

EMERGENCY PLANNING AND PREPAREDNESS



§F401.1 Scope

Exception:

Firms that have approved on-premises fire-fighting organizations and that are in compliance with approved procedures for fire reporting.



§F401.1 Scope

Reporting of emergencies, coordination with emergency response forces, emergency plans, and procedures for managing or responding to emergencies shall comply with the provisions of this section



There is one exception that recognizes organizations, such as large industrial sites, that have on site fire brigades. The fire brigades and the associated reporting procedures must be approved by the authority having jurisdiction.



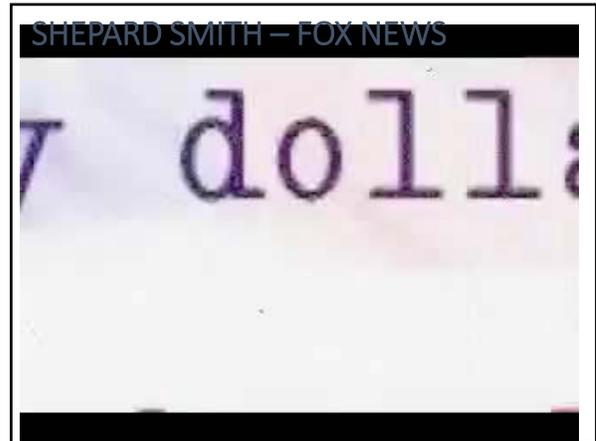
This section describes the overall scope of Chapter 4, which notes that all procedures relating to reporting and managing fire and other emergencies be in accordance with this chapter.

§F401.2 Approval

Where required by this code, fire safety plans, emergency procedures, and employee training programs shall be approved by the code enforcement official.



To verify that emergency procedures, training and fire safety plans have taken all essential factors into account, the plans and procedures must be approved by the fire code official.



§F401.3 Emergency forces notification

In the event an unwanted fire occurs on a property, the owner or occupant shall immediately report such condition to the fire department.

Building employees and tenants shall implement the appropriate emergency plans and procedures.

No person shall, by verbal or written directive, require any delay in the reporting of a fire to the fire department.



<http://thedailyshow.cc.com/videos/4wwZ77/brian-williams--nightly-news--fire-alarm>

This section requires prompt notification of the fire department in the event of an emergency.

Employees/occupants are prohibited from delaying in any way the notification of the fire department.



§F401.3.2 Alarm activations.

Upon activation of a fire alarm signal, employees or staff shall immediately notify the fire department.



This section specifically requires immediate notification of the fire department or other emergency response groups when an alarm signal is activated.

Emergency plans and procedures **must not** include the requirement that employees report an alarm to a supervisor or similar person first. Quick response is the key to efficient and effective fire fighting.

§F401.4 Security device.

Any security device or system that emits any medium that could obscure a means of egress in any building, structure or premise shall be prohibited.



**§F401.3.3
Emergency evacuation drills.**

Nothing in this section shall prohibit the sounding of a fire alarm signal for the carrying out of an emergency evacuation drill in accordance with the provisions of §F405



Security devices that, when activated, emit into a building a medium such as smoke or other aerosols that could obscure exits or confuse the occupants create an inherently dangerous situation for the public and responding emergency personnel.

In cases of activation of these devices, armed criminal perpetrators could be trapped inside buildings.

This section specifically allows fire alarm signals to be utilized as part of emergency evacuation drills.

Without this provision, Section 401.3.1 would not allow the activation of the alarm signal during an emergency evacuation drill.



Law enforcement personnel arriving on the scene could easily believe that a building is on fire and responding fire fighters could enter and be confronted by the perpetrator.

Another danger is that false fire alarms could be transmitted automatically or by passersby because of the appearance of smoke in the building.



PUBLIC ASSEMBLAGES



EMERGENCY EVACUATION DRILL

An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency evacuation procedures.



§F403.1 General

When, in the opinion of the code enforcement official, it is essential for public safety in a place of assembly or any other place where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity,

§F403

PUBLIC ASSEMBLAGES AND EVENTS

§F403.1 General

the owner, agent or lessee shall provide one or more fire watch personnel, as required and approved, to remain on duty during the times such places are open to the public, or when such activity is being conducted.



§F403.1 General

The fire watch personnel shall keep diligent watch for fires, obstructions to means of egress and other hazards during the time such place is open to the public or such activity is being conducted and take prompt measures for remediation of hazards, extinguishment of fires that occur and assist in the evacuation of the public from the structures.

FIRE WATCH

A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

Even though Chapter 24 requires standby personnel in tents and membrane structures because of the inherently higher life safety risks associated with such occupancies, this section gives the fire code official the authority to require fire-watch personnel in indoor or outdoor Group A occupancies.....



§F403.1.1 Public safety plan

Except in Group A or E occupancies, where the code enforcement official determines that an indoor or outdoor gathering of persons has an adverse impact on public safety through diminished access to buildings, structures, fire hydrants and fire apparatus access roads or where such gatherings adversely affect public safety

or other venues where people congregate when the nature of the performance, exhibition, display, contest or activity is such that the presence of fire-watch personnel are essential to public safety (see commentary, Section 202, to the definition of "Fire watch").



§F403.1.1 Public safety plan

services of any kind, the code enforcement official shall have the authority to order the development of, or prescribe a plan for, the provision of an approved level of public safety.

See Part 18 of NYS Sanitary Code, Title 10 NYCRR, for outdoor gatherings.



This section notes that these provisions are not for Group A and E occupancies, which are dealt with more specifically elsewhere in this chapter.

