



**CITY OF HOUSTON
FIRE PREVENTION BUREAU
HOUSTON FIRE DEPARTMENT**



LIFE SAFETY BUREAU (LSB) STANDARD 23

MID-RISE ATRIUM FIRE SAFETY PLAN APPROVAL

SUPERCEDES: This is a new standard

EFFECTIVE DATE: November 1, 2007

Approved by:

/s/ R. W. Galvan
Assistant Fire Marshal

/s/ T. G. Freeman
Fire Marshal

Table of Contents

SECTION 1 --- GENERAL	2
1.1 Scope.	2
1.2 Purpose.	2
SECTION 2 --- DEFINITIONS	2
2.1 Fire Safety Coordinator.	2
2.2 Fire Safety Team.	2
2.3 MET Certification Classes.	3
2.4 Supervised Fire Drill.	3
2.5 Approved Training Instructor.	3
SECTION 3 --- QUALIFICATIONS TO INSTRUCT	3
3.1 Qualifications.	3
SECTION 4 --- COMPONENTS OF FIRE SAFETY TRAINING AND CONSULTATION	3
4.1 Mid-Rise Atrium Fire Safety Training Elements.	3
SECTION 5 --- PROPERTY MANAGEMENT CONSULTATION	3
5.1 Consultations with Management.	3
SECTION 6 --- MID-RISE ATRIUM CERTIFICATION CLASS	5
6.1 Mid-Rise Atrium Certification Class.	5
6.2 Elements of Mid-Rise Atrium Fire Warden Certification training.	5
SECTION 7 --- FIRE DRILL	6
7.1 Fire Drill as final training element.	6
7.2 Prepare for and Conduct a Drill.	6
7.3 Pre-drill preparations.	6
7.4 Day of Drill preparations.	6
7.5 Conducting the Drill.	6
7.6 Post-drill.	6
SECTION 8 --- FIRE SAFETY PLAN APPROVAL	7
8.1 Conditions of approval.	7
SECTION 9 --- CERTIFICATES OF APPROVAL	7
9.1 Fire Marshal Approval letters.	7
9.2 Certificates of Completion of Fire Warden training.	7
9.3 Maintaining an approved fire safety plan.	7
REFERENCES	8

LSB STANDARD 23

MID-RISE ATRIUM FIRE SAFETY PLAN APPROVAL

SECTION 1 ---- GENERAL

1.1 Scope.

This standard shall apply to all persons seeking to provide mid-rise Atrium fire safety training and Mid-Rise Atrium fire safety plan approvals within the City of Houston in accordance with the Fire Code.

All Mid Rise Atrium Buildings shall comply with all applicable Fire and Building Codes including ordinances that require alarm or sprinkler retrofit.

Prior to compliance with the required retrofit deadline, mandated by city ordinance, all Mid Rise Atrium Buildings shall provide adequate temporary measures to accommodate all fire wardens with a means to alarm the building.

Acceptable measures will include whistles, public address systems, bullhorn, air-horn noise emitting canisters or other temporary measure as approved by the Fire Marshal. Temporary measure shall be universally applied within each Mid Rise Atrium Buildings. The use of any such temporary devices will be introduced in training, included into the written plan, along with the intentions to transition to the alarm/sprinkler retrofit ordinance.

Training in temporary and alarm/sprinkler retrofit will be determined to be effective by successful completion of a supervised fire drill by an approved instructor.

1.2 Purpose.

This standard shall provide minimum guidelines for Mid-rise Evacuation Training (MET) as mandated by LSB Standard 24, "Mid-Rise Atrium Fire Safety Plans" that requires approval by the Fire Marshal.

SECTION 2 --- DEFINITIONS

2.1 Fire Safety Coordinator.

The Fire Safety Coordinator is the representative of the owner and/ or management company of a mid-rise atrium building who is mandated by the Fire Marshal, to implement and manage all the requirements of the Fire Safety Plan. The Fire Safety Coordinator is not required to be a tenant of the building and may manage more than one mid rise atrium provided that all the fire safety plan requirements are successfully implemented at each location.

