

FIRE SAFETY MANAGEMENT: GUIDANCE ON FIRE HAZARDS PROCEDURE

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FIRE SAFETY MANAGEMENT: GUIDANCE ON FIRE HAZARDS PROCEDURE

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1. Summary of Changes

- 1.1 This is a new joint procedure supporting the Fire Safety Management Policy.

2. Procedure Aim

- 2.1 Risks from fire need to be managed so that injury to officers, staff and visitors and damage to buildings and property is avoided. Key to this is identifying the fire hazards within a workplace, assessing the risk presented by these hazards and ensuring the risk is being adequately controlled.
- 2.2 This procedure provides detail on the standards, expectations and guidance on fire safety management in direct support to the Fire Safety Management Policy.
- 2.3 Everyone has a personal responsibility to ensure compliance with this procedure. In some cases, certain requirements will rest with the Estates and Facilities Department, supported by the Health and Safety Team. All Head of Department, Line Manager, Supervisor, and site responsible persons also have duties especially where hazards exist in the work areas or work activities. The Statement of Health and Safety Policy and Health and Safety Arrangements will provide specific advice and detail further roles and responsibilities.

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- 2.4 If more detailed information is required after using this document the assessment guides found on the GOV.uk website provide further information which is specifically written for different types of premises.
- 2.5 Fires require a source of ignition, fuel, and oxygen, therefore these are the hazards which need consideration.

3. Sources of ignition

- 3.1 Nearly all premises will have equipment or processes which could provide a source of ignition. This source might be permanent e.g. fixed electrical equipment or temporary, e.g. equipment brought onto site by contractors.
- 3.2 A key part of fire risk assessment is to identify potential sources of heat that might ignite flammable materials present in premises.
- 3.3 Broad categories of ignition sources (and some examples of these) include:
- **Hot surfaces** – Heater surfaces, hot plates, toasters etc.
 - **Naked flames** – Candles, arson, hot works (e.g. blow torches) etc.
 - **Electrical fires** – Faulty and overheating electrical equipment.
 - **Mechanically generated sparks** – Grinding wheels, welding, cutting processes.

Hot surfaces

Portable heaters

- 3.4 All heaters, including infrared types, can pose a fire risk in certain circumstances such as:
- When used within a highly flammable atmosphere e.g. where high levels of dust are produced by works.
 - When misused e.g. hanging items to dry over a convection heater.
 - Where support feet are damaged or broken making them unstable and likely to rest against combustible material.
 - Where used too close to flammable materials.
- 3.5 However, some present a much greater risk than others including where they:
- Produce a naked flame.
 - Radiate heat at high temperatures e.g. radiant bar heaters.
 - Are powered by LPG.
- 3.6 Where these types of heaters are in place, they should be replaced by a safer alternative.

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3.7 The risk from portable heaters can be reduced by ensuring:

- Supplier/manufacturer safety instructions are followed.
- Flammable materials are kept at least a metre away and do not cover the heater, and they are not used to dry items e.g. wet clothing.
- Materials cannot fall down on to them.
- (Where electrically powered) they undergo portable appliance testing and visual checks in accordance with the 'Use of Portable Electrical Equipment in the Workplace' Policy.
- They are not left operating unattended and are switched off as part of the closing up procedure.
- They are not plugged into extension leads.
- They are suitably located to avoid obstruction and/or trip hazards e.g. from trailing cables.

3.8 Faulty heaters should be immediately labelled and taken out of use until repaired or disposed of. The Estates Department should be notified by email of this course of action.

Machinery operating at a high temperature

3.9 Some machinery operates at – or generates – sufficient temperature that nearby flammable materials may catch fire. Controls may include allowing adequate ventilation around machinery/equipment, keeping it clear of flammable materials, ensuring it is adequately lubricated and maintained.

Toasters

3.10 These are the cause of many fires and present a particular risk when their condition is allowed to deteriorate or when they are positioned and used inappropriately. Much of the guidance given in the 'portable heaters' and 'portable electrical equipment' sections also applies to toasters.

