



DEPARTMENT OF FIRE SERVICES
Massachusetts Firefighting Academy



Fire Prevention Officer Level I

**Massachusetts Department
of Fire Services**

FIRE PREVENTION OFFICER I
Introduction



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FIRE PREVENTION OFFICER I

Introductions:

- Fire Exits
- Restrooms
- Lunch/Breaks
- Instructors
- Participants



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FIRE PREVENTION OFFICER I

MISSION STATEMENT:

To promote a consistent understanding and enforcement of Massachusetts Fire Prevention Laws and Regulations.



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FIRE PREVENTION OFFICER I

GOALS:

- To allow Fire Service Personnel an opportunity to become a Massachusetts Credentialed Fire Inspector, Level I.
- Provide on-line and classroom training and activities to enhance knowledge and understanding.



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FIRE PREVENTION OFFICER I

GOALS:

- To provide training in order to promote consistent application of the laws and regulations.
- Test knowledge through on-line learning checkpoints, classroom activities, and a written exam at completion of the program.



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FIRE PREVENTION OFFICER I

THE PROGRAM:

- Based upon the NFPA Fire Inspector I Certification Program
- Consists of five modules with activities, which have been modified to Massachusetts Laws and Regulations
- Final Exam – open book consisting of multiple-choice questions from M.G.L. c.148, 527 CMR & 780 CMR



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HOW THE PROGRAM WORKS:

1. Classroom - Introduction and presentation of Module I (today)



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HOW THE PROGRAM WORKS:

2. E-learning
 - In your acceptance email, you received the information to create an IFSTA account for the online portion of this program which consists of 5 online modules and learning questions.
 - All online work must be completed prior to the last day of the class.
 - Allow 16-20 hours for the online learning.



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HOW THE PROGRAM WORKS:

- IFSTA Support: 1-800-654-4055
- Program Support: 1-978-567-3200



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CLASSROOM CODE REFERENCE MATERIAL

- The 2015 Massachusetts Comprehensive Fire Safety Code, (527CMR1.00) – **please do not substitute** with the former 527 CMR's (1.00-50.00) or NFPA 1 Fire Code.
- A current copy of Massachusetts General Law 148
- 2009 edition of the International Building Code (commercial code only) with Massachusetts front end amendments.
- IFTSA Fire Inspection and Code Enforcement 7th edition.
- Additional codes that are beneficial to the inspector *but not mandatory for class attendance* are NFPA 13, NFPA 58, NFPA10 NFPA 72 and NFPA 25



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THE PROGRAM:

5. Classroom Modules:
 - I. Administration
 - II. Background
 - III. Life Safety
 - IV. Fire Protection/Suppression Systems
 - V. Hazardous Processes/materials



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FIRE PREVENTION OFFICER I

MODULE I ADMINISTRATION:

- Authority & Jurisdiction
- Administrative Functions
- Testimony
- Use and Interpretation of Codes and Standards



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MODULE II BACKGROUND:

- Building construction
- Fire behavior
- Reading & using plans
- Conducting inspections



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MODULE III LIFE SAFETY:

- Occupancy Classification
- Inspecting means of egress
- Occupant Load
- Emergency planning and preparedness



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MODULE IV FIRE PROTECTION SYSTEMS:

- Water based
- Special agent
- Fire detection and alarm
- Portable fire extinguishers



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MODULE V STORAGE, HANDLING & USE OF HAZARDOUS MATERIALS:

- Properties of hazardous materials
- Classification of hazardous materials
- Fire prevention practices for hazardous substances and processes



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REFERENCE MATERIAL & PUBLICATIONS

- Massachusetts General Laws Chapter 148
- 527 CMR Massachusetts Fire Prevention Regulations (new)
- 780 CMR State Building Code
 - Massachusetts Front End Amendments
 - International Building Code
 - International Fire Code
 - International Existing Building Code
 - International One & Two Family Code



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REFERENCE MATERIAL & PUBLICATIONS

- Various NFPA Documents
 - Most common: 10, 13, 13D, 13R, 14, 17, 25, 58, 72, 96
 - Many others referenced in: 527 CMR 1.00, Chapter 2
780 CMR – Chapter 35 (Front End Amendments and IBC)



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FIRE PREVENTION OFFICER I

REQUIRED MATERIAL:

In order to:

- Become credentialed,
- Complete this program, and
- Properly do your job as a fire inspector,

Up-To-Date codes are REQUIRED.

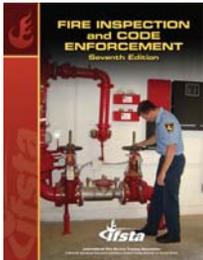


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REQUIRED MATERIAL:

- IFSTA – *Fire Inspection and Code Enforcement, Seventh Edition*
- Provides detailed info on systems required by various codes and standards
- Required reading in eLearning program

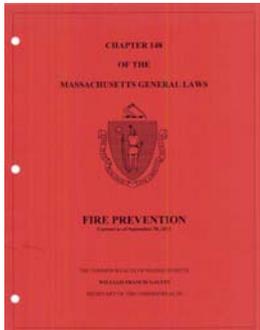



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REQUIRED MATERIAL:

- M.G.L. c. 148 (September 30, 2011)




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M.G.L. c. 148

- Sections 1 – 60
- Enacted/Modified by State Legislature and Governor
- Some sections provide fines/punishment for non compliance




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M.G.L. c. 148 §4

Section 4. The marshal, the head of the fire department, or any person to whom the marshal or the head of the fire department may delegate the authority, may, in the performance of the duties imposed by this chapter, or in furtherance of the purpose of any provision of any law, ordinance or by-law relating to the subject matter of this chapter, or of any rule or regulation of the board of fire prevention regulations, established under section four of chapter twenty-two D, in this chapter referred to as the board, or any order of the marshal or head of the fire department, enter at any reasonable hour any building or other premises, or any ship or vessel, to make inspection or investigation, without being held or deemed to be guilty of trespass.



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M.G.L. c. 148 §10

- Creates Board of Fire Prevention Regulations, which has the authority to alter, amend and repeal, rules and regulations relative to fire prevention

....

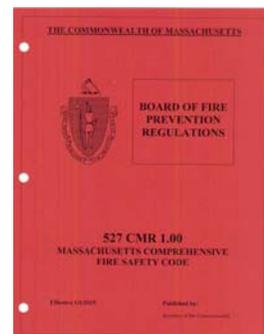


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REQUIRED MATERIAL:

- 527 CMR 1.00 (Code of Massachusetts Regulations) – Massachusetts Fire Prevention Regulations



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527 CMR 1.00 FIRE PREVENTION REGULATIONS

- Chapters 1.00 - 69.00
- Enacted/Modified by Board of Fire Prevention Regulations

527 CMR: BOARD OF FIRE PREVENTION REGULATIONS		
Table of Contents		
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527 CMR 1.00:	MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE	9
Section 1.01:	Title	9
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Section 1.05:	Modifications to NFPA 7 - 2012 Edition	10
527 CMR 12.00:	2014 MASSACHUSETTS ELECTRICAL CODE (Amendments)	137

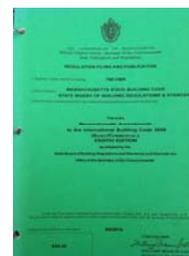


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REQUIRED MATERIAL:

- 780 CMR – Massachusetts State Building Code 8th edition – Mass. Amendments to IBC (referred to as the “Front End Amendments” - FEA)



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780 CMR STATE BUILDING CODE – FRONT END AMENDMENTS

- Chapters listed correspond to the chapters in the International Building Code (IBC), 2009

Chapt. 1	Scope and Administration
Chapt. 2	Definitions
Chapt. 3	Use and Occupancy Classification
Chapt. 4	Special Detailed Requirements Based On Use and Occupancy
Chapt. 5	General Building Heights and Areas
Chapt. 6	Types of Construction
Chapt. 7	Fire and Smoke Protection Devices
Chapt. 8	Interior Finishes
Chapt. 9	Fire Protection Systems
Chapt. 10	Means of Egress
...	
Chapt. 34	Existing Structures
...	



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780 CMR STATE BUILDING CODE – FRONT END AMENDMENTS

- The preface adopts the IBC, as well as other corresponding codes
- *1.1 Adoption and Title. The Board of Building Regulations and Standards (BBRS) adopts and incorporates by reference, the International Building Code, 2009 edition (IBC), including Appendices A through J. The International Building Code together with modifications as set forth, shall collectively comprise the Massachusetts State Building Code (780 CMR), Eighth Edition, Base Volume, and referred to as “this code”.*



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FIRE PREVENTION OFFICER I

REQUIRED MATERIAL:

- International Building Code (IBC), **2009** edition.



FIRE PREVENTION OFFICER I

REQUIRED MATERIAL:

- International Building Code (IBC), **2009** edition.



780 CMR STATE BUILDING CODE – INTERNATIONAL BUILDING CODE, 2009 ED.

- Chapters listed correspond to the chapters in 780 CMR, the Massachusetts Building Code front end amendments

Chapt. 1	Scope and Administration
Chapt. 2	Definitions
Chapt. 3	Use and Occupancy Classification
Chapt. 4	Special Detailed Requirements Based On Use and Occupancy
Chapt. 5	General Building Heights and Areas
Chapt. 6	Types of Construction
Chapt. 7	Fire and Smoke Protection Devices
Chapt. 8	Interior Finishes
Chapt. 9	Fire Protection Systems
Chapt. 10	Means of Egress
...	
Chapt. 34	Existing Structures
...	

780 CMR STATE BUILDING CODE – INTERNATIONAL BUILDING CODE, 2009 ED.

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780 CMR STATE BUILDING CODE

- It is important that when referencing the IBC you must also check the front end amendments. Front end amendments, when listed, modify, change or delete sections of the IBC

780 CMR STATE BUILDING CODE

IBC - 2009

901.6 Supervisory service. Where required, fire protection systems shall be monitored by an approved supervising station in accordance with NFPA 72.

901.6.1 Automatic sprinkler systems. Automatic sprinkler systems shall be monitored by an approved supervising station.

Exceptions:

- A supervising station is not required for automatic sprinkler systems protecting one- and two-family dwellings.
- Limited area systems serving fewer than 20 sprinklers.

780 CMR

(Front End Amendments)

901.6.1 Delete
901.6.2 Delete

901.7 Replace as follows:
901.7 Signs. All signs required to identify fire protection equipment, equipment rooms and equipment locations shall be constructed of durable materials, be permanently installed and be readily visible. Number and letters shall contrast with the sign background, shall be at least two inches in height, and shall have appropriate....

FIRE PREVENTION OFFICER I

REQUIRED MATERIAL:

It is important that you take time between now and the next classroom sessions to become very familiar with the content of M.G.L. c. 148, 527 CMR 1.00 and Chapters 1-10 and 34 of 780 CMR/IBC.

These laws & codes are the **foundation** that you need in order to properly perform your job as a fire inspector.



FIRE PREVENTION OFFICER I

REQUIRED MATERIAL:

Additionally, in order to perform your job as a fire prevention officer, you will need certain NFPA codes and standards, which are referenced in 527 CMR 1.00 and 780 CMR.

Note, not all of the NFPA references are the latest code editions.



FIRE PREVENTION OFFICER I

NFPA Standards

- Referenced in various regulations



NFPA STANDARDS

- Lists members on the standards committee



NFPA STANDARDS

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NFPA STANDARDS

- NFPA 13 – STANDARD for the installation of Sprinkler Systems



LAYOUT OF NFPA STANDARDS (Also New Mass. Comprehensive Fire Code)

- 13 (STANDARD OR CODE)
- 8 (Chapter)
- 8.7 (Sections)
- 8.7.5 (Subsections)
- 8.7.5.2 (Paragraphs)
- 8.7.5.2.1...(Sub-paragraphs)



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LAYOUT OF NFPA STANDARDS EXAMPLE

13 (STANDARD OR CODE) Standard for
the Installation of Sprinkler Systems
2007 Edition



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LAYOUT OF NFPA STANDARDS EXAMPLE

Chapter **8** Installation Requirements

- All chapters have titles



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LAYOUT OF NFPA STANDARDS EXAMPLE

8.7 (Sections) Sidewall Standard Spray
Sprinklers

- Sections contain mandatory text, further divided into subsections
- Numbered consecutively with a period and a number after the chapter number (e.g. this is section **7** in chapter 8)



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LAYOUT OF NFPA STANDARDS EXAMPLE

8.7.5 (Subsections) Obstructions to Sprinkler
Discharge (Standard Sidewall Spray Sprinklers)

- Required for sections with multiple subsections
- Numbered consecutively with a period and a number after the section number (e.g. this is subsection **5** in section 8.7)



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LAYOUT OF NFPA STANDARDS EXAMPLE

8.7.5.2 (Paragraph) Obstructions to
Sprinkler Discharge Pattern Development

- Multiple requirements for subsections shall be treated as separate paragraphs
- Numbered consecutively with a period and a number after the subsection number (e.g. this is paragraph **2** of subsection 8.7.5)



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LAYOUT OF NFPA STANDARDS EXAMPLE

8.7.5.2.1 (subparagraph) General

- Numbered consecutively with a period and a number after the subsection number (e.g. this is subparagraph 1 of paragraph 8.7.5.2)



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LAYOUT OF NFPA STANDARDS EXAMPLE

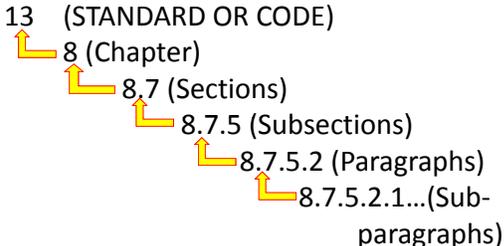
8.7.5.2.1.1 (subparagraph) Continuous or noncontiguous....