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Such gatherings could include outdoor festivals, demonstrations or receptions. If such assemblies include the use of tents and canopies, Chapter 24 would also apply.

§F403.1.2 Contents.

The public safety plan, where required by §F403.1.1, shall include provisions for emergency vehicle access, fire protection, pedestrian and vehicle access for attendees and emergency services personnel, vendor and food concession distribution, and parking. The public safety plan shall be submitted to the code enforcement official for approval.

Again, the primary aim of this section is to address the fact that these large gatherings may hamper the ability of the fire department and other emergency responders to access and protect buildings and building occupants.



Farmers Market



Philadelphia food truck fire



As further guidance, this section provides some specific issues to be addressed that include items such as the direction of traffic; vendor and food concession distribution and the need for law enforcement and medical services.



§F404

FIRE SAFETY AND EVACUATION PLANS

Fire Marshal Determines Cause In Feltonville Food Truck Explosion

- <http://philadelphia.cbslocal.com/video?autoStart=true&topVideoCatNo=default&clipId=10437335>

§F404.2 Where required.

An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

Group A

1. Group A other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.



FIRE SAFETY AND EVACUATION PLANS

- 8. High-rise buildings.
- 9. Group M buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- 10. Covered malls exceeding 50,000 square feet (4645 m²) in aggregate floor area.
- 11. Underground buildings.

Group B

2. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.



FIRE SAFETY AND EVACUATION PLANS

- 12. Buildings with an atrium and having an occupancy in Group A, E or M.
- 13. Group R-3 bed and breakfast dwellings.
- 14. Group R-2 senior citizen housing.

FIRE SAFETY AND EVACUATION PLANS

- 3. Group E.
- 4. Group H.
- 5. Group I.
- 6. Group R-1.
- 7. Group R-4.

The list provided notes when plans and procedures need to be developed. As discussed earlier, the occupancies and uses addressed by this chapter were chosen based on the density and location of occupants, the layout of the building or simply the limitations of the occupants during an emergency.

Keep in mind that these requirements apply to all occupancies listed in Section 404.2. The occupancy- and use-specific requirements are located within Section 408; therefore, the requirements listed here are general and will vary based on many factors, such as the occupants' mobility and familiarity with the building.

Item 1
 requires that specific escape routes be defined. This is important because the building is generally designed to facilitate evacuation or relocation in an emergency if the patterns of movement are coordinated.

For instance, as noted earlier, a high-rise building will most likely be evacuated in phases. If floors begin evacuating before intended, the evacuation of the occupants in the fire area may be delayed. Also, if everyone tries to use the evacuation of



§F404.3.1 Fire evacuation plans.

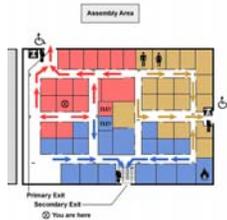
Fire evacuation plans shall include the following:

As stated earlier, studies have shown that people tend to exit the way they enter a building. Note that the code sometimes requires a certain level of redundancy to account for occupants using the same exits.

For example, the BCNYS requires that the main exit of multiplex theaters be sized for at least half of the occupants even though plenty of egress width may be available elsewhere in the building. The more coordinated the plan, the more evenly the exits will be used.

§F404.3.1 Fire evacuation plans.

1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.

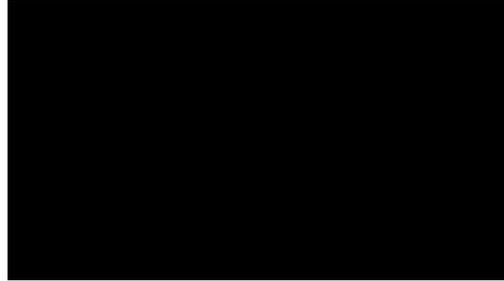


Station Nightclub Fire

The fourth deadliest nightclub fire in U.S. history, a blaze at The Station nightclub in W. Warwick, RI, on February 20, 2003, claimed 100 lives.



Surviving the Station Nightclub Fire



Station Nightclub Fire

How could this many people die in a building this small (less than 4,500 square feet) where the longest distance to an exit was less than 60 feet?



§F404.3.1 Fire evacuation plans.

2. Procedures for employees who must remain to operate critical equipment before evacuating.

These procedures are necessary to ensure a clear understanding to the occupant when evacuation is critical and the operation should be abandoned.



Station Nightclub Fire

- Number of building occupants at the time of fire was reported to be between 440 and 462.
- About 2/3 of occupants appear to have attempted to leave through main entrance in the front of building, and many were unsuccessful.

§F404.3.1 Fire evacuation plans.

3. Procedures for accounting for employees and occupants after evacuation has been completed.

This is important not only to the occupants but also to the emergency responders to assess their actions when arriving at the scene.



§F404.3.1 Fire evacuation plans.

4. Identification and assignment of personnel responsible for rescue or emergency medical aid.

For instance, all occupants in a multiplex theater would be notified whereas in a correctional facility or hospital only staff will be notified.

Also, if the method is standardized, it is easier to differentiate between emergency and nonemergency signals, which facilitates a smoother reaction when an emergency does occur.

Item 4 has two roles. First, it provides a designated person for occupants to look to for assistance in an emergency. This will reduce the stress of the situation.

Second, when the emergency responders arrive they will have a specific contact to help them assess the situation.

These contacts can also be beneficial to emergency responders when preplanning their response to that specific facility.

§F404.3.1 Fire evacuation plans.

6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.