2.2 Fire Safety Team.

The Fire Safety Coordinator and Fire Wardens as specified in the approved safety plan, comprise the Fire Safety Team. The members of the Fire Safety Team shall attend required MET for certification and possess a MET certificate signed by the Fire Marshal.

2.3 MET Certification Classes.

Classes for MET certification training shall be provided to the Fire Safety Coordinator, tenant designated Fire Wardens, all property management employees, staff and/or contract personnel, by an instructor approved by the Fire Marshal to certify that they have been trained in accordance with the requirements of the City of Houston Fire Code and this standard.

2.4 Supervised Fire Drill.

A planned fire drill performed under supervision of an approved training instructor.

2.5 Approved Training Instructor.

A qualified individual approved in accordance with Section 3.1, of this standard, to instruct Mid-Rise Atrium safety to attain fire safety plan approval by the Fire Marshal.

SECTION 3 --- QUALIFICATIONS TO INSTRUCT

3.1 Qualifications.

Qualifications of individuals to instruct mid-rise atrium fire safety in accordance with requirements of the City of Houston Fire Code shall meet all the following requirements as set forth below, and be acceptable to the Fire Marshal:

1. Requires background in the fire service or related fire safety field:
 - a. Certified firefighter by the Texas Commission on Fire Protection, fire protection engineer, or combination thereof, for a minimum of 10 years, *or*
 - b. Fire/life safety director, with a minimum of 10 years experience in high-rise occupancies, *or*
 - c. Building manager or engineer with a minimum of 15 years experience in high-rise occupancies.
2. Possess at minimum a Level I (Basic) Instructor or Teaching Certification issued by:
 - a. an accredited educational institution, *or*
 - b. certified fire training academy, *or*
 - c. Texas instructor certificate or equivalent credentials.
3. Shall demonstrate working knowledge of applicable City of Houston Codes and Ordinances.

SECTION 4 --- COMPONENTS OF FIRE SAFETY TRAINING AND CONSULTATION

4.1 Mid-Rise Atrium Fire Safety Training Elements.

Mid-Rise Atrium fire safety plans require the completion of all of the following three essential training elements:

1. Consultation with property management,
2. Fire Warden Mid-Rise Atrium certification class, and
3. Completion of supervised fire drill.

SECTION 5 --- PROPERTY MANAGEMENT CONSULTATION

5.1 Consultations with Management.

The following elements shall be covered during consultations with property management personnel:

1. All Mid-Rise Atrium buildings within the City of Houston must have a Fire Marshal approved Mid-Rise Atrium Fire Safety Plan.
2. What is required to receive and maintain a Fire Marshal approved Fire Safety Plan.
3. Provide a copy of and explain HFD Standard 24, "Mid-Rise Atrium Fire Safety Plan".
4. Review a sample copy of the Houston Fire Department standard fire safety plan specific to applicable occupancy. (i.e.: Mid-Rise Atrium Office Plan, Mid-Rise Atrium Condominium and Apartment Plan, or Mid-Rise Atrium Hotel Plan). Explain in detail how the plan should be implemented and how to provide necessary information concerning operation of the building's fire and life-safety systems operate.
5. Property management is responsible for disseminating appropriate information regarding the Mid-Rise Atrium Fire Safety Plan to the people within their building.
6. Provide copy of and discuss Fire Marshal's letter, "Burning Issues."
7. Certification training is required for all Mid-Rise Atrium property management staff, employees, contract personnel and all tenant Fire Wardens.
8. Discuss the responsibilities of and train the Fire Safety Coordinator(s) to manage the approved emergency plans and procedures. Including the following:
 - a. That the Fire Wardens will notify the fire department of alarms and any known existing conditions without delay.
 - b. Explain how and when to maintain all applicable building fire safety equipment and systems to minimize the emergency's effect on the occupants, the building and responding fire department personnel.
 - c. Convey to the Fire Safety Coordinators the administration of appropriate public address announcements if applicable.
 - d. Instruct that the Fire Wardens:
 - 1) Call the Fire Department,
 - 2) Meet the arriving fire department personnel if they have pertinent information to communicate to the Fire Department.
9. Discuss notification of Answering Service as to the requirements for reporting of automatic fire alarms in accordance with the City of Houston Fire Code.
10. Provide sample copy of and discuss the Fire Marshal's approved fire alarm recording messages if applicable.
11. Provide sample copy of and discuss Building Information Sheet.
12. Provide copy of the Fire Marshal's letter, "Fire Alarm System Maintenance During Construction In High-Rise Buildings", and discuss "false" fire alarms due to construction work being performed within buildings.
13. Discuss the provisions City of Houston's *False Alarm Ordinance* as may apply to the particular occupancy in question.
14. Discuss fire drill procedures and the importance of tenants notifications in advance of any planned fire drill.
15. Provide sample letters for fire drill and fire warden certification participation.
16. Discuss the number of fire wardens required per code and set a date for the Fire Warden training if possible.