3.11 Toasters will only be permitted under the following circumstances:

- Used in a kitchen with heat detection. Use of a toaster in a location with only smoke detectors is prohibited due to potential for false alarms.
- A fire blanket must be available and employees instructed how to use it.
- Person using the toaster is to stay in attendance and switch off after use.
- Responsible Persons to ensure that toasters are regularly cleaned by users, failure to do so will result in the removal of the toaster.
- Toasters to be replaced every ten years as per other white goods under Estates planned maintenance.

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- Toasters must be of a cool wall type or kept well away from any walls. Toasters must not be sited with any cupboards or where any wall mountings are placed directly above.
- In all cases the location of the toaster must be AGREED IN ADVANCE with Estates Department and Health and Safety.

Irons

3.12 Irons can become hot and within seconds cause burns and scorch combustible materials. Irons must only be provided by Estates – they must not be purchased locally or brought in from home.

- Never leave an iron unattended.
- Unplug when not in use or ensure the power supply is isolated.
- Do not wrap the supply cable around the iron while it is cooling down.
- Ideally, use an iron caddy to place the iron on as it cools down after use. If one is not available, make sure that it is not near to flammable materials.
- Check cords and plugs for signs of damage on a regular basis. Discontinue use if there are any signs of damage present.
- If the iron is dropped it is important that it is checked for safety before using it again as wires inside the appliance may have become loose. Discontinue use if the case around the appliance becomes broken and wires are exposed.
- Ironing boards must be suitable and sufficient.

3.13 We advise that irons should be hard wired into a fused spur with a push button (suitably rated) switch set to operate for no longer than five minutes.

Heated equipment for hair

3.14 These can become very hot over 220°C and cause burns and fires.

- Must be brand new at first use in the Constabulary building or workplace or have received PAT testing within 12 months.
- Check cords and plugs for signs of damage on a regular basis. Discontinue use if there are any signs of damage present.
- The cable must not be wrapped around them whilst cooling.
- Must not be used in rooms with source of water e.g. sinks or showers.
- Must be plugged into a RCD protected socket – if not do not use.
- Gas powered hair tools are not permitted in the Constabulary buildings.
- A safe place must be used to allow them to cool – if none exists, do not use.

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- If the hair tool is dropped it is important that it is checked for safety before using it again as wires inside the appliance may have become loose. Discontinue use if the case around the appliance becomes broken and wires are exposed.

Naked flames

Candles

- 3.15 The use of these within buildings are not permitted. Where back up lighting is required it should be provided through emergency lighting or torches.

Matches and smoking

- 3.16 The use of matches within buildings is not permitted. Smoking inside premises or within the boundary of any Constabulary owned or occupied structure is prohibited unless an approved designated smoking area is provided. Any smoking outside the building should be in an approved designated smoking area away from flammable material and an appropriate container provided for cigarette butts e.g. a butt bin. If no designated area is provided smoking must not take place. Smoking and the use of Nicotine Vaporisers (including e-cigarettes) is subject to separate procedure.

- 3.17 No smoking or naked flames should be allowed in areas where flammable atmospheres may occur i.e. near LPG cylinders or highly flammable liquids.

Open fires

- 3.18 Where open fires exist, they should be properly guarded so that embers cannot escape and cause flammables to catch light. Fires should also be properly put out when no longer required.
- 3.19 Chimneys should be kept maintained and swept regularly. This should be quarterly when burning bituminous coal or wood or at least once a year when burning smokeless fuel. More information is available on the Guild of Master Chimney Sweeps website.

Arson

- 3.20 Many fires are started deliberately through arson. However, there are many sensible steps which can be taken to reduce the risk. These include:
- Reducing the flammable materials stored close to the building.
 - Where waste is stored externally in a locked wheelie bin, ensure this is kept secured (e.g. chained to a fence) away from the building and not underneath external stairways, fire exits and vulnerable parts of the building e.g. windows. Where this is not possible, contact the Estates and Facilities Department to have waste collected more regularly to prevent it accumulating or consider other methods such as using wheelie bins with lids that can be kept tightly locked shut.