They are more likely to get the notification of an emergency if a standard protocol exists. This can vary from one occupancy or use to another but as long as a straightforward, consistent method is used, it will facilitate a quicker response

§F404.3.1 Fire evacuation plans.

5. The preferred and any alternative means of notifying occupants of a fire or emergency.

Item 5 requires that the notification to the occupants of the emergency be standardized.

The approach will vary based on the occupancy and use.

Note that Section 401.3.2 requires direct contact with the fire department once the fire alarm signal is activated; therefore, no intermediate steps, such as investigation, are allowed.

§F404.3.1 Fire evacuation plans.

7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.

Item 8 requires documentation of the voice/alarm communications system alert tone and preprogrammed voice messages. This provides emergency responders with a better understanding of the information provided to occupants to better assess the appropriate response.

As with Item 4, Item 7 requires a specific contact who is familiar with the plan and how the building operates.

This information is helpful for the emergency responders in their preplanning activities. Without a specific contact, the process of getting vital information can become much more difficult for the fire department.

In a large building or facility, the safety officer or similar person is most appropriate for such a role.

Additionally, if conditions in that building change, the plan can be evaluated to see whether this aspect of the notification system needs to be revised.

For instance, if the procedures for evacuation have changed, the voice announcement may need to be revised.

§F404.3.1 Fire evacuation plans.

8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

§F404.3.2 Fire safety plans.

Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.

This plan also includes identification of the specific personnel who are charged with managing the fire protection systems and equipment and with fire prevention duties, such as controlling combustibles on site. Having specific personnel assigned will work to increase the likelihood of these actions occurring.

- §F404.3.2 Fire safety plans.**
4. Floor plans identifying the locations of the following:
- 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6. Manual fire alarm boxes.
 - 4.7. Portable fire extinguishers.
 - 4.8. Occupant-use hose stations.
 - 4.9. Fire alarm annunciators and controls.

- §F404.3.2 Fire safety plans.**
2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants.

- §F404.3.2 Fire safety plans.**
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.

- §F404.3.2 Fire safety plans.**
3. Site plans indicating the following:
- 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.

- §F404.3.2 Fire safety plans.**
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.

§F404.3.2 Fire safety plans.

7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

§F404.5 Availability

Fire safety and evacuation plans shall be available in the workplace for reference and review by employees, and copies shall be furnished to the code enforcement official for review upon request.



§F404.4 Maintenance.

Fire safety and evacuation plans shall be reviewed or updated annually or as necessitated by changes in staff assignments, occupancy, or the physical arrangement of the building.

This essentially requires that these plans be easily accessible to building occupants and the fire code official.

If the plans are difficult to access, they are less likely to be updated when necessary and are more likely to be lost or forgotten



In order to be of optimum value to a facility, plans must accurately reflect building conditions. Plans must be reviewed annually or when building changes affecting the instructions or procedures in the fire safety or emergency evacuation plan occur.

Such a review should prompt an immediate revision and redistribution of the plan to all concerned parties, including emergency response personnel.

This places a burden on the emergency responders when planning methods of response, and puts the occupants of the building at a higher risk during an emergency.

Having the documents readily available makes review and use for training occupants more likely.

§F404.6 Evacuation notices

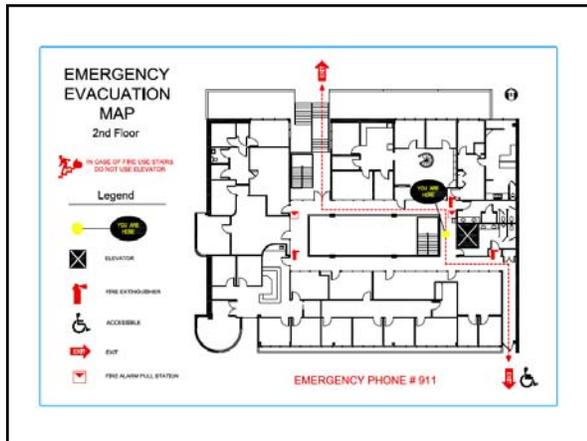
In Group R-1 occupancies, Group R-3 bed and breakfast dwellings and Group R-2 senior citizen housing occupancies, a notice shall be posted on the exit door from each sleeping unit or dwelling unit that shall include the following information:

1. Location of nearest exits and fire alarms;
2. Procedures to be followed when a fire or smoke detector gives warning; and
3. Procedures to be followed in the event of fire or smoke development.

§F405.1 General.

Emergency evacuation drills complying with the provisions of this section shall be conducted in the occupancies listed in §F404.2.

Drills shall be designed in cooperation with the local authorities.



One of the keys to the success of emergency planning and procedures is the training of the occupants. Section 405 sets out the frequency of drills along with who should be involved and how the drills should be accomplished.

**§F405
EMERGENCY EVACUATION
DRILLS**

These requirements were written generally to apply to all occupancies requiring such drills. These drills are either as required by the occupancies listed within this chapter or as specifically required by the fire code official.

The code has a single section to be used consistently any time an evacuation drill is required.

Having a consistent approach provides a level of understanding to the general public on evacuation that would not be obtained if the drill were conducted differently in each occupancy.

Depending on the occupancy, certain occupants might not be part of the evacuation drill.

Drills should be designed and practiced to reinforce relocation or evacuation behaviors as adaptive planned responses to stressful and potentially dangerous situations.

§F405.2 Frequency.

Required emergency evacuation drills shall be held at the intervals specified in Table F405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.

Drills should be scheduled so that all staff members on all shifts have an opportunity to participate in them.

