

Safeguarding the Public from Fire:

A Strategy for the Commonwealth

The report of the
**SECRETARY'S TASK FORCE ON
FIRE & BUILDING SAFETY**

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IN MEMORIAM

The work of the Task Force is dedicated to the memory of The Station nightclub fire victims and to the public safety officers who came to their aid.

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I. Executive Summary

The Station nightclub fire on February 20, 2003, in West Warwick, Rhode Island, was a horrific disaster. With 100 dead and almost 200 injured, it was the fourth deadliest nightclub fire in U.S. history. But the real tragedy is that the loss of life may have been prevented with enhanced code enforcement, training of nightclub staff, and the installation of automatic sprinklers.

Each of these elements contributed to the tragedy: the proximity of pyrotechnics and foam insulation in a wood-frame building, the crowd's initial lack of awareness of an emergency situation, untrained staff, too many people with insufficient exits, and, most important, lack of a potentially life-saving sprinkler system. Individually, they presented a danger. Together, they formed a "perfect storm" of events that precipitated the catastrophe.

In the aftermath of The Station fire, officials were concerned that a similar tragedy could happen in Massachusetts. On April 3, 2003, Governor Mitt Romney directed the Secretary of Public Safety to create the *Task Force on Fire & Building Safety*, and charged the group with making recommendations to improve the safety of public assembly buildings (known in the State Building Code as "assembly use group structures")ⁱ.

The Task Force was comprised of 32 individuals plus staff members representing state regulatory and enforcement agencies, municipal public safety agencies, representatives of the "regulated community" including nightclubs, theatres, and restaurants, and individuals touched directly by The Station nightclub fire itself. The Task Force organized itself into six subcommittees investigating:

- automatic sprinklers
- egressⁱⁱ requirements and occupancy limits
- pyrotechnicsⁱⁱⁱ in entertainment venues
- interior finishes
- training and education
- legal provisions

The group also developed recommendations on funding and resources to help state and local officials enforce and business owners comply with enhanced regulations.

After six official meetings, eight public forums, and numerous subcommittee deliberations, the Task Force is issuing its recommendations.

Sprinklers

Sprinkler systems, by analogy, are like “air bags” for buildings. There has never been a multiple-fatality fire in a public assembly building in which sprinklers were properly operating. Many fire prevention experts believe that the tragic outcome of The Station nightclub fire would have been significantly lessened had the building had sprinklers. Unfortunately, The Station was not equipped with automatic sprinklers.

In Massachusetts, prior to the adoption of the State Building Code on January 1, 1975 each community was permitted to adopt its own building regulations. However, even under the current code, existing buildings are not required to be upgraded every time the building code is amended. This is often referred to as “grandfathering.” **The Task Force believes this should change.**

Older buildings used for public assembly purposes are typically more vulnerable to fire than newer ones because of the construction standards used at the time they were built. Sprinklers in public assembly buildings are essential to ensure public safety.

Recommendations include requiring all nightclubs, discotheques, dance halls and bars with more than a 50-person occupancy to have automatic sprinklers within three years.

Egress

The ability to exit a building safely is a life or death issue. The current State Building Code requires that all occupants must have multiple means of escape. However, in practice, this is not always the case. In public assembly buildings most occupants are unfamiliar with their surroundings. Even when patrons know the location of the exits, often the exits may be blocked, preventing a means of escape. Even when exits are not obstructed, the additional factors of alcohol use, loud music, and special effects can disorient patrons when disaster strikes and keep them from exiting safely. The Task Force studied ways to improve the chances of survival in the event of fire in public assembly buildings and considered the importance of maintaining clear and unobstructed egress at all times, as well as educating the public of the location of egress within their buildings.

Recommendations include requiring all nightclubs, discotheques, dance halls and bars to implement a “Fire & Building Safety Checklist,” improve exit identification, install an automatic music shut-down mechanism, and install 72-inch main exit doors.

Pyrotechnics

Pyrotechnic special effects caused The Station nightclub fire, a fact that has motivated many states to re-evaluate their methods of regulating indoor pyrotechnics. The Task Force believes that pyrotechnics in a nightclub setting are inherently dangerous and present an unwarranted risk to public safety.

Recommendations include the immediate prohibition of pyrotechnics in all nightclubs, discotheques, dance halls and bars; tighter controls on the delivery, handling, and storage of pyrotechnics; and improved training of enforcement officials and the regulated community.

Interior Finishes

In The Station nightclub fire, foam acoustical insulation applied to the walls and ceiling of the stage area reportedly contributed to the blaze and created toxic smoke and gases. The Task Force believes that, despite manufacturers’ claims to the contrary, there is at present no foam product that meets flame resistance standards. In Massachusetts, under the current and former editions of the state building code, this material would not have been permitted to be installed.

Recommendations include the immediate prohibition of foam plastics on interior finishes in all unsprinklered nightclubs, discotheques, dance halls and bars; reinstatement of the Toxicity Commission (a previously state-appointed body charged with studying the effects of smoke and gas developed during a fire by materials that ultimately affect the ability of a person to properly escape from a fire); and the development of an education program regarding labeling of interior finish materials.

Training and Education

Laws and regulations are effective only if they are met with compliance. Ultimately it is the business owner who must assure the safety of patrons by observing fire and building safety standards at all times. The Task Force recognizes the importance of training and education for fire and building safety officials, the regulated community, and the general public. The Task Force heard consistently during the public forums that training and education is a high priority.

Recommendations include the development of training programs on fire and building safety standards in public assembly buildings for enforcement officials, owners/operators of nightclubs, discotheques, dance halls and bars, and the general public who patronize these establishments.

Legal

Ideally, fire and building safety standards are complied with voluntarily. Unfortunately, some businesses choose to ignore the laws and regulations. The Task Force heard repeated testimony at its public forums that the existing code enforcement process needs to be streamlined and given more “teeth” to enforce compliance.

Recommendations include the establishment of specific criminal penalties for creating a dangerous condition in a public assembly building and for violating code provisions, and the establishment of a uniform code enforcement procedure for state and municipal enforcement personnel to issue uniform “code citation tickets.”

Funding & Resources

Municipal fire and building officials testified in public hearings that they are hard pressed and in some cases incapable of meeting the pre-existing statutory and regulatory requirements already placed upon them. The Task Force believes it is necessary to create funding mechanisms to support local capability and mitigate the financial burden on owners and operators of nightclubs, discotheques, dance halls and bars.

Recommendations include the enactment of legislation to create a funding mechanism for municipal inspection activities and the enforcement of code regulations; tax credits or an accelerated depreciation schedule for automatic sprinkler systems installed as a retrofit in

nightclubs, discotheques, dance halls and bars; and limitation of the costs for tying into municipal water mains for the purpose of installing an automatic sprinkler system.

II. Introduction

The Station nightclub fire on February 20, 2003, in West Warwick, Rhode Island, was a horrific disaster. With 100 dead and almost 200 injured, it was the fourth deadliest nightclub fire in U.S. history. But the real tragedy is that the loss of life may have been prevented with enhanced code enforcement, training of nightclub staff, and the installation of automatic sprinklers.