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- Skips must not be positioned next to buildings (these should usually be located at least six metres away) unless they are securely locked.
- The Constabulary will provide fire-proof letter boxes, where risk assessed as necessary, to reduce the risk from burning materials being placed through a letter box.
- Improving site security through lighting, fencing and CCTV (Risk and Insurance provide a site security checklist that can be used in helping identify vulnerable parts of a site).
- Ensuring closing up procedures include closing windows.

Electrical equipment

3.21 Separate guidance is available on managing the risks from electrical equipment. The following relates specifically to the fire risks from electrical equipment.

Portable electrical equipment

3.22 Portable electrical appliances are anything with a plug.

3.23 Faulty portable electrical equipment (including its lead) can result in electrical fires. An important part of controlling this risk is ensuring that the equipment is used in suitable and safe environments. For example, cables/leads dragged across rough surfaces can cause deterioration in its condition, as can equipment that is not waterproof being used in wet conditions.

3.24 Similarly cables may be subject to mechanical damage (wheeled over, trapped in doors etc.) allowed to rest in substances (such as oils) or placed next to hot processes that can cause the sheathing to be damaged. Practical steps to take include:

- Ensuring there is sufficient ventilation around any equipment so that heat (including exhaust from the equipment itself) can dissipate.
- Ensure equipment is used in appropriate environmental conditions.
- Ensure cables are not left trailing across the floor where it can be damaged or tripped on.
- Check all equipment for obvious signs of damage (either to it, or its lead). Damaged equipment should be taken out of service and labelled as faulty until repaired or disposed of.

Electrical adapter blocks and leads

3.25 an inadequate number of sockets are available, this may lead to multi-plug adapter devices being used to accommodate multiple appliances so that they can be powered by a single socket. These devices might be:

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- Adapter blocks – these plug directly into a socket with multiple plugs in turn being plugged into the block. They do not have a connecting cable as multiple plug adapter leads do. Blocks should not be used due to the risk from:
 - Overheating – due to their compact nature heat may build up in the block (which is often also of poor quality).
 - Damage to the block and socket from cables being tugged accidentally or the weight of the cables pulling on the block.
 - Adapter leads – these accommodate multiple appliances and as they have a cord, they can also be used to provide greater flexibility in the positioning of equipment. However, they can present trip hazards if the cable is allowed to trail. There is also a risk of them being overloaded if not used correctly. Therefore, the amount of equipment plugged into an adapter lead should not exceed 13 Amps. They must never under any circumstances be 'daisy chained' together.
- 3.26 The installation of a sufficient number of appropriately placed sockets should be the goal. However, if adapters do need to be used these are safer than blocks. Adapter leads should not be plugged into other adapter leads.
- 3.27 Leads should not be run under carpets due to the risk they can wear through without being noticed.
- 3.28 If additional sockets are needed, these would need to be installed by an appropriately qualified electrician. Estates must be contacted to consider this request.

Extension reels

- 3.29 Where these are needed, they should be unwound fully so that heat generated in the cable does not build up. Where using an extension reel with multiple sockets, ensure the reel is not overloaded (see guidance above on use of adapter leads).

Fixed electrical equipment

- 3.30 Anything which does not have a plug (i.e. does not plug into a socket) forms part of the fixed electrical mains installation e.g. sockets, lighting, fuse boxes etc.
- 3.31 Fixed electrical installations should be inspected by a competent electrical engineer on a five yearly basis (alternatively, 20% of the installation may be inspected on an annual basis). Estates manage the electrical inspection regime. In PFI premises e.g. the OCC, PICs either Interserve or Tascor will hold responsibility.
- 3.32 The risk of electrical fires can be reduced by:

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- Ensuring flammable/combustible materials are not stored in close proximity to fixed electrical equipment. A fault causing overheating, arcing or sparking could cause flammable materials to catch light.
- Not overloading sockets. This can happen when an appliance (or a number of appliances) is plugged into a socket and exceeds the capacity of the socket. The total load on a socket should not be greater than 13 Amps.

