnel should be trained to know how to react to these potential situations. Prevention is the best approach to life safety in buildings. When prevention fails, situational awareness and enforced training in staff members are the best routes to survive an incident.

The Massachusetts State Building Code, 780 CMR, does allow for alternative methods for some types of fire alarm initiation. Most commonly, manual pull station locations may be reduced or eliminated based on other features of fire protection within the building. If an existing school does not meet these provisions, there may be an option to retrofit the manual pull stations with locally-alarming plastic covers to discourage students from pulling false alarms. Any change to an existing school must be evaluated by a registered design professional and approved by the Authority Having Jurisdiction (AHJ) (building and fire officials) before being implemented in a school.

Some exceptions for manual pull stations include:

- **780 CMR 907.2.3 Group E. Exception 3:** Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - 3.1. Interior *corridors* are protected by smoke detectors.
 - 3.2. Auditoriums, cafeterias, gymnasiums, and similar areas are protected by *heat detectors* or other *approved* detection devices.
 - 3.3. Shops and laboratories involving dusts or vapors are protected by *heat detectors* or other *approved* detection devices.
- **780 CMR 907.2.3 Group E. Exception 4:** Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
 - 4.1. The building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
 - 4.2. The emergency voice/alarm communication system will activate on sprinkler water flow.
 - 4.3. Manual activation is provided from a normally occupied location (At least one manual pull station is provided at a normally occupied location such has the principal's office).

Classroom and Egress Doors

Classroom and egress doors must comply with the provisions of Chapter 10 of the building code. These doors are critical components in the means of egress system and must be maintained in a safe manner to allow students and staff to exit the building. Specifically, the code requires all egress doors to be readily openable from the egress side with a single operation, and without the use of a key, special knowledge, or effort. The majority of retrofit classroom door security and barricade devices do not comply with this requirement and are not permitted to be installed. However, there are door locking devices available which do comply with the requirements of the building code and can provide a level of safety while still maintaining egress from within the classrooms and other spaces. For the installation of any door hardware in new or existing buildings, refer to Chapter 10 of the building code and consult with the AHJ (authority having jurisdiction) for specific requirements and allowances. Door locking devices must comply with the following:

- Door hardware must meet accessibility requirements and not require tight grasping, pinching, or twisting of the wrist to operate.
- Door hardware must be installed between 34" and 48" above the finished floor.
- Manually operated bolt locks or surface locks are not permitted to be used.
- The unlatching of any door or door leaf must not require more than one action.
- Doors may be electromagnetically locked in accordance with 780 CMR 1010.1.9.9.
- Panic or fire exit hardware is required on latching doors along the means of egress, which serve 50 or more people.

The best policy is to ensure classroom doors are provided with single action locks and to keep the doors closed and locked at all times during school operation. Doors may prevent entering anytime; however, they cannot restrict exiting.

Prevention is the best defense. Emergency planning and training are critical for mitigation of an event that cannot be prevented. These tactics have worked for decades to prevent fires in schools from becoming catastrophic. If the application of prevention, planning, and preparedness are provided when responding to intruders, the difference can be monumental.

More Information and Resources

For more information on code compliance and fire and life safety in buildings, please contact your local building official and fire official. Code compliance questions can also be directed to the Department of Fire Service's Code Compliance Helpdesk at 978-567-3375, which is staffed from 8:00am to 4:00pm, Monday through Friday.

An excellent resource for additional information is available on the National Association of State Fire Marshal's website at www.firemarshals.org.

All references within this document are to:

- 780 CMR, Massachusetts State Building Code, 9th edition (based on the 2015 IBC and MA state amendments), and
- 527 CMR 1.00, Massachusetts Comprehensive Fire Safety Code, 2018 edition (based on the 2015 NFPA 1 and MA state amendments)



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