SEGURANÇA 4.0

Guide to Conducting Fire Drills

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[1] This publication reproduces a reference model to support and steer the activities contained herein, reflecting the authors' insights.

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1. Introduction.

1. Introduction.

Fire Safety in Buildings (FSB) is based on three distinct pillars: passive measures, active measures, which are mirrored in projects, and self-protection measures. Inappropriate behaviour of building users via their action or inaction often compromises existing passive and active measures. For this reason, current FSB (Fire Safety in Buildings) regulations focus especially on self-protection measures, including fire drills and training.

Drills are exercises in which emergency situations are simulated according to a pre-set scenario, involving all occupants of the building, with particular involvement of the Safety Team. External resources (firefighters or other security forces) may also participate. Main goal of drills is to test the effectiveness of the Self-Protection Measures, to train the occupants and the Safety Team, as well as to improve the evacuation and response procedures.

2. Objective.

2. Objective.

2.1. Audience

This guide is intended to be a practical and objective tool to help companies, entities, organisations or institutions to carry out drills.

It was designed as a convenient tool to help companies, entities, organisations and institutions not only to comply with Fire Safety in Buildings legislation, but also to help them to be better prepared to face a fire event. It should be noted that Fire Safety in Buildings legislation also applies to movable or open-air venue spaces.

2.2. Applicability limits

This guide applies to fire drills in establishments/buildings/venues, and can also be used as a basis for other emergency type drills, such as earthquakes (with any required adaptations). It contains general guidelines and needs to be adapted to the safety conditions of the establishment / building / venue space, namely its specific characteristics, such as, for instance:

- Usage Type of the establishment / building / venue space (usage type of the buildings);
- Physical characteristics of spaces/buildings/venue spaces (size, height, subterranean levels);
- Possible limitations of users (age, reduced mobility, ability to perceive the alarm);
- Number of regular staff and their distribution across spaces / establishments / buildings / venue spaces;
- Specific risks (e.g., ATEX atmospheres).

3. Regulatory References.

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3.1. Regulatory references - List of diplomas

- Decree-Law No. 220/2008 of 12 November, as in its current wording by Law No. 123/2019 of 18th October, providing a Legal Framework for Fire Safety in Buildings (RJ-FSB);
- Ministerial Order No. 1532/2008 of 29th December, providing Technical Regulation for Fire Safety in Buildings (FSB-TR) as per wording in Ministerial Order 135/2020 of 2nd June.

3.2. Regulatory references - List of fire drill related laws

- Decree-Law 220/2008 as in its current wording:
  - Article 21(e);
  - Article 22(5);
  - Article 25(ff), see current wording as per Decree-Law no. 9/2021 of 29th January.
- Ministerial Order 1532/2008 as in its current wording:
  - Article 196;
  - Article 201(g);
  - Article 207;
  - Annex I Article 10(11).

4. Why perform drills?

4. Why perform drills?

Most managers do not believe that a fire will occur on the premises of their business, unaware that this is perhaps one of the greatest threats to their company. A fire may mean the loss of human life, immediate loss of assets (damage to the establishment / building / premises and their contents) and significant financial losses resulting from a number of factors, such as

- Social and reputational damage;
- Compensations to employees or third parties;
- Indirect damage to raw materials and goods (soot, lingering smell of smoke);
- Loss of important information stored in damaged paper files or digital media;
- Temporary interruption of business;
- Production delays;
- Loss of customers worsened by the impact on production or facilities;
- And so forth

Although insurance may partially cover some direct losses (property and movable assets impacted directly), it is unlikely to cover losses from the other factors listed above, and a fire – even if it only affects a limited area of the premises – can lead to a company into bankruptcy if it affects any mission-critical area of the business severely.

Drills are, without a doubt, the best tool to test and implement self-protection measures, as well as to ensure a practical evaluation of the training provided. And they also help to prepare people to act efficiently in an emergency.

Safety Team are unlikely to handle an emergency adequately without previously having been trained for the different activities/actions/missions they will need to perform. Periodically repeated training helps to memorise the set of actions to be taken, to learn how to perform them, to understand how the various Safety Team members should communicate among themselves, as well as to know how to communicate with external third-party forces that are relevant to the scenario in question.

Repeated hands-on training conditions the brain to respond automatically, increasing greatly chances of success in case of an emergency. In a real-life event, poor or lacking coordination will make a critical difference between containing the accident at an early stage, preventing it from spreading or suffering significant loss of life and property.

Drills are equally useful for any other occupants of the establishment / building / venue space, i.e. people who do not belong to the Safety Team, as they help, among other things, to locate regular and alternative exits, to learn how to respond when an alarm is sounded, to remember the location of fire extinguishers and hoses (immediate fire-fighting means), alarm buttons, meeting points, etc.

All these small details can make the difference in the way people (staff of the establishment / building / venue space) will act in a real emergency. In fact, even people who at the time of the emergency are not part of the Safety Team will have a key role to play, such as self-evacuation and possible reinforcement of the Team. By performing self-evacuation by themselves, they allow the Safety Team to focus mainly on prompt action/containment and alert external rescue services.

5. Legal obligation and periodicity.

5. Legal obligation and periodicity.

In addition to fire events, drills can be used to train response to other emergencies such as earthquakes or floods. However, currently applicable FSB legislation requires that the drills required by law are related to fire events. [2]

The obligation to carry out drills and their frequency depend on the **Usage Type and corresponding Risk Categories** as per the table below. However, shorter times between self-protection measure[3] drills may be applied to make up for possible non-compliances of an establishment / building / venue space with the applicable FSB regulation requirements.

Usage Type	Risk Category	Drill	Drill frequency (years)
I	4th (only for common areas)	-	Two
II	3.ª	-	Two
	4.ª	-	Two
III	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
IV[4]	2.ª with D or E risk locations	-	A
	3.ª	-	A
	4.ª	-	A
V	2.ª with D or E risk locations	-	A
	3.ª	-	A
	4.ª	-	A
VI	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
VII	2.ª with E risk locations	-	A
	3.ª	-	A

2 No. 5 of Article 22 of DL 220/2008 as in its current wording

3 The compensatory measures for Self-Protection Measures are compulsory.

4 As per Ministerial Order 1532 Article 207 paragraph b) no. 2, the following must be carried out at the beginning of the school year.