Important: Double sockets should still only have a maximum 13 Amps of equipment plugged into them (not 13 Amps in each socket).

Mechanically generated sparks

3.33 Some processes generate sparks e.g. angle grinders and welding equipment. Work processes generating sparks also come under 'Hot works' and separate guidance is available for these activities.

4. Oxygen

4.1 Oxygen is necessary for a fire to begin and be sustained. If oxygen is removed, a fire will cease to burn and so a key part of fire safety management is limiting the amount of oxygen available to a fire.

Air

4.2 Oxygen is contained in the air around us and this means there will almost always be a supply of oxygen. The two main sources of air will be provided by:

- Natural airflow through windows and doors.
- Mechanical ventilation systems such as air handling and air conditioning units.

4.3 This should be limited by steps such as:

- Closing windows and doors (as well as other openings); particularly outside of working hours.
- Shutting down non-essential ventilation systems when not in use.
- Ensuring new air handling installations include fire safety measures in their design.
- Considering whether the shutdown of air handling systems can be included as part of the emergency plan (i.e. switching these down when this can be done without risk) where it does not happen automatically on activation of the fire alarm.

Oxidising substances

4.4 These are substances which, though not necessarily flammable themselves, can provide additional oxygen that would aid in the combustion of other materials in the event of a fire.

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4.5 Such substances are identifiable by the appearance of an oxidising symbol in their accompanying material safety data sheet or on the packet or box they are supplied in. Material safety data sheets are available and can be requested from the suppliers of substances. Please note: the diamond shape symbol is the new symbol for oxidising substances and the orange square is the previous symbol.

4.6 Measures to limit the risk of oxidising substances include:

- Keep oxidising substances away from flammable materials and heat sources. Head of Department, Managers and Supervisors all have a duty to ensure all staff are aware of the need for this.
- Replace oxidising substances with less hazardous alternatives where available.
- Reduce the quantity of oxidising substances on site to the minimum needed.
- Review the material safety data sheets for substances on site, work area or under your control¹ to check whether any of these are oxidising substances. See the Health and Safety Arrangement on the Control of Substances Hazardous to Health and Safety.

Oxygen cylinders

4.7 Oxygen is available in cylinders and may be used in many different applications such as welding, flame cutting and for assisting those with breathing difficulties.

4.8 Pure oxygen at high pressure (as it would be supplied from a cylinder) can react violently with common materials such as oil and grease. It can cause others to catch fire spontaneously. Most materials will burn vigorously in a highly oxygenated atmosphere. Even small increases in oxygen levels can enable fires to start more easily and burn hotter. Therefore, the following measures must be taken:

- Ensure oxygen cylinders are appropriately maintained by a trained contractor. Many components may not be compatible with oxygen and so it is essential only competent persons are allowed to identify and fit replacement parts.
- When not in use, ensure they are stored in a well ventilated area away from flammable gas and flammable materials.
- Ensure staff using them are trained/instructed in the necessary safety precautions such as safe handling, use of valves etc.

¹ Head of Department / Line Manager / Supervisor

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- Ensure oxygen and oxyacetylene cylinders are stored securely, fastened (i.e. chained or clamped to prevent them falling over) and kept upright.
- Remove sources of ignition when oxygen is being used in a way that could lead to enrichment of the atmosphere e.g. when being used by patients for breathing assistance. Consider also the possibility of leaks and the need to ensure safe areas (i.e. where there are no sources of ignition) are left around cylinders.
- Smoking should be forbidden where oxygen is being used.
- Keep cylinders clean to ensure there is no build up of contaminant that might react with the oxygen.
- Reduce the number of oxygen cylinders on site to the minimum needed.
- Make the Fire and Rescue Service aware that oxygen cylinders are present on site.

5. Sources of fuel

- 5.1 A key part of fire risk assessment involves identifying what significant sources of fuel exist that might enable a fire to begin and spread.
- 5.2 A building's 'fire load' is the combination of its contents, the flammable materials used in its construction, and the materials used in its decoration/finish. The fire load should be as small as possible and remaining fuel separated from any sources of ignition.

