



FIRE PREVENTION & INVESTIGATION DIVISION

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Fire Drills

This guideline was developed to assist persons to plan, document, coordinate, conduct and monitor fire drills in buildings and occupancies regulated by Section 2.8, Emergency Planning, of the National Fire Code. The guideline also provides guidance about analyzing and documenting fire drills to achieve compliance.

1.0 INTRODUCTION

Where your responsibility involves conducting, coordinating, monitoring or participating in fire drills, you have probably asked yourself a number of questions, including:

- What are the objectives for conducting fire drills?
- How often do fire drills have to be conducted?
- Can a fire incident or accidental alarm be considered a fire drill?
- What does a fire drill involve?
- Who has to participate in fire drills?
- What training is necessary before people participate in fire drills?
- How should fire drills be documented?

This guideline offers answers to these questions and provides useful tips to enhance the effectiveness of your fire drills.

2.0 FIRE DRILL OBJECTIVES

Preparation is the key to any effective emergency response. Conducting effective fire drills helps building owners, property management and others responsible for fire safety within a building to:

- provide scheduled opportunities for comprehensive fire emergency response training for supervisory staff (those persons delegated with specific duties to carry out during a fire emergency) and others;
- determine whether designated supervisory staff can competently respond in accordance with the emergency fire and evacuation procedures;
- determine whether supervisory staff carry out their duties in a timely manner;
- determine whether sufficient supervisory staff carry out their duties in care and detention occupancies in a timely manner;
- assess the ongoing effectiveness of the emergency procedures under different fire scenario conditions; and
- comply with the Fire Code's mandatory requirement for conducting fire drills.

3.0 FIRE DRILL FREQUENCIES

3.1 Minimum Frequencies

The objectives described above can be achieved by holding regularly scheduled fire drills. Minimum frequencies for conducting fire drills regulated by the Fire Code include:

- in **day-care centres** and **care and detention occupancies**, fire drills shall be held at least monthly (Care and detention occupancies involve the occupancy or use of a building or part thereof by persons who require supervisory care, medical care or medical treatment or by persons who are under restraint for correctional purposes and are incapable of self preservation because of security measures not under their control.);
- in **schools attended by children**, total evacuation fire drills shall be held 3 times in each of the fall and spring school terms;
- in **buildings** defined within the scope of Subsection 3.2.6. (High buildings) of the National Building Code, fire drills shall be held every 3 months; and
- in all other buildings, fire drills shall be held once during each 12-month period.
- In laboratories where flammable and combustible liquids are used or handled, fire drills to be held at least every 3 months.

To be most effective, it may be necessary to conduct fire drills on a more frequent basis. For example, within a care and treatment occupancy, it may be impractical to expect that all employees will be available to participate in a fire drill each month due to the different shifts people work. To ensure that all staff participates in fire drills within a reasonable period of time, the fire drill procedure may exceed the minimum frequency for individual staff participation. As an example, each employee must participate in a fire drill at least once every three months. To meet this desired frequency, the type of fire drills staff participates in could vary.

To maximize the benefits of fire drills, they should be scheduled and rotated throughout the year in such a way that personnel on all shifts participate in fire drills.

3.2 Fire Incidents and Accidental Alarms

Fire and Protective Services will permit an actual fire incident and accidental activation of the fire alarm system to be considered a required fire drill, provided a thorough analysis of the incident occurs and the necessary emergency responses by supervisory staff are assessed, outcomes documented and corrective measures implemented, where applicable. In fact it is important to analyze these types of incidents because they provide an excellent opportunity to assess the emergency procedures and preparedness of staff and occupants involved in an actual incident.

4.0 FIRE DRILL PLANNING

4.1 Nominal Planning Considerations

As noted in Section 2.8 of the Fire Code, Fire and Protective Services must be consulted on the development of fire drill procedures. The procedures for conducting fire drills must be included in the fire safety plan. When developing the fire drill procedures, consider the following factors to ensure the fire drills are relevant:

- the building use and associated fire hazards;
- the safety features provided in the building;
- the desirable degree of participation of occupants other than supervisory staff;
- the number and degree of experience of participating supervisory staff; and
- the testing and operation of the emergency systems installed in buildings within the scope of Subsection 3.2.6. of the Building Code (High buildings).

