

## Building Management

### Evacuation System for High-Rise Buildings



#### **Givens:**

Standards follow the National Fire Protection Associates (NFPA) and the National Safety Council recommendations.

The difference in building design and construction, etc. requires this document be used as a guideline. Your site-specific needs should be governed by local codes and regulations. Fire control and emergency evacuation experts should be consulted. Life Safety Associates® provides turn-key support in this arena.

A high-rise building is a building with a height greater than 75 feet.

Generally, evacuation will be from the emergency floor and two to four floors immediately above and below it. Fire personnel may evacuate additional floors at their discretion.

High-rise buildings within different industries/sectors require additional elements within their written documents, plans and procedures, e.g. Hotels.

#### **Development:**

Effective evacuations depend on several key elements. Each element is part of the whole and must be included in an overall plan. This is a briefing of those key elements. Life Safety Associates® can provide details for each element and a written plan that is industry and site-specific.

- **Building Evacuation Organization**

- Every high-rise building must have a detailed written emergency procedures plan.
- Every company within a high-rise complex must adhere to the common written building emergency evacuation policy and plan.
- Each occupant must be informed of the emergency plan and have an Occupants Safety Handbook. Occupant training should be done upon hire and annually thereafter.
- There must be assigned and trained floor wardens to provide a means of leadership during an emergency building evacuation - training should be annual. There should also be a documented and functional chain-of-command.
- Emergency warning and fire suppression systems as well as reporting policies for fire and other hazards must be in place. This would include; fire alarms, bull-horns, overhead speakers, internal communications system, etc.
- Additionally, an effective two-way communications system should be provided for every floor. This communication system will assist in linking the buildings' communication control center and responding fire department personnel.
- Current evacuation maps should be located on every floor and near every elevator.
- Assign a building evacuation coordinator and alternate to manage the overall plan.
- Development of an evacuation drill program, which should include; periodic drills, floor warden operations; building coordinator roles; occupants' responsibilities. This should also include training on "Progressive Movement" of occupants to assigned assembly areas.

- **Written Policies And Plans**

- Building management must provide a written Occupants Safety Handbook to all tenants and it must include;
  - Description of the buildings' fire fighting and detection system as well as fire reporting system.
  - Emergency evacuation plan and communication system.
  - Each tenant must agree to work within the building emergency action plan and this should be part of a signed lease. Each must furnish assigned floor wardens and alternates and have them available for training and practice drills.
  - Listing of the Chain-of-Command.
  - Emergency evacuation notification methods.
  - Shelter-in-place, when and how.
  - Decision to evacuate or shelter-in-place.
    - Fire, earthquake, violence, terrorism, power outage, ordered evacuation, bomb threat, hazardous materials release, aircraft, elevator, explosion, medical, search & rescue, civil uprising, weather, flood, etc.
  - Evacuation communications.
  - Evacuation priorities.
  - Emergency evacuation for persons with disabilities
  - Preplanning and evacuation.
  - Means of evacuation.
  - Exiting - stairwells and elevator usage
  - Assembly areas.
  - Emergency evacuation activation.
  - Occupants' evacuation procedures and responsibilities.
  - Floor warden roles and responsibilities.
  - Building central control in the event of an emergency evacuation.
  - Evacuation routes - maps.
  - Evacuation drills - schedule of programmed drills.
  - Communications
    - During normal business hours
    - Off-hours
    - Communications backup

- **Responsibility Of Building Management**
  - **Occupants Safety Handbook**
  - **Training**
    - Floor wardens and alternates.
      - Training booklets are required.
    - Occupants.
      - Safety Handbook is required.
    - Building coordinator and alternates.
    - Annual retraining is required.
    - Coverage for all shifts must be provided.
    - Evacuation procedures for the physically challenged.
- **Inspection And Maintenance Team**
  - Should consist of each tenant representative, building management and building evacuation coordinator. The team must review the overall plan at least annually.
  - A recent site inspection should be done by your local fire authority or consultant.
  - Utilize the National Safety Council's Evacuation Checklist as a preparedness tool. (end of this document)
  - Review your Occupants Safety Handbook with your local fire authority.
  - Annual tenant questionnaire; any changes in the originally leased disclosures; storage of hazardous chemicals or other related hazardous conditions.

## Hotels

- Emergency Plans should include:
  - Guest emergency evacuation notification
  - Guest accountability procedures
  - Specific department emergency response plans
    - Accounting/HR/Corporate
    - Banquet
    - Communications center
    - Engineering
    - Garage
    - Guest services
      - Bellmen
      - Concierge
      - Front Desk
      - Front Office
    - Hotel manager
    - Housekeeping
      - Bloodborne pathogens training
    - Laundry/Valet
      - Bloodborne pathogens training
    - Loss prevention/security
    - Sales and catering
    - Steward
  - Hazardous Communications (right-to-know) to all employees

Life Safety Associates® provides Occupants Safety Handbooks for low and high-rise buildings for multiple sectors.