How flammable they are

- 5.3 As well as the volume of flammable/combustible materials, the ease at which they would become involved in a fire is an important consideration. For example, highly flammable and extremely flammable substances would ignite at a low temperature. Similarly, readily flammable materials such as loose sheets of paper and wood shavings would ignite more quickly than solid objects e.g. blocks of wood.
- 5.4 Though all fuels will sustain a fire once they begin to burn, special care is needed to ensure readily flammable/combustible materials are kept away from obvious sources of ignition.

Products of combustion

- 5.5 Some materials e.g. plastics, rubber, paint etc contain substances which will give off dense smoke or toxic fumes when involved in a fire. As well as the potential health risks of exposure to smoke and any hazardous by-products, smoke can reach high temperatures and travel fast, which can enable fire to spread quickly and threaten escape routes.

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Blocking of escape routes

- 5.6 Poor storage arrangements may lead to items being stored inappropriately such as in front of fire doors or so that they block escape routes. In general, escape routes should be kept clear and free from items that may present an obstacle to escape or a source of fuel.
- 5.7 Therefore, escape routes need to be properly managed and regular checks made to ensure this is happening. This includes:
- Keeping escape routes clear of flammable materials and sources of ignition including areas under and around staircases leading from upper floors.
 - Not blocking fire doors and final exits.
 - Ensuring there are no trailing cables running across escape route floors.

Reduce the sources of fuel

- Reduce stocks of flammable materials where possible.
- Determine whether remaining materials can be stored in appropriate storerooms, storage areas or in outside buildings (away from the main building).
- Formalise arrangements for removing waste and storing it safely until collected.
- Where waste is stored externally in a wheelie bin, ensure this is stored and secured (e.g. chained to a fence/post or in a compound) away from the building.
- Do not store waste materials underneath external stairways or outside of fire exits. Where this is not possible, make alternative arrangements via the Estates and Facilities Department to arrange for waste to be collected more regularly.
- Ensure skips are not positioned in close proximity to buildings (these should be located at least six metres away).
- Consider whether electronic records can be kept instead of paper ones so that the fire loading is reduced.

Replace easily flammable materials with safer varieties

- Reduce highly flammable substances with less flammable ones.
- Ensure suppliers provide suitably fire resisting materials for displays and for furniture and furnishings – ask the suppliers for confirmation of their fire resistance.

Reduce the risk of fuels coming into contact with sources of ignition

- Keep flammable materials away from sources of ignition such as electrical equipment and very hot surfaces – Section 3 covers sources of ignition.

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- Ensure highly flammable substances are appropriately stored in designated areas – Section 6 covers flammable substances.
- Use appropriate fire resisting cabinets to store flammable materials in places where these are situated on escape routes.
- Subject to the requirements of the Smoke Free Procedure, any site where smoking areas² remain must not be situated in close proximity to any storage areas.

Kitchens

5.8 Kitchens present a high fire risk as there are ready sources of ignition (cooking equipment, toasters etc.) and sources of fuel e.g. hot oils and fats.

5.9 Though many guidelines already given in other areas will apply, in general, control will be achieved through:

- Adequate maintenance of electrical equipment.
- Servicing gas equipment on an annual basis.
- Training staff appropriately on the fire risks within kitchens.
- Ensuring flammable materials (those not meaning to be cooked) are kept clear of sources of ignition.

5.10 Where cooking equipment is fitted with extraction equipment, this usually consists of a hood and ductwork that channels the steam etc, produced and exhausts it externally. As a result, grease carried in the steam can collect in the ducting.

5.11 Therefore, filters and ductwork should be subject to a scheme of maintenance and cleaning to ensure the fire risk is reduced and that a fire is not able to travel through the ducting threatening other parts of the building.

5.12 Microwave combination ovens and toasters (as referred to above) are the only accepted form of cooking equipment that are permitted. These should only be located in designated kitchen areas with fire detection heat sensors, not smoke detectors. Where traditional ovens are already in place these will not be replaced or repaired should faults arise.