- Subparagraphs can be broken down even further
- Numbered consecutively with a period and a number after the subsection number (e.g. this is subparagraph 1 of subparagraph 8.7.5.2.1)



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LAYOUT OF NFPA STANDARDS EXAMPLE



13 (STANDARD OR CODE)
8 (Chapter)
8.7 (Sections)
8.7.5 (Subsections)
8.7.5.2 (Paragraphs)
8.7.5.2.1... (Sub-paragraphs)



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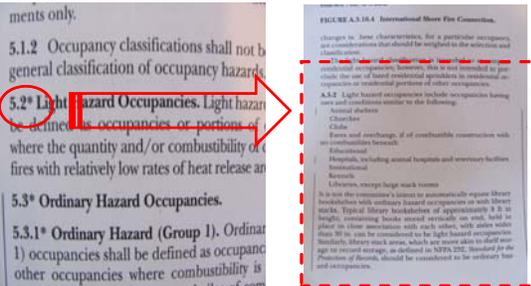
LAYOUT OF NFPA STANDARDS

An asterisk * following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A



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NFPA STANDARDS



ments only.

5.1.2 Occupancy classifications shall not be general classification of occupancy hazards.

5.2* Light Hazard Occupancies. Light hazard be defined as occupancies or portions of where the quantity and/or combustibility of fires with relatively low rates of heat release an

5.3* Ordinary Hazard Occupancies.

5.3.1* Ordinary Hazard (Group 1). Ordinat 1) occupancies shall be defined as occupanc other occupancies where combustibility is

FIGURE A.3.10.4 International Store Fire Connection.

changes in these characteristics, for a particular occupancy, are considerations that should be weighed in the selection and classification.

A.3.2 Light hazard occupancies include occupancies having one and conditions similar to the following:

- Chlorine
- Chloro
- Flame and overhang, if of combustible construction with no combustible contents.
- Educational
- Hospitals, including animal hospitals and veterinary facilities.
- Manufacturing
- Research
- Religious, except large mass houses

It is not the committee's intent to automatically require library buildings with multiple-level occupancies to with library stock. Typical library bookshelves of approximately 3 ft in height, containing books stored vertically on steel shelving in close proximity with each other, with aisle width less than 36 in., are considered to be light hazard occupancies. Nonstack library stock areas, which are more akin to shelf storage or limited storage, as defined in NFPA 222, Standard for the Protection of Books, should be considered to be ordinary hazard occupancies.



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LAYOUT OF NFPA STANDARDS

Important note:

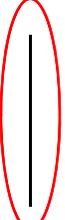
- Information and material contained within the annexes is not part of the standard or code, and therefore not enforceable (unless specifically adopted by the jurisdiction)



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LAYOUT OF NFPA STANDARDS

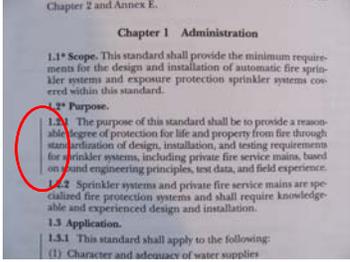
Changes from previous additions (other than editorial) are indicated by a vertical rule (line) beside the paragraph, table, or figure in which the change occurred




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NFPA STANDARDS

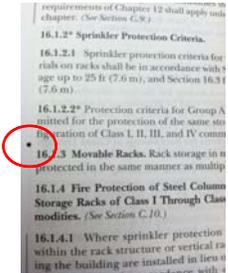
- NFPA 13 – Automatic Sprinkler Systems




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LAYOUT OF NFPA STANDARDS

Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet • between the paragraphs that remain.




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BUILDING PROPOSAL CODE EXERCISE

SCENARIO (Workbook Activities, Page 3):

Assume that you are the fire prevention officer in your community. Your building official has provided you with a set of building plans for a proposed single story (no basement) 100' X 100' building of non-combustible construction. A medical billing office will occupy the facility. The proposed site is on a main road with access to an adequate municipal water supply in the street.



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BUILDING PROPOSAL CODE EXERCISE

SCENARIO:

- WILL FIRE SPRINKLER AND FIRE ALARM SYSTEM BE REQUIRED?
- WHAT OTHER STATUTORY OR CODE REQUIREMENTS SHOULD YOU LOOK FOR?



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BUILDING PROPOSAL CODE EXERCISE

INFORMATION PROVIDED:

- New Construction
- Following the 8th edition of 780 CMR
- 10,000 square foot building
- Use Group: B
- Occupant Load: 100

NOTE: Although generally provided as part of the submission, there are no plans provided at this time for a fire alarm or sprinkler system.



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CODE USE & RESEARCH

ACTIVITY 1 (Workbook Activities, Page 6):

As the fire prevention officer of your community, you receive a set of building and site plans from the local building official for a proposed Restaurant/Banquet facility for review and approval. The proposed building is one story without a basement. The dimensions are 110 ft. by 80 ft. The building contains a 1,400 sq. ft. bar and adjoining kitchen area, and a 7,400 sq. ft. banquet facility with a commercial catering kitchen. The total estimated occupant load is 510. The location is just off a road that is serviced by a 12 inch water supply main.



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CODE USE & RESEARCH

ACTIVITY 1:

Working as a group, answer the two questions to the scenario outlined in Module 1, Activity 1 found in the student workbook.

ACTIVITY TIME: 30 MINUTES
DISCUSSION: 15 MINUTES



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CODE USE & RESEARCH

What is the building code occupancy classification for this structure?

A-2 Ref: 8th edition IBC Section 303.1



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CODE USE & RESEARCH

What fire protection systems would be required for this facility?

Automatic Sprinkler system

M.G.L. c. 148 § 26G (ordered in writing by the head of the fire department, copied to the building official)



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CODE USE & RESEARCH

What fire protection systems would be required for this facility (continued)?

Automatic Sprinkler system

780 CMR 8th edition Mass. Amendments-table 903.2 A-2 (other than nightclub)



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CODE USE & RESEARCH

What fire protection systems would be required for this facility (continued)?

Approved Fire Alarm system

IBC-09; 907.2, Fig. 907.2, 780 CMR 8th ed. Mass. Amendments- 907.2.1, 907.2.1.1



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CODE USE & RESEARCH

What fire protection systems would be required for this facility (continued)?

Commercial cooking suppression system (2)

IBC-09; 903.2.11.5,

IBC-09 904.2,

527 CMR 1.00, Chapter 50 / NFPA 96-11



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CODE USE & RESEARCH

What fire protection systems would be required for this facility (continued)?

Portable Fire Extinguishers

IBC-09; 906



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FIRE PREVENTION OFFICER I

Module I

Administration



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THE FIRE PREVENTION OFFICER

- A person *trained* to perform fire and life safety inspections of all types in new construction and existing occupancies
- Must possess a high level of expertise to identify hazards



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THE FIRE PREVENTION OFFICER

The fire prevention officer must possess certain knowledge, skills, and abilities, and be able to apply them to assigned tasks and duties.



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THE FIRE PREVENTION OFFICER

Minimum required duties:

- Investigate complaints relating to fire & life safety
- Understand, apply & enforce laws, codes, and standards
- Perform fire and life safety inspections



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THE FIRE PREVENTION OFFICER

Minimum required duties (cont.):

- Write reports
- Communicate findings with department members and citizens
- Perform plan review



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THE FIRE PREVENTION OFFICER

Minimum required duties (cont.)

- Verify water supply fire flow capacity
- Determine availability of proper water supply for fire protection systems



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THE FIRE PREVENTION OFFICER

The fire prevention officer has a responsibility to ensure compliance of **all** applicable laws codes and standards for the protection of:

- Fire service personnel
- Businesses, employees and customers
- Citizens



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FIRE PREVENTION HISTORY

Most fire service personnel enter the fire service to:

- Prevent deaths
- Reduce injuries
- Reduce property loss



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FIRE PREVENTION HISTORY

- The fire service, in general, has not viewed fire prevention and inspections as a priority.
- Lack of funding and training has not been high on the list of priorities.
- Reduced funding over the years has taken a toll on prevention/inspections



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FIRE PREVENTION HISTORY

- In many departments, newly appointed fire chiefs and promoted officers are "forced" into Fire Prevention positions
- Fire prevention is often used to place members on "light duty"
- New FPOs have little, if any training, knowledge or experience in fire prevention/code enforcement.



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FIRE PREVENTION HISTORY

- Lack of consistent application of fire prevention laws and codes are the result of a lack of training, education and experience.



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FIRE PREVENTION HISTORY

Often, the result is the application of the following:

- 1.The "I Don't Know" code
- 2.The "Look The Other Way" code
- 3.The "Invent A" code



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FIRE PREVENTION HISTORY

Instead, with proper training and education, The Massachusetts Fire Prevention Laws (c.148) and Fire Code (527 CMR 1.00) will be consistently applied.



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FIRE PREVENTION HISTORY

The only way consistent fire prevention application can be effective is through:

TRAINING
EDUCATION
EXPERIENCE



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FIRE PREVENTION HISTORY

Fire Prevention, when done properly achieves what most people enter the fire service to do:

- Prevent deaths
- Reduce injuries
- Reduce property loss



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Fire Prevention Through Education

Training and education is key in order for a Fire Prevention Officer to be effective and successful.



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Fire Prevention Through Education

How can a Fire Prevention Officer receive the training and education to be effective?

- Know the laws, codes and standards.
 - Read
 - Re-read
 - Read them again



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Fire Prevention Through Education

How can a Fire Prevention Officer receive the training and education to be effective (*continued*)?

- Professional organizations
 - Fire Prevention Assoc. of Mass. (FPAM)
 - Massachusetts Firefighting Academy
 - National Fire Academy
 - National Fire Protection Association
 - International Code Council
 - Community college
 - Regional Fire Prevention Groups (e.g.: Western MA Fire Prevention Association)



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Fire Prevention Through Education

How can a Fire Prevention Officer receive the training and education to be effective (*continued*)?

- Network with experienced fire prevention officers
- Get involved with the code adoption process in Massachusetts
- Contact the State Fire Marshal's office for guidance and understanding



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Fire Prevention Through Education

Fire prevention education starts with the firefighter:

- Educate other members of your department
 - Firefighters can often spot violations during emergency responses and while conducting pre-plan inspections
 - Other firefighters may be able to identify potential code violations making your job easier
 - Fire Prevention is every firefighter's responsibility!



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Fire Prevention Through Education

Fire prevention starts with the firefighter:

- Educate the public
 - Most people you will come in contact with are unaware of most fire prevention laws and codes, and look to you as the expert
 - When you find a violation, take a moment and educate the violator on not only the code but the history of the code, and the realistic consequences which may occur should the violation not be corrected



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FIRE PREVENTION – COMMUNITY ISSUES

- *Always* be **Polite**
- Describe the law, regulations, and section number
- Try to relate why the law/regulation is being enforced. Share an experience



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FIRE PREVENTION – COMMUNITY ISSUES (continued)

- Ask if they would prefer to speak to your supervisor
- Always thank the customer
- Always be **Polite**



FIRE PREVENTION – WORKING WITH YOUR BUILDING OFFICIAL

- A positive working relationship with your Building Official is crucial
- Firefighter and public safety in buildings is the ultimate goal, and is achieved through compliance with building and fire codes
- Educate the building official as to fire safety when questions arise



CREATION OF MASSACHUSETTS FIRE PREVENTION AND CODE ENFORCEMENT *Cocoanut Grove – Boston, MA – 11/28/1942*



CREATION OF MASSACHUSETTS FIRE PREVENTION AND CODE ENFORCEMENT *Cocoanut Grove – Boston, MA – 11/28/1942*

- 492 DEAD
- Impetus for modern fire codes
- Contributing Factors:
 - Inadequate and locked egress
 - Flammable decorations
 - Overcrowding



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Beverly Hills Supper Club – Southgate, KY – 5/28/1977



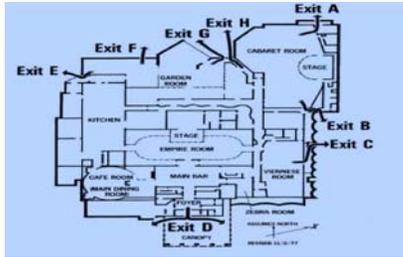
FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Beverly Hills Supper Club – Southgate, KY – 5/28/1977

- 165 DEAD, over 200 injured
- Contributing Factors:
 - Inadequate egress (11 less than required)
 - Locked egress doors
 - Overcrowding
 - Lack of fire alarm system
 - Lack of sprinkler system
 - Lack of fire separation for sprawling entertainment complex
 - Poor oversight by regulatory authorities