The blaze itself erupted when an indoor pyrotechnic display, used as a special effect in a rock band performance, ignited foam acoustical insulation surrounding the stage. At first, as the band continued to play, many patrons in the crowded nightclub thought the fire was part of the act and did not begin to exit immediately, thereby losing precious seconds for escape.

Within three minutes, the wood-frame structure was engulfed in flame and filled with smoke. More than 300 occupants struggled to flee through four exits. The Station did not have an automatic sprinkler system.

Each of these elements contributed to the tragedy: the proximity of pyrotechnics and foam insulation in a wood-frame building, the crowd's initial lack of awareness of an emergency situation, untrained staff, too many people with insufficient exits, and, most important, the lack of a potentially life-saving sprinkler system. Individually, they presented a danger. Together, they formed a "perfect storm" of events that precipitated the catastrophe.

Formation of the Task Force

Although The Station fire occurred in Rhode Island, public safety officials were concerned that a similar event might happen in Massachusetts. Immediately, the Commonwealth's Department of Public Safety launched a task force to spot check nightclubs for code violations. The Department of Fire Services and Department of Public Safety organized training programs for fire and building officials which focused on buildings used for public assembly purposes. The Board of Fire Prevention Regulations made an emergency amendment to the State Fire Code to re-test licensed pyrotechnic permit holders. Massachusetts fire chiefs

made recommendations for improving safety in public assembly buildings, and there were numerous suggestions from the general public.

On April 3, 2003, His Excellency, Governor Mitt Romney, directed the Secretary of Public Safety, Edward A. Flynn, to create the *Task Force on Fire & Building Safety*, and charged the group with investigating four issues:

- expansion of the use of fire sprinklers, including the retrofitting of existing buildings;
- review of egress requirements and occupancy limits;
- further regulating and/or eliminating the use of pyrotechnics in entertainment venues, as well as enhancing criminal penalties for violations of these laws;
- review of existing regulations relative to flammable decorations and interior finishes.

The Task Force was comprised of 32 individuals plus staff members representing state and local regulatory and enforcement personnel, representatives of the “regulated community” including nightclubs, theatres, and restaurants, and individuals representing families of the victims of The Station nightclub fire.

The Task Force was facilitated by State Fire Marshal Stephen D. Coan and Public Safety Commissioner Joseph Lalli. It convened its first meeting on April 17 at the Department of Fire Services in Stow, Massachusetts. At the meeting, Task Force members were assigned to one of six subcommittees:

- Sprinklers
- Egress
- Pyrotechnics
- Interior Finishes
- Training & Education
- Legal

Each of the subcommittees was to perform extensive research into existing regulations and laws, and develop recommendations for discussion by the full Task Force over the period of three months. Additionally, the Task Force decided to develop recommendations on funding

and resources to help municipalities and business owners comply with enhanced laws and regulations.

The Task Force met formally six times between April and July, 2003, and the subcommittees engaged in numerous additional discussions during that time.

In addition to its business meetings, the Task Force coordinated eight public input forums, two each in Springfield, Worcester, Boston, and Hyannis. These sessions encouraged the testimony of regional fire and building officials, members of the “regulated community” such as nightclub owners and real estate professionals, civic and governmental leaders, and local residents. A substantial number of individuals provided testimony at the forums.

Task Force Deliberations

One of the first challenges for the Task Force was to define the scope of its mission. Too broad a definition would dilute the group’s focus and effectiveness, while too narrow a definition could cause its recommendations to become only a partial, “band-aid” solution.

Ultimately, the Task Force determined that its primary focus would be on fire and building safety within public assembly buildings, with particular attention to nightclubs, discotheques, dance halls, and bars. As part of their primary focus, the Task Force adopted a goal to make the patrons and employees of public assembly structures as safe from fire as possible by establishing a framework of reasonable, viable fire safety and building regulations, without causing undue hardship for the regulated community. The Task Force also made recommendations for other public assembly occupancies, as well as enhanced legal penalties, training, and education common to all public assemblies.

As the Task Force pursued its investigations it discovered that, on the whole, Massachusetts already possessed one of the nation’s progressive sets of building and fire regulations. The state’s Fire Prevention Regulations (promulgated by the Board of Fire Prevention Regulations found in 527 CMR 1.0 - 50.00) and the State Building Code (promulgated by the Board of Building Regulations and Standards, found in 780 CMR) are largely based upon national standards, such as those from the National Fire Protection Association, Building Officials and Code Administrators International, and enhanced by Massachusetts amendments .

The current State Building Code mandates that newly constructed public assembly buildings are required to have automatic sprinkler systems^{iv} and adequate exit capacity for the prescribed occupancy load. However, public assembly structures constructed prior to adoption of the uniform State Building Code of 1975 are “grandfathered,” as long as they do not undergo a change of use, addition or substantial renovation. (“Grandfathering” is when a building is permitted to be occupied because it was constructed in accordance with building regulations in effect at the time of its construction or change of use.) Moreover, some owners of such buildings make renovations illegally without permits, thus avoiding the requirement install automatic sprinklers and assure proper egress.

After extensive deliberation, the Task Force concluded that “grandfathered” establishments must be subject to the same fire and building safety regulations as their newer counterparts, due to their potential life safety risks. The task force reasoned that the public has a basic right to expect reasonable safety when they patronize commercial entertainment establishments, regardless of the age of the building. Many of the Task Force’s recommendations attempt to make all nightclubs, discotheques, dance halls, and bars as safe as possible, without causing undue hardship to the regulated community.

However, the Task Force agreed that the adoption of enhanced regulations alone will not prevent fire tragedies if not properly supported by strong education and enforcement components. The group concluded that each of its recommendations must be accompanied by methods to educate public safety officials, the regulated community, and the general public about fire and building safety practices in buildings used for public assembly purposes, and by a consistent means of enforcement.

Most of the recommendations in this report take advantage of advances in technology and fire/building safety wisdom. Many of the recommendations require not only physical modification, but also changes in fire prevention practices within buildings used for public assembly purposes. However, these suggestions alone will not guarantee safety. There must also be a change in attitude within our Commonwealth. Establishment owners must recognize that installing automatic sprinklers and complying with other fire prevention measures is a “cost of doing business,” a fundamental responsibility that cannot be avoided. Municipalities must re-energize their efforts to inspect public assembly buildings and enforce the codes. Additionally, the public must become more mindful of the establishments they choose to patronize, making themselves aware, as they walk in the door, of fire and building safety features.

III. Findings and Recommendations

At its first meeting in April, 2003, the Task Force on Fire & Building Safety established six subcommittees^v that reviewed current fire safety and building code regulations, researched “best practices” from other localities, and developed recommendations to make the Commonwealth as safe as possible from fire catastrophe in public assembly buildings.

Each subcommittee presented its findings and recommendations to the full Task Force on June 12, 2003. After extensive deliberations, the Task Force voted to adopt the following measures^{vi}.