5.13 Portable cooking appliances e.g. electric hobs, air fryers, rice cookers, mini ovens, slow cookers, sandwich toasters, George Foreman style grills etc. are not permitted.

² No new smoking shelters or designated areas will be permitted in any Constabulary owned or occupied premises.

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6. Flammable liquids and gases

Flammable liquids

- 6.1 Flammable liquids (particularly highly and extremely flammable ones) present a particularly significant fire risk due to the low temperature at which they will give off vapour. When such substances are spilt or containers are left open, vapours can escape or be produced, resulting in a potentially flammable atmosphere that can be ignited.
- 6.2 Vapour produced is also heavier than air and can travel large distances, meaning that it may collect in hazardous quantities or otherwise travel to areas where an ignition source is present.

Reducing the risk from flammable liquids

- **Storage** – Ensure that only the quantity absolutely necessary is kept on site. Up to 50 litres of highly flammable liquids can be stored in a fire resisting cabinet or bin.
- **Good housekeeping** – Contaminated rags (e.g. those used to clear up spills) should be properly disposed of in a fire resisting bin and not allowed to lay around as they may still be producing vapour that could ignite.
- **Control ignition sources** – Flammable liquids should not be stored or used near to sources of ignition where there is the potential for a flammable atmosphere to exist e.g. electrical equipment, hot surfaces.

LPG use

- 6.3 LPG is a flammable gas that is pressurised to keep it liquefied. However, when released it readily reverts to gas. Ordinarily, the gas is odourless which would be dangerous as if there was a leak then this could result in a flammable atmosphere. Therefore, gas is normally odourised to ensure that any leaks are detected.
- 6.4 LPG cylinders can be either fixed to provide gas to an installation (e.g. cooking equipment) or unfixed so that they can be transported/moved around. The amount of LPG kept on site should be kept to the minimum required for business needs.

Storage of LPG

- 6.5 Cylinders must be stored in a safe and secure place where they:
- Are well ventilated and above ground level (i.e. not in cellars or basements).
 - Cannot be tampered with.
 - Can be kept upright with valve protection fitted.
 - Are away from sources of ignition (electrical equipment, smoking areas etc).

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- Are away from easily ignitable materials such as rubbish and vegetation.
- Are away from corrosive, toxic or oxidant materials.
- Are away from cylinders containing other gases or hazardous substances (unless specialist advice has been sought).
- Cannot compromise escape routes.

External Storage of LPG

6.6 In addition to the above section, the following guidelines also apply:

- Storage areas should not be accessible to the general public.
- Appropriate warning notices should be in place confirming LPG is stored in the area, the contents are highly flammable, smoking and other ignitions sources are prohibited and the actions to be taken in the event of a fire.
- Minimum separation distances may also apply and further guidance should be sought from the Health, Safety and Well-being team.

Storage of LPG within buildings

6.7 Storage within buildings **should be avoided where possible**. However, where there is no other option and they need to be stored inside, this should be subject to a risk assessment and the following maximum limits applied:

Building type	Maximum quantity LPG cylinders or cartridges	Comments
Offices and small and medium places of assembly	15KG	In not more than two cylinders
Residential care buildings	15KG - Butane only	• In not more than two cylinders. • LPG should only be used in residential buildings in exceptional circumstances
Educational premises and large places of assembly	LPG cylinders should be stored either in the open air away from the building or in a separate building dedicated for LPG storage	

Bulk storage

6.8 Bulk storage tanks and fixed installations (e.g. where used for heating buildings and cooking) need to be installed by a competent engineer (certified by Gas Safe) in accordance with industry guidance.

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7. Means of escape and maximum occupancy numbers

7.1 Once the fire alarm has been raised it is essential those inside can get out within a reasonable time. Ensuring this happens depends on the adequacy of several factors including:

- The escape routes in place and their management.
- The measures in place to detect and alert occupants to a fire i.e. fire warning systems.
- The training received by staff on the emergency measures to take.

7.2 This section of the document concentrates on establishing maximum occupancy levels and ensuring there are an adequate number of well managed escape routes available to evacuate this number. Separate guidance is available on fire alarm systems and staff training.