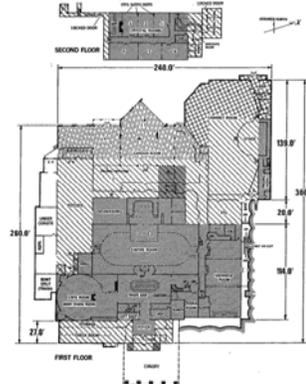


FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT



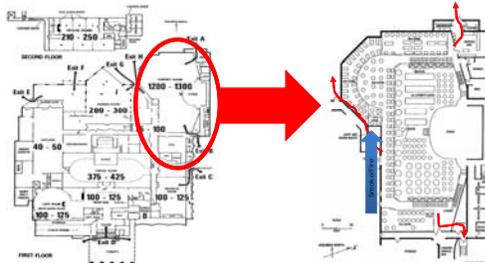
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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT



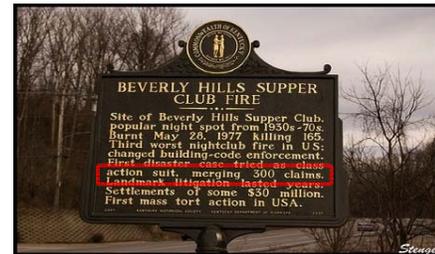
Various additions to the Beverly Hills Supper Club

FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Station Nightclub – West Warwick, RI – 2/20/2003



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Station Nightclub – West Warwick, RI – 2/20/2003

- 100 DEAD, 230 Injured
- Contributing Factors:
 - Flammable wall coverings
 - Illegal use of pyrotechnics in the building
 - One exit had two doors – one which opened out, and another which opened in
 - Lack of follow-up on code inspections

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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Station Nightclub – West Warwick, RI – 2/20/2003

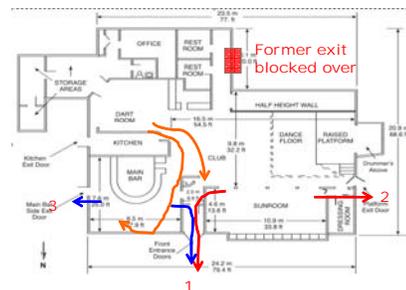
•100 DEAD, 230 Injured

Town of West Warwick Liable:

- Agreed to pay \$10 M in 2008
- Fire Inspector told grand jury that he “missed the foam” during inspections because he was focusing on an exit door that swung the wrong way.
- Police official also named for permitting overcrowding
- Building official named for failure to enforce building codes



EGRESS/OCCUPANT LOAD LESSONS LEARNED



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007 - 9 FIREFIGHTERS DEAD



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

Contributing Factors:

- Lack of inspection program – last inspection in 1998
- The annual fire inspection program for commercial occupancies was discontinued after the 1998 inspection was conducted. The City of Charleston Code was amended in 2001 to remove a mandatory requirement for annual fire inspections in mercantile occupancies.



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

Contributing Factors (*continued*):

The fire could have been prevented if the discarded combustible materials had not been improperly stored in close proximity to the building and/or if the employees had not been permitted to smoke in proximity to this fuel supply.



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

Contributing Factors (*continued*):

- The loading dock enclosure was constructed without permits and did not meet building code requirements.
- If building permits had been obtained for the construction of the loading dock and workshop additions, the owner would have been required to install an automatic sprinkler system or additional fire walls.



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

Contributing Factors *(continued)*:

•The presence of improperly stored flammable and combustible liquids within the loading dock, in quantities greater than the Fire Code would permit for incidental use, probably accelerated the fire and enabled it to spread more quickly to the adjoining areas.



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

Contributing Factors *(continued)*:

•The inadequate number of exits, locked exits, and obstructed paths to exits significantly reduced the potential for firefighters who were inside the showroom buildings to find a path to safety.



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Sofa Super Store – Charleston, SC – 6/18/2007

•9 FIREFIGHTERS DEAD

The fire at the Sofa Super Store could have been prevented, and should have been quickly controlled, if the property had been constructed and maintained in compliance with the building and fire codes



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

• Missing smoke detectors



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

• Obstructed exits/egress



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

• Obstructed exits/egress



FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

- Obstructed exits/egress

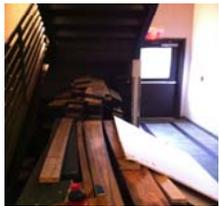



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

- Combustible storage in egress stairs



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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

- Obstructed sprinklers/extinguishers




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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

Any one of the previous examples, if not addressed, is a failure of Fire Prevention and Code Enforcement.

- How many times have you witnessed something similar?
- What actions did you take?

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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

Any one of the previous examples, if not addressed, is a failure of Fire Prevention and Code Enforcement.

Does your department have procedures to:

- Immediately mitigate the hazard?
- Educate the public?
- Report violation to Fire Prevention?
- Follow-up?

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FAILURES OF FIRE PREVENTION AND CODE ENFORCEMENT

Anytown, Massachusetts

Remember, Fire Prevention, ***when done properly*** achieves what people enter the fire service to do:

- Prevent deaths
- Reduce injuries
- Reduce property loss

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AUTHORITY & JURISDICTION

- Your authority to enforce the Massachusetts Fire Prevention Regulations is found in Massachusetts General Laws, Chapter 148.



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LAWS, CODES & LOCAL ORDINANCES

NOTE: Not all c. 148 State Fire Prevention Laws apply to local jurisdictions

- Local Option laws exist
M.G.L. c. 148 § § 26H, 26I & 56
- Check with your City or Town Clerk to see if any of these laws have been adopted in your jurisdiction.



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LAWS, REGULATIONS & LOCAL ORDINANCES

Hierarchy

- United States Constitution
 - Federal Law
 - Code of Federal Regulations (CFR)
 - Massachusetts Constitution
 - Massachusetts General Laws (e.g. c. 148)
 - Code of Massachusetts Regulations
 - Referenced Standards (e.g. NFPA)
 - Local ordinances, bylaws, codes, etc.



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LAWS, CODES & LOCAL ORDINANCES

Local Bylaws and ordinances exist

- Generally approved by a municipal governing body (town meeting, etc.)
- Must be approved by the State Attorney General (towns only)

What local options exist in your jurisdiction?



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LAWS, CODES & LOCAL ORDINANCES

NOTE: As Fire Inspectors, we cannot make or create our own Fire Codes or regulations, which are inconsistent with existing codes and regulations



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LAWS, REGULATIONS & LOCAL ORDINANCES

Adoption of Fire Codes in Massachusetts

- M.G.L. c.148 § 10 – Board of Fire Prevention Regulations (BFPR) makes & amends regulations (527 CMR) [meet monthly]

Public hearings May & October

Anyone can petition BFPR for new regulation or change to existing regulations

Applicable Code Committees meet to discuss proposed changes and present to the Board



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PERMITS

The permit is an official document issued by the fire department to authorize the performance of a specific activity. Permits are used to control:

- Use, handling & storage of materials
- Manufacturing processes that are potential fire threat
- Installation of certain equipment
- Occupancies that pose a fire hazard or threat to life safety



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PERMITS

Granting & Revoking permits -
M.G.L. c 148 § 10A grants:

- Power to grant permits
- Power to inspect
- Power to revoke permits



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PERMITS

- The permit should be issued only if the operation or condition meets requirements for the jurisdiction
- The issuance of a permit is “predicated” on compliance
- Permits may be revoked if compliance is not met.



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PERMITS

527 CMR 1.00, Chapter 1 contains the permit tables and references.



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PERMITS

- Enforcement – Who? Inspections?
- Application – What form used?
- Conditions – Needed for? Good until?
- Can permits be revoked or suspended? If so, for what reasons?
- Where can you find a list of where permits are required?



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LICENSE vs. PERMITS

- Usually quantity based
 - Large quantities typically require licenses
 - Smaller quantities usually require permits
- Licenses granted by the local licensing authority
- Permits usually issued by the head of the fire department



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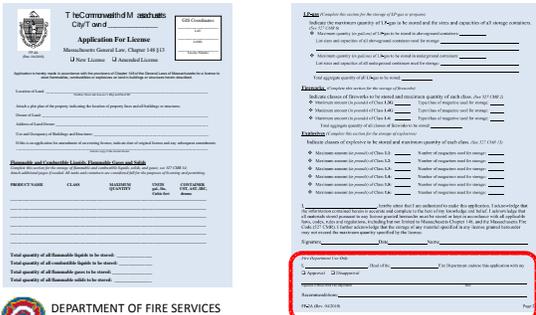
LICENSE PROCESS (FLAMMABLES, COMBUSTIBLES, EXPLOSIVES)

- Application to the licensing authority
- Approval or disapproval of the Head of the Fire Department
- Public hearing
 - Advertised in local newspaper (for not less than 7 days prior to hearing)
 - Notification to abutters by registered mail (for not less than 7 days prior to hearing)



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LICENSE PROCESS (FLAMMABLES, COMBUSTIBLES, EXPLOSIVES)




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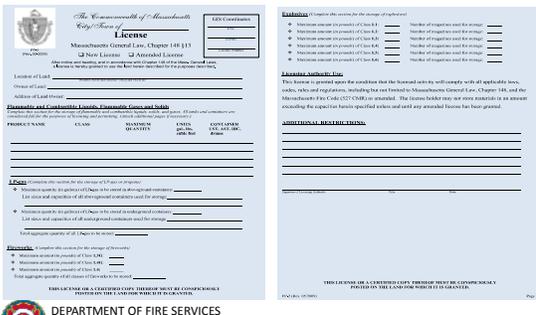
LICENSE PROCESS (continued)

- May be subject to terms and conditions prescribed in the license by the licensing authority
- Temporary licenses authorized
- Filed in the office of the City or Town Clerk
- License runs with the land, and is not a personal privilege
- Board of Fire Prevention Regulations authorized to establish license threshold quantities (permit vs. license)



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LICENSE PROCESS (continued)




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LICENSE PROCESS (continued)

- Appeals to the State Fire marshal by persons aggrieved by issuance of a license
 - Only if it constitutes a fire or explosion hazard
 - Must be filed within 10 days



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LICENSE AMENDMENT

- Same process as an original license
- Clarify that the existing license is being amended and a new license is not being issued.



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LICENSE REVOCATION

- For Cause (limited to public safety reasons by court decision)
- Notice to license holder
- Requires a public hearing



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ANNUAL REGISTRATION

- Required of license holders
- Filed with the City or Town Clerk
- On or before April 30th each year – Form FP-5
- Serves to notify the municipality of the person or entity currently exercising the license.



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PERMITTING IN ADDITION TO LICENSING

Why issue a permit in addition to a license?

- License revocation requires public hearing with advanced notice
- Permit revocation can be done by fire official at any time any violation occurs.

Reference 527 CMR 1.00



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PLAN REVIEW

The fire department has responsibility to:

- Develop plan review policies
- Review documents within established time frames
- Provide submitter with **written** reasons for non-acceptance

Reasons for non-acceptance should be specifically-based on law, code or standard
“Because I don’t like it” is not reason enough



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PLAN REVIEW

Fire Department Plan Review for construction is referenced in the Building Code

Turn to 780 CMR 107.1.2 of the Massachusetts Front End Amendments.



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PLAN REVIEW

Types of plans that may be reviewed:

- Construction Documents:
 - Site plans
 - Building plans
 - Fire alarm, sprinkler, mechanical, electrical, etc.
 - Product specifications
 - Performance narratives



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PLAN REVIEW

Types of plans that may be reviewed:

- Shop Drawings (usually for installation of small systems or equipment):
 - Scaled working drawings
 - Equipment cut sheets
 - Design calculations



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PLAN REVIEW

- Identifies discrepancies or deficiencies prior to start of construction
- Helps identify existing conditions needing correction before construction
- Helps with coordination of projects between various agencies/departments and the builder



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PLAN REVIEW

Substantial changes to plan after initial review will require submission of revised plans.

- Changes to fire protection systems should be submitted to fire department per 780 CMR
- Inspections should be conducted during construction to ensure work is completed as per approved plans
 - Inspections may result in discovery of other permits needed (e.g.: welding/cutting, propane, temporary heat, etc.)



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GOING FORWARD

YOU will be responsible for completing the on-line program prior to attending the next classroom session.



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GOING FORWARD

Become very familiar with:

- Massachusetts Comprehensive Fire Service Code
- 780 CMR/IBC – particularly sections 1~10 & 34
- M.G.L. c. 148
- IFSTA *Fire Inspection and Code Enforcement 7th ed.*



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FIRE PREVENTION OFFICER I

CLASSROOM MATERIAL:

For the next two classroom training sessions you will need to bring:

- M.G.L. c. 148 – up-to-date
- Massachusetts Comprehensive Fire Service Code
- 780 CMR – up-to-date
- IBC – 2009 edition
- NFPA 13*
- NFPA 25 *
- NFPA 72 *
- *Check 780 CMR for the correct edition.



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**Massachusetts Department
of Fire Services**

FIRE PREVENTION OFFICER I

Questions



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Fire Prevention Officer Level 1

Massachusetts Department
of Fire Services

FIRE PREVENTION OFFICER I
Module II
Background



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FIRE PREVENTION OFFICER I

Introductions:

- Fire Exits
- Restrooms
- Lunch/Breaks
- Instructors



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FIRE PREVENTION OFFICER I

MISSION STATEMENT:

To promote a consistent **understanding** and **enforcement** of Massachusetts Fire Prevention Laws and Regulations.



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FIRE PREVENTION OFFICER I

GOALS:

- To allow Fire Service Personnel an opportunity to become a Massachusetts Credentialed Fire Inspector, Level I.
- Provide classroom training and activities to enhance knowledge and understanding.
- Test knowledge through a written exam at completion of the program.