A. Sprinklers

The benefit of automatic sprinkler systems to fire and building safety is well documented. According to the National Fire Protection Association, there has never been a multiple-fatality fire in a public assembly building in which sprinklers were properly operating. The NFPA indicates that sprinklers reduce the chances of fire-related death by an average 88% in all public building categories (including apartments), and by 100% for public assembly structures^{vii}. Sprinklers also reduce fire-related property damage losses by an average 57% across all occupancy categories, and by 70% for public assembly buildings.

Sprinkler systems, by analogy, are like “air bags” for buildings. If properly installed and maintained, they provide effective, around-the-clock protection to people and property. They deploy immediately and automatically in times of fire. A sprinkler system will control a fire, if not extinguish it, in the critical early stages, giving building occupants a vastly improved chance of survival. As use of sprinkler systems in new construction has increased, fire-related deaths and injuries have plummeted. With good reason, most building codes throughout the country require sprinklers in all new places of public assembly, based on occupant load^{viii} or building size.

Many fire prevention experts believe that The Station nightclub fire tragedy would have been dramatically minimized had the building had properly operating sprinklers. Unfortunately, The Station was not equipped with automatic sprinklers.

Since its inception in 1975, the State Building Code has treated existing buildings differently than new buildings. Unless an existing structure undergoes a change of use, is added to or otherwise substantially remodeled, it is permitted to continue in use based on the building laws and regulations in effect when it was constructed. In short, an existing building does not have to be upgraded every time the State Building Code is amended. This concept is often referred to as “grandfathering.”

The Task Force believes this should change.

Older buildings used for public assembly purposes are typically more vulnerable to fire than newer ones because of the construction standards used at the time they were built. However, the Task Force agreed that sprinklers in these public assembly buildings are essential to ensure public safety.

Recommendation #1:

All nightclubs, discotheques, dance halls, and bars with more than a 50-person occupancy should have automatic sprinklers installed within three years. The General Court should enact retroactive legislation requiring sprinklers in all existing buildings of this type. Although the State Building Code requires automatic sprinkler systems in all new nightclubs, discotheques, dance halls, and bars, the threshold should be decreased and made to be consistent with the retrofit requirements for public safety purposes. The Board of Building Regulations and Standards should enact this recommendation consistent with the action of the General Court.

We recognize that this recommendation will have a financial impact on many small businesses throughout the Commonwealth. However, we also realize that the recommendation will save countless lives. Society cannot place a price tag on a human life. To mitigate the cost associated with installation of sprinklers, the Task Force suggests several significant measures to lessen the financial burden for business owners to retrofit their establishments (see the “Funding and Resources” section beginning on page 25).

Additionally, a reasonable schedule for meeting the retrofit provisions is strongly suggested. The Task Force recommends that plans be submitted to the Head of the Fire Department within 18 months of the date of enactment of the legislation, and that installation be completed within three years from the date of enactment of the legislation, with the possibility

of extension of time to comply upon a showing of good-faith compliance and evidence of hardship raised on appeal and approved by the Automatic Sprinkler Appeals Board.

Recommendation #2:

The Board of Building Regulations and Standards should review sprinkler requirements for buildings used for other public assembly purposes, and should consider revising the State Building Code to require automatic sprinkler systems in these buildings. The Task Force recommends sprinklers be required at the following thresholds: "A-1" = 0 square feet, "A-3" = more than 5,000 square feet; "A-4" - more than 7,500 square feet.

B. Egress

During emergency conditions, the ability to exit a building safely is a life or death issue. Twice this year, first in Chicago and then in West Warwick, Rhode Island, we have seen horrifying images of panicked nightclub patrons trapped and dying as they attempt to exit the building. In both cases, egress problems contributed significantly to the death and injury count.

Under the existing State Building Code, any modification to a building's design requires a building permit code review and inspection. The current State Building Code requires that the main exit of a public assembly building must accommodate 50% of the occupancy load, and other exits combined must accommodate the remaining 50%. In theory, all occupants must be given multiple means of escape. However, in practice, this is not always the case. Exits are sometimes ill marked or blocked. Occupancy loads sometimes exceed legal capacity. Alcohol use, loud music, and special effects, particularly in nightclubs, dance halls, discotheques, and bars, can disorient patrons when disaster strikes and keep them from exiting safely.

Most people in a fire emergency attempt to exit the same way they entered. Therefore, the size and configuration of the main exit is a paramount consideration. It was reported that most of The Station nightclub's victims rushed the main entrance.

To improve the chances of survival in the event of fire in public assembly buildings, the Task Force offers the following recommendations:

Recommendation #1:

The State Building Code should require that all buildings used for public assembly purposes be equipped with a minimum 72-inch (nominal) width main exit door in addition to other required exit doors at other locations. The building official may allow an alternative means of compliance, where construction, regulatory, or other conditions exist which would preclude the installation of a 72-inch door. This is contingent upon the submission of an egress analysis from a registered design professional which determines that there is an adequate means of egress. The egress shall be sufficient to accommodate the building's maximum occupant load. This report shall be filed with the Board of Building Regulations and Standards. Disputes over the sufficiency of egress can be appealed to the Board of Building Regulations & Standards Appeals Board.

Recommendation #2:

All owners of buildings used for public assembly purposes should satisfactorily complete a "Fire & Building Safety Checklist" as a condition of receiving a Certificate of Inspection and liquor license. The Board of Fire Prevention and Board of Building Regulation & Standards should implement this recommendation with the coordination of the Alcoholic Beverages Control Commission.

The "Fire & Building Safety Checklist" should include questions on emergency planning, egress layout, overcrowding, fire protection systems, and employee training (see sample "Fire & Building Safety Checklist" in the appendices).

Recommendation #3:

The Alcoholic Beverages Control Commission should make the issuance or renewal of a liquor license contingent upon a valid Certificate of Inspection, issued by the local building official and upon an inspection by the Head of the Fire Department.

Recommendation #4:

The Board of Building Regulations & Standards should study methods to enhance exit identification in all buildings used for public assembly purposes and incorporate these improvements in the upcoming 7th edition of the State Building Code. Topics for study should include low-level lighting that leads to each exit, outlining exit doors with luminescent marking, distinctive exit sign lighting, and scheduled testing and maintenance for the operation of exit signs and lights.

Recommendation #5:

The Board of Fire Prevention Regulations should evaluate the requirements for audible announcements describing the location of emergency exits in all buildings used for public assembly purposes prior to and during performances.

The current Fire Code (527 CMR 10.13.2 (c)) requires that theatres, auditoriums, performance halls, cinemas, and nightclubs make an audible announcement about emergency exits no less than ten minutes prior to a performance. Experience indicates that this requirement meets with sporadic compliance. It should be required and enforced consistently as a means of improving public safety.

Recommendation #6:

The Board of Fire Prevention Regulations and the Board of Building Regulations & Standards should study a requirement that all nightclubs, discotheques, dance halls, and bars install an automatic shutdown mechanism that disconnects the music sound system and raises house lighting in the case of fire.

As witnessed in The Station nightclub fire, precious seconds were lost as the fire escalated and the band played on. Patrons were unable to hear fire alarms and initially thought the fire was “part of the act.” Cutting the music and raising the house lights would have created an immediate sense of emergency, and might have helped more people escape.