Practice makes perfect, and when it comes to effective egress there is no substitute for fire drills at regular intervals so that all occupants are familiar with the plan details and their particular responsibilities in implementing them.

To utilize to their best advantage fire drills and the lessons that they teach, drills should be conducted on a regular basis to familiarize both staff and residents with the evacuation plan.

The element of surprise is not necessarily of significant benefit in those occupancies where residents may be prone to maladaptive behavior.

Truly effective drills test the plan by varying conditions and force occupants to adapt.

Many conditions can conspire to affect available safe egress time, and drills should incorporate some allowance for unanticipated conditions, such as:

- delayed detection
- rapid fire growth
- reduced staffing or poor weather conditions, as may be appropriate for the occupancy.

Discovering deficiencies in the evacuation plan should be encouraged, and every opportunity should be taken to improve the plans.

FOOTNOTES

c. Applicable when any of the following conditions are met:

1. An occupied floor is more than 75 feet above the lowest level of fire department vehicle access.
2. The building is occupied by more than 500 persons.
3. There are more than 100 occupants below the lowest level of fire department vehicle access or above the highest level of fire department vehicle access.

**TABLE F405.2
FIRE AND EVACUATION DRILL FREQUENCY AND PARTICIPATION**

OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group B (a)	Three Annually	All occupants
Group B (c)	Two Annually	All occupants
Group E (a)	Monthly (a)	All occupants
Group I	Quarterly on each shift	Employees (b)
Group R-1	Quarterly on each shift	Employees
Group R-2 (a)	Four Annually	All Occupants
Group R-4	Quarterly on each shift	Employees (b)

Table 405.2 provides the varying frequencies based on occupancy. The table also prescribes who should be involved in these drills.

The level of participation is based on the type of occupancy. It is unreasonable to expect that in an occupancy such as Group A the general public would participate.

FOOTNOTES

a. Applicable to Group B or Group R-2 college or university facilities and Group E occupancies, in conformance with §F408.3.

b. Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with §F408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.

The overall strategy for these occupancies is to provide a package of relevant information to occupants before an emergency to have the staff facilitate and direct occupants during an emergency.

Also, in facilities such as hospitals and correctional facilities it is potentially dangerous to involve anyone but the employees in such drills.

The necessary participants in the drills are related to the overall emergency strategies for those buildings.

Our Lady of Angels School

Group E, I-1 and R-4 occupancies are the only occupancies requiring that everyone be involved.

This is related to the fact that occupants are generally able to evacuate. In the case of educational occupancies, drills serve as a learning tool for children to carry through their lives.

Was It Arson?

Although the cause has never been *officially* determined, all indications point to arson. A boy (age 10 at the time, and a fifth grader in room 206) later confessed to setting the blaze, but subsequently recanted his confession. He was more afraid of confessing to his mother and step-father than to the police. The boy confessed to setting numerous other fires in the neighborhood, mostly in apartment buildings. In his confession, he related details of the fire's origin that had not been made public and that he should therefore not have known. While there was strong evidence that he was indeed the culprit, neither he nor anyone else was ever prosecuted, at least in part because the catholic judge in the case felt he should protect the Church.

Officially, the cause of the fire remains unknown.

Schools have generally stressed these drills because of large losses in fires such as in 1958 at Our Lady of Angels School in Chicago, Illinois.

In terms of Group I-1 and R-4 facilities, the occupants generally are able to evacuate with some assistance.

§F405.3 Leadership.

Responsibility for the planning and conduct of drills shall be assigned to competent persons designated to exercise leadership.

This section requires a focal point in the planning and execution of evacuation drills.

Having a single point of contact streamlines the process and provides a necessary leadership role.

§F405.5 Record keeping.

Records shall be maintained of required emergency evacuation drills and include the following information:

1. Identity of the person conducting the drill.
2. Date and time of the drill.
3. Notification method used.
4. Staff members on duty and participating.

§F405.4 Time.

Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.



§F405.5 Record keeping.

5. Number of occupants evacuated.
6. Special conditions simulated.
7. Problems encountered.
8. Weather conditions when occupants were evacuated.
9. Time required to accomplish complete evacuation.

If fire and emergency drills are a routine planned occurrence, they will not simulate actual reaction to an emergency but will provide an inaccurate and most likely optimistic outcome; therefore, the drills need to occur at random.

Documenting the frequency and efficiency of emergency evacuation drills not only aids the fire code official in verifying that drills complying with these provisions have been performed but may also help administrators identify trends in emergency evacuation drill performance.

Accurate records help life safety planners determine the adequacy of their plans. Identifying issues such as problems encountered and weather conditions helps to further determine which elements create the largest delays and why.

§F405.7 Initiation.

Where a fire alarm system is provided, emergency evacuation drills shall be initiated by activating the fire alarm system.

§F405.6 Notification.

Where required by the code enforcement official, prior notification of emergency evacuation drills shall be given to the code enforcement official.

To simulate conditions normally experienced during an emergency, the emergency notification procedures, which would include a fire alarm system in many cases, must be used.

In some cases, the fire code official will want prior notification of evacuation drills because he or she may need to prepare for such an event. This section provides him or her with the authority to require such notification.



§F405.8 Accountability.

As building occupants arrive at the assembly point, efforts shall be made to determine if all occupants have been successfully evacuated or have been accounted for.



This requirement is key to the success of evacuation plans. If a method is not available to account for the occupants once evacuation or relocation is complete, search and rescue activities will be more difficult for the emergency responders.

