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PETER J. OSTROSKY
STATE FIRE MARSHAL

MEMORANDUM

To: Heads of Fire Departments

From: Peter J. Ostroskey, State Fire Marshal 

Date: December 15, 2022

Re: **Revisions to 527 CMR 1.00: Massachusetts Comprehensive Fire Safety Code (Effective December 9, 2022) and related training opportunities**

The Board of Fire Prevention Regulations (“Board”) recently promulgated updates to 527 CMR 1.00, the Massachusetts Comprehensive Fire Safety Code (“Code”). In updating the Code, the Board has adopted NFPA 1 (2021 Edition) with Massachusetts amendments. This amendment package bridges the gap between the previously adopted NFPA 1 (2015 edition) and the more recently adopted NFPA 1 (2021 edition). In addition to adopting new chapters from NFPA 1 (2021 Edition) the amendment package offers clarifying language to various existing Code provisions to further assist users of the Code. The updates to 527 CMR 1.00 were effective as of December 9, 2022.

This memorandum is a brief summary of the key updates to 527 CMR 1.00 based upon the adoption of NFPA 1 [2021 Edition]) and also provides information related to Code update training. An unofficial copy is available on the DFS website at: <https://www.mass.gov/doc/massachusetts-527-cmr-100-2021-edition-as-of-december-9-2022/download> . An official copy of the Code and the amendments can be obtained by contacting the Massachusetts State Bookstore (617-727-2834).

Notice of Correction

The Board has been made aware of a typo in the official edition published by the Secretary of State's Office, indicating that 527 CMR 1.00 adopts and incorporates the provisions of

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NFPA 1 Fire Code 2015 edition. Instead, this should read that 527 CMR 1.00 adopts and incorporates the provisions of NFPA 1 Fire Code 2021 edition. The Secretary of State's Office has filed a Notice of Correction to correct this typo and the correction will take effect on December 23, 2022.

The key updates are as follows:

Chapter 1: Administration (Table 1.12.8.50 Permit and/or License Thresholds)

The Board updated the permit table to require permits for several additional materials. Black powder [commercial] greater than or equal to 50 lbs. will require a permit. Special industrial explosive devices greater than or equal to 50 lbs. will require a permit.

Chapter 16: Safeguarding Construction, Alteration, and Demolition Operations

The Board updated this chapter to the latest edition of NFPA 241 (2022 edition) *Standard for Safeguarding Construction, Alteration, and Demolition Operations*. Chapter 16, through NFPA 241, provides guidance for preventing or minimizing fire damage to structures, including those in underground locations, during construction, alteration, or demolition.

Chapter 28: Marinas, Boatyards, Marine Terminals, Piers, and Wharves

The Board adopted this chapter which provides requirements to protect lives and property from fire and electrical hazards at marinas and related facilities, including boatyards, yacht clubs, boat condominiums, and docking facilities. This chapter is in large part base language from NFPA 1, with Massachusetts amendments to reflect issues that AHJs, boatyards, and marinas are dealing with in the Commonwealth.

Chapter 29: Parking Garages

The Board updated this chapter to regulate the maintenance of protection measures provided in open and enclosed parking structures, including automated-type parking structures, other than those within one and two family dwellings.

Chapter 43: Spraying, Dipping, and Coating Using Flammable or Combustible Materials

The Board adopted a new chapter based upon expert input at the code committee level. Through this chapter, the Board is providing requirements to mitigate fire and explosion hazards of spray application processes that use flammable or combustible materials.

Chapter 44: Solvent Extraction

The Board adopted a new chapter based upon expert input at the code committee level. The Board added this chapter in an effort to minimize the risks associated with, among other things, working in dust-laden or flammable vapor-laden atmospheres at solvent extraction plants.

Chapter 46: Additive Manufacturing (3D Printing)

The Board adopted a new chapter based upon expert input at the code committee level. This Chapter was adopted unamended by the Board to outline proper handling and processing of the combustible dust and metal powders used in additive manufacturing.

Chapter 52: Energy Storage Systems

While the current edition of 527 CMR 1.00 does include a chapter regarding battery storage systems, the Board voted to adopt the published 2021 NFPA 1, Chapter 52 with amendment material extracted from the 2020 edition of NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*. The increased scope of this chapter will help address the energy storage system equipment installation configuration and protection schemes.

Chapter 65: Explosives, Fireworks, Model Rocketry, Cannons, and Mortars

The Board voted to allow the State Fire Marshal to create and maintain a list of approved electrical firing units for use in the fireworks and special effects industry. Firing units not on the approval list will be required to be inspected and permitted every 5 years by the State Fire Marshal. Changes have also been made to allow for proper spacing between mortar tubes.

The Board voted to allow blasters to suspend the requirements for pre-blast surveys for blasting projects, provided they adhere to a strict formula that results in greatly decreased ground vibrations. This formula, known as Scaled Distance 50, is calculated by dividing the distance to structures by a fractional power of weight of explosive materials. The blaster will also be limited to a peak particle velocity of 0.5in/s.

Compliance Alternatives

While the new code is enforceable as of its publication date on December 9, 2022, the change may inadvertently affect on-going projects that have been designed under the previous edition of 527 CMR 1.00. Every attempt should be made for project teams to incorporate compliance with the current edition of 527 CMR 1.00; however, the authority having jurisdiction has the opportunity to apply Section 1.4 and allow a compliance alternative in the event that strict prescriptive code compliance is infeasible and the intent of the code is met by the proposed design.

Training

The Massachusetts Firefighting Academy will host training for fire prevention officers on the amendment package. The training will familiarize fire prevention officers with these code changes, their implications, and application in local communities. In the upcoming weeks, training times and locations will be posted on the DFS Learning Management System (LMS). Training sessions will be offered throughout Massachusetts and will include virtual (remote) deliveries. The plan for this training will begin with offerings in Stow and other locations throughout Massachusetts, followed by remote classes. For amendment package training classes and additional fire prevention course offerings, please visit the MFA class registry at:

<https://www.mass.gov/massachusetts-firefighting-academy-mfa>.

Code Compliance help desk and Engineering Team

If you have any questions please contact the code compliance help desk at 978-567-3375. The Fire Protection Engineering team can be contacted at FPEngineers.DFS@mass.gov.