Usage Type	Risk Category	Drill	Drill frequency (years)
	4.ª	-	A
VIII	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
IX	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
X	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
XI	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A
XII	2.ª	-	Two
	3.ª	-	Two
	4.ª	-	A

6. Team.

6. Team.

The structure of the Safety Team should be defined in the Self-Protection Measures. Members selected to be part of the Safety Team should have thorough knowledge of the building/venue where they work as well as of the main existing fire hazards. The composition of the team should include the choice of persons to replace all members.

The person designated by the Safety Manager always carries the legal responsibilities of a Safety Delegate as per Article 20 of Decree-Law 220/2008 as in its current wording. However, taking into account that the Safety Delegate may not be present in an emergency event, replacement persons need be appointed. The person performing the role of Safety Delegate in an emergency may be called the Replacement, Emergency or Executive Delegate. In an emergency, this person commands the operation until the eventual arrival of external rescue services.

Preparation and planning are key to a quick and efficient response. Drills train the team so that they are able to respond quickly, efficiently and safely in an emergency!

All Safety Team members should be familiar with the Special Self-Protection Measures Instructions or Procedures describing the actions they need to perform in an emergency. Drills help all team members to practice how to respond in a coordinated manner.

Team members must not be selected randomly. People with a suitable appropriate profile and soft skills must be chosen to perform the functions assigned to them. For instance, for first response, a person in good physical conditions should be selected who is capable of remaining calm in stressful situations. For the evacuation team, choose people able to convey calm to others and communicate assertively. This choice should be independent from the employee's operative role, job or hierarchical position. The team may also comprise members from subcontracted companies performing routine functions in the building. Generally speaking, leadership positions in the Safety Team should be assigned to people who already hold leadership positions in their everyday working life.

Besides helping the team to perform their tasks, drills also help to identify possible weaknesses in the building / venue space as regards fire safety. One of the most frequent weaknesses is in communications area. Team members should report the status of their current tasks to the safety centre to support decisions to be made by the Supervisory Officer in command of operations.

6.1. Motivating the team

While drills can ensure successful response and decision-making in actual events to help saving lives, some employees do not take them as seriously as they ideally should.

It is of the essence that everyone partakes actively in the drill as if the situation were real, and top management should set an example by participating actively. The drill should be on all employees' agendas (whether or not they belong to the Safety Team) and needs to be mandatory, and may even *be* among the criteria for assessing employee performance.

The fire drill can also be used as a team-building opportunity, in which everyone participates in an active and engaged manner. For instance, debriefing of the drill could be followed by a lunch or coffee break. Also, an award could be presented to the most committed employee. Each organisation needs to find strategies to motivate its team, keeping in mind that members of management must lead by example with motivation and commitment.

The drill scenario should include challenging surprise situations to make people think and act according to the instructions received, but also to apprehend and adapt to unknown or unforeseen situations. No matter how many fire drills are made and scenarios are trained for, an actual event will always come with unexpected incidents, and people will have to be able to respond adequately to real circumstances and adjust the procedures they have learned to those circumstances.

As employees familiarise themselves with the procedures, and to make the drills more varied, the complexity of the scenarios can be increased by creating additional difficulties bringing the drills gradually closer to reality. For instance, you can create areas where smoke is simulated, and people will need to crawl under the simulated smoke to escape, or create obstacles such as stairs being made unusable by smoke. Include unexpected situations so that participants will need to be proactive and flexible. It is crucial that people train themselves to use exit ways that they would not normally use. Situations like these are challenges that prepare them better for a real-life event with constraints that are unknown. This ensures that even employees outside the Safety Team are trained for emergency situations that go beyond the simple routine of hearing the siren, getting up and leaving. It is also of the essence to train disabled people to respond to a fire event.

You can also increase motivation the Safety Team by having firefighters and/or other external rescue services partake in the drills. People do not usually realise that when participating in drills, firefighters do so in a serious and committed manner as if it were an actual emergency. Seeing the firefighters 'acting ' as well usually encourage people to participate more proactively.

6.2. Safety Team members who cannot participate in the drill due to their functions

While the purpose of a drill it is not to keep buildings / venue spaces from operating or stop them from operating altogether, it is still critical that all employees get an opportunity to participate and learn. This requires creating conditions to enable all employees – and not just the Safety Team – to learn how to respond in an emergency.

For instance:

- If there is a machine in the factory that cannot be switched off during working hours and must be under permanent human surveillance and is normally switched off in the evening, the drill should be scheduled for that time; if the machine operates continuously 24-7, you might want to consider running several drills, allowing employees working on the machine at other times to participate;
- Homes or hospitals where patients cannot be left unattended: consider assuring minimal services only, reinforcing the team if necessary so that they can practice the procedures as if they were in a real-life event.

Whenever it is not possible to have all employees participate for any reason (sick leave, holidays, field service, etc.), a summary should be provided to anyone who could not participate in the drill of what was done and what happened. Also, anyone who could not participate in the last drill must participate in the next one, and scheduling must all such cases into account.

Last but not least, all those who took part as well as those could not should be encouraged to read the drill guide and gr through the summary report.

7. Emergency drills of various kinds.

7. Emergency drill types.

Drills can be either of the practical or table-top exercises; this guide is intended to assist in organising practical drills.

Tabletop eXercise (TTX) drills can be used as a planning tool for practical drills as they only involve the Safety Team in an informal setting without interfering with the normal operation of the establishment / building / venue space. A TTX begins with each participant telling what is happening and being done where, just like in an imaginary adventure. Team members interact and the action takes place solely in the classroom. In this kind of fire drill, it is fundamental to keep in mind that in a real situation, people will not be all in the same room, so the way of communication between the different intervening parties cannot be practised realistically here. Moreover, this kind of exercise offers no actual physical distance between areas, so no physical exhaustion occurs as it would in reality, where it can be a critical factor. Also, practical response actions such as handling a fire extinguisher or a hose reel cannot be practised

This type of fire drill may also include of image/photo slides of the areas where the actions should take place or of the floor plans of the building to help placing people within the spatial experience of the action being simulated.

Theoretical exercises are extremely useful for developing Special Instructions for the Safety Team. Ao contar com a presença de todos os elementos da organização de segurança é possível identificar com maior acuidade situações de dificuldade que o desenvolvimento particular das suas tarefas coloca. Isso permite que as Instruções sejam mais rigorosas.

8. Fire drill guide.

8. Fire drill guide.

8.1. Planning

Fire drills should be planned adequately, and this planning may eventually result in the creation of a guide. Besides detailing the proposed scenario, such as guide should also include instructions for all Safety Team members with active tasks during a drill.