### **Corporate Headquarters**

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## National Safety Council Checklist

<b>Evacuation Preparedness Self-Evacuation Checklist</b>				
<p><b>Note:</b> All questions in this checklist should be answered with "yes," "no," "NA" (not applicable), or "U" (undetermined). For all answers that are not "yes," or "NA," the specific areas needing correction, the persons responsible, etc., should be noted in the "comments" column.</p>	Yes/ NA	No	U	Comments
<p><b>Floor Diagrams:</b></p> <p>Are floor plans prominently posted on each floor?</p> <p>Is each plan legible?</p> <p>Does the plan indicate every emergency exit on the floor?</p> <p>Is a person looking at the plan, properly oriented by an "X" (that is, "you are here now")?</p> <p>Are room number identifications for the floor as well as compass directions given?</p> <p>Are directions to stairwells clearly indicated?</p> <p>Are local and familiar terms used on the diagram to define directions to emergency exit stairwells? For example, are particular areas identified, such as mail room, cafeteria, personnel department, wash rooms and lavatories, etc.?</p>				

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Exit paths to stairwells:				
If color coding of pillars and doors, or stripes and markings on floors are used, are they properly explained?				
Is additional clarification needed?				
Are paths to exits relatively straight and clear of all obstructions?				
Are proper instructions posted at changes of direction en route to an emergency exit?				
Are overpressure systems and venting systems operative?				
Elevators:  Are signs prominently posted at and on elevators warning of the possible dangers in use of elevators during fire and emergency evacuation situations?				
Do these signs indicate the direction of emergency exit stairwells which are available for use?				
Elderly and physically handicapped:				
Are there elderly or physically handicapped persons who will need assistance during a fire and emergency evacuation of premises?				
What provision is made for their removal during an emergency?				
Who will assist? How will the handicapped be moved?				

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<p>Emergency exit doors:</p>				
<p>Are all emergency exits properly identified?</p>				
<p>Are exit door location signs adequately and reliably illuminated?</p>				
<p>Do exit doors open easily and swing in proper direction (open out)?</p>				
<p>Are any exit doors blocked, chained, locked, partially blocked, obstructed by cabinets, coat racks, umbrella stands, packages, etc.?</p>				
<p>NOTE: Blockage must be prohibited and removed immediately.</p>				
<p>Are all exit doors self-closing?</p>				
<p>Are there complete closures of each door?</p>				
<p>Are all exit doors kept closed, or are they occasionally propped open for convenience or to allow for ventilation?</p>				
<p>NOTE: This practice must be prohibited. Emergency stairwells:</p>				
<p>Are stair treads and risers in good condition?</p>				
<p>Are stairwells free of mops, pails, brooms, rags, packages, barrels, or any other obstruction materials?</p>				



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<p>Are all stairwells equipped with proper handrails?</p> <p>Does each emergency stairwell go directly to the grade floor exit level without interruption?</p> <p>Does the stairwell terminate at some interim-point in the building?</p> <p>If so, are there clear directions at that point which show the way to completion of exit?</p> <p>Is there provision for directing occupants to refuge areas out of and away from the building when they reach the ground floor?</p> <p>Are directions provided where evacuees can congregate for a "head count" during and after the evacuation has been complete?</p> <p>Is there adequate lighting in the stairwell?</p> <p>Are any bulbs and/or fixtures broken or missing?</p> <p>Where? Describe locations.</p> <p>Are exits properly identified?</p> <p>Are they illuminated for day, night, and power-loss situations?</p> <p>Are any confusing non-exits clearly marked for what they are?</p> <p>Are floor numbers displayed prominently on both sides of exit doors?</p>				

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<p>Emergency lighting:</p> <p>In the event of an electrical power failure or interruption of service in the building, is automatic or manually operated emergency lighting available?</p> <p>If not, what will be used?</p> <p>Where are stand-by lights kept?</p> <p>Who controls them?</p> <p>How would they be made available during an emergency?</p> <p>Is there an emergency generator in the building?</p> <p>Is it operable?</p> <p>Is it secured against sabotage?</p> <p>Is a "fail-safe" type of emergency lighting system available for the exit stairwells that will function automatically in event of total power failure?</p> <p>How long can it provide light?</p> <p>Is the emergency lighting tested on a regular monthly basis with results recorded? Who maintains such records?</p>				

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<p>Communications:</p> <p>How should occupants of the building be notified that an emergency evacuation is necessary?</p> <p>Are one or more forms of communication systems available to each tenant floor? (P.A. system, Musak, stand-pipe phones, battery-operated "pagers," etc.)</p> <p>If messengers must be used, have they been properly instructed?</p> <p>Is the communication system in good working condition?</p> <p>Under what emergency conditions is it used and who operates it?</p> <p>Is the communications system protected from sabotage?</p> <p>Do all occupants know how to contact building control to report a dangerous situation?</p> <p>Is the building's emergency communications system tested monthly? By whom and to what extent?</p> <p>Inspection completed by: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Date of Inspection: _____</p>				