C. Pyrotechnics

Fireworks are an important part of our American experience. They are often used to celebrate Independence Day in town parks and commemorate home runs in baseball stadiums. Furthermore, pyrotechnic special effects (fireworks for close proximate audiences) are now becoming commonly used in band performances, indoor theatrical drama, and other special events.

Just as the technology of pyrotechnics has evolved since ancient times, so has their regulation. Fireworks are explosive materials and are therefore subject to strict laws and regulations. In Massachusetts, the Board of Fire Prevention Regulations promulgates a

comprehensive set of pyrotechnics regulations including permits, training, and licensing of pyrotechnics operators.

At The Station nightclub, pyrotechnic special effects canisters known as “gerbs” were placed on the stage. These “gerbs” were intended to shoot sparks and thereby heighten the entertainment effect of the concert. When the “gerbs” were activated, the sparks ignited foam acoustical insulation in the stage area. These tragic facts have motivated many states to re-evaluate their methods of regulating indoor pyrotechnics.

The Task Force believes that pyrotechnics in a nightclub setting are inherently dangerous and an unwarranted risk to public safety. Accordingly, we offer the following recommendations:

Recommendation #1:

The Board of Fire Prevention Regulations should immediately prohibit the use of pyrotechnics in all nightclubs, discotheques, dance halls, and bars.

Recommendation #2:

The Board of Fire Prevention Regulations should continue to allow the use of pyrotechnics in large entertainment venues and theatres that are provided with automatic sprinkler systems to the extent required by law.

These recommendations are not intended to replace the current comprehensive system for permitting the use of indoor pyrotechnics in theatres, (i.e., the Wang Center, Colonial Theatre, etc.) and large entertainment venues (i.e., Fleet Center, The Centrum, etc.). This system includes a permit requirement, utilization of a licensed, competent pyrotechnics operator, a review by the local fire official four hours before the show, and other conditions (such as the presence of a firefighter detail). In all cases, the approval for the use of indoor pyrotechnics is subject to the sole discretion of the local fire chief, who may require conditions he deems necessary to ensure a safe event.

Recommendation #3:

The Board of Fire Prevention Regulations should require the owner, operator, and/or manager of large entertainment venues and theatres to sign a written statement on establishment letterhead acknowledging use of pyrotechnics in the building.

In The Station fire, the owners claimed they had no prior knowledge of the band's proposed use of pyrotechnics in the club. Although we call for a prohibition of pyrotechnics in all nightclubs, we suggest it would be good practice to establish a written documentation that ensures there is no miscommunication when it comes to using indoor pyrotechnics in large entertainment venues and theatres.

Recommendation #4:

The Board of Fire Prevention Regulations should study and possibly require the signatures of both the local Fire Chief and Fire Inspector on all permits for indoor pyrotechnics.

Recommendation #5:

The Board of Fire Prevention Regulations should study ways to improve record keeping, use, and storage of pyrotechnics.

Recommendation #6:

The Task Force recommends that federal law be modified to require anyone who sells pyrotechnics in interstate commerce to notify in writing the State Fire Marshal and head of the local fire department of the intent to deliver pyrotechnic materials. Such notification will include the type of pyrotechnics, the date and location where the materials are being delivered.

Recommendation #7:

The Board of Fire Prevention Regulations should extend the apprenticeship experience necessary for a pyrotechnics license from the current two years to four years, and require a greater degree of education and training.

Recommendation #8:

The Board of Fire Prevention Regulations should regulate the use of fog/haze machines in buildings used for public assembly purposes.

While they do not cause fire, fog/haze machines can contribute to decreased visibility and the disorientation of occupants, thus impeding their escape, and hampering the entry of firefighters.

D. Interior Finishes

In The Station nightclub fire, foam acoustical insulation applied to the walls and ceiling of the stage area contributed to the blaze and created toxic smoke.

Some media accounts of The Station tragedy reported that the foam material used in the nightclub was “untreated,” and that there are other types of acoustical insulation that is flame resistant. The Task Force believes that, despite manufacturers’ claims to the contrary, there is at present no known foam product that meets flame resistance standards. Therefore, we offer the following recommendations.

Recommendation #1:

The Board of Building Regulations & Standards and the Board of Fire Prevention Regulations should immediately prohibit the use of all foam plastics on interior finishes in all unsprinklered nightclubs, discotheques, dance halls, and bars.

According to the Task Force’s recommendation for sprinkler systems, in the future all nightclubs, discotheques, dance halls, and bars will be equipped with automatic sprinkler systems, rendering this recommendation moot. In the interim, our recommendation is to immediately remove foam plastic from unsprinklered nightclubs, discotheques, dance halls, and bars, thus reducing the risk to occupants while facilities are being retrofitted. Once sprinklers are in place, foam plastic material will be allowed on interior finishes, in line with appropriate codes.

Foam seating is currently regulated by the State Fire Code (527 CMR 29), and thermal foam insulation behind walls is regulated by State Building Code (780 CMR 2603). They are not subject to this recommendation.

Recommendation #2:

The Board of Building Regulations & Standards should review the use of foam plastics on interior finishes in buildings used for public assembly purposes, and monitor the technological development of foam plastic materials in regard to meeting flame resistance requirements. Code officials should be educated to assure that the installation of such materials is in accordance with approved testing criteria.

Recommendation #3:

The Executive Office of Public Safety should investigate the feasibility of reinstating the Toxicity Commission (a previous state-appointed body charged with studying the effects of smoke and gas developed during a fire by materials that ultimately affect the ability of a person to properly escape from a fire), and study federal oversight of interior finishes in public assembly buildings.

Recommendation #4:

The Department of Public Safety and Department of Fire Services should undertake a program to educate the regulated community (i.e., nightclub owners, restaurant managers, etc.) and enforcement agencies on the meaning of labels found on interior finish materials.

Federal law currently requires manufacturers of paneling, insulation, and other interior finishes to “tag” their product with fire resistance specifications. The Task Force believes many business owners and their contractors are unaware of these labels or unsure of their meaning, and therefore may install improper interior finishes in their facilities. This recommendation provides the means for raising awareness of these issues in the state’s regulated community.

E. Training and Education

Over many decades, Massachusetts has crafted and promulgated a comprehensive set of laws and regulations that address fire and building safety in public assembly buildings. However, laws and regulations are effective only if they are enforced and met with compliance. Ultimately it is the business owner who must assure the safety of his or her patrons by observing fire and building safety standards at all times.

In the eyes of the law, ignorance of fire regulations is no excuse for noncompliance. However, the Task Force recognizes that regulatory and enforcement authorities have a responsibility to foster a “culture of knowledge” about fire and building safety. Therefore, the Task Force calls for the creation of a comprehensive fire and building program that targets three broad constituencies: regulatory enforcement personnel, the regulated community, and the general public.

Recommendation #1:

The Department of Fire Services and the Department of Public Safety should develop and administer a joint training program on fire and building safety standards for both fire and building inspectors. This training program should include training for police officers in conjunction with the Municipal Police Training Council.