SECTION 6 --- MID-RISE ATRIUM CERTIFICATION CLASS

6.1 Mid-Rise Atrium Certification Class.

Attendance at a Mid-Rise Atrium Certification Class is required for all Mid-Rise Atrium tenant Fire Wardens and appropriate property management employees, staff and/or contract personnel.

6.2 Elements of Mid-Rise Atrium Fire Warden Certification training.

Mid-Rise Atrium Fire Warden Certification training shall include, at a minimum, the following elements:

1. All Mid-Rise Atrium buildings within the City of Houston must have a Fire Marshal approved fire safety plan.
2. Explain that the Fire Safety Coordinator is responsible for disseminating appropriate information regarding the Mid-Rise Atrium Fire Safety Plan to the people within their building.
3. Explain the building's fire safety features; fire alarm system automatic and manual operation, audible and visual alarms, public address system operations, emergency generator and/or lighting, etc.
4. The Fire Safety Coordinator is responsible to provide an adequate facility large enough to train all the required fire wardens in each Mid Rise Atrium building.
5. Explain Elevator functions and their dangers, shunt trips, elevator recall, "alternate floor" response, service elevators, etc.
6. Explain automatic fire sprinkler systems and their effectiveness.
7. Explain dangers of fire fighting and how it is best to close the door to confine the fire, notify everyone and "Get Out, Never Go Back In." Leave fire fighting to the professionals.
8. Discuss the uses and hazards of portable fire extinguishers and tenant fire hoses. When possible, provide demonstration and practice on the safe and effective use of portable fire extinguishers.
9. Discuss the role of the Fire Safety Coordinator.
10. Discuss the role of the Fire Wardens in the event of a fire or fire alarm.
11. Discuss in detail the fire plan's - "Procedures for Reporting Fires and Fire Alarms".
12. Discussion on how fires can quickly spread, the movement of smoke within buildings and the effects on the human body. Emphasize the need to get down and stay down low in a fire situation.
13. Discuss the "Delay of Alarm" and present examples in history.
14. Discuss the cause and effect of panic during fire situations.
15. Discuss smoke detector use, functions and the location of detectors in relation to early or delayed detection.
16. Discuss fire prevention, safety, and pre-fire planning on the job.
17. Discuss the planned fire drill to be conducted within the Mid-Rise Atrium building and what it may entail.
18. Discuss fire department responses and need to notify the fire department of any changes in conditions.
19. Explain how smoke spreads in an atrium building and the need for immediate evacuation and the limits and feasibility of areas of refuge within the atrium building.

