

Updates to 527 CMR 10, 11 and Chapter 148 § 26G



Department of Fire Services
Office of the State Fire Marshal

527 CMR 11.00

Commercial Cooking Operations

Overview

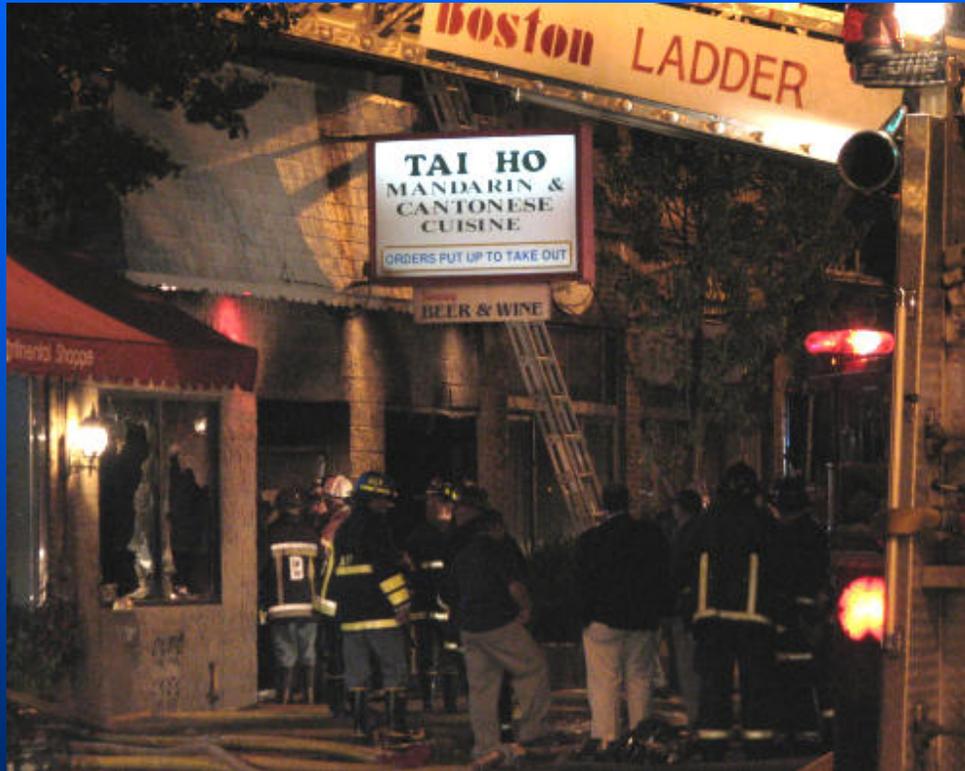
- History – The need for change
- CMR 11.00 / NFPA 96
- Revisions to existing regulation
- New requirements for cleaning/inspection
 - Certification
 - Notification to FD
 - Deficiency forms
 - Retroactivity