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FIRE PREVENTION OFFICER I

THE PROGRAM:

- A continuation of the program which you started several weeks ago
- Consists of four modules with activities, which have been modified to Massachusetts Laws and Regulations
- Final Exam – open book consisting of multiple-choice questions from M.G.L. c.148, 527 CMR 1.00 & 780 CMR



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THE INSPECTION PROCESS

In order to conduct a complete and thorough inspection, the inspector must possess a knowledge and understanding of:

- Fire and building safety laws, regulations and standards
- Building construction



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THE INSPECTION PROCESS

In order to conduct a complete and thorough inspection, the inspector must possess a knowledge and understanding of (continued):

- Fire behavior
- Hazardous materials
- Fire extinguishing systems



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THE INSPECTION PROCESS

Elements of a complete and thorough inspection report include:

- Inspection agency's name/address
- Inspector's name
- Date of inspection
- Name and address of occupancy



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THE INSPECTION PROCESS

Elements of a complete and thorough inspection report include (continued):

- Name/address/phone of occupant
- Name/address/phone of owner
- Name of person accompanying inspector during inspection



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THE INSPECTION PROCESS

Elements of a complete and thorough inspection report include (continued):

- Occupancy Classification
- Building Height & # of stories above and below grade
- Interior finishes



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THE INSPECTION PROCESS

Elements of a complete and thorough inspection report include (continued):

- Exit information
- Fire protection systems
- Inspection/test dates of systems/maintenance



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THE INSPECTION PROCESS

Inspection drawings/field sketches:

- Field sketches are used to create final inspection drawing
 - Plot plans
 - Floor plans
 - Elevation view



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THE INSPECTION PROCESS

Plot & floor plans should include the following:

- Location of building on property
- Orientation of the building
- Other structures on the property
- Dimensions of the building



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THE INSPECTION PROCESS

Plot & floor plans should include the following (continued):

- Access points to the property
- Locations of hazards
- Locations of fire-protection systems



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THE INSPECTION PROCESS

Plot & floor plans should include the following (continued):

- Building entrances and exits
- Obstructions to fire department access
- Designated fire lanes (plot plans)



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THE INSPECTION PROCESS

ACTIVITY 1:

WHY?

Learn the systematic inspection process

HOW?

As a team, outline the Inspection Process that would be used for the facility assigned by the instructor. Present your results to the group

TIME: 30 minutes – Team Activity
20 minutes – Group Presentation



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THE INSPECTION PROCESS

ACTIVITY 1:

Group 1 – Module II, Activity 1 – Group 1- nursing home
Group 2 – Module II, Activity 1 – Group 2 - manufacturing facility
Group 3 – Module II, Activity 1 – Group 3 - boarding house
Group 4 – Module II, Activity 1 – Group 4 - office building
Group 5 – Module II, Activity 1 – Group 5 - restaurant

TIME: 30 minutes – Team Activity
20 minutes – Group Presentation



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INSPECTION REPORTS

- Serve as a written record of inspections
- May become the basis of a legal action
- Must be written in an objective manner, not subjective



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INSPECTION REPORTS

- Present the facts of the inspection
- Draw conclusions
- Give code references for requirements or violations
- Justify any recommendations
- Provide timeline to correct violations
- Present information in a business-like manner



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INSPECTION REPORTS

Should be:

- Accurate & Specific
- Factual
- Objective
- Clear
- Complete



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INSPECTION REPORTS

Should be *(Continued)*:

- Concise
- Well organized
- Grammatically Correct
- Light on Abbreviations



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INSPECTION REPORTS

Common Problems with Inspection Reports:

- Confusing to someone that wasn't there
- Thoughts not presented in an organized manner
- Lack Detail (*Who, What, Where, When Why, How*)



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INSPECTION REPORTS

Common Problems with Inspection Reports
(Continued):

- Not clear & concise
- Poor grammar, punctuation & spelling
- Incorrect word usage



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INSPECTION REPORTS

Common Problems with Inspection Reports
(Continued):

- Use of terms and abbreviations reader (property owner, judge, etc.) may not be familiar with (e.g. fire service “lingo”)
- Inconsistency in style throughout the department.



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INSPECTION REPORTS

Remember, when writing any report, include:

- Who?
- What?
- Where?
- When?
- Why?
- How?



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INSPECTION & REPORTWRITING

ACTIVITY 2:

CONDUCTING AN INSPECTION.

Conducting an Inspection at an American Legion Hall after receiving a complaint.

Read the Module II, Activity 2 scenario

As a group, answer the questions.

ACTIVITY TIME: 20 MINUTES

DISCUSSION TIME: 10 MINUTES



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INSPECTION & REPORTWRITING

ACTIVITY 2 ANSWERS:

Determine any statutory or regulatory authority, which allows you as a fire official to conduct an inspection in this facility.

- **[M.G.L. c 148 § 4]**
- **[M.G.L. c 148 § 5]**
- **[527 CMR 1.00 chapter 1]**



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INSPECTION & REPORTWRITING

ACTIVITY 2 ANSWERS:

List violations of the Massachusetts Fire Prevention Regulations, which you have observed, if any.



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INSPECTION & REPORTWRITING

ACTIVITY ANSWERS 2:

- **780 CMR – IBC 1008.1.9.4 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.**
- **780 CMR – IBC 1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all time the building space is served by the means of egress is occupied.**



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INSPECTION & REPORTWRITING

ACTIVITY ANSWERS 2 (cont.):

If any are observed, which other official needs to be notified?

• Building Official per M.G.L. c.148 §28A & 527 CMR 1.00, Chapter 1



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INSPECTION & REPORTWRITING

ACTIVITY 3: REPORTWRITING.

- Each group will be assigned one of the following: *who, what, where, when, why?*
- Using the information obtained in Activity 2, write a portion of an inspection report.

ACTIVITY TIME: 20 MINUTES
DISCUSSION TIME: 10 MINUTES



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INSPECTION & REPORTWRITING

ACTIVITY 3:

WHO?

- Who reported the violation?
- Who took the complaint?
- Who is the property owner?
- Who is the property occupant or responsible party?
- Who is the person you conducted the inspection with?
- Who conducted the inspection?



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INSPECTION & REPORTWRITING

ACTIVITY 3:

WHAT?

- What did the complaint allege?
- What was done with the complaint?
- What were your actions as inspector?
- What did you observe during the inspection?
- What did you recommend/order as a result of the inspection?
- What actions did others take?
- What happens if the violations are not corrected?



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INSPECTION & REPORTWRITING

ACTIVITY 3:

WHERE?

- Where was the complaint received?
- Where was the complaint alleged to occur (location)?
- Where is the building located?
- Where in the building did you find violations?



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INSPECTION & REPORTWRITING

ACTIVITY 3:

WHEN?

- When was the complaint received?
- When were you notified of the complaint?
- When did you conduct the inspection?
- When did you order the violations corrected by?
- When is your follow-up inspection?



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INSPECTION & REPORTWRITING

ACTIVITY 3:

WHY?

- Why are you there?
- Why are these issues you discovered violations?
- Why do they need to be corrected?



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FIRE CODE COMPLIANCE AND ENFORCEMENT

- Highlights of Massachusetts General Laws, Chapter 148
- Highlights of 527 CMR 1.00
- Relationship between c. 148 & 527 CMR 1.00
- Compliance Strategies
 - Notice of Violation
 - Orders



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FIRE CODE COMPLIANCE AND ENFORCEMENT

- Enforcement Tools
 - Criminal Complaints
 - Civil Complaints Temporary Restraining Orders
 - Chapter 148A Tickets



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FIRE CODE COMPLIANCE AND ENFORCEMENT

M.G.L. Chapter 148 § 1 - Definitions

- Head of the Fire Department
- Marshal
- Building
- Structure



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Authority

- Head of the Fire Department is the enforcement authority
 - Statutory Basis - M.G.L. c. 148
 - Regulatory Basis – 527 CMR 1.00
 - Permitting/Licensing Powers – see generally c. 148 § 10A and 13
- Statutory Basis for a Chief's authority (in general):
 - Authority to enter premises (M.G.L. c. 148 § 4)
 - Authority to enter, investigate and issue orders, fines and penalties (M.G.L. c. 148 § 5)



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FIRE CODE COMPLIANCE AND ENFORCEMENT

M.G.L. c. 148 § 4 *Persons Authorized to Enter and Inspect Premises*

- In the performance of their duties pertaining to chapter 148, 527 CMR or any other law, ordinance or bylaw relating to fire prevention.
- The head of the fire department, the Marshal or their designees may enter at any reasonable hour any building or premises to make inspection or investigation without being held or deemed guilty of trespass.
- Contains quarterly inspection requirements.



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Fourth Amendment to the U.S. Constitution

- The right of people to be secure in their persons, houses, papers and effects against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath and affirmation, and particularly describing the place to be searched, and the persons or things to be seized.



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FIRE CODE COMPLIANCE AND ENFORCEMENT

M.G.L. c. 148 § 5 *Investigation of Premises for Fire Hazards; Remedy of Conditions*

- Authorizes the Marshal/head of the fire department or whoever has been **delegated in writing** to enter buildings or premises to investigate conditions, which may cause or become dangerous as a fire menace, or obstacles, which impede ingress and egress
- If such conditions are found they shall order those conditions to be remedied **in writing**



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Regulatory Basis for Chief's Authority

- Various Board of Fire Prevention Regulations (BFPR) authorities (see specific authorities – c. 148 § 9, 10, 10A, 13, 26F ½ and 22D § 4
- Specific authority of Chiefs granted by regulation
 - Enforcement authority – 527 CMR 1.00 , Chapter 1



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FIRE CODE COMPLIANCE AND ENFORCEMENT

527 CMR 1.00 Section 1.7.15.1

- The head of the fire department is authorized and empowered to take action to abate any dangerous or unsafe conditions
 - Constitutes a **FIRE OR EXPLOSION HAZARD**
 - Which is **DANGEROUS OR UNSAFE**
 - Or a **MENACE** to public safety



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FIRE CODE COMPLIANCE AND ENFORCEMENT

527 CMR 1.00 Section 1.7.15.1 (continued)

- Action to eliminate condition:
 - **NOT provided for in 527 CMR 1.00**
 - **UNLESS otherwise prohibited by law, ordinance, by-law, regulation (e.g.: 780 CMR, etc.)**
- Example: Interstate transportation



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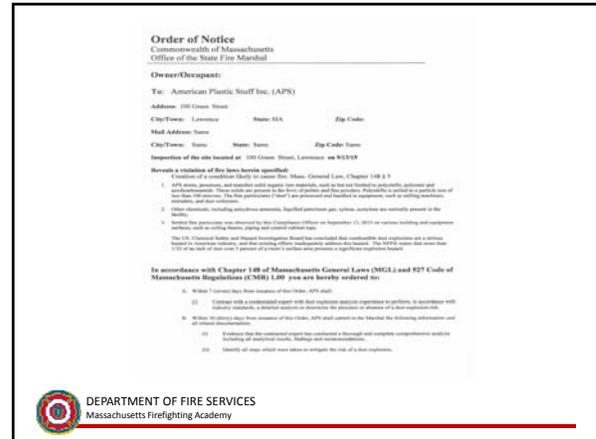
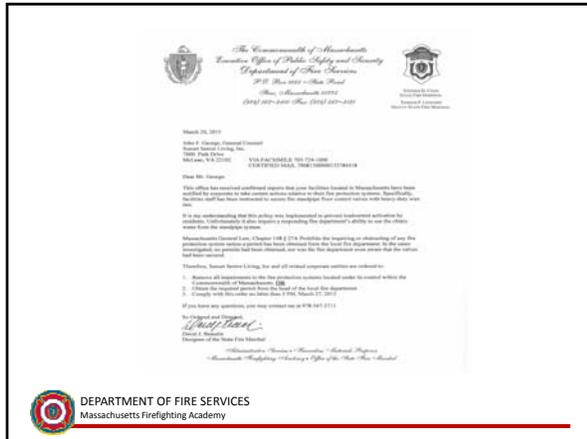
FIRE CODE COMPLIANCE AND ENFORCEMENT

Enforcement Authority 527 CMR 1.00

- The Marshal or heads of the fire department or their designees are charged with enforcing the fire prevention regulations
- Right of entry – M.G.L. c. 148 § 4 (without being deemed guilty of trespass)
- Coordinate inspections with building, electrical, health inspectors, etc. (eyes and ears!)