Also, it would be difficult to measure the success of the plan.

This confusion has the consequences of slowing or even halting evacuation during an actual emergency. Additionally, to make sure that occupants do not go back into the building prematurely, any reentry signal must be operated manually to avoid a situation where it automatically sounds.

Finally, this section specifically prohibits reentry until authorization is provided by the official in charge at the scene.

§F405.9 Recall and reentry.

An electrically or mechanically operated signal used to recall occupants after an evacuation shall be separate and distinct from the signal used to initiate the evacuation.

The recall signal initiation means shall be manually operated and under the control of the person in charge of the premises or the official in charge of the incident. No one shall reenter the premises until authorized to do so by the official in charge.

§F406

EMPLOYEE TRAINING AND RESPONSE PROCEDURES

This section is primarily aimed at the concern that the occupants will be confused if similar signals are used to notify them of an alarm and also for reentry.



§F406.1 General.

Employees in the occupancies listed in §F404.2 shall be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training shall be based on these plans and as described in §F404.3.

In most cases, the success of an evacuation and fire safety plan hinges on the appropriate reactions of the building occupants.

The main activity that building occupants must undertake is removing themselves from the hazards.

In some cases, fire safety and evacuation plans involve additional actions by the employees of the facility.

This section requires that employee training occur during new employee indoctrination and annually thereafter.

A record of this training must be provided to the fire code official when requested.

For instance, in the case of hospitals, the nurses and other hospital staff must relocate patients; therefore, specific training is required for those activities.

Additionally, employees must be trained based on the specific fire safety and fire evacuation plans.

This section provides a minimum criterion for the training frequency for all occupancies addressed by Chapter 4.

Section 408 may require more restrictive training frequencies.

§F406.2 Frequency.

Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the code enforcement official upon request.

§F406.3 Employee training program.

Employees shall be trained in fire prevention, evacuation and fire safety in accordance with §F406.3.1 through §F406.3.3.

This is a general section that requires all employees to be trained in fire prevention, evacuation and fire safety in accordance with the subsections that follow.

These provisions are primarily intended as a mechanism to ensure that training occurs and not as a requirement for establishing training criteria.

Having specific procedures increases the likelihood that proper fire prevention techniques will be followed. Generally, people tend to be unaware of many hazards unless they are alerted to them.

An example is the use of space heaters.

§F406.3.1 Fire prevention training.

Employees shall be apprised of the fire hazards of the materials and processes to which they are exposed.

Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties.

§F406.3.2 Evacuation training

Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas, and procedures for evacuation.

If a fire can be prevented, evacuation and relocation of the occupants will also be avoided.

Employees must be made aware of the potential hazards related to their particular area of the facility and what can be done to avoid a hazardous situation.

In the event that an emergency does occur, the employees must be prepared to assist in the evacuation or relocation of occupants.

This training will vary widely from one occupancy type to another. In a high-rise building only some of the occupants will be evacuated at a time, whereas a school will evacuate all occupants at once.



§F407

HAZARD COMMUNICATION

§F406.3.3 Fire safety training

Employees assigned fire-fighting duties shall be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.



§F407.1 General.

The provisions of §F407.2 through §F407.7 shall be applicable where hazardous materials are located on the premises.

Any time employees are to take specific action during a fire event, proper training is required.

This section holds the building owner or operator responsible for making sure the training occurs.

Knowledge related to which hazardous materials are on site is critical in several ways.

First, it assists emergency responders in knowing what to expect when responding to a scene.

Second, it provides emergency responders with an idea of incidents that may occur at a building or facility.

Lastly, it provides a better understanding to the occupants of the potential hazards present and how to avoid emergencies.

§F407.3 Identification.

Individual containers of hazardous materials, cartons or packages shall be marked or labeled in accordance with applicable federal regulations.

Buildings, rooms and spaces containing hazardous materials shall be identified by hazard warning signs in accordance with §F2703.5.

§F407.2 Material Safety Data Sheets.

Material Safety Data Sheets (MSDS) for all hazardous materials shall be readily available on the premises.

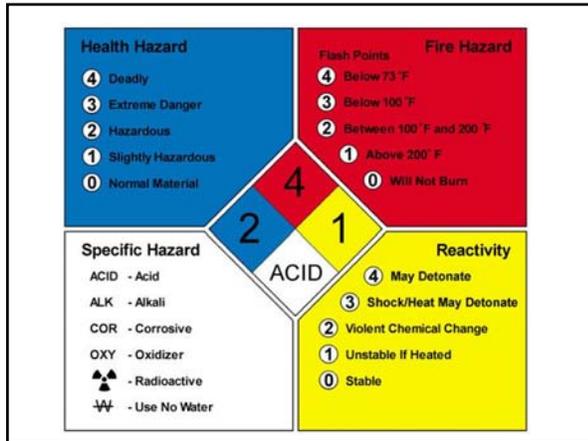
This section requires two activities related to the identification of hazardous materials.

First, chemicals must be specifically labeled.

Second, rooms or areas where the materials are located must be specifically labeled.