Recommendation #2:

Certification of local building inspectors is currently required on a statewide basis. With respect to fire inspectors, the General Court should enact legislation requiring each municipal fire department to have a minimum of one or more trained and certified fire inspectors. An implementation system will be devised which will allow communities a reasonable period to comply based upon population (i.e., smaller communities will have a longer period of time to implement). A contingency policy will be developed by the Massachusetts Fire Service Commission which will address how communities deal with the absence of an inspector for retirement, vacancy, injury, illness, etc.

A training curriculum should be developed in consultation with and approval of the Massachusetts Fire Service Commission, and certification will be administered under the existing certification system administered by the Massachusetts Fire Training Council. Certification will be instituted on a multi-level basis to allow various inspectional practices and areas of responsibility to be examined and certified (i.e., Basic Skills – 26 F smoke detector inspections, oil burners, LP Gas Storage; and Advanced Skills – Plans review, fire protection and fire suppression systems, life safety issues, nightclub inspections, etc.).

Successful training and examination will lead to certification. Certification of skills can be accumulated through a “punch card” system. To facilitate this program the Massachusetts Fire Training Council and the Massachusetts Colleges Online system should evaluate the feasibility of implementing an on-line training and certification system.

The authority for inspectors to act under Chapter 148 will be delegated through the existing authority of the State Fire Marshal through the local head of the fire department.

The Department of Fire Services will initiate a request to fund two full-time Code Compliance and Enforcement Officers with primary responsibility to assist local officials with new code and inspectional requirements. Additionally, funding will be sought by the Department of Fire Services to provide training and certification not only to local fire inspectors, but to venue operators as well. The Department of Fire Services request will be for \$250,000 in total.

The development and delivery of the venue operator's training program and certification of venue operators will be offset by a fee. We recommend these fees be placed in a dedicated trust fund specifically to fund the administration of these programs.

The Department of Public Safety will request \$200,000 in additional funds to provide support and assistance to local building officials.

Recommendation #3:

The Department of Fire Services and the Department of Public Safety should develop a comprehensive training program required for operators of buildings used for public assembly that would institute the employee position of Crowd Manager in all such buildings with occupancy loads of 50 or more. These programs should be designed in such a manner that operators can easily implement on-going fire and building training at their establishments for every employee. Participation in these training programs should be part of an establishment's "Fire & Building Safety Checklist," which is a condition of a Certificate of Inspection and maintenance of a liquor license. Similar training should also be offered to police personnel who are assigned to entertainment venue details.

An awareness program on issues of fire and building safety should be developed and delivered to local licensing authorities.

Police officers who are working details or assigned to other duties by the local Police Chief that are applicable to this program should be trained to verify that the establishment is instituting the "Fire & Building Safety Checklist," by verifying clear and unlocked egress, and occupancy limit posting. If violations are noted, they are to be immediately reported to fire and

building officials. Initial training for police officers should include fire and building awareness training developed through a coordinated effort between the Massachusetts Chiefs of Police Association, Inc., Department of Fire Services, and the Department of Public Safety, and delivered by the Municipal Police Training Committee (formerly Criminal Justice Training Council).

Recommendation #4:

The Executive Office of Public Safety should institute a public awareness campaign designed to raise public consciousness of personal fire and building safety when patronizing buildings used for public assembly purposes.

The Task Force believes that the best defense to ensure one's own safety in public assembly buildings is to be vigilant about fire and building standards in the businesses one chooses to patronize. A statewide social marketing campaign will help create that "culture of knowledge." The Executive Office of Public Safety should seek funding for this campaign through grants and general appropriation.

F. Legal

The Task Force recognizes that changes in any law or regulation cannot guarantee against acts of negligence or criminal conduct. However, we also recognize that enhanced criminal sanctions often encourage voluntary compliance and deter individuals from ignoring these important public safety laws. Additionally, the Task Force heard repeated testimony at its public hearings that the existing enforcement process needs to be streamlined and made more "user-friendly" for code enforcement officials.

Ideally, fire and building standards are met with voluntary compliance. And a majority of business owners do indeed comply, believing that good fire and building safety practice is good business practice. Unfortunately, some businesses choose to take chances by cutting corners to save money in this area of public safety by ignoring the laws and regulations. The Task Force realizes that, for these individuals, the current penalties are so mild that deliberate violation is seen as preferable to code compliance. We believe we must change the equation by putting more "teeth" in fire and building enforcement provisions.

Recommendation #1:

The General Court should enact legislation creating specific criminal penalties for the owner or supervisor of buildings used for public assembly purposes public assembly building who creates a dangerous condition with regard to:

- 1. Any blocked or significantly impeded ingress or egress;*
- 2. The failure to maintain or the shutting off of any fire protection or fire warning system required by law;*
- 3. The storage of any flammable or explosive without properly issued permits or in quantities in excess of allowable limits of any permit to store;*
- 4. The use of any firework or pyrotechnic device without a properly issued permit;*
- 5. Exceeding the occupancy limit established by the local building inspector.*

The first infraction should result in a fine of not more than \$5,000 and/or by imprisonment of not more than 2 1/2 years. Subsequent infractions should result in a fine of not more than \$25,000 and/or by imprisonment of up to five years.

The five violations referenced are currently considered violations under existing law. However, the penalties are minimal and have not been increased in decades. The violations also apply to all building situations in a general manner. The recommended enhanced provisions provide for substantially enhanced consequences for those persons who violate the enumerated provisions of the law as applied to public assembly buildings. The Task Force believes that certain public assembly buildings can present unique public safety risks. Accordingly, we feel justified in seeking increased penalties for this building classification to assure a heightened compliance by operators who host and profit from such activities.

Recommendation #2:

The General Court should enact legislation creating enhanced criminal penalties for an individual who violates a state building code or fire code provision that results in significant injury or death. Punishment should be a fine of not more than \$25,000 and/or imprisonment of up to five years.

Under existing criminal law, a person's reckless conduct resulting in the death of another may be charged with the generalized statutory crime of manslaughter. The Task Force's proposal will create a specific statutory crime for those individuals who violate provisions of the state building or fire codes when a violation results in significant injury or death. This approach is similar to the motor vehicle law (M.G.L. c. 90 §24G) which establishes a specific crime when death results from the negligent operation of a motor vehicle.

Recommendation #3:

The General Court should enact legislation creating enhanced criminal penalties for individuals who violate an order to comply with fire code regulations. Punishment should be a fine of up to \$1,000 and/or by imprisonment of up to one year. The Housing Court, District Court, or Superior Court should have jurisdiction.

Under several provisions of Chapter 148 of the General Laws, the head of the local fire department has the ability to issue orders to individuals to comply with the fire laws or to remedy dangerous conditions. Although individual compliance is usually the case, certain individuals do not take such orders seriously. The lack of motivation to comply with such orders is partly due to the minimum sanctions associated with failure to comply with an order (see for example M.G.L. c. 148 §5, which sets a \$50 fine for each 48 hours that a person refuses to comply with such order; 527 CMR 1.07 and M.G.L. c. 148 §30 allow a court to impose a \$50 fine for each day of violation after notice has been given). The proposed amendment creates enhanced penalties to encourage compliance and to reduce repetitive enforcement activity targeted at those individuals who, habitually do not comply with such orders.