Establishing the maximum occupancy

7.3 The Estates and Facilities Department will provide in conjunction with the Health and Safety Team (as required) a site log file and access to floor plans (held on server). This may contain details of the intended maximum capacity. If the site does not have a health and safety file but is a recently constructed premises, contact the Estates and Facilities Department.

7.4 If there is no information available outlining the occupancy limit (e.g. for older buildings), this can be arrived at as being either:

- 1) The maximum number of people the building is intended/required to accommodate e.g. what the peak capacity/attendance might be, or;
- 2) The number arrived at by dividing the floor area in m² by a floor factor from the table below.

7.5 The floor area should exclude stair enclosures, corridors, lifts, sanitary accommodation and other fixed parts of the building structure **but** it should include counters, display units, shelving and furniture etc.

7.6 If different areas of the building have different uses, different floor factors may need to be applied between areas. The Constabulary will calculate the capacity of these areas individually and add them together to arrive at the overall occupancy limit.

Type of Accommodation	Floor factor
Standing spectator areas, bar areas (within 2m of serving point) similar refreshment areas	0.3
Assembly hall, general place of assembly, dance floor or hall, venue for concert and other similar events without fixed seating	0.5
Concourse, queuing area	0.7

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Committee room, conference room, dining room, meeting room, lounge, staff room, restaurant, staff room or waiting room	1.0
Exhibition hall or broadcasting studio	1.5
Shop sales area	2.0
Art gallery, dormitory, factory production area, museum, workshop	5.0
Office	6.0 (5.25 Home Office Standard ³)
Kitchen or Library	7.0
Bedroom	8.0
Storage and warehousing	30.0

7.7 When considering the maximum occupancy levels, the level of assistance people will require in an evacuation, the staffing levels available and other controls in place must be taken into account. These factors may lead to reducing or increasing the maximum number for the premises.

Adequate evacuation capacity

7.8 Once arriving at the maximum occupancy limit, the Constabulary will determine whether the escape routes available could adequately accommodate this number.

7.9 The capacity of an escape route is determined by the number of people that could pass through its narrowest point. This will generally be the final exit through which occupants would leave a building although it could be that a site has narrowing corridors or obstructions (such as fire resisting cabinets) that could cause a 'bottle neck'.

7.10 The table below outlines the general capacities of escape routes:

Premises risk level* (see below)	Escape route width 750mm	Escape route width 1050mm
High	80 people (in 2 minutes)	160 people (in 2 minutes)
Normal	100 people (in 2 ½ minutes)	200 people (in 2 ½ minutes)
Low	120 people (in 3 minutes)	240 people (in 3 minutes)

7.11 An additional 75mm should be allowed for every additional 15, or part of 15, persons.

7.12 Where an escape route is likely to be used by a wheelchair user, the minimum width of the escape route should not be less than 900mm.

7.13 When calculating the escape route capacity of a building, the largest fire exit should be discounted to determine whether – if this was blocked in a real fire – those remaining would still provide adequate escape capacity.

***Premises risk levels**

³ Home Office Police Buildings Design Guide Oct 2007 – [Section 12 General Office Accommodation](#)

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- **Higher** fire risk area e.g. where a fire may start and spread quickly, or may start undetected and without a warning being given so that escape routes are compromised before people are able to use them. Examples would include where:
 - There are particular fire risks making the premises – or an area within it – higher risk e.g. significant quantities of flammable substances are stored/used;
 - Sleeping accommodation is provided;
 - Significant numbers of people are present (including those who may move slowly, or need assistance);
 - The layout or construction of the building would allow fire to spread quickly;
 - The building is large or has multiple floors but limited means of escape.
- **Normal** risk – This will be the risk level for most premises.
- **Lower** fire risk area – Few premises fit within this category. Those that would include premises where:
 - There are low occupancy levels;
 - Occupants are able bodied and do not need assistance;
 - There is little chance of a fire;
 - There are few highly flammable or flammable materials;
 - Fire cannot spread quickly;
 - Fire would be detected quickly.