MATERIAL SAFETY DATA SHEET			
SECTION 1 - PRODUCT IDENTIFICATION AND USE			
PRODUCT IDENTIFIER: Inorganic synthesis, chemical waste	PRODUCT FORM: Solid	UNSPSC CLASSIFICATION: 31100000	UNSC CLASSIFICATION: 31100000
MANUFACTURER NAME: In 3-01, The Chemical	MANUFACTURER ADDRESS: Chemical	MANUFACTURER PHONE: 1-800-234-5678	MANUFACTURER FAX: 1-800-234-5678
MSDS NUMBER: 12345678	MSDS VERSION: 1.0	MSDS DATE: 01/20/2015	MSDS EXPIRES: 01/20/2016
HAZARD STATEMENTS: H302, H314, H332, H334, H410	PRECAUTIONARY STATEMENTS: P201, P202, P273, P501	ENVIRONMENTAL: Aquatic Toxic (AqTox)	ENVIRONMENTAL: Irritant (EnvIrr)
SECTION 2 - HAZARDOUS INGREDIENTS			
Component Name	%	CAS Number	MSDS of Component
Sodium hydroxide	25	1310-73-2	
Sulfuric acid (H ₂ SO ₄)	75	7664-93-9	
SECTION 3 - PHYSICAL DATA			
Appearance	Color and Odor	Boiling Point	Melting Point
White solid	Colorless	338.1 °C	1600 °C
Density	Specific Gravity	Flash Point	Autoignition Temp
1.53 g/cm ³	1.53	> 200 °C	> 200 °C
SECTION 4 - FIRE AND EXPLOSION DATA			
Flammability	Flammable Limits	Explosion Limits	Explosion Index
Non-flammable	None	None	None
SECTION 5 - REACTIVITY DATA			
Reactivity	Stability	Chemical Incompatibility	Other
Stable	Stable	None	None

In this case, the code essentially requires placarding as defined in Section 2703.5, which references NFPA 704.



This section requires training specific to the hazards of the materials located and used at a particular building or facility.

As noted, the actions taken will vary based on the hazards associated with the materials.

Additionally, this section requires a specific group of persons to be designated as points of contact for the fire department.

§F407.4 Training.

Persons responsible for the operation of areas in which hazardous materials are stored, dispensed, handled or used shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of a fire, leak or spill.

Having specific points of contact is critical because it eases planning and response procedures.

These contacts also provide the fire department with specific persons who are more familiar with the hazards of the building or facility.



§F407.4 Training.

Responsible persons shall be designated and trained to be liaison personnel for the Fire Department.

These persons shall aid the Fire Department in preplanning emergency responses and identification of the locations where hazardous materials are located, and shall have access to Material Safety Data Sheets and be knowledgeable in the site emergency response procedures

The fire department is charged with responding to many different businesses within a community.

Having specified contacts at facilities containing hazardous materials helps them prepare and respond.

**§F407.5
Hazardous Materials Inventory Statement.**

Where required by the code enforcement official, a Hazardous Materials Inventory Statement (HMIS) shall be provided to the code enforcement official.

**§F407.6
Hazardous Materials Management Plan**

Where required by the code enforcement official, a Hazardous Materials Management Plan (HMMP) shall be provided to the code enforcement official.

The form is titled 'HAZARDOUS MATERIALS INVENTORY STATEMENT' and is divided into several sections:

- I. FACILITY INFORMATION:** Includes fields for facility name, address, city, state, zip, and phone number.
- II. GENERAL INFORMATION:** Includes fields for owner, manager, and contact information.
- III. HAZARDOUS MATERIALS:** A table with columns for 'HAZARDOUS MATERIAL', 'QUANTITY', 'LOCATION', and 'USE'. The table is currently empty.

As with the HMIS, an HMMP is required only when the fire code official specifically requires one.

This document is somewhat different from the HMIS in that it is geared to the layout of the building and the location and use of the hazardous materials.

This documentation includes information such as the type of material, amount, specific hazards associated with the material and how it is used.

All of this information can be very important for emergency planning and preparedness.

An HMIS is required only if the fire code official specifically requires one.

This document provides a better understanding of how the facility operates.

This information in turn provides more detailed information to the emergency responders

This plan will also include such information as the location of aisles; the type and location of emergency equipment available and location of specific shutoff valves and other operating equipment.

First, closure means a readjustment in their planning.

Second, the extent of the closure must be communicated so that the emergency responders are made aware of hazards that may still be present.

§F407.7
Facility closure plans

A facility closure plan in accordance with §F2701.6.3 to terminate storage, dispensing, handling or use of hazardous materials shall be submitted to the code enforcement official.

Any hazards that are still present may potentially be more dangerous, since the facility is now unattended; therefore, the building owner must develop a plan that is acceptable to the fire code official.

In some cases a facility will be only temporarily closed, which would mean maintaining a permit and continuing inspections.

It is important for emergency responders to be made aware of the closure of a plant that uses or stores hazardous materials.

§F408

USE AND OCCUPANCY-RELATED REQUIREMENTS

§F408.1 General

In addition to the other requirements of this chapter, the provisions of this section are applicable to specific occupancies listed herein.

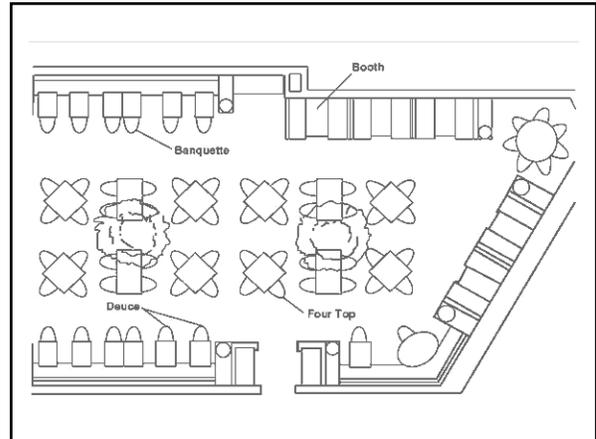
§F408.2.1 Seating plan.