History



Tai Ho Restaurant Fire – West Roxbury
August 29, 2007

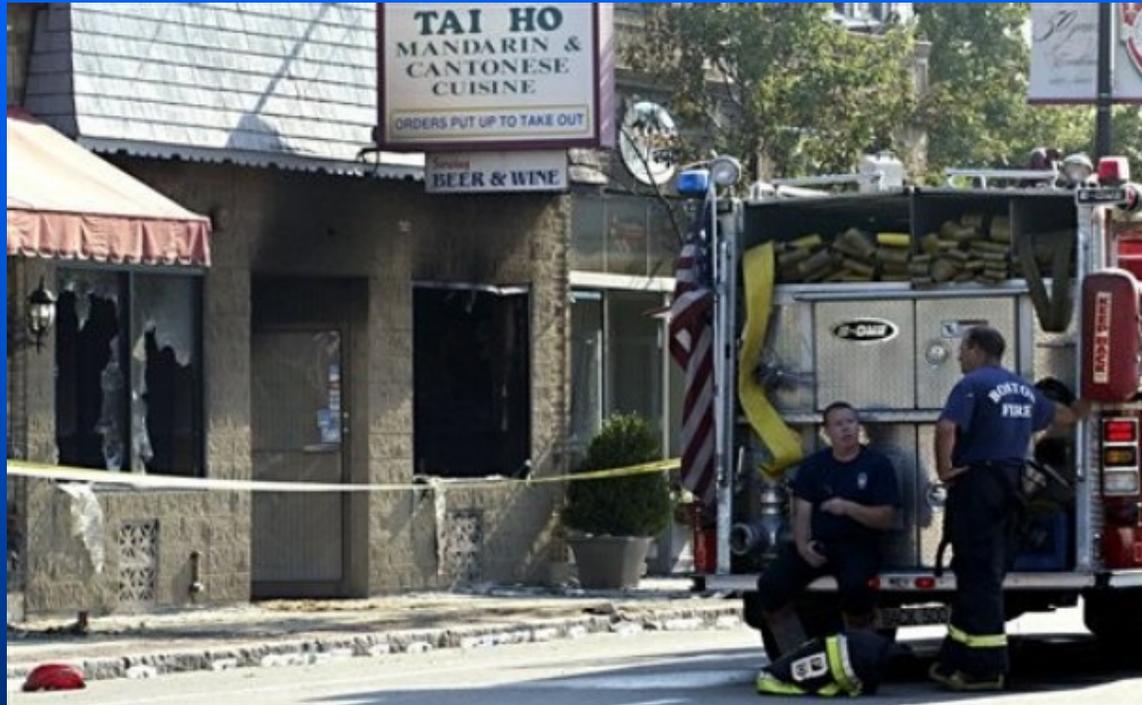
History



Two Boston Firefighters Killed

Department of Fire Services
Office of the State Fire Marshal

History



Grease buildup in the commercial cooking exhaust system was the major contributing factor in fire growth/spread

History



Since 2004 there have been 130 reported fires in restaurant hood and duct systems resulting in 2 fire services deaths, 14 fire service injuries, 3 civilian injuries, and \$ 3.3 million dollars in property loss.

527 CMR 11.01

Pertains to the design, installation, operation, cleaning, and maintenance of all public and private commercial cooking operations.

527 CMR 11.01

Regulation is relative to commercial cooking operations only

Does not apply to cooking equipment in single family dwellings

527 CMR 11.03

Definitions:

Authority Having Jurisdiction: The head of the fire department. (AHJ)

Qualified: With respect to the inspection of exhaust systems pursuant to section 11.3 and the cleaning of grease buildup related thereto, the word Qualified shall mean a person who holds a Certificate of Competency issued by the Marshal under 527 CMR 11.00

Certified: A person who has been deemed by the Marshal to be qualified to inspect and clean commercial kitchen operations and has been issued a Certificate of Competency under 527 CMR 11.00.

Marshal: The State Fire Marshal.

527 CMR 11.02

Adopts NFPA 96 – 2008 Edition
by reference

527 CMR 11.8.1

- Effective January 1, 2010 each person engaged in the cleaning or inspection of Commercial Cooking Operations must possess a valid Certificate of Competency issued by the Marshal.

527 CMR 11.8.2

Types of Certificates of Competency

Type 1: Individuals who conduct cleaning of inspection activities for the general public.

Type 2: “Restricted” for those individuals who actually conduct cleaning activities for commercial cooking operations that they own or operate, or their employer owns or operates.

527 CMR 11.6.1.2

- The owner, operator, or employees shall not be prohibited from conducting **cleaning** and grease removal activities, provided that they hold a “Restricted” Certificate of Competency.
 - Does not allow the owner, operator or employee to conduct cleaning services for any other commercial cooking operation.

527 CMR 11.6.1.2

- Persons holding a “Restricted” Type 2 license will need to have their commercial cooking exhaust systems **inspected** by an individual holding a Type 1 license.

Table 11.4

Schedule of Inspection for Grease Buildup

<u>Type or Volume of Cooking</u>	<u>Frequency</u>
Systems serving solid fuel cooking operations	Monthly
Systems serving high-volume cooking operations such as 24-hour cooking, charbroiling, or wok cooking	Quarterly
Systems serving moderate-volume cooking operations	Semiannually
Systems serving low-volume cooking operations, such as churches, day camps, seasonal businesses or senior centers	Annually

NFPA A.11.4

- The primary focus of an “inspection” is to determine whether the volume of grease buildup warrants cleaning.
 - It also determines if adequate access is available throughout the entire exhaust system.