The guide should be prepared by the Safety Delegate in close dialogue with the Safety Team, discussing together the tasks to be trained and the objectives to be achieved. While creating the guide, the Safety Delegate may also request the collaboration of a fire safety planner.

The success of a drill depends entirely on how thorough planning is since those involved have a clearer understanding of the necessary procedures. Upon acquiring routine after some drills, the Safety Team will feel confident about what to do in a basic situation, so it is important to introduce unforeseen events in the planning. Some unforeseen events can be kept as a surprise for certain participants, for instance:

- Absence of a Safety Team member scheduled to participate in the drill, and who was in charge of a specific action (someone will have to identify his absence and immediately replace him);
- There is an injured person in a certain place (help is needed);
- A blocked exit[5];
- etc.

5 Never actually block an exit, only simulate that the exit is blocked. For instance, you can place red papers on a door indicating that there is fire on the other side.

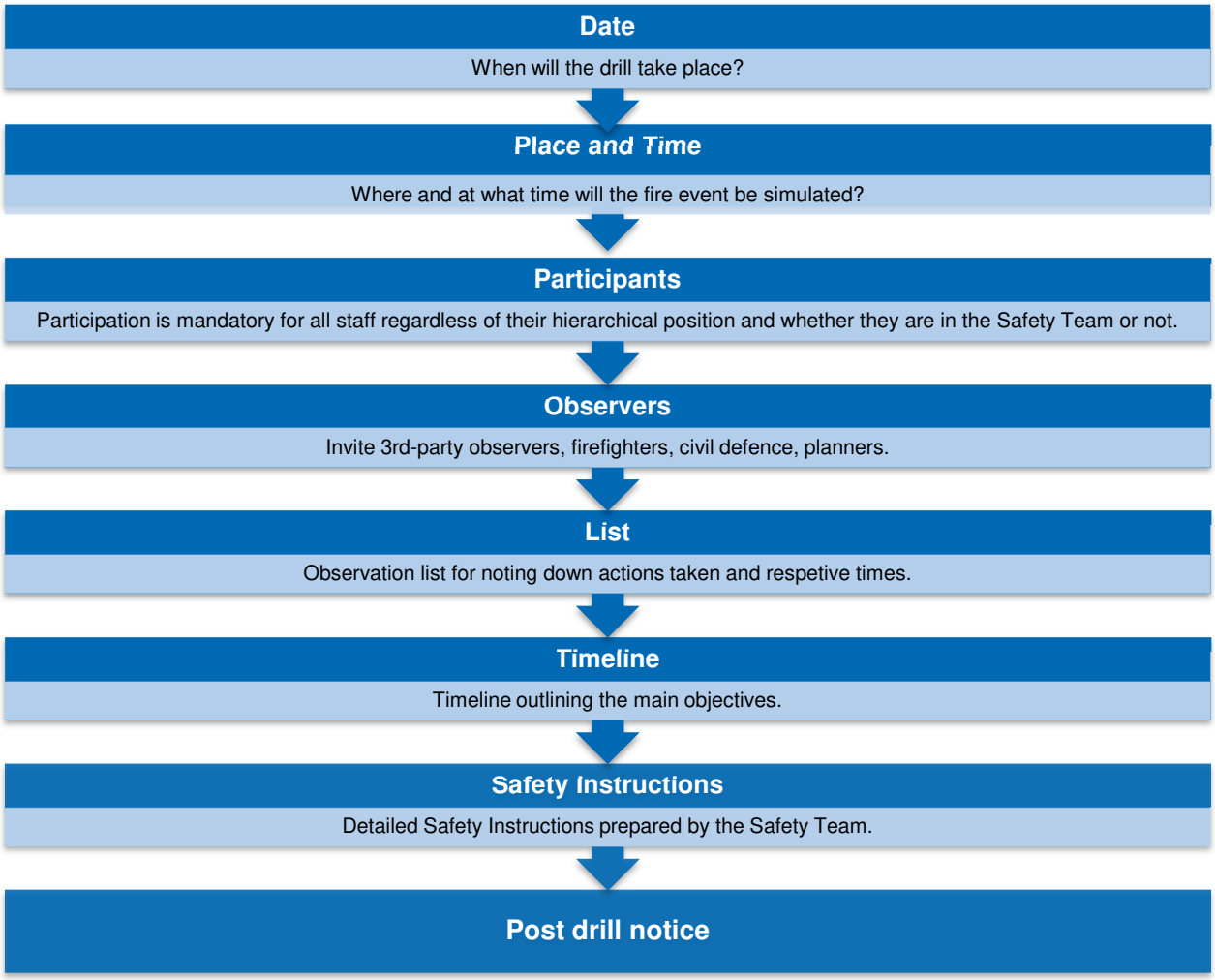
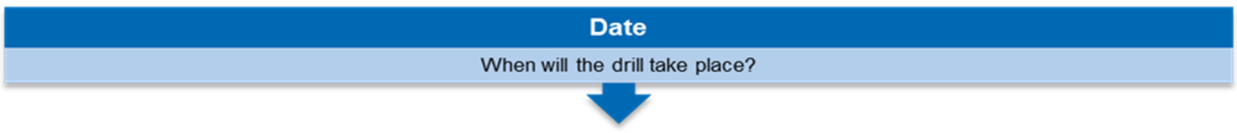


Figure 1 - Planning



The first step in planning a drill is scheduling. Choose a date that doesn't jeopardise the company's operation and that allows you to involve as many employees as possible (do not schedule during holiday periods). Establish a date, but do not forget small details such as weather conditions (during winter, drills are often postponed because it rains too much) and so not to coincide with external events that may disrupt the drill – for instance, works outdoors or in the meeting point area).