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FIRE CODE COMPLIANCE AND ENFORCEMENT

ORDER OF NOTICE

Fire Chief's Most Important Enforcement Tool

- Elements to write Order (requirements reflect common sense and due process requirements)
 1. In writing (M.G.L. c. 148 § 5)
 2. Properly addressed
 3. Accurate description of the facts which support the violation(s) (who, what, where, when, why, how)
 4. Precise legal/regulatory reference for the violation

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FIRE CODE COMPLIANCE AND ENFORCEMENT

ORDER OF NOTICE

Fire Chief's Most Important Enforcement Tool

- Elements to write Order (requirements reflect common sense and due process requirements) *(continued)*
 5. Date of issuance and signature
 6. Compliance date (use a date and time certain)
 7. Method of delivery (by hand or certified mail)
 8. Appeal rights (527 CMR 1.00 Section 1.10)

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FIRE CODE COMPLIANCE AND ENFORCEMENT

Fire Code Violations and the Court System

At times, you may be required to use the court system to obtain administrative warrants as well as to charge violators. The two courts that you may use are:

- Housing Court
 - Preferred court for fire violations, however,
 - Not all jurisdictions are served by a Housing Court
- District Court

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FIRE CODE COMPLIANCE AND ENFORCEMENT

The following slides contain the Rules of Thumb for all courts



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Fire Code/Law Violations and the Court System:

1. If in doubt, seek legal counsel
2. Know the court personnel
3. Cite the correct person/entity
4. Cite the correct property owner
5. BE PREPARED



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FIRE CODE COMPLIANCE AND ENFORCEMENT

1. If in doubt, Contact your legal counsel

- Department Counsel
- Town Counsel
- City Solicitor
- District Attorney's Office
- Attorney General's Office



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FIRE CODE COMPLIANCE AND ENFORCEMENT

2. Know your court's personnel

- Do a "meet and greet" before you need to use the court's services
 - Ask about any special procedures or rules
 - Obtain copies of any court-specific forms
 - Housing Court forms can be different for each court



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FIRE CODE COMPLIANCE AND ENFORCEMENT

2. Know your court's personnel

- Do a "meet and greet" before you need to use the court's services (*continued*)
 - Explain your responsibilities
 - Meet various court personnel
 - Housing Court – housing specialists
 - District Court – clerk magistrate and assistant clerk magistrate
 - Obtain court schedule



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Cite the correct party

- 3. Cite the legal entity – this may not always be the public name
 - Corporations, Limited Liability Corporations (LLC), Limited Partnerships (LP), Partnerships and/or Trusts, for example
 - www.sec.state.ma.us
 - www.masslandrecords.com or local Registry of Deeds
- 4. Cite the correct owner or responsible party
 - Don't cite an employee
- ****Failure to cite the correct party may result in dismissal****



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FIRE CODE COMPLIANCE AND ENFORCEMENT

5. Be Prepared!!!

- If seeking a civil order, be prepared with a list of what you are requesting the court to order
- Try to conduct a last minute inspection the day of your court appearance
- Be reasonable
- Be professional in your appearance and demeanor



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court

Chapters 143, **148** and 185C, jurisdiction under the provisions of common law and of equity and any other **general or special law, ordinance, by-law, rule or regulation** as is concerned **directly or indirectly with the health, safety, or welfare, or any occupant of any place used, or intended for use, as a place of human habitation...**



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court *(continued)*

...and the possession, condition, or use of any particular housing accommodations or household goods or services situated therein or furnished in connection there with...



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court *(continued)*

...or the use of any real property and activities conducted there on as such use affects the health, welfare and safety of any resident, occupant, user or member of the general public and which is subject to regulation by local cities and towns under the state building code, state specialized codes, state sanitary code, and other applicable statutes and ordinances.



FIRE CODE COMPLIANCE AND ENFORCEMENT

Massachusetts
Housing Court



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court

In all matters within their jurisdiction, the divisions of the housing court department shall have all the powers of the superior court department including the power to grant temporary restraining orders and preliminary injunctions as justice and equity may require....



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court *(continued)*
 ...The divisions shall have like power and authority for enforcing orders, sentences and judgments made or pronounced in the exercise of any jurisdiction vested in them, and for punishing contempt's of such orders, sentences and judgments and other contempt's of their authority, as are vested for such or similar purposes in the supreme judicial court or superior court department.



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court

- Massachusetts General Law Chapter 148 § 34D (as inserted by Chapter 304 of the acts of 2004)
- Grants the Housing Court (and District Court) equitable powers to enforce the lawful orders of the Marshal or the head of the fire department



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the Housing Court *(continued)*

- M.G.L. c. 148A (as inserted by Chapter 304 of the acts of 2004)
- Authority to hear direct appeals of "tickets" issued by the State Fire Marshal or State Building Inspector
- Authority to hear 2nd step appeals of tickets issued by local code enforcers



FIRE CODE COMPLIANCE AND ENFORCEMENT

Geographic Jurisdiction of the Housing Court



FIRE CODE COMPLIANCE AND ENFORCEMENT

Housing Court - Worcester Division

- Includes all of the cities and towns within Worcester County and
- The following communities:
 - Ashby (Middlesex County)
 - Bellingham (Norfolk County)
 - Hudson (Middlesex County)
 - Marlborough (Middlesex County)
 - Townsend (Middlesex County)



FIRE CODE COMPLIANCE AND ENFORCEMENT

Housing Court - Southeastern Division

- Includes all of the cities and towns within
- Plymouth County
- Bristol County



FIRE CODE COMPLIANCE AND ENFORCEMENT

Housing Court - Northeastern Division

- Includes all of the cities and towns located in Essex County and
- The following Middlesex County Communities
 - Acton, Ayer, Billerica, Boxborough, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Groton, Littleton, Lowell, Maynard, Pepperell, Shirley, Stow, Tewksbury, Tyngsboro, Westford



FIRE CODE COMPLIANCE AND ENFORCEMENT

Housing Court - Western Division

- Includes all of the cities and towns located in
 - Berkshire County
 - Franklin County
 - Hampden County
 - Hampshire County



FIRE CODE COMPLIANCE AND ENFORCEMENT

Housing Court *the "People's Court"*

- Housing Court is the most user-friendly branch of the court system
- The court has the highest percentage of pro se litigants (people representing themselves) of any court
- The court specializes in adjudicating cases involving safety and health codes
- The Housing Court is referred to as a "court of compliance"



COMMONWEALTH OF MASSACHUSETTS THE TRIAL COURT APPLICATION FOR CRIMINAL COMPLAINT TO ANY JUSTICE OR CLERK MAGISTRATE OF THE ABOVE NAMED COURT David J. Benadin, Code Compliance Officer, Office of the State Fire Marshal, on behalf of the Commonwealth, on oath complains that	HOUSING COURT DEPARTMENT WORCESTER COUNTY DIVISION NO. _____ STATUTE VIOLATED _____ POSSIBLE PENALTIES _____ _____ And did so willfully, intentionally, recklessly or repeatedly. DATE _____ SWORN TO BEFORE THE UNDERSIGNED CLERK MAGISTRATE OF THIS COURT. DATE _____ CLERK MAGISTRATE: _____
--	---



FIRE CODE COMPLIANCE AND ENFORCEMENT

Massachusetts District Courts



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the District Court

- The District Court hears a wide range of criminal, civil, housing, juvenile, mental health, and other types of cases.
- District Court jurisdiction extends to:
 - All felonies punishable by a sentence up to five years, and many other specific felonies with greater potential penalties
 - All misdemeanors
 - All violations of city and town ordinances and by-laws



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the District Court

- In felonies not within District Court final jurisdiction, the District Court conducts probable cause hearings to determine if a defendant should be bound over to the Superior Court
- District Court magistrates conduct hearings to issue criminal complaints and arrest warrants, and to determine whether there is probable cause to detain persons arrested without a warrant
- Both judges and magistrates issue criminal and administrative search warrants



FIRE CODE COMPLIANCE AND ENFORCEMENT

Legal Jurisdiction of the District Court- Civil Matters

- The District Court has equitable power to enforce the lawful orders of the Marshal and head of the fire department
- This is new for the District Courts
- Discuss with the Court prior to seeking an order



FIRE CODE COMPLIANCE AND ENFORCEMENT

Criminal Matters

- All violations of M.G.L. c. 148 and 527 CMR 1.00 are considered as criminal violations
- Process involves filing a request for Probable Cause or Show Cause Hearing with the Clerk Magistrate
- A hearing is scheduled at which time the fire official presents his or her case. The fire official may be cross examined by the defendant and or the defendant's legal counsel, and the defendant may present evidence.
- The Clerk Magistrate will then decide if enough evidence or probable cause has been shown to issue a complaint



The form is a legal document for filing a complaint. It includes sections for:

- Defendant Identification Information: Name, address, telephone, and other identifying details.
- Case Particulars: A section to describe the complaint, including the date, time, and location of the incident, and the nature of the violation.
- Court Use Only: A section for the court clerk to use, including checkboxes for 'NO PROSECUTE TO ISSUE' and 'PROSECUTE TO ISSUE', and a space for the clerk's signature and date.



FIRE CODE COMPLIANCE AND ENFORCEMENT

Criminal Matters

- If a complaint is issued, the defendant is scheduled for arraignment.
- You need to contact the District Attorney's Office if a complaint is issued.
- The defendant pleads guilty, not guilty or no contest
 - If the defendant pleads not guilty, the matter will be scheduled for pretrial conference and trial
 - In the event of guilty or no contest pleas, the case is disposed of by the judge



FIRE CODE COMPLIANCE AND ENFORCEMENT

Criminal Matters

- Cases may be continued without a finding (CWOF)
 - This is usually done when the violation has been corrected
- Cases may be continued for a specific time with the condition that the violations be corrected
 - The case is usually dismissed when the violations have been corrected.



FIRE CODE COMPLIANCE AND ENFORCEMENT

Equitable or Civil Matters

- The fire official files a “civil suit” against the offender, requesting that the court order the defendant to do “something” or refrain from doing “something”
- Documents must be served on the defendant by a civil process server (sheriff, constable)
- If the situation is very dangerous, you may ask the court to issue a Temporary Restraining Order (TRO). If you convince the court that this is necessary, the court can issue the TRO without hearing from the other side. A hearing will be scheduled within 10 days



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Commonwealth of Massachusetts
The Trial Court

Worcester, ss.

Housing Court Department
Worcester County Division
NO.

PLAINTIFF'S AFFIDAVIT/VERIFIED COMPLAINT AND
APPLICATION FOR TEMPORARY RESTRAINING ORDER

Plaintiff
David J. Beaudin, Code Compliance Officer
Commonwealth of Massachusetts
Department of Fire Services
Office of the State Fire Marshal
PO Box 389-One Prince Street
Northampton, MA 01060-0389
(413) 587-3181

v.
Defendant

Brief statement of facts:



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Based upon the specific facts set out above, I request that the Court order the Defendant(s) to cease and desist from the following.

I request that the Court specifically waive the requirements of rule 65(c) of the Massachusetts Rules of Civil Procedure that I provide security for the issuance of the above order(s) for the reason(s) that:

Plaintiff is requesting this order as an agent of the Commonwealth.

Signed and sworn to under the pains and penalties of perjury this

Day of _____

David J. Beaudin



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Civil Matters

- A hearing will be held. After hearing the evidence, the judge may issue an injunction
- Violations of TROs or injunctions are contempt. The judge is free to punish the contempt as he or she sees fit. This may include fines or jail until there is compliance



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Mediation

- Mediation is an informal, confidential process where a neutral person called a mediator acts to encourage and facilitate the resolution of a case without prescribing what it should be.
- In contrast to a judge or arbitrator who decides for the parties how a dispute will be resolved, a mediator (or conciliator) helps the parties reach their own mutually-acceptable and voluntary agreement.



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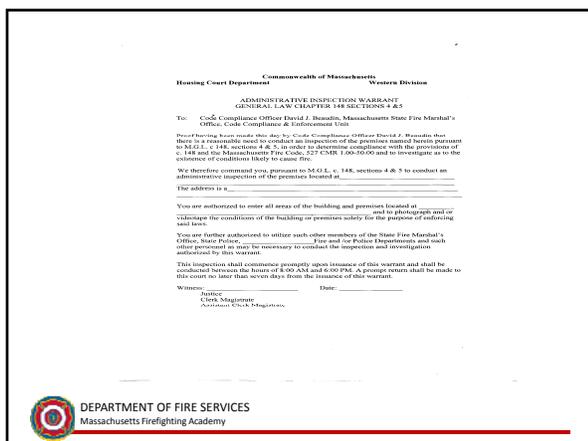
FIRE CODE COMPLIANCE AND ENFORCEMENT

Mediation

- The role of the mediator may include:
 - Assisting the parties in identifying the issues
 - Assessing and reviewing the relative strengths and weaknesses of their case
 - Determining common interests
 - Fostering joint problem-solving
 - Exploring settlement alternatives
 - Finalizing a settlement agreement



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FIRE CODE COMPLIANCE AND ENFORCEMENT

Remember the Rules of Thumb when using the court system:

- 1.If in doubt, seek legal counsel
- 2.Know the court personal
- 3.Cite the correct person/entity
- 4.Cite the correct property owner
- 5.BE PREPARED

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M.G.L. c.148A Alternative Non-Criminal Fire & Building Code Violation Procedures

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Reasons for 148A Procedures

1. MA Task Force Report on Fire & Building Safety – Sept. 2003 – in response to Station Nightclub Fire in R.I.

- ✓ Existing system is time consuming, cumbersome and confusing
- ✓ Discourage use of the court system by all parties
- ✓ New method allows for quick, simple enforcement methodology

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Reasons for 148A Procedures (continued)

2. Builds a “paper trail” of violations allowing enforcement personnel to concentrate efforts
3. Link violations with licenses, permits or certificates relating to the building or structure
4. Allows for a retained revenue source to target local training and enforcement efforts

M.G.L. c. 148A § 5 – Revenue to General Fund earmarked for Fire Department Training and Hearing Officer stipend

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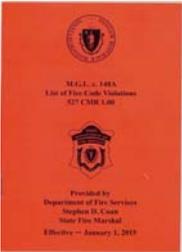
Ticketing/Code Enforcement Procedures (Major Features of Chapter 148A)

- ✓ New non-criminal procedures for local and state fire and building code enforcement officers.
- ✓ Applies only to violations of State Fire Code (527 CMR) and State Building Code (780 CMR)
- ✓ Municipalities are not required to utilize c. 148A procedures.
- ✓ If municipalities participate, hearing process must be established.