4.2 Participation by Occupants

In schools attended by children, the Fire Code requires total evacuation drills. Total evacuation drills are considered necessary in these occupancies to ensure the prompt, safe, co-ordinated evacuation of everyone during a real emergency. Total evacuation drills afford the greatest opportunity to assess the emergency responses of supervisory staff and occupants.

The Fire Code recognizes that total evacuation drills are not practical for all occupancies. When developing fire drill procedures, consider the desirable degree of occupant participation. In buildings where the occupants reside or work regularly there, it is desirable to encourage participation in fire drills on a periodic basis. Occupant involvement provides opportunities to assess their preparedness and response. Occupant participation also provides opportunities to use and become familiar with the primary and alternate evacuation routes, identify areas of refuge (where applicable), and become more aware of the building' emergency procedures that apply to them.

In care and treatment occupancies, employee training in the evacuation of occupants needing assistance is paramount over occupant training. While suitable for use during a real emergency, consider that using some emergency evacuation techniques on sick or frail occupants during a fire drill may cause injury. Where patients or others needing assistance are not actually evacuated during drills, it is important to assess how supervisory staff simulate the evacuation of these persons and how training of appropriate evacuation techniques is otherwise provided or obtained.

Recognize that occupants evacuated during a drill or other emergency response may require protection from the weather. Is alternative shelter readily available or are inclement weather kits containing extra coats/boots/blankets, etc. readily available for the temporary protection of vulnerable occupants while they remain outdoors?

4.3 Drill Announced Vs. Unannounced

Fire drills may be pre-announced to building staff or occupants, or they may be unannounced. Bearing in mind that fire drills are primarily conducted for supervisory staff, consideration of the building occupants and the use of the building may determine which method is most appropriate. For example, in a residential building or a building of mixed-use where multiple types of businesses are located, it is probably more appropriate to notify the building occupants in advance of the date and time of the drill. In other buildings, such as a care and treatment occupancy (hospital, long term care facility, etc.), it may be more appropriate to conduct unannounced drills, because in this environment, most employees are considered supervisory staff and are delegated with fire emergency responsibilities requiring assessment.

4.4 Drill Involves Unobstructed Vs. Obstructed Means of Egress

An unobstructed fire drill assumes that all exits and evacuation routes from the building are open and available for use. Occupants and supervisory staff participating in unobstructed drills use the primary evacuation route from the room or area occupied at the time the drill was initiated.

Obstructed drills involve blocking one or more exits or evacuation routes to simulate that fire conditions have obstructed their use. In this type of drill, where a primary evacuation route is obstructed, the occupants use the alternate evacuation route(s), where applicable.

4.5 Drill Utilizes Simulation Aids and Props

Props and other aids may be used to simulate fire, smoke, endangered persons, or other desired circumstances. In advance of the fire drill, participants must be aware of the prop's purpose and potential presence, particularly when the purpose of the prop is not visually obvious. For example, the use of a certain type of light, traffic cone, or other prop to simulate a fire may not mean anything if people have not been instructed of the prop's purpose in advance of the drill.

Caution needs to be exercised when planning to use a smoke generator during a drill. The presence of the simulated smoke may cause unforeseen problems. Provisions must be pre-planned remove the smoke after the drill. In addition, it may be difficult to confine the smoke, or predict its movement during the exercise.

4.6 Times and Location

There is always the concern that fire drills are conducted primarily during weekday day shifts, and supervisory staff participating in these, are the only ones fluent with their responsibilities and emergency responses. To ensure uniform abilities and responses of all supervisory staff, fire drills need to be scheduled at various times to assess responses on other shifts and after regular hours.

Selecting a simulated fire location for the fire drill is also very important. Consider that risks, hazards and responses will vary in different locations in the building. When planning, ask "is the simulated fire scenario and emergency response expectation relevant to the location and circumstances?"

4.7 Pre-Drill and Post-Drill Notifications

Develop appropriate pre-drill and post-drill notification procedures with the Fire and Protective Services and fire alarm system monitoring service provider. Fire and Protective Services and building management may want to test the monitoring service provider's response to a fire alarm signal. To do this, the monitoring service provider will not be notified in advance of the drill.