8.2. Choice of scenario (type of event and degree of difficulty)

The setting chosen should take into consideration several factors, such as:

- Existing risk factors in the establishment / building / venue space – identify places in the establishment / building / venue space where fire is more likely to break out (e.g., kitchen, central heating unit, lodging area, etc.);
- Type of building occupants:
  - people sleeping (hotel, hospitals, homes, residences);
  - difficulties in evacuating people (homes, hospitals);
  - people with limitations in hearing or seeing the alarm;
  - very young children (day-care centres);
  - people familiar with the building (schools, offices, factories);
  - public buildings (hotels, restaurants, discotheques, bars, concert halls, museums, gymnasiums, etc.);
  - and so forth.
- Existing weaknesses in the establishment/building/premises – looking at existing non-compliances with current legislation helps to pinpoint the main weaknesses and determine the most important scenario to be drilled by staff and occupants (for instance, absence of sirens - train how to sound an alarm when there are few people in the establishment/building/premises);
- Existing Fire Safety Systems - the drill should simultaneously serve as a training tool for the Safety Team to learn how to use the available equipment (for instance, how to start automatic kitchen extractor hood fire extinction systems[6], smoke control systems, etc.);
- Verifying proper functioning of existing fire safety systems - during the drill, after activing the detection system, it should be verified whether the automatic response mechanisms triggered via the Fire Detection Centre are working properly (if applicable), such as sending lifts to the exit floor, gas cut-off, opening of sliding doors, closing of open doors through retainers, etc;

The degree of difficulty of the scenarios should increase over time, e.g., do not tell the team the event location. Small details can make a big difference in the team's performance, so you should consider in advance what main threats may occur in a fire situation, and assure appropriate training to prepare for unexpected situations. Change the people who are present, simulate holiday situations, beginning or end of the day, etc.

In addition to the factors above, note also that you should analyse any issues occurred in previous drills and aim to improve the quality of future exercises. As such, you could repeat an already tested scenario in order to add little differences, e.g., the team members are not the same.

6 The system should not be activated so as not to use up the extinguishing agent, only its activation should be simulated.

8.3. Internal resources to be involved

In addition to the Safety Team, any drill should involve those persons who occupy the highest hierarchical positions in the establishment / building / venue space, i.e., members of Management or Administration. More often than not, top management members do not participate in the exercises, so in the end the team does not take them seriously. A fire event is one of the biggest threats to business continuity management, and it is therefore of the essence that all employees and staff participate with full commitment. The way employees are engaged in the drills can also factor in when assessing their work performance.

In a real-life fire situation, everyone will be involved directly or indirectly, so all of them should be included in the drill, except in establishment / building / venue space with elderly or bedridden people or other comparable cases of impediment, such as when business continuity gets jeopardised.

To conclude, a drill should not only involve the Safety Team, but also all employees and staff, regardless of their rank in the hierarchy.

8.4. External entities to be involved

According to legal provisions[7] , 'exercises must be planned, executed and evaluated properly and with all possible collaboration' from the following external entities:

- Fire Brigade in whose operating area the establishment / building / venue space is located;
- Corresponding Municipal Civil Protection Authority.

Although the legislator advises for municipal firefighters and civil protection to be present to observe the drills, their presence is not mandatory. It should be noted, however, that the presence of firefighters and civil protection as observers is extremely useful as they provide an external point of view, and their technical expertise enables collaborate proactively in evaluating of the drill, contributing to improving the self-protection procedures.

7 Pint c) of Paragraph 2 of Art. Article 207, Ministerial Order 1532/2008 as in its current wording

One of the main advantages of having outside observers in the drills is that their presence will add a certain amount of stress and tension for the Safety Team members, pressure that can be similar to what happens during a real-life event.

If the drill involves evacuating large number of people, it may be necessary to cut off roads. In this case, the presence of police authorities (PSP, GNR or water police) needs to be requested, depending on the jurisdiction of the applicable security forces and the location of the establishment/building/venue.

The presence of other external entities may also be requested as observers, such as the author of the establishment / building / venue space SPMs and or companies that maintain the safety systems, public police (PSP, GNR) or Maritime Police.

The observers may also be staff members or other service providers (e.g., private security guards) in charge of collecting information on performance of the drill to allow for making a correct evaluation.

Observers should be placed strategically in the busiest locations (for instance, at the drill scenario location where the fire is expected to break out, and at the Safety Centre) or to monitor people who have important tasks to perform (such as the Safety Delegate). The observers should not intervene in the course of the actions, including not answering any possible questions by the intervening parties. Their task is merely to observe, and they should act as if they were not present in any way. Generally speaking, observers should take notes of what they have observed.

8.5. Activity logging during the drill

During the fire drill, observers will need to log all activity that they observe. These logs should ideally specify the time at which an action occurred to allow for comparing the times logged by the different observers. For logging the times, the phone's stopwatch application can be used. To ensure that time logging is the same across the board, all observers should synchronise their stopwatches by pressing 'start' in the app simultaneously before beginning of the drill. This is normally done at the end of the debriefing, just before the observers proceed to their designated locations.

Depending on the existing equipment, the observers shall log whether:

- People responded immediately upon being notified (alarm/voice);
- The alarm was clearly audible;
- The pre-alarm (if applicable) was clearly audible, and if the team was informed while verifying the event;

- Doors were closed by the occupants upon exiting the premises;
- People remained calm and took the shortest route to the outside;
- People made their way to the meeting point and waited there in an appropriate manner;
- A head count was carried out (if so required in the SPMs);
- The establishment / building / premises exit ways were guarded, not allowing anyone to enter or attempt to re-enter;
- Care was taken to check the temperature of the handle before opening the door to the room where a fire was suspected;
- Confirmation of the existence of a fire was reported;
- An attempt was made to extinguish the fire;
- The fire extinguishers whose use was simulated were left lying on the ground;
- Alerting the external emergency services was simulated;
- The lifts went to the exit floor and their doors remained open;
- The retainers have released the doors and that the doors have closed correctly (if applicable);
- Gas has been cut off (if applicable);
- The side-sliding doors have opened automatically (if applicable);
- The total evacuation time per floor or for the entire building, depending on where the observer is.

The items above should be logged on an evaluation grid so that the collected information is homogeneous and comparable. The grid needs to be be distributed to the observers during the debriefing, during which basic explanations about its completion should be provided, encouraging observers to familiarise themselves with it before the drill begins. The observers should check that the grids are filled out properly, with the name of the observer and the position or role assigned to them as an observer.

The log prepared by the observers may be enhanced with photographs or videos taken by the observers themselves. If there are outside observers, the way in which they can send their photographs or videos should be specified. Ideally, they should provide more than one communications channel (for instance, an email address and a WhatsApp number) to speed up the process.

The analysis of the observers' log is then used to assess the success of the drill.

8.6. Preparing the timeline

The timeline is a fundamental working element when planning a drill. It provides a summary script for the main actions to be taken and the times when these are expected to take place.