The fire safety and evacuation plans for assembly occupancies shall include the information required by §F404.3 and a detailed seating plan, occupant load, and occupant load limit.

Deviations from the approved plans shall be allowed provided the occupant load limit for the occupancy is not exceeded and the aisles and exit accessways remain unobstructed.

§F408.2 Group A occupancies.

Group A occupancies shall comply with the requirements of §F408.2.1 and §F408.2.2 and §F401 through §F406.



Group A occupancies are a special concern because of the high density and number of occupants.

Additionally occupants in Group A occupancies are generally not very familiar with the building, since they tend to consist of the general public.

Proper planning for an assembly occupancy must consider the number, capacity and physical arrangement of exits. In turn, these factors will dictate how seating may be arranged to prevent obstruction of aisles and exits.

The number of seats provided may not exceed what is permitted by the number, arrangement and capacity of exits.

Floor area factors are only one element in determining whether the exit capacity is adequate.

§F408.2.2 Announcements.

In theaters, motion picture theaters, auditoriums and similar assembly occupancies in Group A used for noncontinuous programs, an audible announcement shall be made not more than 10 minutes prior to the start of each program to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

Exception: In motion picture theaters, the announcement is allowed to be projected upon the screen.

Additionally, the egress plan must be approved by the fire code official, with a copy of the approved plan maintained on the premises for review by employees and inspectors.

Many facilities have several approved plans to accommodate various situations and functions.



Announcements are intended to familiarize occupants with life safety system features that they may need to use if a fire occurs. Information is the most valuable commodity during fires and other emergencies; however, it is often difficult, if not impossible, to override the excitement and confusion caused by a fire or other emergency. Studies have generally shown,.....

The seating plan selected for any event should reflect the needs of the group and the requirement to keep aisles and exits clear.

Deviations from an approved plan may be permitted only if they do not obstruct the complete egress path, including aisles and exits.

however, that occupants do not panic as once thought; therefore, it is imperative that occupants receive information necessary for them to make decisions before an emergency occurs. To convey information and motivate an adaptive response to fires or other emergencies, the message must stimulate interest and speak directly to the topic.

Many movie theaters currently use “trailers” or “shorts” to market concession items, as well as fire safety. These messages can be especially effective if they are specific and adequately distinguished from other promotions.

Any message should reflect the life safety strategy and must point out specific features of the occupancy. Occupants in most theaters and auditoriums

Raising the house lights along the egress path or modulating aisle lighting at appropriate times during the message can reinforce the message.



This section specifically requires an audible announcement, but the exception for motion picture theaters would allow the message to be visually displayed upon the screen as approved. A combination of both audible and visual would most likely be the most effective.

Auditoriums are usually expected to leave the building immediately upon notification of a fire using the nearest available exit. This is largely a reflection upon the building type and arrangement of exits. In these cases, the locations of all exits must be identified.

This section also has a maximum time from the start of the show to provide such announcements; otherwise, an announcement that comes too early will lose its effectiveness.

§F408.3 Group B and Group R-2 college and university facilities and Group E occupancies.

Group E occupancies shall comply with the requirements of Sections 408.3.1 through 408.3.4 and Sections 401 through 406. Group R-2 college and university buildings shall comply with the requirements of Sections 408.3.1 and 408.3.3 and Sections 401 through 406.

§F408.3.2 Group E occupancies.

The frequency and timing of drills shall be in accordance with the requirements of §807.1 of the Education Law, which requires not less than 12 drills annually, eight of which shall take place between September 1 and December 1. At least one-third of the drills shall use fire escapes, where provided.

§F408.3.1 Group B and Group R-2 occupancies

In college or university facilities, at least one drill shall be held between September 1 and December 1. Where summer sessions are conducted, at least one drill shall be held during the first week of such session.

This is a general section noting to the fire code official that compliance with Sections 408.3.1 through 408.3.4 is applicable to Group E occupancies. Group E, Educational, occupancies are one of the primary occupancies that need emergency evacuation drills. It is one of the few occupancies that requires all occupants to participate in evacuation drills

§F408.3.1 Group B and Group R-2 occupancies

At least one of such required drills shall use fire escapes, where provided. In Group R-2 facilities, one required drill shall be held during hours after sunset or before sunrise in buildings where students are provided sleeping accommodations.

The effectiveness of preemergency planning in educational occupancies has been significant, as evidenced by a remarkable decline in tragic fires in schools over the years. The skills learned by children in school are often carried with them through the rest of their lives.

§F408.3.2 Group E occupancies.

At least one drill shall be held during a lunch period, or pupils shall be instructed in procedures to be followed during a lunch period.

At least four additional drills shall be held during hours after sunset or before sunrise, where students reside at the school.

At least two additional drills shall be held during the first week of summer school.

§F408.8.1 Evacuation diagrams.

A diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each hotel, motel or dormitory guestroom.

§F408.8 Group R-1 occupancies.

Group R-1 occupancies shall comply with the requirements of §F408.8.1 through §F408.8.3 and §F401 through §F406.



Group R-1 occupancies are residential occupancies that include hotels and boarding houses. These occupancies contain residents that are temporary in nature; therefore, they are more unfamiliar with their surroundings than Group R-2 and R-3 occupants.

Sections 408.8.1 through 408.8.3 provide specific requirements that take into account characteristics of Group R-1 occupancies.

§F408.8.2 Emergency duties.