Inspections



Excessive grease buildup on conduit piping for the fire suppression system

527 CMR 11.4.1

- If the exhaust system has not been inspected pursuant to Section 11.4 for grease buildup within the past 12 months, the head of the fire department shall issue an order to cease such operation pending such inspection.

527 CMR 11.6.14.1

- If a qualified individual determines, after cleaning, that a commercial cooking system is not in compliance with 527 CMR 11.00, the individual shall within 48 hours notify the AHJ in writing of the nature of the non-compliance.
 - A copy shall also be given to the owner and operator of the system.

527 CMR 11.6.14.1

MINIMUM REQUIRED INFORMATION ON DEFICIENCY (Non-compliance) REPORTS:

Required at the top of the form

- Header indicating Commercial Cooking Deficiency Report
- Company name, address, city, state and 24 hr. contract information
- Indicate if an Inspection or Cleaning was conducted
- The business name of the location inspected/cleaned, address, city, state and contact phone number
- Certificate of Competency Number and expiration date

527 CMR 11.6.14.1

Additional Required Information:

- Information pertaining to the filters (approved/cleaning status/in place)
- Entire grease duct cleaned? If not, identify locations not cleaned
- Exhaust system description on site and available
- Fans operating
- Fan/Louvers cleaned
- Grease drip tray cleaned
- Sufficient access panels? If not, identify areas not cleaned
- Proper signage on access panels
- Exhaust system free of obstructions
- Inspection/Cleaning frequency in compliance with NFPA 96? If not, last service/inspection date

527 CMR 11.6.14.2

- Records for inspection and cleaning shall be maintained by the qualified person who conducted such activity
- Shall be open to the inspection by the AHJ
- Records shall be maintained for at least 3 years

NFPA 96 4.6

- Drawings of the exhaust system installation shall be kept on premises.

This allows the cleaner and/or inspector to identify access panel locations, subassemblies and other system components.

527 CMR 11.8.4

Certificate of Competency applicants shall:

- Be at least 18 years of age
- Successfully pass an examination administered by the Marshal

527 CMR 11.8.3.1

A Type 1 license applicant shall also provide:

- Written documentation of having cleaned or inspected commercial cooking exhaust systems for at least 500 hours within the past six months

527 CMR 11.8.4

Applicants are allowed to submit test results from an examination given by a third party certification entity; provided that the test was taken within the past 2 years.

- Applicant may also need to pass a limited question examination issued by the Marshal.

527 CMR 11.8.7 & 11.8.9

- Each person holding a Certificate of Competency shall carry their license on his/her person at all times.
 - Shall produce license upon demand of the Marshal, head of the fire department or their designees
 - License shall be valid for a period of 3 years (unless suspended or revoked)

NFPA 96 1.4.2

Retroactivity

- In cases where the AHJ determines that the existing situation presents an unacceptable degree of risk, the AHJ shall be permitted to apply retroactivity to any portions of NFPA 96.

NFPA 11.6.2

- Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to remove combustible contaminants prior to surfaces becoming heavily contaminated with grease or oily sludge.

Methods of Cleaning



Pressure washing

Department of Fire Services
Office of the State Fire Marshal

Methods of Cleaning



Scraping

Department of Fire Services
Office of the State Fire Marshal

Other Methods of Cleaning

- Chemicals and other detergents
- Dip tanks
- Scratch pads
- Spatulas, razors, and other associated hand tools

NFPA A.11.6.2

- Hoods, grease removal devices, fans, ducts and other appurtenances should be cleaned to remove combustible contaminants to a minimum of 0.002 inches.
 - This can be verified by utilizing a depth gauge comb.

Cleaning



Excessive grease buildup in duct work

Cleaning



Excessive grease buildup in duct work

Cleaning



Excessive grease buildup in duct work

Cleaning



In excess of 500 lbs of grease was removed from the exhaust system in this restaurant

Any questions?

Temporary Overnight Shelters

- Emergency amendments to both 527 CMR and 780 CMR.
- Intended to balance the harm created by exposure to extreme cold weather and basic public safety concerns reflected in the fire, building and health codes.