The example below is a timeline for a kitchen fire:

Team	Event/Action	Local	Safety Delegate	Safety centre operator	Response Team	Evacuation Team	Fire brigade/SMPC	Other observers
- 7 days	Prep meeting	Meeting Room	●	●	●	●	●	
- 1 hour	Team pre-meeting - debriefing	Meeting Room	●		●	●	●	●
- 10:00	Clock synchronisation (observers) **Start of drill**	Meeting Room					●	●
- 9:00	Observers go to previously assigned locations	Various (see below)					●	●
0:00	Restricted alarm	Reception/safety centre		●				
0:15	Restricted alarm check	Reception/safety centre		●				
0:30	Report occurrence	Reception/safety centre		●	●			
0:45	Check occurrence	Kitchen			●			
1:30	Confirm occurrence	Kitchen			●			
1:45	Local gas cut-off	Kitchen			●			
1:45	Alarm and Alert	Reception/safety centre	●		●			
2:00	First response	Kitchen			●			
2:00	Evacuation	Kitchen, adjoining areas and floor above				●		
3:00	Inability to extinguish fire	Kitchen			●			
3:30	Evacuation	Verificação de todos os espaços: Kitchen, adjoining areas and floor above				●		
4:30	Evacuation	Feedback to delegate on success of evacuation				●		
15:00	Reception of rescue teams	Preferred entrance	●					
16:00	Response by rescue teams	Kitchen					●	
20:00	External rescue teams declare end of event	Preferred entrance					●	
21:00	Safety delegate accompanies Fire Brigade official to scene to verify the damage caused		●				●	
24:00	Restore safety conditions	Kitchen and safety centre	●	●	●			
25:00	Safety delegate declares end of occurrence	Meeting point	●					
30:00	Debriefing meeting	Meeting Room	●	●	●	●	●	●

The timeline above is a simple model that can easily be adapted to other scenarios. It should be noted that the timeline should not be overly long and detailed to ensure an overall view of the fire drill objective.

Note that as many actions will take place concurrently, the times shown are only a speculative and will depend greatly on the size of the establishment / building / venue space.

The times logged by the different observers by the end of the fire drill will assemble into the actual timeline.

8.7. Preparing the Safety Instructions

Another fundamental component of a drill guide are the safety instructions, which should be prepared for each team or for members with specific roles/tasks to fulfil, such as performing response and evacuation.

It is of the essence to be familiar with the establishment / building / venue space and its characteristics, both as regards the existing safety equipment and any occupants who may have some type of limitation.

The Response Team must have prior knowledge of the existing safety systems in the building. This means not only knowing what systems there are, but also what they are for, and when and how they should be triggered.

Examples of systems to be triggered by the Response Team:

- The automatic hood extinguishing system should only be triggered if the fire is in the food prepping block;
- When fighting a gas equipment fire, the gas supply must always be shut off;
- The fire-fighting pressure boosting system starts automatically, but can only be switched off manually, so once the reel extinguishing operations are complete, the system must be switched off to avoid damage.

Training is required prior to the fire drill to provide knowledge of the systems. This may comprise a classroom component with slideshows, but it should also include visiting the places where the systems are triggered so that it is clear to all what is being activated where.

Sample Taskforce Instruction on next page.

As soon as you are notified to verify an incident, go to the location to do so

When in the immediate vicinity of the site, pick up a fire extinguisher

On arrival at the specified site:

- Check with the back of your hand if the door is hot - if it is hot from the handle downwards - fire is confirmed!
- If the door is not hot, place yourself next to the door hinges and open the door carefully;
- Check if you can smell smoke;
- Check for smoke;
- Check if there is a fire inside and report this;
- Wait for another person to arrive before commencing first response.

Fight the fire as a team using the first response resources at hand, always ensuring your safety and that you have an escape route.

Without putting your life at risk and ensuring always that you can leave the site without inhaling smoke or combustion gases, use additional extinguishers or a reel in order to slow down progress of the fire.

Leave if you cannot control the flames or if there is a lot of smoke in the room, and make sure you close the door (watch out for the reel hose) and report it immediately.

Isolate adjacent areas and report immediately.

If you have received no instructions or cannot report with the Safety Delegate, go to the Safety Control Centre; if you have been dismissed by the Safety Delegate, go to the Assembly Point.

As soon as you are notified of the end of the incident, restore all safety conditions and make sure that:

- There are no fumes and no combustion gases;
- The water pressure boosting unit is switched off;
- The extinguishers are in their places;
- The hoses are fully on the reels.

Figure 2 - Safety Instructions

Instructions for the evacuation team need to be tailored to the type of people foreseeably present in the establishment/building/venue, taking into account possible limitations, namely mobility handicaps, difficulties in perceving the alarm or linguistic communication difficulties. The Evacuation Team needs to be provided with previous training to deal with these situations, being able to identify the locations where people with these limitations are and direct them to the outside via the safest and shortest route.

Example of Instructions for Evacuation Team:

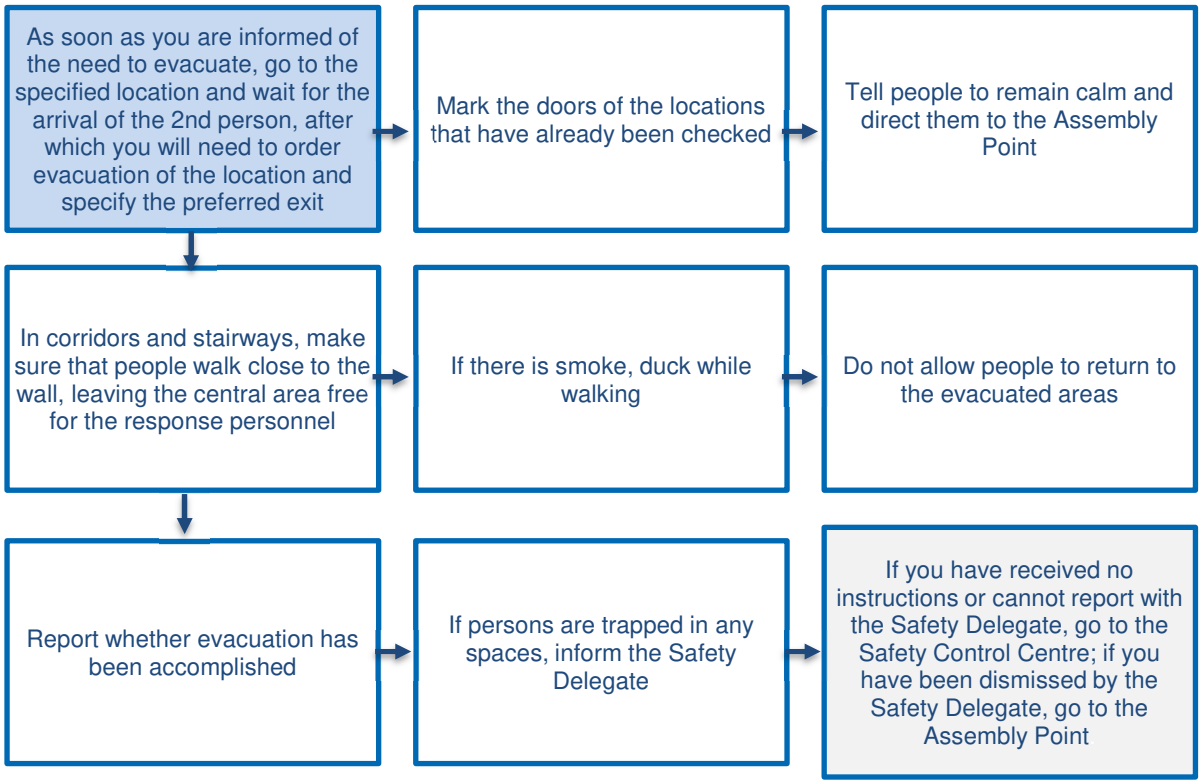


Figure 3 - Evacuation Safety Team

At the assembly point, there should be a person in charge of checking for and receiving evacuation information, including information about people who may be trapped in the establishment/building/venue. This person is the designated Assembly Point manager and must possess a list of locations to be evacuated and/or a list of people to be evacuated - an evacuation checklist. On this evacuation checklist, mark all information received by the different evacuation team members and report this information to the Safety Delegate.

Sample Instruction for the Assembly Point Manager:

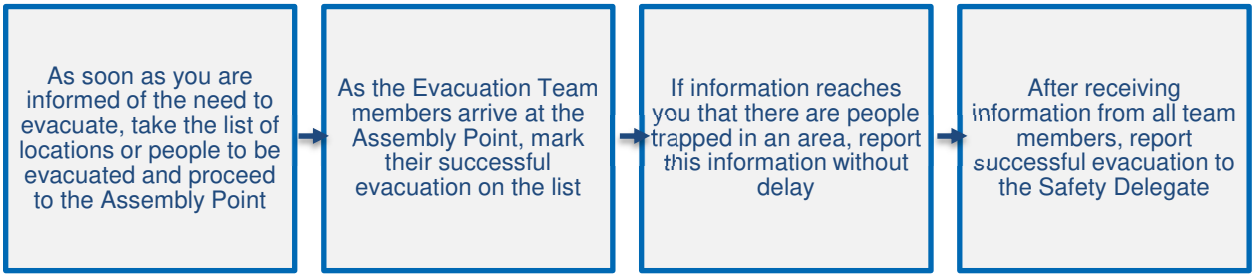


Figure 4 - Instructions for Assembly Point Manager

The checklists should be adapted to the specifics of each establishment/building/venue, for instance, in the case of schools, there needs to be an attendance list containing the children's names in addition to the list of locations.

Below find an example of a list of the locations to be checked in an evacuation - this list should be adapted to the specifics of the establishment/building/venue.

Floor	Area / Wing	Yes	No	Remarks
		☐	☐	
		☐	☐	

Only a few examples of Safety Instructions have been presented, these instructions or procedures need to be prepared for all personnel with specific roles to perform. For instance, first-aid team members should be instructed to bring their first aid kit to the assembly point. You will also ned to prepare Instructions for the Safety Delegate, who commands the rest of the team and has therefore to be informed at all times about the course of all actions.