Fire and Protective Services Central Dispatch must be contacted at 975-3030 prior to the fire drill and again upon conclusion. Supervisory staff is encouraged to call 911 as part of the fire drill.

4.8 Fire Drills in Buildings Not Equipped With a Fire Alarm System

The National Fire Code requires many assembly occupancies to conduct fire drills in buildings that are not equipped with fire alarm systems. In these cases, supervisory staff must be trained to verbally or otherwise instruct and direct the occupants to leave the building using the nearest or alternate exit.

5.0 TYPES OF FIRE DRILLS

5.1 Types

For the purpose of this guideline, there are three types of fire drills:

- Comprehensive
- Silent
- Table Talk

5.2 Comprehensive Drills

Comprehensive fire drills are conducted at the frequencies specified by the Fire Code and involve all of the following activities and considerations:

- The fire alarm system is activated as part of the comprehensive drill [i.e., activated in a manner to assess the response of supervisory staff and building occupants (where applicable) to the alarm condition, or alternatively activated by an individual participating in a given fire scenario situation which is an expected response during the drill].
- Supervisory staff operates emergency systems and equipment as they would in the event of an actual fire, (i.e., voice communication or paging system, elevator protocol, smoke control equipment protocol, etc.).
- All supervisory staff that have specific duties identified in the fire safety plan participate (i.e., notification of the Fire and Protective Services Central Dispatch, provisions for access for firefighting, evacuating endangered occupants, closing doors, notification of supervisory staff who may be off site and an assessment of their timely response, etc.).
- The fire drills run long enough to adequately assess the expected responses of supervisory staff and the emergency procedures relative to the scenario expectations (i.e., if the drill is too short, it may not be possible to adequately assess whether sufficient staff have or will respond, etc.).
- The fire drill outcomes are documented and where concerns are identified, corrective measures are implemented.
- The desirable degree of occupant participation is taken into account. For example, in schools attended by children fire drills involve total evacuation.

5.3 Silent Drills

Silent fire drills are conducted in addition to comprehensive drills, and are more commonly conducted in buildings where there are multiple shifts, special risks or hazards and in situations where staff turnover is frequent. These drills are local exercises conducted in designated departments or specified areas of the building for the purpose of ensuring that all supervisory

staff participate in fire drills at a desired frequency. Features of silent fire drills include the following:

- These drills do not involve the actual activation of the fire alarm system. Fire alarm system activation is only simulated.
- Tenant managers, department heads, supervisors or other designated persons monitor the emergency response of individuals in a specific area to a simulated or described fire scenario.
- Participants involved in the area respond to the simulation in accordance with their emergency procedures.
- These drills provide opportunities for assessing the adequacy of the emergency preparedness of persons on all shifts, in individual tenancies, departments or area-specific responses.
- To avoid accidental activation of the fire alarm system during these exercises, the individual initiating and monitoring these drills takes appropriate steps to ensure that the drill remains silent, by notifying personnel in the area in advance of the exercise.
- The fire drill outcomes are documented and where concerns are identified, corrective measures are implemented. In some instances the exercise can be repeated immediately to reinforce appropriate responses by staff and occupants.

5.4 Table Talk Drills

Table talk drills are also conducted in addition to comprehensive fire drills. Similar to silent fire drills, table talk exercises are conducted in designated departments or specified areas of a building. The major difference between a silent drill and table talk drill is that table talk exercises do not involve physical demonstration/simulation of the emergency response activities. When planning table talk drills, consider the following:

- Table talk drills involve facilitated discussion surrounding example fire scenarios.
- Tenant managers, department heads, supervisors or other designated persons facilitate discussion and monitor the recommended emergency responses of individuals to a described fire scenario(s).
- Participants involved in the table talk drills must describe their proposed response to the given scenario. The facilitator assesses the adequacy of the suggested response behaviour and where necessary, uses the opportunity to reinforce correct responses expected of supervisory staff.

Table talk drills provide opportunities to assess adequacy of the emergency preparedness of persons on all shifts, in individual tenancies, departments or area-specific responses. They may help identify local risks or hazards and the need to update procedures and practices. The fire drill outcomes are documented and where concerns are identified, corrective measures are implemented. In some instances after the table talk discussion a silent drill or comprehensive drill could be initiated to reinforce appropriate responses by staff and occupants.