20. Discuss “Compartmentalization” – floor and ceiling assemblies, inside doors, hallway walls and doors, stair doors, stair ratings, and stair pressurization.
21. Discuss general fire safety and pre-fire planning in the home (E.D.I.T.H. or similar fire safety programs).

SECTION 7 --- FIRE DRILL

7.1 Fire Drill as final training element.

The final step in the plan approval process is a supervised fire drill.

7.2 Prepare for and Conduct a Drill.

The following steps shall be taken to prepare for, conduct, and review the effectiveness of a fire drill.

7.3 Pre-drill preparations.

1. The Fire Safety Coordinator shall provide all of the tenants on every floor with written notification of the intent to conduct a fire drill in advance of the date chosen by management.
2. It is recommended that property management arrange for representatives from the fire alarm and elevator service companies to be present at the building at the time of the fire drill when possible.

7.4 Day of Drill preparations.

1. It is recommended that property management again provide means for the notification of tenants and visitors to the building as to the specific time of the planned fire drill.
2. Property management shall notify their fire alarm monitoring services (where applicable) and the fire department emergency communication center in advance, of the planned fire drill. The UL monitoring station shall be told to NOT call the fire department during time of the fire drill.

7.5 Conducting the Drill.

1. At the previously announced start time, the building or the selected floors within the building should be put into alarm.
2. All elevators should be placed in Fire Service Recall (Phase-I Fire Service) to recall to their designated floor(s).
3. Design the fire drill to spot check building systems operation to see if they will function properly.

7.6 Post-drill.

1. At the conclusion of the drill, property management shall immediately notify their fire alarm monitoring services (where applicable) and the fire department emergency communication center, that the fire drill has concluded and that the building is to be placed back on fire alarm monitoring status.
2. A post-fire drill review should be conducted to analyze the effectiveness of the fire drill and resolve any problems encountered.
3. Recommendations should be made on how additional training can improve performance.

SECTION 8 --- FIRE SAFETY PLAN APPROVAL

8.1 Conditions of approval.

Approval of a fire safety plan by the Fire Marshal is contingent upon completion of the following:

1. Completion of all required training elements.
2. Completion of a standard fire safety plan with adequate number of trained Fire Wardens.
3. Building management and personnel demonstrating adequate knowledge and performance of emergency procedures and basic operation of building's emergency systems.

SECTION 9 --- CERTIFICATES OF APPROVAL

9.1 Fire Marshal Approval letters.

Once Property Management has completed all of the requirements covered within this standard, a letter requesting approval shall be prepared and submitted to the Fire Marshal for approval by the individual(s) approved to provide such training. Upon receipt of the request letter and approval by the Fire Marshal, the Fire Marshal will issue a letter or certificate of approval for that building.

9.2 Certificates of Completion of Fire Warden training.

A certificate of satisfactory course completion shall be issued by individuals providing Fire Marshal approved Fire Warden training. Provision and distribution of certificates are solely the responsibility of those individuals providing the class instruction. A copy of such certificate shall be submitted to the Fire Marshal for prior approval. The design of the certificate shall be sufficiently different so as not to be confused with those issued by the Houston Fire Department. Each certificate shall include the recipient's name, the instructor's name and date of the class written or printed legibly on it, and shall be considered valid for a period of 5 years from the class date.

9.3 Maintaining an approved fire safety plan.

Fire Safety Plan approvals are maintained for a period of 2 years, unless any of the following conditions should occur:

1. Change of Fire Safety Coordinator, unless site certified within less than 30 days of change, *or*
2. The minimum required number of Fire Wardens lack certification, *or*
3. Change of building's occupancy classification, *or*
4. Plan becomes outdated due to age or changes in City of Houston codes, ordinances or standards.