780 CMR 3111.2

- Limited to houses of worship organized under Section 501(c)(3) of the Internal Revenue Code.
- Restricted to September 15 to June 15 AND.
- Not more than 35 days Total AND
- Not more than 7 consecutive days.

780 CMR (continued)

- Separate from states of emergency declared by the Governor or Public Health Emergencies under MGL C. 17 s. 2A.
- Requires a temporary certificate of occupancy from the building official.
- Requires 48 hours notice in advance with specific information, and notice of termination

780 CMR (continued)

- Application to be forwarded to fire and health officials.
- Joint inspection of the facility by building, fire and health officials.
- Application may not be approved over the objection of the fire or health official.

780 CMR (continued)

Information on Application

- Valid Certificate of Occupancy for current use.
- Is equipped with a sprinkler system or a fire alarm system installed in accordance with 780 CMR. (Battery operated smoke and CO detectors may be used depending upon location, if installed in accordance with 527 CMR 10.13(8))

780 CMR (continued)

- Adequate egress.
- Adequate emergency lighting and exit signs.
- Sanitary facilities acceptable to the BOH.
- Attestation that the facility meets AAB requirements.
- Site plan including internal layout.

780 CMR (continued)

- Fire safety plan approved by the head of the fire department.
- Identification of onsite individual responsible for compliance with 780 CMR.

527 CMR 10.13(8)

Fire Code Requirements

- Applicable only for those facilities for which a temporary certificate of occupancy has been issued.
 - No outstanding violations of 527 CMR.
 - Documentation approved by the head of the fire department indicating....
 - » Occupant load
 - » Bed/sleeping diagram
 - » Locations of all exits and aisles

527 CMR 10.13 (continued)

» Location of designated evacuation meeting place.

- Staff shall be trained and drilled in duties to be performed in cases of fire, panic or other emergencies.
- No smoking permitted within the shelter. The head of the fire department may approved a designated outdoor smoking area.

527 CMR 10.13 (continued)

- A document posted at a location approved by the head of the fire department containing on a nightly basis.....
 - Accurate number of sheltered occupants.
 - Accurate number of workers or volunteers.
 - In case of evacuation, shall be in the possession of the person in charge at the evacuation meeting point.
 - Shelter must be equipped with an accessible landline telephone. (A cell phone is not acceptable)

Additional Information and Assistance

- Code Compliance Desk

- 978-567-3375

- Western Mass. Office

- 413-587-3181

- DFS Web Site

- www.mass.gov/dfs

**Overview of G.L. c. 148 s. 26G:
(Amended by c. 508 Acts of 2008)**

**Sprinklers in certain buildings which
total more than 7,500 s.f. in floor area.**

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Introduction and Goals

- Increase awareness of the law and new changes
- Introduce Automatic Sprinkler Appeals Board's 10-14-09 Guidance Document
 - Role of the ASAB/limitations
- Tips on appearing before the Automatic Sprinkler Appeals Board

Summary of M.G.L. c. 148 s. 26G

- Statutory enhanced sprinkler protection in certain buildings which total more than 7,500 gross s.f. in floor area.
- Provisions are in **addition to** and **separate from** applicable Building Code requirements.

Summary of M.G.L. c. 148 s. 26G (cont'd)

- Applies to:
 - New Buildings
 - Existing Buildings
 - not automatically retroactive
 - requires a triggering activity
 - any addition
 - “major” alterations or modifications
- Enforced solely by the Head of the Fire Department
- Appeals to the Automatic Sprinkler Appeals Board

How Did the Law Change?

■ 2 Basic Ways

- 1. Law now applies throughout the state (rather than local option)
- 2. Expansion of instances in which sprinkler systems will be required:
 - New buildings (no change)
 - Buildings undergoing “major alterations” (no change)
 - **Additions**: significant change
 - Elimination of special exemption for 1 story buildings used solely for offices.

Additions

- **Old law** – if addition was constructed: required sprinklers in the “addition only” **and** only if addition is over 7,500 s.f.
- **New law** – if addition is constructed, requires sprinklers to be installed based upon the building’s sum total of square feet (s.f.) in floor area “in the aggregate”.
- **Example:** existing building (5,000 s.f.) + 3,000 s.f. addition, you will now be required to install an adequate sprinkler system throughout the building, since the building will now total over 7,500 s.f. **in the aggregate** (8,000 s.f.).