Recommendation #4:

The General Court should enact legislation creating statewide uniform building and fire code enforcement procedures by which building and fire inspectors can issue standardized “code citation tickets” to building owners/operators for code violations.

The Task Force consistently heard testimony from fire and building code enforcement officials who indicated that the existing enforcement process is time-consuming, cumbersome, and confusing. It discourages these officials from pursuing violations through the court system. Currently, code enforcement officials must first apply for criminal complaints, appear at a clerk magistrate’s hearing to determine if the complaint should be issued, then, if the complaint is indeed issued, appear at the trial date which is often continued repeatedly.

Experience of code enforcement officials shows that compliance and enforcement matters are usually corrected and resolved when officials and the regulated party have an opportunity to discuss the matter before a neutral third party in an informal manner.

Like the familiar traffic tickets, the proposed “code citation tickets” would notify the owner of the existence of a code violation. The code enforcement officer would have the option of issuing a citation (with a pre-determined fine) or a written warning. In either case the offender would be ordered to correct the violation within a specified time. Those who receive a citation would have a choice of paying the fine or requesting a hearing. Hearings should be held before a clerk with a right to appeal to a judge or magistrate.

The Task Force realizes that the suggested code enforcement procedures require close cooperation between code enforcement officials, municipal clerks, and the court, which will develop compatible methodologies and necessary training.

The specific procedure should be formulated in consultation with and after input from representatives of the trial court particularly the housing court because of the department’s familiarity with existing codes and enforcement issues. Discussions should also take place with district court department for those jurisdictions without housing court. Fines would be paid to the municipality, if the municipality issues the citation, or to the Commonwealth, if a state official issues the citation. Fines collected would be earmarked to enhance and supplement enforcement, training, and education activities.

An important component of this process involves the suspension and/or revocation of licenses and certificates (liquor and occupancy) for those who ignore code violations or are habitual code offenders. Such people should not be able to conduct activities that jeopardize the safety of their customers or public safety personnel without serious consequences.

The impact of this recommendation is substantial. Due to the coordination necessary to properly implement the draft legislation for this recommendation, further review, in consultation with the affected parties, is extremely necessary.

IV. Funding & Resources

The Task Force recognizes, based on significant testimony from municipal fire and building officials, that implementation of the regulatory and statutory changes requiring additional responsibilities at the local level will have a substantial fiscal impact. While this issue was not originally part of the Task Force mission, the members of the Task Force feel that it is a significant consideration.

On a number of occasions during our public hearings, both fire and building officials testified that they are hard pressed and in some cases incapable of meeting the existing statutory and regulatory obligations already placed upon them.

Accordingly, funding mechanisms to support or increase local capability must be included in legislative proposals to address the Fire and Building Safety initiatives recommended by this Task Force, and provisions must be made to mitigate the financial burden on the regulated community.

The Task Force is recommending legislation to require all existing and new nightclubs to bear the cost of installing automatic sprinkler systems.

All of these financial considerations, however, must be weighed in the context of a fire disaster such as The Station fire. To those who lost loved ones in the tragedy, it's a bitter pill to consider that the tragedy might have been averted had the nightclub spent what some experts have estimated as \$30,000 or so to install sprinklers. What is the price of a human life?

On the other hand, the goal of the Task Force is to make the patrons and employees of public assembly structures as safe from fire as possible by establishing a framework of reasonable, viable fire safety and building regulations. By “reasonable and viable,” we mean that the costs of compliance must be weighed against the financial realities of those who must comply. To that end, the Task Force makes the following recommendations for providing municipalities and venue owners with funding and resources to implement the task force recommendations.

Recommendation #1:

The General Court should enact legislation to create funding that provides financial resources to municipalities for inspection and enforcement of code regulations.

The Task Force suggests two funding streams that could provide communities with enhanced inspectional capabilities:

- The Alcoholic Beverages Control Commission should consider an increase up to 10% on local liquor license application fees and annual renewal fees, with the proceeds going to the municipality for code inspection and enforcement. The municipality could cap the actual fee or pro-rate the fee according to a sliding scale based on occupancy of the establishment.
- The second revenue source would be derived from 100% of the fines as a result of “code enforcement tickets” issued by local inspectors. All revenue from such fees would remain with the community to support the local fire and building inspection services.

Recommendation #2:

The Massachusetts Department of Revenue (DOR) should create an accelerated depreciation schedule for automatic sprinkler systems installed as a retrofit in existing nightclubs, discotheques, dance halls, and bars. Sprinklers should be re-classified as five-year property instead of the current 39-year classification. This recommendation would only take effect if similar legislation (H.R. 1824, currently before the U.S. Congress) is not enacted at the federal level.

Alternatively, the DOR could create a tax credit for existing nightclubs, discotheques, dance halls, and bars retrofitting with automatic sprinkler systems. Unlike depreciation, tax credits would provide even greater financial relief for those required to install automatic sprinklers in required occupancies. While depreciation allows a recapture of expenditures by reducing the adjusted gross income of the recipient, a tax credit would provide an actual dollar-for-dollar recovery deducted from the “below the line” taxable income of the recipient.

Recommendation #3:

The Task Force recommends further exploration of various cost containment measures to assist property owners in providing automatic sprinkler protection.

Currently the insurance industry offers substantial, reduced premiums if sprinkler systems are properly designed, installed and maintained in accordance with the Insurance Services Office (ISO) guidelines which follow the National Fire Protection Association (NFPA) 13 standard. However, under state law, some properties are specifically not required to install expressly, or by appeal, to meet the full requirements of the NFPA 13 standard. This situation has the unintended affect of reducing the percentage of discount many businesses would receive under the current loss cost program.

Recommendation #4:

The Executive Office of Economic Affairs should explore the development of a program with the federal Small Business Administration (SBA) to provide no-interest and low-interest loans to qualified business owners to help facilitate the installation of automatic sprinkler systems and other recommended upgrades.

In Rhode Island, following The Station nightclub fire, several lenders submitted assistance plan proposals to the SBA for lending to businesses that require improvements relating to fire and building safety. The Rhode Island Economic Development Corporation teamed up with SBA to ensure that small businesses receive loans to comply with new fire/building code regulations. Massachusetts should offer a similar arrangement for businesses in the Commonwealth.

Recommendation #5:

The General Court should enact legislation to limit the costs currently charged by cities, towns, and private water departments to businesses tying into municipal water mains for the purpose of installing an automatic sprinkler system. Such fees should be limited to actual costs (materials, labor, and incidentals) incurred by the municipality or private water department. This will help reduce the overall cost of the required sprinkler installation.

Recommendation #6:

The General Court should appropriate funding for the Department of Fire Services in the amount of \$250,000 and the Department of Public Safety in the amount of \$200,000 to carry out compliance and enforcement activities as well as training and education programs as recommended by the Task Force.

V. Conclusion

The Task Force has approached its responsibilities, as reflected in this report, with grim determination. Two of our members experienced the loss of family members in The Station nightclub fire, and the memories of the 100 dead and 200 injured permeated our every meeting and discussion.