6.0 SUPERVISORY STAFF TRAINING

Supervisory staff must be instructed in the fire emergency procedures described in the fire safety plan before they are given any responsibility for fire safety. A copy of the fire emergency procedures and other duties for supervisory staff as laid down in the fire safety plan must also be

given to supervisory staff.

In buildings falling within the scope of Subsection 3.2.6. of the National Building Code (High buildings), supervisory staff training shall also include:

- instruction on the use of the voice communication system;
- procedures for use of elevators and for evacuation of persons in need of assistance;
- action to be taken in initiating any smoke control or other fire emergency systems installed in a building in the event of fire until the fire department arrives;
- procedures established to facilitate fire department access to the building and fire location within the building; and
- the instructions for the supervisory staff and fire department for the operation of the fire emergency systems.

Fire drills can be used to provide additional training for staff, to allow them to become more familiar with the use of the building's fire safety systems. Supervisory staff should practice using the voice communication system and any other equipment (such as resetting the fire alarm system) so that they can carry out their responsibilities during or after a real emergency with experience and confidence.

All personnel with specific responsibilities should attend a debriefing meeting after every comprehensive fire drill and silent drill. The reason for the meeting is to review the procedures and reactions of all participants. During the debriefing, challenging areas can be identified and solutions can be implemented.

In assembly, mercantile, and business and personal service occupancies, supervisory staff must be instructed on procedures to follow to affect orderly evacuation of occupants when necessary.

6.0 OCCUPANT TRAINING

Even though the Fire Code states fire drills are to be held for supervisory staff, it is important to periodically assess the emergency preparedness of building occupants other than supervisory staff, to ensure they understand the emergency procedures to follow upon discovery of fire or hearing the fire alarm signal(s). Periodically survey building occupants on their knowledge of fire safety matters within the building. Building occupants should be encouraged to participate in fire drills to enhance their fire safety knowledge and familiarize themselves with critical building features.

In some assembly occupancy settings where occupants are unfamiliar with the building, it may be a good practice to provide an audible announcement, or project an image prior to the start of each program, briefly describing the emergency procedures and the location of exits to be used in an emergency.

In care and treatment occupancies and day-care centres, employee training is paramount to occupant training, recognizing that occupant safety is for the most part dependent upon the emergency response by staff. For this reason in these occupancies, every employee is generally considered as supervisory staff.

7.0 FIRE DRILL ANALYSIS

Due to the size of the building and the number of supervisory staff participating in the fire drill, it will likely be desirable and necessary to have more than one person involved with the fire drill assessment. The person(s) participating in the analysis of the responses and outcomes must be fluent with the emergency procedures expected of personnel being assessed during the exercise. For example, at least one or more persons must be present to monitor the fire drill in the vicinity of the simulated fire origin, while other persons, such as designated managers or supervisors, observe responses and activities in other areas.

As part of every fire drill, the following supervisory staff responses and outcomes require analysis:

- discovering of the fire;
- sounding the fire alarm (responses involving coded voice messages, second stage alarm, etc.);
- notifying the fire department;
- establishing provisions for access for firefighting;
- responding to the fire alarm signal(s) and coded voice messages;
- evacuating endangered occupants (evacuation techniques, safe areas of refuge, horizontal evacuation, vertical evacuation, establishment of carrying teams, stairway teams and receiving teams where applicable, etc.); and
- confining, controlling and/or extinguishing the fire.

Where applicable, additional analysis is necessary to determine the adequacy of procedures and responses by designated supervisory staff or other persons operating or using equipment, such as:

- voice communication or paging systems;
- smoke control equipment, fixed fire extinguishing system or other specialized fire protection device(s);
- firefighter elevators, passenger elevators;
- designated equipment or machinery that must be shut down;
- electromagnetic locking and door release or hold open device(s);
- emergency power system transfer where applicable; and
- the fire alarm system and other equipment that requires resetting.

Periodically fire drills should involve the use and assessment of the alternative measures outlined in the fire safety plan, for any shutdown of fire protection equipment and systems or part thereof.

8.0 DOCUMENTATION

Fire drills must be documented. As a minimum, the documentation must be retained for a period of at least 12 months after the drill. The documentation should identify the date of the drill, persons participating, the type of drill, fire drill scenario, and the summary analysis and outcomes of the fire drill.