Reasons for amendments to s. 26G

- Tragic commercial building fire in Newton, MA in February, 2000 resulting in the deaths of 5 people
- The law:
 - Applies throughout the state
 - Is based upon the fire safety principal that sprinklers save lives!
 - Amended to eliminate a perceived loophole, which existed in the old 26G relative to the limiting “addition only” language
 - Series of smaller additions (7,500 s.f. or less) over the course of many years

When Does the Law Take Effect?

- Signed by the Governor on January 13, 2009
- Laws are generally effective 90 days after signing:
April 13, 2009
- **BUT** the law had a delayed effective date based upon triggering events:
 - » “the construction of buildings, structures or additions or major modifications thereto which total, in the aggregate, more than 7,500 gross square feet *permitted after January 1, 2010* (Section 6 of Chapter 508 of the Acts of 2008)
- Bottom Line: If the date of the issuance of the permit is after January 1, 2010, the enhanced requirements **will be applicable.**

What types of buildings/structures are covered by the Law?

- Applies generally to “every building and structure” . . . Does not specify what particular use groups or building classifications are subject to the law.
- **However**, the law does include exemptions. The law **does not apply to**:
 - Buildings or additions used for **residential** purposes;
 - Rooms/areas of a **telephone** or central office equipment building when such rooms/areas are protected with an automatic fire alarm system;
 - **Open air parking structures**, defined as: buildings, structures, or portions thereof, used for parking motor vehicles and having not less than twenty-five percent of the total wall area open to atmosphere at each level, utilizing at least two sides of the structure; and
 - Buildings used for **certain agricultural** purposes, as defined in M.G.L. c. 128 s. 1A.

What type of buildings or structures are covered by the law? (cont'd)

- Specific exceptions, if certain conditions or circumstances exist. They include:
 - » Buildings or structures or certain areas of such buildings or structures, where the discharge of water would be an actual danger in the event of a fire. The head of the fire department shall permit the installation of such other suppressant systems as are prescribed by the State Building Code in lieu of automatic sprinklers; and
 - » No such water system shall be required unless sufficient water and water pressure exist. (see Wibley case)

Note: Buildings Owned by the Commonwealth

- General rule: not subject to the statutory requirements of laws such as s. 26G unless there is express statutory language indicating that the state is subject to the law.
 - » case law & Opinion of the Attorney General, (No. 00/01-1)
- Be aware of possible exceptions to the rule”
 - Buildings that are owned by state authorities or other similar entities created by the Legislature.
 - They may not necessarily be considered “state owned”.
 - Unique creatures of statute
 - Reviewed by the head of the fire department with the assistance of the town attorney to determine if an exemption.

Applicability of s. 26G

- Does **not** automatically apply retroactively to all existing buildings within scope of the law**
- The law applies upon a triggering event:
 - 1) A **new** building or structure is constructed, or
 - 2) An **addition** is built onto an existing building, or
 - 3) **“Major”** alterations or modifications to an existing building.

**More than 7,500 gross s.f. in floor area, in the “aggregate”

Method Used to Determine the 7,500 s.f. floor area

- Specific statutory calculation:

“the gross square footage of a building or structure shall include the sum total of the combined floor areas for all floor levels, basements, sub-basements and additions, in the aggregate, measured from the outside walls, irrespective of the existence of interior fire resistive walls, floors, and ceilings.”

- Note: somewhat different from the State Building Code

What type of Alterations or modifications are considered “major” ?

- Addressed in the Automatic Sprinkler Appeals Board Guidance Document
 - » Case by case basis
- Recommendation: apply factors of Beth Shalom case (*Congregation Beth Shalom & Community Center v. Building Commissioner of Framingham, et. al.*, 27 Mass App. Ct. 276 (1989)).

Factors: Beth Shalom Case

- “Any work, not repairs, which is “major” in scope or in expenditure, and which results in changes affecting a **substantial portion** of the building.”
- Require sprinklers throughout the building if “the extra cost of installing sprinklers would be moderate in comparison to the total cost of the work contemplated..” or
- “If the physical work being done is of such scope that the additional effort to install sprinklers would be substantially less than would have been if the building were intact.”