For this reason, we undertook a comprehensive process to uncover the facts, study the alternatives, and make recommendations that will hopefully make public assembly buildings in Massachusetts safer than they were before.

It is our ardent desire that these recommendations become more than words on a page. They must be implemented if we are to better secure public safety in nightclubs, discotheques, dance halls, bars, and other public assembly buildings.

Members of the Task Force are committed to helping implement the recommendations. Following release of this report, we are drafting legislative and regulatory changes and submitting them to the General Court and the appropriate regulatory agencies. We will monitor their progress and assist with information and technical expertise. We will do what it takes to realize our goals for fire and building safety.

The Task Force would like to thank Governor Romney and Secretary Flynn for the opportunity to bring these important issues to the forefront. We would particularly like to recognize the scores of individuals who took the time and made the effort to testify before the Task Force. You provided us with invaluable opinions, insights, and a variety of issues from a variety of perspectives. With your help, we can help make Massachusetts a safer place.

FOOTNOTES

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- ⁱ “Assembly Use-Group structure: Building used primarily as a place of public assembly such as civic, educational, social, or religious functions, recreation, food or drink consumption, or awaiting transportation; includes “A-1” through “A-5” structures as defined in the State Building Code, 780 CMR.
- “A-1” use group structure: Theatres and other buildings intended for the production and viewing of performing arts or movies; defined in the State Building Code, 780 CMR.
- “A-2” use group structure: Dance halls and nightclubs with an occupancy of more than 50 people; defined in the State Building Code, 780 CMR. For the purposes of the Task Force recommendations, bars will be included in the “A-2” definition, and those with an occupancy limit of fewer than 50 will be exempted from the requirements (both new and existing).
- “A-3” use group structure: Art galleries, exhibition halls, museums, lecture halls, libraries, restaurants other than nightclubs, and recreation centers; defined in the State Building Code, 780 CMR.
- “A-4” use group structure: Churches, synagogues, and other buildings designed exclusively for worship.
- “A-5” use group structure: Outdoor places of assembly including stadiums, coliseums, amusement parks, fairs, and carnival structures; defined in the State Building Code, 780 CMR.
- ⁱⁱ Egress: Means of exiting a building in a continuous, unobstructed manner; a means of egress consists of three parts -- the exit access, the exit, and the exit discharge; current building code calls requires the main exit to handle 50% of the building’s occupancy load, with all remaining exits combined capable of handling the other 50%.
- ⁱⁱⁱ Pyrotechnics: Fireworks or other explosive devices used for entertainment or special effects; defined in the State Fire Code, 527 CMR.
- ^{iv} Dependent on square footage of the facility; minimum of 12,000 square feet for “A-1” structures, minimum of 5,000 square feet for “A-2” structures and a minimum of 12,000 square feet for “A-3.”
- ^v The six subcommittees were: Sprinklers, Egress, Pyrotechnics, Interior Finishes, Training & Education, and Legal.
- ^{vi} The task force recommendations regarding the installation of automatic sprinklers were approved by a near unanimous vote of the task force. The Building Officials of Western Massachusetts wish to be recorded as opposed to the task force recommendation on increased use of automatic sprinklers.

^{vii} Pamphlet on the *Fire Sprinkler Incentive Act of 2003*, published by an ad hoc committee consisting of the National Fire Protection Association, American Fire Sprinkler Association, Campus Firewatch, Congressional Fire Services Institute, International Association of Fire Chiefs, National Fire Sprinkler Association; April 18, 2003.

^{viii} Occupant Load: The number of people that are permitted to occupy a building or portion of a building at any one time; defined by the State Building Code.

APPENDICES

For More Information

Department of Fire Services

P.O. Box 1025
State Road
Stow, MA 01775-1025
www.state.ma.us/dfs

Stephen D. Coan, State Fire Marshal	978-567-3111
Thomas P. Leonard, Deputy State Fire Marshal	978-567-3112
Timothee Rodrique, Director, Office of the State Fire Marshal	978-567-3301
Todd Harrington, Explosives Safety Manager	978-567-3372
Jennifer Mieth, Public Information Officer/ Public Education Manager	978-567-3381
Steven P. Rourke, General Counsel	978-567-3182
Peter Senopoulos, Deputy Chief General Counsel	978-567-3183
Peter Lamb, Director, Massachusetts Firefighting Academy	978-567-3114
Everett Pierce, Programs Manager	978-567-3210
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Department of Public Safety

One Ashburton Place
Boston, Massachusetts 02108
www.state.ma.us/dps

Joseph Lalli, Commissioner	617-727-3200
Steven Osgood, General Counsel	
Board of Building Regulations & Standards	617-727-3200
Brian Gore, Technical Director	
Board of Building Regulations & Standards	617-727-3200
Robert Anderson, Deputy Administrator	
Board of Building Regulations & Standards	617-727-5190

DRAFT

Place of Assembly Recommended Fire & Building Safety Checklist

While not all inclusive, this checklist may be used to determine if you are following the appropriate steps to insure the proper maintenance of your facility and as a tool to evaluate fire and building in the occupancy. If you find discrepancies, they must be corrected in a timely manner.

1. Permits

- _____ a. Is a Place of Assembly Permit issued by the Fire Department current and posted near the main exit of the room or space?
- _____ b. Is a Certificate of Inspection issued by Inspector of Buildings current and posted near the main exit from the room or space?
- _____ c. Are flammability permits posted for interior finish, furniture and drapes where required?

2. Emergency Planning

- _____ a. Have employees been trained and drilled in duties that they are to perform in case of fire or other emergency?
- _____ b. Have employees been trained in the types of life safety systems at your location?
- _____ c. Do employees know the locations of all manual pull stations? Do employees know how to operate the pull station?
- _____ d. If your location does not have an automatic alarm system are your employees familiar with procedures to start evacuation procedures.
- _____ e. Have employees been trained in how to notify the fire department? Have they been trained in what information to give when they are reporting a fire or emergency?
- _____ f. Are procedures in place to ensure a follow up phone call to 9-1-1 is placed?
- _____ g. Have employees been trained in the location of all the exits?
- _____ h. Have employees been trained to direct patrons to the nearest exit?
- _____ i. Have employees been trained to direct patrons to an alternate exit if the nearest exit is blocked?
- _____ j. Has a specific individual been assigned the responsibility to inspect all means of egress prior to the public being allowed in?
- _____ k. Has a specific individual been assigned the responsibility of meeting the fire department at the main entrance in the event of a fire or emergency?

3. Egress Plan

- _____ a. Is an egress floor plan showing the occupant load, seating diagram and location of exits on site?
- _____ b. Is your current layout as specified on the approved egress floor plan?
- _____ c. Are employees familiar with this plan?

4. Public Education Message for Place of Assembly

- _____ a. Are copies of an Educational Message for Public Place of Assembly posted at all entrances and as required?

5. Access

- _____ a. Prior to occupancy has the owner, manager or responsible person surveyed the exterior of the property to insure that fire department access is not obstructed by vehicles, dumpster storage containers or any other object?