Sample Fire Drill Report

Date:		Time:		Location:		
Comprehensive Drill:		Silent Drill:		Table Talk:		
Other:						
Instructions Each department head, manager or designate is responsible for monitoring employee responses and assessing building features during every fire drill and at any time the fire alarm audible signal activates. Forward this completed for after each drill to (insert name of person and department)						
Section 1		Assessment of persons discovering/responding to fire				
Describe fire drill scenario, fire incident or fire alarm occurrence:						
Simulated or Actual Activities			Yes	No		
Were people in immediate danger evacuated?					Zone of origin evacuate?	
Were doors closed and latched to confine the fire and reduce smoke spread?						
Was the fire alarm manually activated (if the scenario required this action)?						
Was the fire department called or switchboard notified as required by procedures?						
Was an attempt made to extinguish the fire?					Was attempt appropriate?	
Did sufficient staff respond and evacuate endangered occupants in an organized and timely manner?						
Was scene supervision appropriate?					Were instructions clear?	
Horizontal evacuation conducted?					Vertical Evac. Conducted?	
Comments/observations/recommendations on emergency responses:						
Assessment of specialized Supervisory Staff responses					Yes	No
Was the fire department notified by phone promptly and correctly?						
Were verbal instructions correct and clearly stated over the voice communication system?						
Did designated staff respond correctly to provide fire department assistance and access?						
If "No" was answered for question(s) above, provide comments/observations/recommendations:						
Section 2		Did the following feature operate properly in your area?			Yes	No
A) Fire alarm pull station (where applicable) and audible fire alarm devices						
B) Voice communication system (voice messages were audible)						
C) Self-closing doors closed and latched upon fire alarm system activation						
D) Electro-magnetic locking devices released locked doors upon fire alarm system signal						
E) Fire hose stations, fire extinguishers and/or sprinklers (where applicable)						
Section 3		Did employees respond properly upon hearing the fire alarm signal and voice communication instructions?			Yes	No
A) Checked rooms and area for fire and closed doors immediately						
B) Designated staff responded to the fire area to assist with evacuation						
C) Hazardous equipment safely shut down where appropriate (i.e. oxygen, dryers)						
D) Corridors were clear and unobstructed						
If "No" was answered for question(s) above, provide comments/observations/recommendations:						
Print Name:		Signature:		Date:		

Fire Drill Check List and Summary Recommendations

Date:					
This form is to be completed by the person responsible for conducting and coordinating the building fire safety program, which includes monitoring fire drills and monthly fire alarm system test(s).				Yes	No
Fire department notified before fire alarm test or fire drill? Fire department phone # Name of person contacted:					
Alarm Monitoring Company notified before fire alarm test or fire drill? Monitoring company phone # Name of person contacted:					
Fire alarm system tested on secondary source of power (Battery or Generator as applicable)?					
Fire alarm system activated correctly?					
Second stage alarm signal activated correctly (where applicable)?					
Annunciator(s) indicated the correct fire alarm zone of alarm origin?					
"All clear" announced and staff instructed to sign fire drill attendance record?					
Fire alarm system reset and returned to primary power source?					
Fire alarm ancillary devices reset and checked:					
Electro-magnetic locking devices					
Elevators					
HVAC					
Hold-open features on fire doors					
Fire alarm system clear of any "trouble"?					
Confirmed fire alarm monitoring company received alarm signal?					
Fire department notified after drill?					
When applicable, confirmed fire department received alarm signal?					
Unscheduled Fire Alarm Signal Activation	Date:	Time:	Applicable		
Cause of alarm determined to be:					
Fire Department Arrival Time (if known):				Yes	No
Fire alarm control panel reset after emergency was over?					
Fire alarm "trouble signal" clear?					
"All clear" announced and staff instructed to sign fire drill attendance record?					
Fire alarm ancillary devices reset and checked:					
Electro-magnetic locking devices					
Elevators					
HVAC					
Hold-open features on fire doors					
Fire alarm system repair company notified of repairs required? Time:					
Name of person contacted:					
Fire alarm system repaired - Date:				Time:	
Conclusions, recommendations for changes to fire safety plan or procedures:					
Print Name:		Signature:		Date:	