2 Factors:

A. Nature of the Work

B. Scope of Work

Factors: (A) Nature of the Work

- Is the planned **physical work**, the type of which, would make the effort to install sprinklers substantially less than it would have been if the building were intact?
- Is the work merely minor repairs or cosmetic v. major alterations?
- Examples:
 - » Demolition/reconstruction of existing ceilings or installation of suspended ceilings'
 - » Removal and/or installation of sub-flooring, not merely the installation/replacement of carpeting or finished flooring;
 - » Demolition/reconstruction or repositioning of walls or stairways or doorways; or
 - » Removal/relocation of a significant portion of the building's HVAC.

Factors: (B) Scope of Work

- Does the work affect a substantial portion of the building?
- Is the cost of installing sprinklers moderate in comparison to the total cost of the work?

Factors: (A) Nature of the Work and (B) Scope of Work

- ASAB created **presumptions** on scope:
 - 1) Major alterations/modifications are reasonably considered major in scope when such work affects **33%** or more of the “total gross square footage” of the building, as calculated under s.26G.
 - 2) Major alterations/modifications are reasonably considered major in scope or expenditure, when the total cost of the work (excluding sprinkler related costs) is equal to or greater than **33%** of the assessed value of the subject building, as of the date of the permit application.

ASAB Guidance Document and Presumptions

- Intent to issue decisions in a predictable and consistent manner, using quantifiable factors.
- However, it is unreasonable to expect that a single set of criteria could reasonably apply to all situations
 - * Not “all inclusive”
 - * Every case is different

ASAB Guidance Document and Presumptions

- *“Because of the unique characteristics of each building construction project, the Board realizes that it is not possible to address all aspects of this law in a single guidance document. As the Board hears appeals based upon the newly revised law, the Board anticipates that some of the conclusions found in this document may be subject to further review and possible modification. Accordingly, persons should closely monitor further guidance and decisions from the Board regarding this matter.”*

Issues Relating to Construction Projects Occurring in Several Phases

- One phase of a series of modifications being conducted over a reasonably short period (i.e. 5 years or less)
- Long range project resulting in “major alterations” to the entire building, or a substantial portion of it
- Be aware of future and past recent projects to determine if there is a series of planned projects that, taken together, may be considered “major” alterations or modifications.

Note on Apparent Exemption for Situations Involving “Lack of Sufficient Water & Water Pressure”

- Same language existed in the old law.
- Interpreted in the case of Chief of the Fire Department of Worcester v. John Wibley, et al. 24 Mass. App. Ct. 912 (1987) (see next slide)

Note on Apparent Exemption for Situations Involving Lack of Sufficient Water & Water Pressure (cont'd.)

- Chief of the Fire Department of Worcester v. John Wibley, et al. 24 Mass. App. Ct. 912 (1987)
 - » The term “sufficient water and water pressure exists” means that the owner of a building or addition to which the statute applies must have access to a source of water sufficient to operate an adequate system of sprinklers, or the exemption applies. The source may be either on the land on which the new building or addition is constructed or off the land, provided that it is legally available to the owner of the building or addition. .
- In *Wibley* case: water was legally available by means of a connection requiring the excavation to a legally available water main located 500 yards away!

Enforcement Authority and Recommended Action

- M.G.L. c. 148 s. 26G: the head of the fire department is given the sole statutory authority to enforce the law.
 - Coordinate with the local building official
 - Confirm that building official is aware of the new law, its applicability, and the statutes' unique method of determining a building's floor area

Enforcement Authority and Recommended Action (cont'd)

- Establish procedures to assure the building official communicates to the appropriate fire dept. personnel, the existence of construction activities to buildings in excess of 7,500 s.f.
- Issue any Orders in writing with to the building owner/construction manager with the following information contained in the Order:
 - » Include basic reasons for determination
 - » Include Appeal Rights
 - » Signed by the head of the fire department

Filing an Appeal to the Automatic Sprinkler Appeals Board

- Jurisdiction: Appeals by “any person aggrieved by an interpretation, order, requirement or direction of the head of the fire department, (or the failure to so act)”
- Filed within 45 days after receiving service of notice of the head of the fire department’s determination.
- Formal application form
 - » Detailed statement of the basis for the appeal
 - » A copy of the chief’s determination
 - » Application fee (\$100.00)
 - » Call 978-567-3181 or on the web at www.mass.gov/dfs (right side of the page Mass. Automatic Sprinkler Appeals Board).

