

***RETROCATIVE SPRINKLER
LAWS IN MASSACHUSETTS***

BY

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SEVERAL DIFFERENT LAWS

- **SPRINKLE DURING SUBSTANTIAL RENOVATION**
 - *(KEY TO SPRINKLERING EXISTING INFRASTRUCTURE)*
- **SPRINKLE EXISTING NURSING HOMES**
 - *MOST OFFICIALS DO NOT EVEN KNOW THIS LAW EXISTS)*
- **SPRINKLE EXISTING HIGH RISES**
- **SPRINKLE EXISTING NIGHT CLUBS**

RENOVATION “PROBLEM”

- **The reuse of existing buildings and their adaptation to new uses are currently often discouraged by the extreme non-uniformity in regulation of work in existing buildings across the country, and by often arbitrary, unreasonable or unjustified application of new construction requirements to such buildings. Furthermore, current regulatory approaches that rely extensively on the judgement of local building officials are not only unpredictable, but can ultimately perpetuate unsafe or inadequate conditions even where beneficial opportunities for adaptation and re-use exist. (Nationally Applicable Recommended Rehabilitation Provisions. HUD 1997.)**

TRADITIONAL CATEGORIES OF WORK IN “EXISTING” BUILDINGS

- **Repair - usually do not require a permit.**
- **Alteration - “Triggering point” for upgrade often unpredictable and subjective.**
- **Change of Occupancy - Different “triggering point” for upgrade in various codes based on change.**
- **Additions - addition must comply but not existing building.**

CHANGE OF OCUPANCY “TRIGGERING POINTS”

- ***NFPA 101 - Any change requires conformance to new const. requirements for new occupancy classification.(101-1-3.12)***
- ***IBC(Draft) - Any change requires conformance to new const. requirements for new occupancy classification. (3404.1)***
- ***Old Mass Code* - Change of Haz Index by 1 upgrade fire protection. Change of Haz Index by 2 upgrade everything.***
- ***New Mass Code* - Change of Haz Index by 0 or 1 upgrade fire protection when substantial renovation. Change Hazard Index by 2 upgrade everything.(780CMR Sect. 3403)***

USE GROUP CLASSIFICATIONS

- **Massachusetts**
 - Treats all fire hazards the same.
 - Made more lenient in last edition due to incorporation of “rehab’ language
- **NAARP**
 - Has different classifications for different hazards
 - Life Safety and Exits
 - Height and Area
 - Exterior Exposure

EXAMPLES OF OBJECTIVE “TRIGGERING POINTS”

- **Illinois School Law:**
 - If 50% of building area is renovated then sprinklers are required.
- **Federal Fire safety Act of 1992:**
 - Office Buildings - Renovation worth 50% of current value requires sprinklers or “equivalent”.
 - Employee Housing - Renovation worth 70% of replacement cost requires sprinklers or “equivalent”.
- **Mass Architectural Access Board Plumbing Regs**
 - If cost > 100,000 upgrade plumbing being renovated.
 - If cost > \$100,000 and > 30% of value of building upgrade accessible toilets and drinking fountains.
 - If cost exceeds 30% of value of building all existing and new plumbing must be made accessible.

MASS GENERAL LAWS THAT FIRE DEPARTMENT ENFORCES

- MGL 148 Sect. 26G - New non-residential buildings of more than 7,500 sq. ft. shall be sprinkled. This shall apply to additions and buildings undergoing “major alterations”.
- MGL 148 Sect. 26I - New residential buildings with more than 4 units shall be sprinkled. This shall apply to buildings “substantially rehabilitated so as to constitute new construction”.
 - (Compare underlined wording to Fed Act - Office Buildings 50%, Residential 70%)

MASS CODE THAT BUILDING DEPT ENFORCES

- **780CMR Sect. 3401- As used in 780CMR 34, substantial alteration is work which is major in scope and expenditure when compared to the work and expenditure required for the installation of a fire protection system, when such is required by 780CMR 9 for a particular use group.**
 - **Fire Protection Systems that could be required by Section 9: fire dept. access, hydrant, standpipes, alarm systems smoke control, other fire protection equipment. Fire Dept concurrence needed on plan review of 780CMR Section 9 items. (Note: Means of egress is not covered.)**

LEGAL INTERPRETATION OF MGL 148 SECT. 26G (BETH SHALOM)

- **2 Main Points**
 - **Some Grandfathering protection intended by legislature but - sprinkle when “reasonable”.**
 - **Two main factors to consider in “reasonableness” assessment:**
 - **1) cost to sprinkle/cost of renovation**
 - **2) does renovation “facilitate” installation of sprinklers.**

WHAT IS A “JUST” DECISION?

- Aristotle’s analysis of justice is the key to its meaning at the level of a particular act or decision. Justice, he said, consists in treating equals equally and unequals unequally but in proportion to their relevant differences. Impartiality implies a kind of equality - not that all cases should be treated alike but that the onus rests in whoever would treat them differently to distinguish them in relevant ways. It is not for a judge to decide the respects in which men are equal but *to decide whether the respects in which they are unequal are relevant to the issues in the case.*

Qualities of a Fair Methodology

- ***It should focus in a quantifiable way on the relevant differences, i.e. reasonableness and facilitation.***
 - Reasonableness = small % of renovation cost.
 - Facilitation = The scope of work is such that the installation is “facilitated”, i.e. open walls and ceilings.
- **It must be predictable.**
 - This allows for investment planning prior to permit.
- **It must be objective yet allow room for flexibility.**
 - Both the applicant and the code official decisions must be “bounded” to allow flexibility yet insure consistency.
- **It should balance the cost vs. the benefit taking into account the risk of the occupancy.**
 - Current Building Code is more likely to require fire protection in buildings that have a higher risk to life or property.