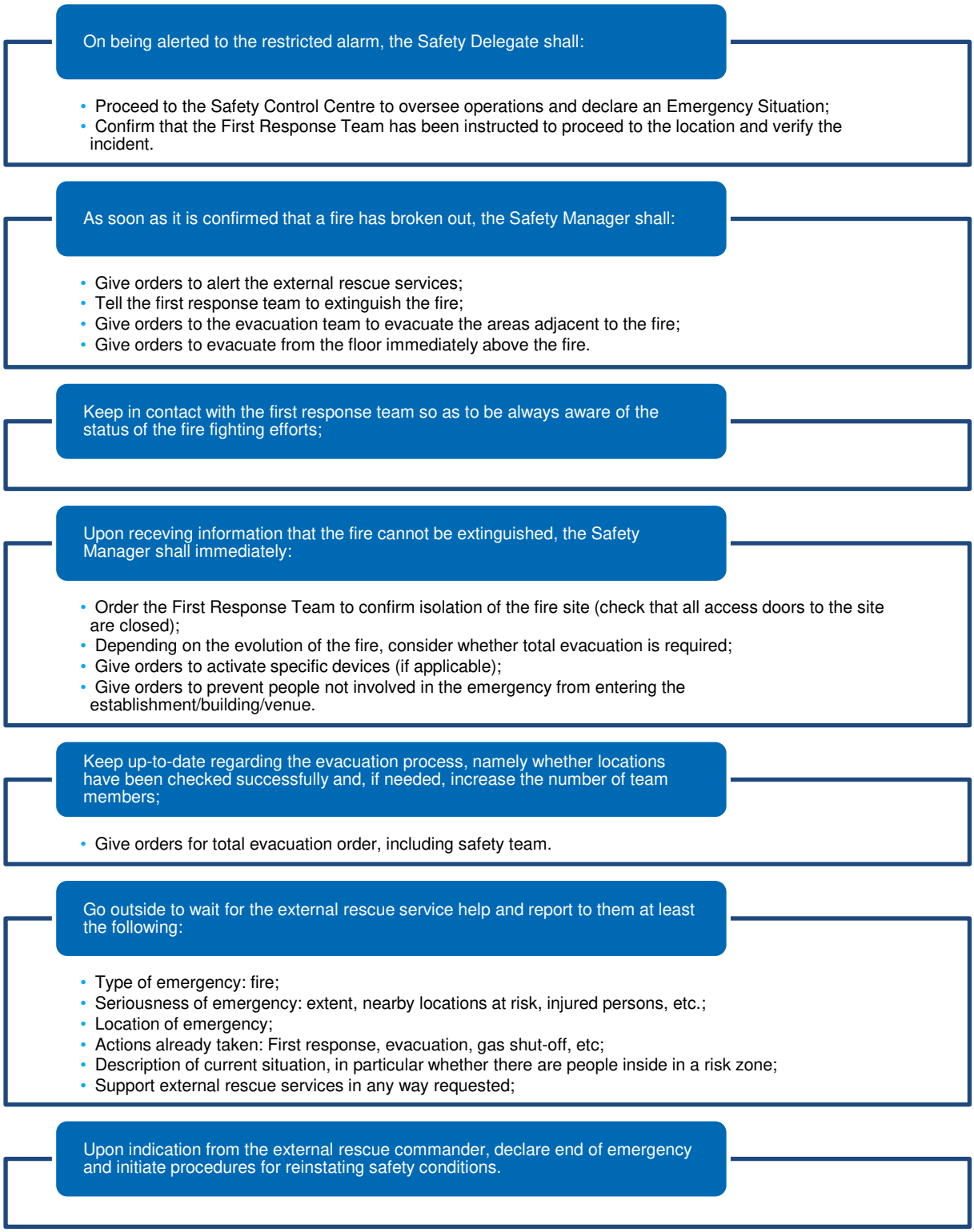


Figure 5 - Duties of the Safety Delegate

8.8. Reporting the drill

In general, drills should not be announced beforehand, i.e., they should come as a surpirse. However, in accordance with applicable legislation, [8] 'occupants shall always be given prior information about drills being carried out, but a scheduled date and/or time need not be specified'. In other words, the Safety Delegate need not announce what the scenario is or when exactly the drill will be undertaken, but to avoid panic situations, people must be informed in advance that there will be a drill.

It is suggested that a **Drill Notice** be displayed in the establishment/building/venue in all places of public passage. This simple measure can help to avoid untoward setbacks. If no day, time and place are specified, the notice may simply state that a drill will take place in a given week.

If the establishment/building/venue has an automatic alarm connected to the fire brigade, the latter should be informed in advance, asking them for their cooperation and, as regards the alarm message, to specify all questions that they would normally ask in a real situation. The alarm message should be preceded by a previously agreed upon code to let the firefighters know that it is a drill - this code may for instance be 'drill, drill, drill' or 'play play play' followed by the alarm message. In case an actual situation occurs on the day of the drill, this will avoid any confusion between a drill and an actual emergency situation.

DRILL NOTICE

A Fire Scene drill will take place on (date) at (time)

All instructions by the safety teams need to be followed as if in a real situation.

This surprise drill with no predefined course of action shall only be carried out after the team has been trained properly and is familiar with the actions to take, otherwise it may be counterproductive as people get demotivated by lacking success.

8 Point e) Paragraph 2 of Article 207 of Ministerial Order 1532/2008 as in its current wording.

Drills that are unscheduled or whose scenario and date are not shared in advance end up being more realistic because of the surprise effect.

In drills involving external rescue services participate or road cuts, the neighbourhood should be notified so that everyone knows that this is not a real incident.

9. Conducting the drill.

9. Conducting the drill.

Once the drill guide has been prepared and presented to the Safety Team, the time has come to put it into practice.

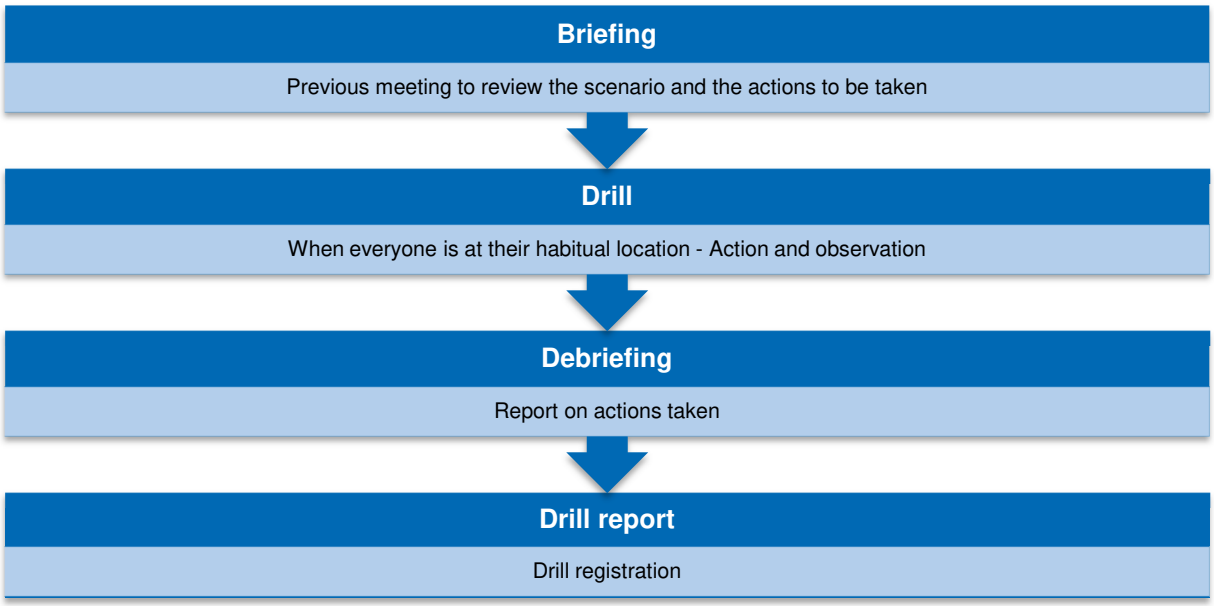


Figure 6 - Drill

9.1. Briefing

Before carrying out the drill, there shall be a prior meeting where the fire scenario and safety instructions are reviewed. This meeting may include stakeholders as well as observers. It provides the last occasion to clear any doubts and agree on minor details.

The observers synchronise their stopwatches and specify the locations where they will observe the action.

The object symbolising the fire will also be decided upon in this meeting. Cellophane sheets with Christmas lights may be used to symbolise a burning object. This object helps the response personnel to identify the 'fire' and also to simulate fighting it.

If the use of smoke is chosen, the smoke used must be neither toxic nor hot, unlike smoke from a real fire.

The alarm code word ('drill, drill, drill') should also be recalled in this meeting so as not to mislead firefighters into believing that it is a real situation. A code should also be defined in case a real situation occurs during the drill, in which case the drill must be interrupted and response action must take place. This code could be, for instance, 'real, real, real'.

9.2. Drill

Once all intervening parties are at their usual workplaces carrying out their habitual work functions and the observers are positioned in the previously defined positions, the drill should commence.

To trigger the detection system, use a spray specifically designed for this purpose. If a thermal detector is to be triggered, a hairdryer can be used. If you choose to activate push buttons, ensure first that you have the key to reset them.

The moment the detector issues the alarm is thye the drill starts, and from here one all actions should run continuously, and even if there are failures in the systems, the drill must continue. For instance, if there is a failure in the alarm system, the drill shall proceed with a voice alarm.