6. Means of Egress

- _____ a. Prior to opening to the public has the owner, manager or responsible person surveyed the interior of the property to insure that all elements of the means of egress are not obstructed, inaccessible, locked, fastened or otherwise unsuited for immediate use?
- _____ b. Are exit signs installed at all exits and where otherwise necessary to indicate the direction of egress?
- _____ c. Are all exit signs illuminated?
- _____ d. Are all exit pathways illuminated with emergency lights? Are they being maintained and tested on a regular schedule?
- _____ e. Are emergency lighting and emergency generator maintenance test reports on site and available for review by the fire department?
- _____ f. Exit doors. Do they open in the direction of egress? Do they open easily and are unobstructed?
- _____ g. Have all exit doors been inspected to insure that they are not locked, bolted or otherwise fastened or obstructed which will prevent egress?
- _____ h. Do all automatic door closers operate properly?
- _____ i. Panic hardware, where required, is it operational?
- _____ j. Are all exit stairways and passageways free of storage or objects, which will restrict egress or will present a hazardous condition?
- _____ k. Do aisles leading to an egress door have at a minimum a 44" width. Are exit aisles free from tables, showcases, vending machines or other object, which would restrict egress?
- _____ l. Are there draperies or similar hangings that obscure the exits?

- _____ m. Is the fire escape ladder, balcony and stairway maintained in good operating order? Have fire escapes ladder, balcony and stairway been certified within the past 5 years.
- _____ n. Are all exterior stairways and fire escapes free of ice and snow?
- _____ o. Are all exterior stairways and fire escapes illuminated?
- _____ p. Are there any vehicles or objects placed under a cantilever fire escape which interferes with the means of egress or with the operation of the fire department in the event of an emergency?

7. Overcrowding

- _____ a. Is the occupant capacity for each level or room posted?
- _____ b. Is there a system in place to control the occupant capacity on each level or room?
- _____ c. Are exit aisles, passageways, corridors, fire escapes and **stairways** unobstructed by persons or objects?

8. Fire Protection Systems and Equipment

- _____ a. Is your staff familiar with the different types and functions of the fire alarm, sprinkler system, and other fire protection systems and equipment in your location?
- _____ b. Is the fire alarm panel normal?
- _____ c. Are fire detection devices, where required, such as smoke and heat detectors, sprinkler heads unobstructed and appear to be in good working condition?
- _____ d. Are all fire protective systems, fire alarm, sprinkler systems, extinguishing systems, standpipes etc. and related equipment and devices being maintained?
- _____ e. Are maintenance test reports on site available for review by the fire department?
- _____ f. Are sprinkler heads at least 18" from storage?

9. Cooking Equipment

- _____ a. Is the fire extinguishing system operational and the inspection tag current?
- _____ b. Have the staff been trained in how to operate the emergency manual switch for the extinguishing system?
- _____ c. Are hood ducts being cleaned and maintained in accordance with NFPA 96?
- _____ d. Are maintenance test reports on site available for review by the fire department?

10. Fire Extinguishers

- _____ a. Are portable fire extinguishers sufficient in number and suitable to the conditions and hazards provided?
- _____ b. Have the employees, designated to use the portable fire extinguisher, received the proper training in how to operate an extinguisher? Has your staff been trained when to fight a fire and when to evacuate?
- _____ c. Are portable fire extinguishers being maintained as required?
- _____ d. Are maintenance records on site available for review by the fire department?

11. General Housekeeping

- _____ a. Is waste material stored and properly disposed of?
- _____ b. Are flammable and combustible materials stored in a properly labeled flame resistant cabinet?
- _____ c. Is electrical wiring being used properly and being maintained in good condition?

Public Assembly Fires Through History

- 1871 Brooklyn Theatre, New York; 275+ deaths; flammable interior finish and decorations; overcrowded; most crowded portion had only one exit; no sprinkler system.
- 1883 Newhall House, Wisconsin; 71 deaths
- 1903 Iroquois Theatre, Illinois; 602 deaths, 200+ injuries; flammable building materials, interior finish, furnishings, and decorations; overcrowded, insufficient exits, locked and blocked exits, fire escapes not installed, inward opening doors, fast-moving fire, delay in notification of the fire department, no sprinkler system.
- 1908 Lakeview Elementary School, Ohio; 174 deaths; doors opened inward, no sprinkler system.
- 1911 Triangle Shirtwaist Factory, New York; 146 deaths, 260 injuries; poor housekeeping, oil-soaked floors, hanging clothes; locked exits, fire escape collapsed, exits opened in, beyond fire department reach, no sprinkler system.
- 1919 Dance Hall, Louisiana; 24 deaths; kerosene spilled on floor, delay in notification, overcrowded, only one exit, no sprinkler system.
- 1923 Cleveland School, South Carolina; 77 deaths; spill of a combustible liquid, flammable interior finish; overcrowded, only one exit, no sprinkler system.
- 1924 Hobart School, Oklahoma; 36 deaths, 37+ injuries; flammable interior finish and decorations, overcrowded, only one exit, exit opened inward, no sprinkler system.
- 1940 Rhythm Club, Mississippi; 207 deaths, 200+ injuries; combustible materials hanging from ceiling; only one exit, all windows nailed shut, doors opened inward, no sprinkler system.
- 1942 Cocoanut Grove, Massachusetts; 492 deaths, 212+ injuries; highly flammable decorations and interior finish; overcrowded, insufficient exits, locked doors, hidden and covered exit doors, revolving door, fast-moving fire.
- 1944 Ringling Brothers Circus, Connecticut; 168 deaths, 487 injuries; canvas tent treated with gasoline and paraffin for weatherproofing; blocked exits, insufficient exits, falling canvas covered people, lack of fire department access or water, no sprinkler system.
- 1946 Winecoff Hotel, Georgia; 119 deaths; only one exit, no sprinkler system.

- 1958 Our Lady of the Angels, Illinois; 95 deaths; flammable interior finish, delay in notification, no sprinkler system.
- 1977 Beverly Hills Supper Club, Kentucky; 164 deaths, 70 injuries; flammable building materials, interior finish, furnishings, and decorations; overcrowded, unmarked exits, insufficient exits, toxic smoke, fast-moving fire, no sprinkler system.
- 1980 Stouffer's Inn, New York; 26 deaths
- 1980 MGM Grande, Nevada; 85 deaths, 679+ injuries; flammable interior finish and decorations; lack of ventilation control, no sprinkler system.
- 1986 Dupont Plaza, Puerto Rico; 97 deaths, 140 injuries; storage of combustible materials, exits locked and blocked, no sprinkler system.
- 1990 Happyland Social Club, New York; 87 deaths; incendiary fire by the use of an accelerant, combustible interior finish; illegally opened club, insufficient exits, fast moving fire, sprinkler system only partially installed and operable.
- 1991 Imperial Food Processing Plant, North Carolina; 25 deaths, 46+ injuries; hydraulic oil and roof insulating materials fueled fire; thick toxic smoke, exits blocked.
- 2003 The Station nightclub, Rhode Island; 100 deaths, 180+ injuries; indoor pyrotechnic display ignited flammable interior finish; overcrowded, no sprinkler system.