Hearings Before the Board

- Hearings are informal and the strict rules of evidence used in a court of law are not used.
- Require the presence of the appellant and the head of the fire department or their agent or attorney.
- Be prepared!
 - Only one chance to present case
 - All plans, drawings, photographs, expert findings or analysis or any other documents. Information, testimony, and arguments should be presented at the hearing to assist the Board in making its findings and determination.

Thank You!

Questions?

Supplemental information (cont.)

MGL Chapter 128: Section 1A. Farming, agriculture, farmer; definitions

Section 1A. “Farming” or “agriculture” shall include farming in all of its branches and the cultivation and tillage of the soil, dairying, the production, cultivation, growing and harvesting of any agricultural, aquacultural, floricultural or horticultural commodities, the growing and harvesting of forest products upon forest land, the raising of livestock including horses, the keeping of horses as a commercial enterprise, the keeping and raising of poultry, swine, cattle and other domesticated animals used for food purposes, bees, fur-bearing animals, and any forestry or lumbering operations, performed by a farmer, who is hereby defined as one engaged in agriculture or farming as herein defined, or on a farm as an incident to or in conjunction with such farming operations, including preparations for market, delivery to storage or to market or to carriers for transportation to market.

Supplemental information (cont.)

New MGL c. 148, s. 26G eff. as of 1-1-2010 (see also c. 508, Acts of 2008)

Chapter 148: Section 26G. Automatic sprinkler systems required for buildings and structures totaling more than 7,500 gross square feet

Every building or structure, including any additions or major alterations thereto, which totals, in the aggregate, more than 7,500 gross square feet in floor area shall be protected throughout with an adequate system of automatic sprinklers in accordance with the provisions of the state building code. No such sprinkler system shall be required unless sufficient water and water pressure exists. For purposes of this section, the gross square footage of a building or structure shall include the sum total of the combined floor areas for all floor levels, basements, sub-basements and additions, in the aggregate, measured from the outside walls, irrespective of the existence of interior fire resistive walls, floors and ceilings. This section shall not apply to buildings used for agricultural purposes as defined in section 1A of chapter 128.

In such buildings or structures, or in certain areas of such buildings or *structures*, where the discharge of water would be an actual danger in the event of fire, the head of the fire department shall permit the installation of such other fire suppressant systems as are prescribed by the state building code in lieu of automatic sprinklers. Automatic suppressant or sprinkler systems shall not be required in rooms or areas of a telephone central office equipment building when such rooms or areas are protected with an automatic fire alarm system. Sprinkler systems shall not be required in open-air parking structures, defined as: buildings, structures, or portions thereof, used for parking motor vehicles and having not less than twenty-five per cent of the total wall area open to atmosphere at each level, utilizing at least two sides of the structure. This section shall not apply to buildings or additions used for residential purposes.

MGL c. 148, s. 26G (cont)

The head of the fire department shall enforce the provisions of this section.

Whoever is aggrieved by the head of the fire department's interpretation, order, requirement, direction or failure to act under the provisions of this section, may, within forty-five days after the service of notice thereof, appeal from such interpretation, order, requirement, direction or failure to act to the automatic sprinkler appeals board as provided in section two hundred and one of chapter six. *The board may grant a reasonable waiver from the provisions of this section, or may allow the installation of a reasonable alternative or modified system of automatic sprinklers upon reviewing the characteristics of buildings that have architectural or historical significance.*

Note: The following language is contained in the Act but not contained in the actual statute.

SECTION 5. Nothing in this act shall be construed as limiting any requirement for buildings, less than 7,500 gross square feet, in the aggregate, from installing automatic sprinklers as otherwise may be required by the state building code.

SECTION 6. This act shall apply to construction of buildings, structures or additions or major modifications thereto which total, in the aggregate, more than 7,500 gross square feet permitted after January 1, 2010.