REFERENCES

1. City of Houston *Fire Code*, International Fire Code, 2000 edition, as amended
2. Life Safety-Bureau (LSB) Standard 06, "Fire Depository Boxes"
3. Life Safety-Bureau (LSB) Standard 24, "Mid-Rise Atrium Fire Safety Plans"
4. Life Safety Bureau (LSB) Standard 08, "Fire Drills"
5. Fire Marshal's Letter, "***Burning Issues***",
6. Fire Marshal's Letter, "Fire Alarm System Maintenance During Construction In Mid-rise Atrium Buildings",



BURNING ISSUES



**PROCEDURES FOR TRANSMITTING
AUTOMATIC FIRE ALARMS**

It has come to my attention that there is some confusion as to the proper procedures for transmitting automatic fire alarms to this department. Let me clarify this procedure by referring to Chapter 4, Section 401.3 of the City of Houston Fire Code and National Fire Protection Association (NFPA) Standard 72, "National Fire Alarm Code", Section 5-2.6.1.1 which clearly states that any transmission of an alarm shall be relayed without delay.

Simply stated, the first action taken by building personnel responsible for safety evacuation, is to call 9-1-1 immediately upon receipt or knowledge of an alarm or any suspicion of fire. This shall be the first step in your evacuation plan. UL Listed central receiving stations and second-party monitoring companies shall also immediately relay any signal they receive from a subscriber building without delay to this department.

After the initial transmission of the alarm to this department, any secondary qualifying information such as a determination of a false alarm may be relayed to our emergency communication center; we will make the determination as to the proper emergency equipment response at that time.

Any occupancy or receiving station found guilty of delaying or otherwise suppressing the immediate relay of alarms or reports in their facility, will not only subject themselves to the full liability of any unnecessary damage or loss of life resulting from that delay, but will also receive a citation issued by a Fire Inspector. Fines range from \$500 to \$2000 for each violation of the aforementioned City Ordinance.

Also remember that alarm systems are required to be in proper working order at all times; repeated alarms due to malfunction or inoperative alarm systems must be corrected by responsible parties.

I know that you are as concerned as we here at the Houston Fire Department with the safety of personnel and guests at your facility. Working together, we can make a difference through quicker response, which is imperative in any emergency where human life and property are at risk.

Richard Galvan
Assistant Fire Marshal



Fire Alarm System Maintenance During Construction in Buildings

“The fire and life-safety systems required by City of Houston Codes are maintained in an operative condition at all times.” Houston Fire Code Section 901.6

If the nature of construction warrants, the following options are approved by the Houston Fire Department, in accordance with Chapter 9, Section 901 of the City of Houston *Fire Code*, during the full or partial construction of floor(s) with in a building:

1. Installation of molded plastic cups over smoke detectors.
2. Installation of bags over smoke detectors.
3. Replacement of smoke detectors with rate-of-rise heat detectors.

If cups or bags are installed, a written process shall be established by the Building Management and included into all Building's Constructions Rules and Regulations to ensure:

1. Proper installation of cups/bags.
2. Proper removal of cups/bags whenever area is unoccupied and following up to verify removal.
3. Maintenance of daily documentation of involved locations, including contact names.
4. Designation of appropriate person(s) in construction area to activate the fire alarm, call the Houston Fire Department and building management in the event of an actual smoke / fire situation.

Heat detectors are not acceptable in elevator lobbies. Lobbies must have cups/bags installed on smoke detectors.

The Houston Fire Department does not allow the disabling of an alarm system by device, zone or floor, nor the complete deactivation of the fire alarm system.

In the event of demolition of a floor(s) including the removal of the fire alarm system, building management shall:

1. Notify the Houston Fire Department Office of Emergency Communications by telephone at: (713) 884-3143 fax (713) 884-4237.
2. Check with an alarm company for temporary alternatives.
3. Minimum requirements are a temporary standpipe and two exits from the building.

Violation of the above requirements may subject the building management to Fire Code citations, (fines \$500 - \$2000) for each violation, and /or fines for violation of False Fire Alarm Ordinance.

Richard Galvan
Assistant Fire Marshal