During the course of the drill, all participants perform the actions previously agreed upon, and the observers record the times and take any possible photographic or video records.

After the drill, the safety conditions shall be reinstated, namely:

- Reset the alarm button, if it has been used;
- Reset the FDU;
- Stow way the fire extinguishers;
- Roll up the reel hoses;
- Reinstate the gas supply;

- Reset logs;
- Reinstate regular position of doors with retainers;
- Allow occupants to re-enter the building;
- Any other actions deemed necessary.

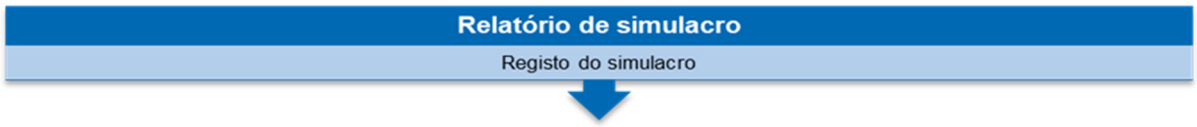
9.3. Debriefing

Immediately after the drill, a meeting shall be held with all stakeholders, team and observers to share experiences and observations.

The meeting shall be conducted in an organised manner, allowing everyone to share their experience and opinion.

The Safety Delegate needs to be supported by someone previously appointed to assist in preparing the drill report. Any opinions, be they positive or negative, must be noted at the meeting so that they can later be included in the report to be drawn up.

The observer grids must be collected and the data be processed and included in the drill report.



9.4. Drill report

After the drill, a report shall be drawn containing the facts recorded by the observers and any comments made at the debriefing meeting.

This report shall be archived to form part of the Safety Records[9] and be kept for 10 years.

The report is a key element for assessing evolution of the readiness for a real incident, as well as for identifying required improvements both in the building (passive or active measures) and the SPMs.

Ideally, the report should contain at least the following information:

- Summary description of the scenario;
- List of internal and external resources involved;
- Factual description of how the drill went, referencing the events in time, describing the actions carried out by the response and evacuation team, including the respective time at which they took place;
- If possible, it should include quantitative information, such as the number of occupants present and the per-floor or total evacuation time;
- Kudos, namely actions that were carried out ande completed appropriately;
- Points for improvement, which may be divided into:
  - Actions that require improvement and further focus in the following training sessions and next drills;
  - Procedures that need to be changed;
  - Equipment that needs to work differently (e.g., CDI programming needs to be changed);
  - And so forth

9 Decree-Law 1532 Article 201 as in its current wording.

10. Other aspects.

10. Other aspects.

Carrying out of the first fire drill marks the beginning of a new cycle for an establishment/building/venue's emergency organisation. People are better prepared to face an emergency, but the preparation efforts do not end there. Organising the next drill should commence while preparing the report, after analysing what needs to be improved or further trained, and what the motto will be for the next drill.

In some cases, the legally prescribed periodicity for fire drills is biannual, and it is in fact not even mandatory for certain establishments/buildings/venues. It is therefore up to Safety Managers to decide whether to position their company's safety organisation at a level above what is legally required. This is particularly important in establishments/buildings/venues with a high employee turnover or business seasonality, e.g., in the hotel sector.

A drill offers an excellent opportunity to provide theoretical and/or practical training. For instance, you can take advantage of the fact that people are together and - if conditions are right outdoors - perform a demonstration with real fire to rehearse the use of a fire extinguisher or fire blanket. This type of complementary action reinforces the didactic value of the drill and strongly contributes to involving all stakeholders.

10.1. Improvement of Self-Protection Measures

Carrying out a fire drill may show that improvements to Self Protection Measures are needed. These improvements require approval of the Safety Manager, and need to be recorded in the Safety Logs and then communicated to the Safety Team. In this case, they need not be submitted to ANEPC for their opinion[10].

10 As per Art. 22 of DL 220 as in its current wording.

11. Conclusions.

11. Conclusions.

In addition to fulfilling a regulatory requirement, carrying out fire drills may assure business continuity in case of a fire, as well as contribute to avoiding the loss of life and personal injury. When viewed naturally and with commitment, a drill provides companies with a compelling opportunity as a team building activity

11.1. Consistent practice

Only consistent practice stemmng from ongoing training will prepare the team efficiently to face a real fire situation. In an emergency situation,, which comprises stress and panic, only the practice and training previously acquired allow people to respond correctly based on the principle 'Knowledge Saves Lives!'.

It is a constant work in progress. After drill evaluation has been completed, any corrections/amendments to the special instructions should be initiated on the spot, improvements be implemented and planning for a new drill commence immediately.

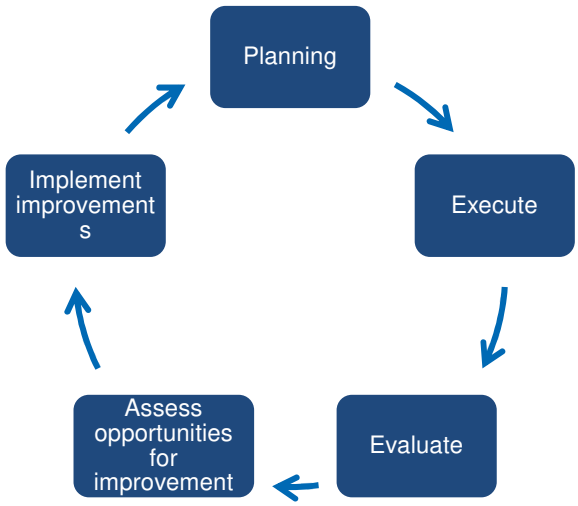


Figure 7 - Training

12. Bibliography and links.

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12.1. Bibliography.

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12.2. Links

https://www.nfpa.org/-/media/Files/Public-Education/By-topic/Occupancies/Evacuation.ashx

https://www.gov.uk/government/publications/the-exercise-planners-guide

https://cfpa-e.eu/category-guidelines/fire-prevention-and-protection/

13. Definitions and acronyms

13. Definitions and acronyms.

- UT - Usage Type
- RC - Risk Category
- FSB - Fire Safety in Buildings
- Safety Manager - the entity responsible for maintaining safety conditions against fire risk and implementing self-protection measures
- Safety Delegate - person appointed by and acting on behalf of the Safety Manager
- Safety Team - Members of the Response, Evacuation and First Aid Team who have duties to perform in an emergency
- Exercise - FSB legislation contains no distinct definitions for drill or exercise

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