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Violations Subject To the New Procedures

- Fire Code (527 CMR 1.00) Approximately 150 violations contained in the violation reference book. (Revised January 1, 2015)




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MASSACHUSETTS NON-CRIMINAL FIRE CODE VIOLATION NOTICE
(Issued pursuant to M.G.L. c. 148A and 527 CMR 1.00)

Ticket #
7051-054008

Violator Name: _____ Address: _____ City/Town: _____ State: _____ Zip: _____

Violations: _____

Assessment: _____

Signature of violator or agent of the violator upon receipt: _____

SEE REVERSE SIDE FOR IMPORTANT INSTRUCTIONS

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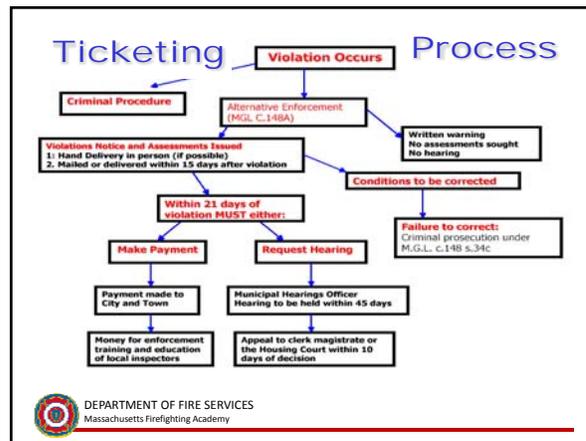
Setting Up the Process

- Designate a municipal hearing officer
- Set up local notices/hearing procedures
 - Case & fine tracking system
 - Notices
 - Hearing Procedures
 - Notice of decision/rights of appeal
- Acquiring the ticket books

Written certification by town or city manager or chairperson of Board of Selectmen that process has been established and hearing officer appointed.



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Massachusetts Department
of Fire Services

FIRE PREVENTION OFFICER I

Break

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Fire Prevention Officer Level 1

Massachusetts Department of Fire Services
FIRE PREVENTION OFFICER I
Module III
Life Safety



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LIFE SAFETY

EGRESS/OCCUPANT LOAD
LESSONS LEARNED

STATION NIGHTCLUB

VIDEO



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INSPECTING MEANS OF EGRESS

- It is important for a fire inspector to understand that the number, types, and locations of means of egress fall under the authority of 780 CMR, the Massachusetts State Building Code, and enforced by the Building Official.



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INSPECTING MEANS OF EGRESS

- Fire Code and Fire Laws require fire department inspection of means of egress to verify means of egress is being ***maintained.***
- Building Code is used to determine required egress arrangement – reviewed/approved by Building Inspector
- Inspection and evaluation of egress needs to consider not only occupant egress, but also fire department access.



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INSPECTING MEANS OF EGRESS

- The fire inspector should be aware of the egress requirements in 780 CMR, the Massachusetts State Building Code.
- The Head of the FD, or designee who, "in the performance of his official duties, observes any condition which he **believes** to be a violation of any provision of 780CMR, shall report the same to the authority charged with the enforcement of such provisions." [emphasis added] (M.G.L. c. 148 s28A & 527 CMR 1.00))



INSPECTING MEANS OF EGRESS

Improper egress components have played a large part in a number of fire deaths. It is important that although the Fire Inspector does not enforce the Building Code, that they be aware of the requirements for egress components so that they can easily recognize changes or other egress problems.



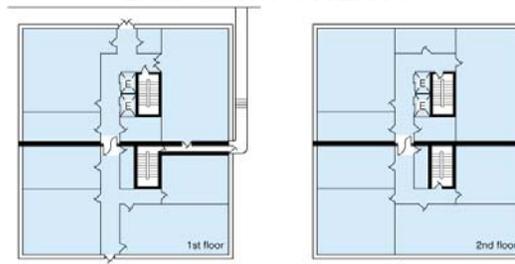
EXIT COMPONENTS

EXIT ACCESS

- That portion of a means of egress that leads to an exit.



EXIT COMPONENTS



Blue shading indicates EXIT ACCESS portion of means of egress



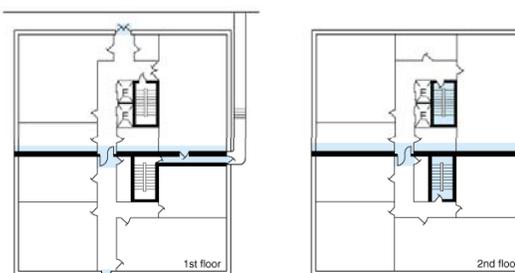
EXIT COMPONENTS

EXIT

- That portion of a means of egress that is separated from all other spaces of the building or structure by construction or equipment to provide a protected way of travel to the exit discharge.



EXIT COMPONENTS



Blue shading indicates EXIT portion of means of egress



EXIT COMPONENTS

EXIT DISCHARGE

- That portion of a means of egress between the termination of an exit and a **public way**.

EXIT COMPONENTS



EXIT COMPONENTS



EXIT COMPONENTS

PUBLIC WAY

- Any street, alley, or similar parcel of land essentially open to the outside air deeded, dedicated, or otherwise permanently appropriated to the public for public use and having a clear width and height not less than ten (10') feet. 780 CMR 1002

FIRE ESCAPES

- Fire escape stairs are found on many existing buildings.
- Fire escape stairs **shall not** constitute any of the required means of egress for **new construction**.

FIRE ESCAPES

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FIRE ESCAPES

Testing and Certification:

- Examined and/or tested every 5 years
- Certified for structural adequacy & safety
- By registered design professional or others qualified and acceptable to **building official**
- Shall submit affidavit to **building official**
780 CMR 1001.3.2 (front end amendment)

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THE NUMBER AND ARRANGEMENT OF MEANS OF EGRESS

- Minimum number of means of egress from a building or space. 780 CMR 1021
- Travel distance to exits. 780 CMR 1016
- Arrangement of means of egress. 780 CMR 1000
- Common paths of travel. 780 CMR 1018
- Dead ends 780 CMR 1018
 - Egress from an exit
 - Visibility of an exit

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THE NUMBER AND ARRANGEMENT OF MEANS OF EGRESS

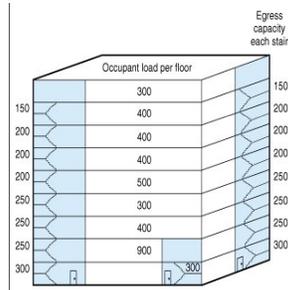
Special Considerations:

- Multiple Stories
- Convergence from floors above and below
- Balconies and mezzanines

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MULTIPLE FLOORS

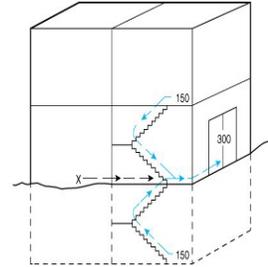
It is not necessary to accumulate required egress capacity from floor to floor; there cannot be any decrease in capacity in the direction of egress travel 780 1004.4



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INTERMEDIATE FLOORS

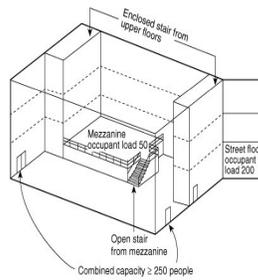
Convergence from floors above and below requires accumulation of required egress capacity 780 CMR 1004.5



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BALCONIES AND MEZZANINES

Where any required egress capacity from a balcony or mezzanine pass through the room below, add the two required capacities to determine the total capacity needed.



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HOW MANY EXITS ARE REQUIRED?

Determined by type:

- Occupancy type
- Occupant load
- Travel distance

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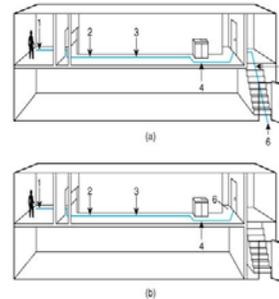
TRAVEL DISTANCE

- The distance to the nearest exit from within an occupied space.
- Measured from the most remote occupiable point.
- Along the available path of travel.

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MEASURING PATH OF TRAVEL

- Start at the most remote point
- Measure along centerline of natural path of travel
- End at exit

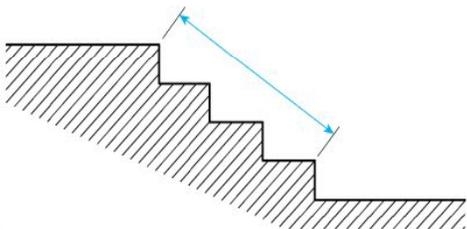


780 CMR 1016

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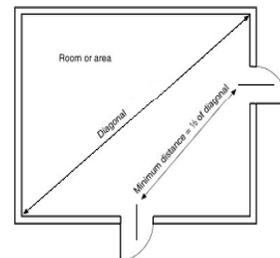
MEASURING PATH OF TRAVEL

- Stairs – over the plane of tread nosings.



ARRANGEMENT OF EGRESS

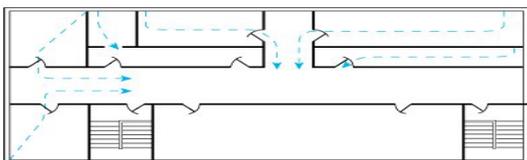
- New Construction.
- Exits separated by $\frac{1}{2}$ the max. diagonal distance.
- For sprinkled buildings the factor is $\frac{1}{3}$.
- Where there are more than two exits at least two must comply.
- Separation measured from centerline of one door directly to the centerline of the other door.



780 CMR 1015.2.1

COMMON PATH OF TRAVEL

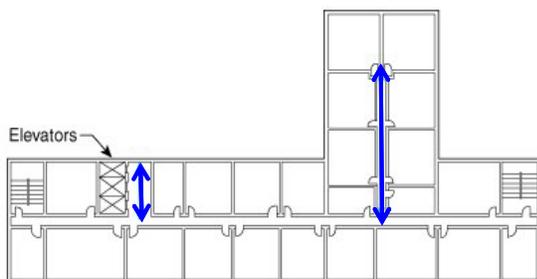
- Common path – portion of exit access prior to separate path of travel.
- Measured the same as travel distance.
- Ends at point where there is a choice of separate paths.



DEAD END CORRIDORS

A condition where an occupant may enter a corridor or space thinking there is an exit at the end and, finding none, must retrace his/her path to again reach a choice of exits.

DEAD ENDS



IS THE EGRESS CAPACITY SUFFICIENT?

Are there enough exits, with sufficient capacity, to accommodate the maximum occupant load?

CALCULATING CAPACITY

1. Determine occupant load
2. Determine clear width of components
3. Determine capacity of components
4. Determine most restrictive component
5. Determine if egress capacity is sufficient.



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OCCUPANT LOAD

- Calculated occupant load provides the number of anticipated occupants.
- Egress must be provided for all anticipated occupants
 - Shall include all staff, entertainers, and crew.



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CALCULATING OCCUPANT LOADS

Calculation by Building Official

- Information required:
 - Use Group
 - Occupant load factor
 - Gross or Net area
 - Applicable floor area



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USE AND LOAD FACTORS

- Use determined by the use of the **space**, not building occupancy classification.
- Uses and load factors in 780 CMR Table 1004.1.1



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USE AND LOAD FACTORS

TABLE 1004.1.1

(for assembly use):

Assembly without fixed seats:

- *Concentrated (chairs only, not fixed)* **7 net**
- *Standing Space* **5 net**
- *Unconcentrated (tables & chairs)* **15 net**



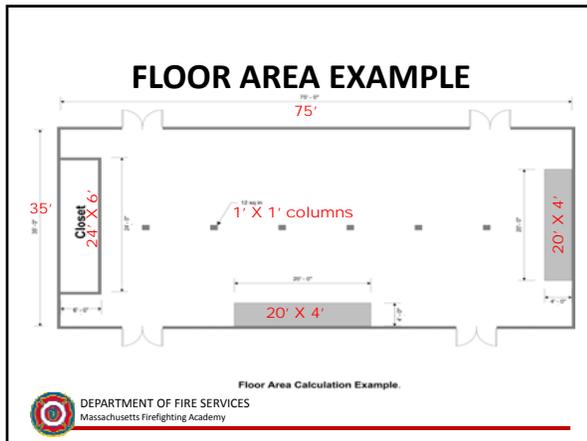
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FLOOR AREAS

- Gross – applies to the area within the exterior walls of the building
- Net – Applies to the actual occupied spaces, not including areas occupied by walls, or other “built-ins”



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FLOOR AREA EXAMPLE

Gross floor area:
75' X 35' = 2,625 sq. ft.