ASSUMPTIONS UNDERLYING %’s ON CHART

- **Beth Shalom implies 12% “reasonable for commercial over 500,000**
- **MGL 148 and the Feds imply more work required in residential before upgrade required (10%)**
 - This may be due to the fact that there are already retroactive alarm requirements.
- **Massachusetts tends to hold 1-2 families to a lower standard than apt. bldgs. (8%)**
 - This may be due to the “reasonableness” issue
- **Massachusetts tends to hold institutional and high hazard buildings to a higher standard (14%)**
- **Upgrade are more reasonable as money spent on renovation increases. (See “Access Board” regs.)**

1ST REASONABLE % CHART

	0K-99K	100K-249K	250K-499K	500K-999k	Over 1,000K
1-2 Resident .	2%	4%	6%	8%	10%
3 -5 Resident .	4%	6%	8%	10%	12%
6 or more Resident .	6%	8%	10%	12%	14%
Non-Resident .	8%	10%	12%	14%	16%
Institut. Hi-Haz.	10%	12%	14%	16%	18%

Benefits of This Approach.

- **Allows for upgrade of portions of buildings.**
 - **For example: A building may be part business and part manufacturing. If only the business portion was being renovated it may not meet 50% of property value so nothing upgrade. This system might require upgrading fire protection in the business area without requiring it for whole building.**
 - **Note: To compute installation costs under this type of renovation when some common area infrastructure might be required: Multiply common area costs by (renov area/total area) and add to renovation costs in “work area”. Then conduct analysis as usual.**

Benefits of This Approach.

- **Takes away financially regressive approach that relies on property values.**
 - **For example: A renovation in a wealthy neighborhood with high property values might not require an upgrade in fire protection because property values are so high that the 50% criteria is not reached, whereas the same renovation in a poor neighborhood with low property values might require an upgrade in fire protection because property values are so low that the 50% criteria is reached.**
 - **This discourages renovation where it can help the most.**

Benefits of This Approach.

- **This approach takes into account local conditions that might impact on the costs involved that are not included in the other systems.**
 - **Some cities like Boston have very expensive water hook-up fees. A system that only looks at cost of renovation vs. value of building ignores this.**
 - **Labor and other costs rise and fall with the business cycle. Property values do not always co-incide with the business cycle. This system compares one type of construction costs to another as opposed to systems that compare construction costs to property values.**
 - **A community that wanted to encourage renovation could lower the numbers on the “Reasonable % Chart. While a city that wanted to improve fire protection could increase the numbers.**

ADDITIONAL COMMENTS

- **What costs should count?**
 - Any cost counted to determine permit fee. (See Boston ISD COMM. Bulletin)
- **How are “Change Orders” handled?**
 - If costs should have been anticipated then analysis should be redone.
- **How are multiple buildings in one development handled?**
 - Do analysis for each building. Borderline case are treated as majority are treated.
- **Independent 3rd Party cost reviewer can handle disputes.**

POSSIBLE RECONCILIATION OF MGL 148 & 780CMR

- Add “Reasonable %” chart to Section 34 of 780CMR
 - This chart should incorporate logic of MGL148
- Change 12,000 ft² in 780CMr to 7,500 ft² that appears in MGL 148 26G
- Give “Head of Fire Department” approval of Chapt 34 decisions in same manner as Chapt 9
- This will force building and fire officials to consult.
- This may make MGL 148-26G and 26I unnecessary.

CHAPTER 143: SECTION 3Q.

- Except in the case of new construction addition, alteration, such rules and regulations may provide for the installation of a sprinkler system where, after hearing, the department finds such system necessary for the safety of persons; provided, however, that where a sprinkler system would be unnecessary or impractical because of the location, size or construction of a home or because the home is authorized to contain not more than twenty-five beds, the department may require alternative methods of fire protection..

CHAPTER 143: SECTION 3Q.

- This requires local official to exercise judgement and take responsibility. Unlikely to be enforced.
- Legislature is passing value judgement down to local official. They get paid to make cost benefit decisions, but they pass the buck when ever they can.
- Critical Questions - How does a code oficial know when “such system is necessary for the safety of persons”? When is “alternative system” enough?
- I would recommend that all existing Nursing Homes either 1) meet NFPA 101 or be required to sprinkle. In cases of economic hardship, State should assist with funding.

NIGHT CLUBS AND HIGH RISES - FIRE SAFETY COMMISSION

- The Fire Safety Commission learned the hard way how to enforce a retro-active law. In the case of night clubs the Legislature provide even less guidance. As a consequence, the Fire Safety Commission went to a “common law” approach to regulation as opposed to a “prescriptive” approach.

WHAT IS A NIGHTCLUB?

- No Theatrical Stage Accessories.
- Low lighting
- Later than average operating hours.
- Entertainment by band or loud music.
- Ill-defined aisles.
- A specific dancing area
- High occupant load (<7 ft²?)
- Limited food service
- If combined then bar area must be separate from dining.

“COMMON LAW” METHOD

- The Commission will decide each appeal on a “case-by-case” basis. The rulings will be published on the internet.
- Each case will build up a precedent.
- After dealing with enough cases a consensus will be reached on most issues. New issues will create new precedents.

In my opinion, this is the best way to enforce a law of this type. It is also the best way to get one adopted.