Upon discovery of a fire or suspected fire, hotel, motel and dormitory employees shall perform the following duties:

1. Activate the fire alarm system, where provided.
2. Notify the public fire department.
3. Take other action as previously instructed.

This section contains specific actions employees are to take if a fire occurs. More specifically, requiring that they first activate the fire alarm and then call the fire department is intended to avoid a situation in which the employee first investigates or calls security.

The section requires immediate notification of the occupants to facilitate evacuation or relocation as necessary and notification of the fire department. Notifying the fire department as early as possible will enable them to reach the building at an earlier stage in the fire.

The appropriate actions that are available should be communicated. Options may include remaining in their rooms, evacuation or relocation.



§F408.8.3 Fire safety and evacuation instructions.

Information shall be provided in the fire safety and evacuation plan required by §F404 to allow guests to decide whether to evacuate to the outside, evacuate to an area of refuge, remain in place, or any combination of the three.

§F408.9 Group R-2 occupancies.

Group R-2 occupancies shall comply with the requirements of §F408.9.1 through §F408.9.3 and §F401 through §F406.



The procedures for isolating occupants from a fire depend on the layout and overall fire protection design of a building.

More specifically, a hotel in a high-rise building may be specifically designed to evacuate in phases; therefore, the occupants need to know the procedures to facilitate a smooth and organized reaction to a fire.



Group R-2 occupancies are permanent residential occupancies that house multiple occupants in multiple dwelling units.

Typically, this includes apartment buildings, dormitories and other related residential occupancies.



§F408.9.1 Emergency guide.

A fire emergency guide shall be provided which describes the location, function and use of fire protection equipment and appliances accessible to residents, including fire alarm systems, smoke alarms, and portable fire extinguishers. The guide shall also include an emergency evacuation plan for each dwelling unit.

§F408.9.2 Maintenance.

Emergency guides shall be reviewed and approved in accordance with §F401.2.

This section requires that a guide illustrating the fire safety features of the building be provided to each dwelling unit.
This guide must contain the intended evacuation plan for each unit.

This section is a mechanism for the fire code official to make sure that correct and complete information is contained in the emergency guide.

This gives the fire code official the ability to ask for changes in the manual if in the character of the building or occupants occurs.

Providing this information to residents increases the likelihood of a proper response, which in turn, increases resident safety and also makes the fire department's job a bit easier when responding to a scene.

§F408.9.3 Distribution.

A copy of the emergency guide shall be given to each tenant prior to initial occupancy.



The guides are effective only when they are properly distributed to the residents. This section provides the authority to make sure the residents are provided with the guide prior to occupancy.

§F408.10.1 Fire safety and evacuation plan.

The fire safety and evacuation plan required by §F404 shall include special staff actions, including fire protection procedures necessary for residents, and shall be amended or revised upon admission of a resident with unusual needs.

§F408.10 Group R-4 occupancies

Group R-4 occupancies shall comply with the requirements of §F408.10.1 through §F408.10.5 and §F401 through §F406.



These plans must be reviewed each time a new occupant arrives to assess whether there are any special features that need to be included in the plan to address those particular needs.

A Group R-4 occupancy is a residential care/assisted living facility for more than five but not more than 16 residents.

The occupants of these occupancies are similar to those found in a Group I-1 occupancy; therefore, they are capable of self-preservation but in many cases may have mental or physical conditions that could impede their reactions.

§F408.10.2 Staff training.

Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.



Residents of these types of facilities normally have the ability to evacuate or relocate with a certain level of assistance from staff; therefore it is critical that the staff is properly trained.

The requirement that training occur every two months is critical because the needs of the occupants may change over time as certain physical or mental conditions progress or new occupants arrive.

Occupants are capable of responding to an emergency but will most likely need direction from staff and perhaps physical assistance to ensure the appropriate response; therefore, training the residents of these occupancies is critical. One major element that must be communicated to the residents is what to do when the main exit route is blocked.



§F408.10.3 Resident training.

Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary escape route is blocked.

If residents are receiving rehabilitation or habilitation, fire prevention and appropriate actions to take during a fire should be communicated as part of the session. This section also requires the occupants to assist one another as long as a physical or mental condition would not limit their ability to do so.



§F408.10.3 Resident training.

Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program.

Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

§F408.10.4 Drill frequency.

Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation. Drills are not required to comply with the time requirements of §F405.4.



Occupants of Group R-4 facilities need to be reminded often of the procedures because mental capabilities to recall procedures, changes in the resident's abilities over time and the introduction of new residents to the facility can make retention of details a problem.



Group R-4 occupancies have fewer occupants than Group I-1 occupancies. For that reason some leniency in construction requirements is allowed in such buildings. Also, the level of staffing may not be equivalent; therefore, residents are required to utilize all of the available exits during various drills

Drills are to occur, therefore, six times a year, and of those six drills, two drills are to occur on each shift. To ensure that the staff is fully aware of the procedures for a facility, these drills are required to occur 12 times in the first year of operation.

This means requiring them to try different routes from one drill to the next. Additionally, in many cases, R-4 occupancies include emergency egress windows as part of the possible exit routes. During a drill, the residents are not required to physically exit through the window; instead, they are allowed to simply open the window and signal for help. Exiting unassisted through windows could lead to serious injuries or death.

§F408.10.5 Resident participation

Emergency evacuation drills shall involve the actual evacuation of all residents to a selected assembly point and shall provide residents with experience in exiting through all required exits. All required exits shall be used during emergency evacuation drills.

Exception: Actual exiting from windows shall not be required. Opening the window and signaling for help shall be an acceptable alternative.

QUESTIONS.....