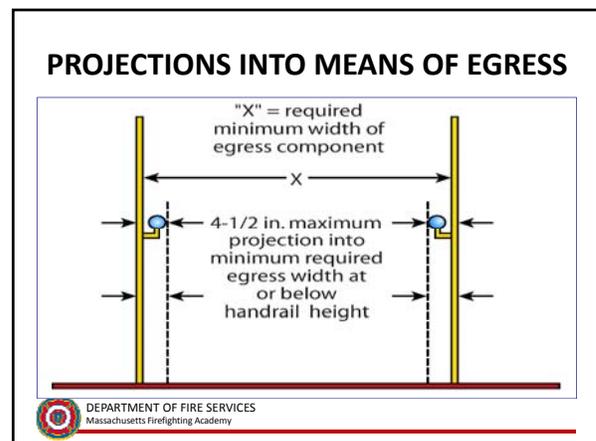
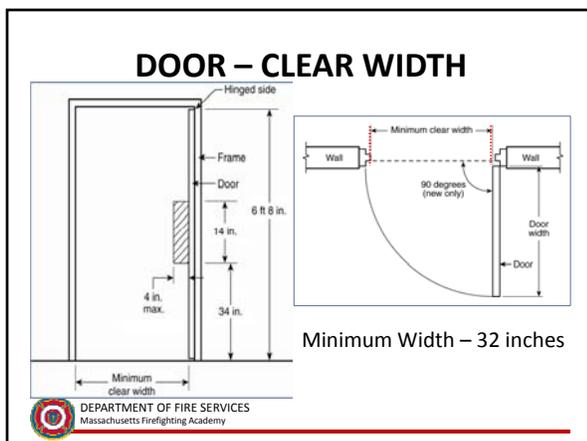
Net Floor area:

Closet:	24' X 6' = 144 sq. ft.
Counter area (2)	20' X 4' = 80 sq. ft. X 2 counters = 160 sq. ft.
Encased columns (6)	1' X 1' X 6 columns = 6 sq. ft.
	Total "Built-ins" 310 sq. ft.

GROSS AREA	2,625 sq. ft.
"Built-ins" area	- 310 sq. ft.
FLOOR NET AREA	2,315 sq. ft.

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- ### CLEAR WIDTH
- Width of means of egress is measured in the clear at the narrowest point of the exit component under consideration.
 - Exceptions: Between 27 and 80 inches in height, projections not more than 4" on each side are permitted (for doors, the projection is allowed between 34 and 80 inches in height). Handrails are permitted to project 4 ½ inches.
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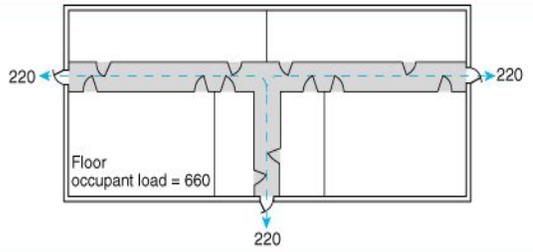
PROJECTIONS INTO STAIRS

- Measure clear width above hand rail
- Projections not more than 4 ½ inches permitted on each side for handrails (but no more than 7 inches combined)



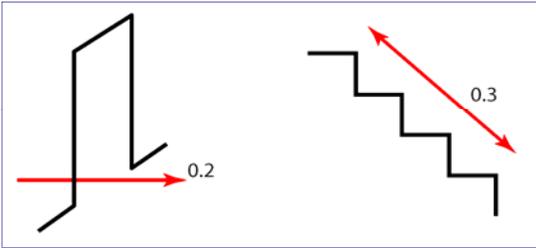
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CAPACITY OF CORRIDORS



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CAPACITY FACTORS



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DETERMINE MOST RESTRICTIVE COMPONENT

Component	Clear Capacity Width (inches)	Capacity Factor (in. per person)	Max. #
Corridor	60"	÷ 0.2	= 300
Door to stair	32"	÷ 0.2	= 160
Stair	44"	÷ 0.3	= 147
Door to outside	32"	÷ 0.2	= 160
Sidewalk	48"	÷ 0.2	= 240

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CAPACITY SUFFICIENCY

Capacity ≥ maximum occupant load

Example:

- Occupant load of 320
- 2 Means of Egress – each with capacity of 147

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DISTRIBUTION OF EGRESS CAPACITY

Each exit must provide ≥ 50% of egress required

With 1 exit blocked remaining 2 must provide ≥ 50% of egress required

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INSPECTING AND EVALUATING MEANS OF EGRESS

- Components and their maintenance
- Size or capacity
- Number and arrangement
- Identification and lighting

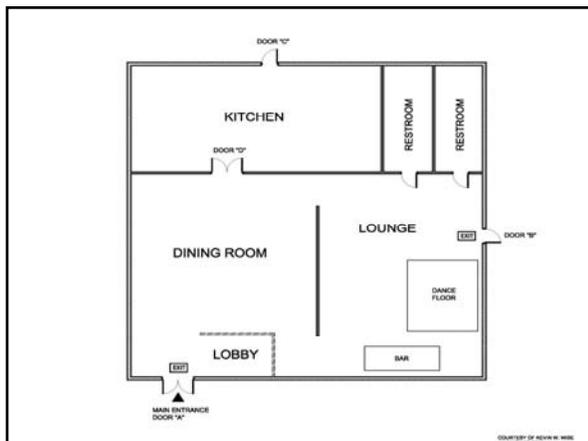


EGRESS

MODULE III, ACTIVITY 1:

As a fire inspector, you go to a local restaurant, an A-2 occupancy, to conduct an inspection. The following diagram depicts the layout of the building. The building official has posted an occupant load for the building.

TIME: 20 MINUTES



EGRESS

MODULE III, ACTIVITY 1:

1. Based upon a posted occupant load of 350, does the building have a sufficient number of exits? Explain
2. Based upon a posted occupant load of 600, does the building have a sufficient number of exits? Explain
3. If you feel that the building does not have a sufficient number of exits, what should your course of action be?



EGRESS

MODULE III, ACTIVITY 1 ANSWERS:

Based upon a posted occupant load of 350, does the building have a sufficient number of exits? Explain

Yes. 780 CMR – IBC 1021.1 refers to table 1021.1 which says:

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS(per story)
1-500	2
501-1000	3
More than 1,000	4



EGRESS

MODULE III, ACTIVITY 1 ANSWERS:

Based upon a posted occupant load of 650, does the building have a sufficient number of exits? Explain

NO. 780 CMR – IBC 1021.1 refers to table 1021.1 which says:

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS(per story)
1-500	2
501-1000	3
More than 1,000	4



EGRESS

MODULE III, ACTIVITY 1 ANSWERS:

If you feel that the building does not have a sufficient number of exits, what should your course of action be?

[Notify the building official per 527 CMR 1.00, Chapter 1]



EGRESS

MODULE III, ACTIVITY 2 – Egress Concern:

You are notified by a company officer that a former lawyer's office in a strip mall has been converted into a retail space. You meet with the manager of the retail space and observe the following:

1. The small space which the lawyer had previously occupied has been expanded into another space in the strip mall, nearly tripling the size now occupied by the retail space.
2. It was the store's grand opening during your visit, and you counted 86 occupants.
3. Due to the size and travel distance, the lawyer's office only had one means of egress. Although the space was expanded, only one exit still remains. You note that the travel distance from the furthest part of the occupancy is 148'.

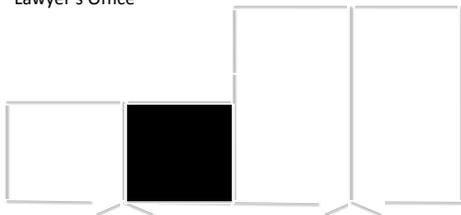
TIME: 15 MINUTES



EGRESS

BEFORE

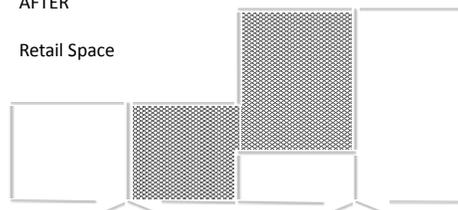
Lawyer's Office



EGRESS

AFTER

Retail Space



EGRESS/OCCUPANT LOAD LESSONS LEARNED

Year	Occupancy	STATION NIGHTCLUB Name	Capacity
1969	Restaurant	Red Fox Inn	50
1981	Restaurant	Papa Brillo & Sons	161
1991	Sports Bar	Crackerjacks	225
1999	Night Club	Station	258/317 (if tables and chairs removed from three lounge areas)
2000	Night Club	Station	7 sq. ft. per occupant 404 (when tables and chairs removed from all areas & fire detail provided – 5 sq. ft. per occupant)

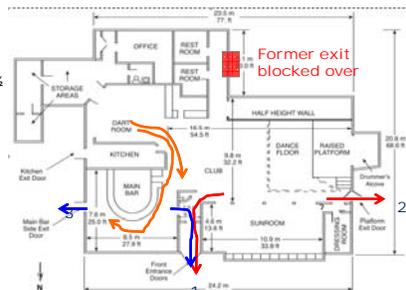
2/20/03 2304 hours [Estimated occupancy 440-462](#)



EGRESS/OCCUPANT LOAD LESSONS LEARNED

- Main Entrance:
- 2 – 36" wide doors
 - 13'6" corridor
 - 1 – 36" wide door ½ way down corridor
 - Width restricted at ticket booth

- 2nd Egress (near dressing room):
- 1 – 36" door – opened out
 - 1 – 36" door – opened in
 - "Band use only"

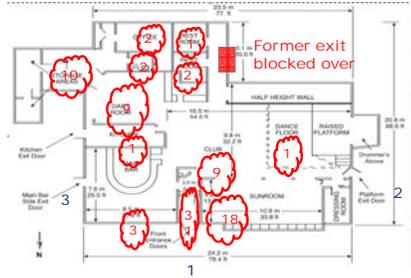


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EGRESS/OCCUPANT LOAD LESSONS LEARNED

Main Entrance:
 • 2 – 36" wide doors
 • 13' 6" corridor
 • 1 – 36" wide door ½ way down corridor
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2nd Egress (near dressing room):
 • 1 – 36" door – opened out
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 • "Band use only"



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Fire Prevention Officer Level 1

Massachusetts Department of Fire Services
FIRE PREVENTION OFFICER I
Module IV
Fire Protection Systems



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FIRE PROTECTION SYSTEMS

- Water Based
- Special Agent
- Fire Detection and Alarm
- Portable Fire Extinguishers



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WATER BASED SYSTEMS

Automatic Sprinklers – Installation requirements:

- 780 CMR Chapter 9
- M.G.L. c.148 § 26, 26A ½, 26G, 26 G ½ , 26H, 26I



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WATER BASED SYSTEMS

Automatic Sprinklers – Installation standards:

- NFPA 13, 13R, 13D



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WATER BASED SYSTEMS

Automatic Sprinklers – Types of systems:

- Wet Pipe
- Dry Pipe
- Deluge
- Preaction



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WATER BASED SYSTEMS

Standpipe Systems – Installation requirements:

- 780 CMR Chapter 9
- NFPA 14



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WATER BASED SYSTEMS

Inspection, testing and maintenance:

- NFPA 25



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INSPECTION, TESTING & MAINTENANCE OF WATER BASED SYSTEMS

- Owner is responsible for maintenance and keeping system in good working order
- System must be maintained to provide the protection and performance as designed
- NFPA 25 applies



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INSPECTION, TESTING & MAINTENANCE OF WATER BASED SYSTEMS

Fire Inspectors **DO NOT** perform tests and maintenance on water-based systems. Inspectors should be able to:

- Recognize problems
- Analyze inspection, test and maintenance reports to identify potential problems



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WATER BASED SYSTEMS

Water Supply – Every system shall have at least one automatic water supply:

- Connection to public or private water supply,
- Automatic fire pump,
- Storage tank or Pressure tank,
- Cistern or Elevated tank



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WATER SUPPLY

- Evaluation of water supply data is a required skill of the Fire Inspector I
- Water supply must be capable of supplying required flow and pressure for the required duration.



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WATER SUPPLY

MODULE IV, ACTIVITY 1:

As a Fire Inspector, you need to be familiar with the requirements of NFPA 13

As a team, review the water supply information provided on the activity sheet.

TIME: 20 MINUTE ACTIVITY
10 MINUTE DISCUSSION



WATER SUPPLY

ACTIVITY 1:

You receive information from a company officer that his company responded to a fire alarm at a 44,000 sq. ft., 10 year old building that was primarily an office building (QUANTITY AND COMBUSTIBILITY OF CONTENTS IS LOW AND FIRES WITH RELATIVELY LOW RATES OF HEAT RELEASE ARE EXPECTED). The fire officer reports that a new clothing store (QUANTITY AND COMBUSTIBILITY OF CONTENTS ARE MODERATE TO HIGH) had recently moved in.



WATER SUPPLY

ACTIVITY 1:

Upon check the hydraulic information sign at the sprinkler system, you notice the following data:

- Design of the sprinkler system: 0.10 GPM/ sq. ft. over 1,500 sq. ft.
- Base of the riser demand is 222 GPM @ 33 psi
- Spacing is 130 sq. ft. per head
- 1/2" sprinkler heads were utilized.

- Is the existing protection adequate? Explain how you came to this conclusion.
- What should you do?



WATER SUPPLY

Activity Answers

Is the existing protection adequate? Explain how you came to this conclusion.

NO



WATER SUPPLY

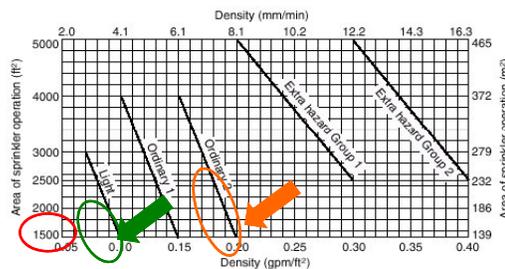
Activity Answers (continued)

NFPA 13 5.2 An office is a light hazard occupancy
NFPA 13 5.3.2 A store is an ordinary hazard group II occupancy
NFPA 13 Figure 11.2.3.1.1
 Office - LIGHT HAZARD is 0.10 GPM/sq. ft. over 1,500 sq. ft.
 Clothing store - ORDINARY HAZARD GROUP II is 0.20 GPM/sq. ft. OVER 1,500 sq. ft.
 Therefore, the system is inadequate because the store has a greater sprinkler demand than the system is designed for.



WATER SUPPLY

Activity Answers (continued)



WATER SUPPLY

Activity Answers (continued)

What should you do?

Notify the building official of a potential change of use



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WATER BASED SYSTEMS

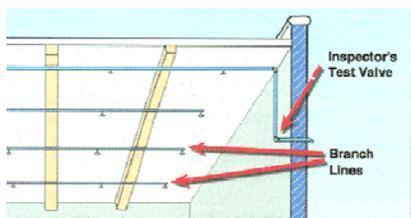
Test Valves – Inspector’s Test:

- 1” test pipe with orifice same size as sprinkler at most remote point in system
- Simulates flow of a single sprinkler head
- Opening valve should result in alarm within 5 minutes (NFPA 13 24.2.3.1)



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WATER BASED SYSTEMS



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WATER BASED SYSTEMS

Test Valves – Main Drain:

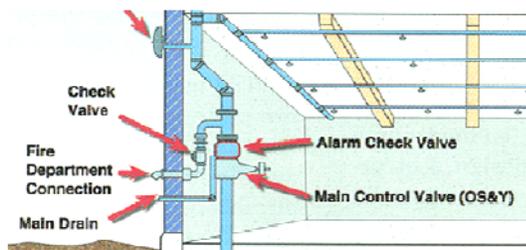
- Installed on riser
- Used to determine if major reduction in water flow to system

A large drop in full flow pressure on main (compared to previous tests) is indicative of a dangerously reduced water supply



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WATER BASED SYSTEMS



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SPRINKLER SYSTEM REQUIREMENTS

- Various commodities present challenges to fire protection systems
- Hazards produced by these commodities require varying fire sprinkler designs to meet these challenges



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SYSTEM DESIGN CONSIDERATIONS

- Occupancy considerations
- Commodity classification
- Water demand requirements
- Documentation regarding considerations used in the design of the system should be reviewed by the fire inspector



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SYSTEM DESIGN CONSIDERATIONS -OCCUPANCY CLASSIFICATION

- The occupancy classifications of NFPA 13 relate only to the design and installation of the sprinkler system
- Not intended to be a general classification of occupancy hazard



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SYSTEM DESIGN CONSIDERATIONS – OCCUPANCY CLASSIFICATION

Classifications are based on:

- Quantity and combustibility of contents
- The expected heat release rate (HRR) of the contents
- The potential for energy release
- The height of stockpiles
- The presence of flammable and combustible liquids



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SPRINKLER SYSTEM REQUIREMENTS

MODULE IV, ACTIVITY 2:

Learn the hazard and commodity classifications of NFPA 13 and the associated requirements

Activity:

As a group complete the worksheet provided. Refer to NFPA 13 Section 5, as well as related Annex and Tables

Time: 20 minutes activity
5 minute discussion



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STANDPIPE SYSTEMS

Types of Standpipe Systems:

- Automatic – Wet NFPA 14 3.3.12.1
- Automatic – Dry NFPA 14 3.3.12.3.1
- Semiautomatic – Dry NFPA 14 3.3.12.5
- Manual – Dry NFPA 14 3.3.12.3.2
- Manual – Wet NFPA 14 3.3.12.6



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STANDPIPE SYSTEMS

Required System Documentation:

- Contractor's Materials and Test Certificates
- NFPA 25
- Manufacturer's Literature and instructions for all devices and equipment installed
- A copy of the approved plans
- Hydraulic design data and calculations



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STANDPIPE SYSTEMS

Inspection, Testing & Maintenance:

- Owner responsible for maintenance and keeping system in good working order
- System must be maintained to provide the protection and performance as designed
- NFPA 25 applies



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INSPECTION, TESTING & MAINTENANCE OF WATER BASED SYSTEMS

Causes of failures:

What are any potential causes of failures of water-based systems?



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INSPECTION, TESTING & MAINTENANCE OF WATER BASED SYSTEMS

Causes of failures:

- Closed/partially closed valves
- Obstructed water supply
- Improper design
- Obstructed/Blocked discharge devices
- Change in occupancy
- Partial protection



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WATER BASED SYSTEMS

MODULE IV, Activity 3:

As a team, locate the requirements in NFPA 25 relevant to the water-based suppression systems testing & Maintenance requirements assigned. Include any additional references found that support that requirement. Each team will give a presentation.



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WATER BASED SYSTEMS

Activity 3:

- Automatic Sprinkler Systems
- Standpipe & Hose Systems
- Fire Pumps
- Foam/Water Sprinkler Systems
- Water Storage Tanks

Activity: 15 minutes
Presentations: 10 minutes



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SPECIAL AGENT SYSTEMS

- Dry Chemical
- Wet Chemical
- Halon
- Clean Agent (Halon replacement)
- Carbon Dioxide (CO₂)
- Foam Agent
- Water mist
- Review IFSTA Chapt. 10 *Fire Inspection and Code Enforcement*



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SPECIAL AGENT SYSTEMS

Basic Components

- Agent
- Expellant gas
- Storage for agent and expellant
- Delivery method
- Application/dispersal devices
- Detection/activation devices
- controller




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SPECIAL AGENT SYSTEMS

UL 300 – Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking areas

- In response to changes in cooking products and equipment that have resulted in fire that are:
 - Hot
 - Stubborn
 - Difficult to Extinguish


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FIRE DETECTION AND ALARM SYSTEMS

Fire Detection & Alarm System– Installation requirements:

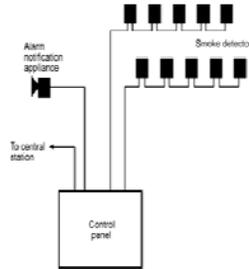
- 780 CMR Chapter 9
- NFPA 72 – National Fire Alarm Code
- Review IFSTA Chapter 11 *Fire Inspection and Code Enforcement*


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FIRE DETECTION AND ALARM SYSTEMS

Basic system components:

- Initiating
 - Manual
 - Automatic
 - Supervisory
 - Other Systems
- Control/Processing
- Notification




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FIRE DETECTION AND ALARM SYSTEMS

Notification:

- Occupant
- Staff
- Off premises
- Emergency force
- Other systems


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FIRE DETECTION AND ALARM SYSTEMS

Occupant Notification:

- Intended to provide stimuli to initiate an emergency action – NFPA 72 (2010), Chapter 18
 - Audible
 - Visible
- Staff notification to take specific action


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FIRE DETECTION AND ALARM SYSTEMS

Off Premises Notification:

- Requirements in Chapter 23
- Beyond the local function of occupant notification
- Can be made to:
 - Central Station
 - Proprietary supervising station
 - Remote supervising station



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FIRE DETECTION AND ALARM SYSTEMS

Fire Safety Functions Requirements in Chapters 21 & 26:

- Elevator control
- Door release
- Stairway pressurization
- Smoke management
- Emergency lighting
- Unlocking egress doors



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FIRE DETECTION AND ALARM SYSTEMS

Causes of failures:

What are any potential causes of failures of fire alarms and fire detection systems



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FIRE DETECTION AND ALARM SYSTEMS

Causes of failures:

- Faulty flow switch
- Lack of Maintenance
- Water in conduit
- Power failures
- Battery failure
- Vandalism



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FIRE DETECTION AND ALARM SYSTEMS

Causes of failures (*continued*):

- Detector/device failure
- Poor installation
- Detectors too sensitive
- Use of incorrect equipment
- Telephone line trouble/failure



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FIRE DETECTION AND ALARM SYSTEMS

Activity 4:

Follow the instructions on the Module IV, Activity 4 hand-out.

Activity: 20 minutes



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PORTABLE FIRE EXTINGUISHERS

Requirements for fire extinguishers are found in:

- 780 CMR, 8TH edition, section 9.06 (currently no FEAs)
- 527 CMR 1.00, Section 13.6



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PORTABLE FIRE EXTINGUISHERS

527 CMR 1.00, Section 13.6 provides:

- Minimum ratings required
- Floor area for coverage
- Maximum travel distances to extinguishers



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PORTABLE FIRE EXTINGUISHERS

Extinguisher placement based on:

- Hazard classification
- The class of fire expected
- The process or operation being performed
- Travel distance to nearest unit



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PORTABLE FIRE EXTINGUISHERS

Operational Readiness:

- Fire extinguisher sign above unit
- Unit in designated place
- Correct type for location/hazard
- Not blocked or obstructed
- Has not been actuated or tampered with
- No physical damage
- Pressure within limits (if equipped with gauge)
- Inspection tag present



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Massachusetts Department of
Fire Services

FIRE PREVENTION OFFICER I

Break



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Fire Prevention Officer Level 1

Massachusetts Department of Fire Services

FIRE PREVENTION OFFICER I
Module V
Storage, Handling and Use of Hazardous Materials




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WHAT IS REGULATED?

- The Storage, Handling and Use of certain hazardous substances are regulated in 527 CMR 1.00
- The Inspector should have an understanding of the Massachusetts regulations, and the related NFPA codes and standards, which are adopted by reference.



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WHAT IS REGULATED?

ACTIVITY 1:
Develop an understanding of the materials and processes that are regulated by fire codes.

What is Regulated?

INSTRUCTIONS: Research *Material or Process* listed on Module V, Activity 1 worksheet found in 527 CMR 1.00. Provide the 527 CMR 1.00 chapter, and all NFPA references, if applicable.

TIME: 20 MINUTES ACTIVITY
5 MINUTE DISCUSSION



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WHAT IS REGULATED?

COMBUSTIBLE FIBERS
CNG CONT. & SYSTEMS
CROP RIPENING
EXPLOSIVES

FLAMMABLE & COMBUST.
LIQ. & FLAMM. & COMBUST
GASES & SOLIDS



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WHAT IS REGULATED?

ACTIVITY 1 ANSWERS (continued):

FLAMMABLE LIQ. IN
BULK PLANT LOAD/UNLOAD
HAZ-MAT PROCESSING
LP GAS SYSTEMS
FIREWORKS

MODEL ROCKETRY



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WHAT IS REGULATED?

ACTIVITY 1 ANSWERS (continued):

PESTICIDE STORAGE

REFUELING –

SERVICE STATIONS/
GARAGES

TANKS/CONTAINERS

WELDING/CUTTING



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FIRE PREVENTION AND FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES

- M.G.L. c.148 §13 addresses licensing.
- 527 CMR 1.00 Chapter 1 addresses the permitting, licensing, and storage of flammable and combustible gases, liquids and solids.
- Storage is addressed in various sections of 527 CMR 1.00 Chapter 66



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FIRE PREVENTION AND FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES

ACTIVITY 2:

Determine various requirements for license, permitting, use and storage of flammable and combustible liquids and flammable gases and solids.

As a group complete the questions on the activity sheet provided by your instructor. Be prepared to discuss.

TIME: 15 MINUTES ACTIVITY
5 MINUTES DISCUSSION



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FIRE PREVENTION AND FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES

CLASS DISCUSSION:

A local golf course in your jurisdiction has a permit to store up to 8,000 gallons of gasoline in an underground storage tank. The golf course uses the storage to fuel its ground maintenance equipment. The permit to store was initially issued by the Fire Department in 1986.



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FIRE PREVENTION AND FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES

CLASS DISCUSSION:

Recent expansion of the golf course has resulted in higher usage of fuel due to an increase in the number of grounds maintenance vehicles and gasoline-powered golf carts. The owners have proposed a 3,000 gallon above-ground vault for their additional gasoline storage, and have submitted plans for a permit.



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FIRE PREVENTION AND FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES

527 CMR 1.00 Section 1.12.8.50.2

“The activities and aggregate quantities listed in Table 1.12.8.50 shall be used in determining permit and/or license thresholds.”



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**FIRE PREVENTION AND FLAMMABLE
AND COMBUSTIBLE LIQUIDS AND
GASES**

1. Should you issue a permit for this storage?

The proposed aggregate storage for the land owned by the golf course is 11,000 gallons (8,000 existing and 3,000 proposed).

The answer is NO, a permit should not be granted.



**FIRE PREVENTION AND FLAMMABLE
AND COMBUSTIBLE LIQUIDS AND
GASES**

2. If you answered no to the first question, what would be required, if anything before you could issue a permit?

A license by the local licensing authority.
M.G.L. c. 148 § 13 A license to use the land is required after a public hearing by the "local licensing authority"



**Massachusetts Department of
Fire Services**

FPO-I Exam

- 30 question, open book, multiple choice
- Questions 1-20 (527 CMR 1.00)
- Questions 21-25 (M.G.L. c. 148)
- Questions 26-30 (780 CMR)