Escape distances and time

7.14 Reasonable escape times for premises based on risk are:

- Higher risk – 2 minutes
- Normal risk – 2.5 minutes
- Lower risk – 3 minutes

7.15 Evacuations of the Police Investigation Centres (PICs) will be longer due to presence of detainees and the need to ensure that they are correctly and safely escorted to a place of safety. Separate Fire Evacuation Manuals⁴ are in place for each PIC.

7.16 Travel distances/time should not be excessive and the table that follows gives recommendations on maximum distances for premises based on their risk level. The distance should be measured from all areas of the building to the nearest place of reasonable safety which is:

⁴ Limited access

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- A protected stairway enclosure (a storey exit).
- A separate fire compartment from which there is a final exit to a place of total safety.
- The nearest available final exit.

7.17 Distances are intended to take into account the time taken for people to respond to a fire alarm and then evacuate within a reasonable time (as identified above).

7.18 Travel distances are reduced for premises/areas which only have one escape route. If any parts of the building have only a single escape route (e.g. from upstairs or a dead end) then the single escape route distance should be used for that particular area.

7.19 Recommended travel distances:

Escape routes	Suggested range of travel distance: areas with seating in rows	Suggested range of travel distance: other areas
Where more than one route is provided	20m in higher fire risk area 32m in normal fire risk area 45m in lower fire risk area	25m in higher fire risk area 45m in normal fire risk area 60m in lower fire risk area
Where only a single escape route is provided	10m in higher fire risk area 15m in normal fire risk area 18m in lower fire risk area	12m in higher risk fire area 18m in normal fire risk area 25m in lower fire risk area

7.20 It may be possible to extend these in premises which have a high level of safety protection in place e.g. comprehensive detection to give early warning. Similarly, there may be occasions when these distances need to be reduced. The distances should not be increased significantly without seeking further guidance.

7.21 If travel distances are excessive in comparison to the above table, additional measures may be needed to help safeguard these routes such as a more comprehensive fire detection system. Further advice can be sought from the Health, Safety and Wellbeing team.

Alternative escape routes

7.22 When a fire begins, occupants should be able to turn and move away from the fire towards a place of safety. This is best facilitated through the availability of alternative escape routes leading in different directions.

7.23 Consideration must be given as to whether fire exits for different routes are so close that if one is unavailable, the other is also likely to be unavailable. If so, they should be treated as a single escape route.

7.24 Where only a single escape route is available, as highlighted in the table above, travel distances need to be reduced. Depending on the level of risk e.g. premises size (including number of floors) and existing safety

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measures; additional measures may also be needed to safeguard a single escape route such as:

- A comprehensive fire alarm system covering the escape route and all rooms leading into it.
- Additional fire doors or structural improvements to ensure fire/smoke cannot spread to the escape route.
- Staff trained in the use of fire extinguishers to tackle a fire early.

Seating and gangways

7.25 Rooms and structures such as assembly halls, large meeting rooms, function rooms and marquees may on occasion require the installation of temporary seating e.g. for an audience of a performance or attendees at a conference. These should be laid out so as to ensure safe evacuation is possible. General principles to apply are:

- Gangways should be greater than 1100mm wide unless they are being used by less than 50 persons. In such cases, the gangway should not be less than 900mm.
- Where more than 50 seats are being laid out; they should be secured together in lengths of at least four seats and not more than 12.
- Where seating is being provided for over 250 people; the rows of seats that flank the front and back rows (and the front and back rows of any cross cutting gangways) should be fixed to the floor (note: only the end seats of the row need to be fixed to the floor if all seats on the row are secured together).

7.26 Where seats are secured together, it should not be possible to separate them or for the row to be brought out of line by pushing one of the chairs in a row.

7.27 Where seats cannot be secured by screws, an alternative means of securing them to the floor should be utilised such as floor bars.

7.28 A minimum of a 300mm seat way width (the narrowest point between the back of a chair and the front of the seat behind it) should be provided. Where this minimum gap is provided, the number of chairs should be limited, especially where the row is served by only one gangway. Ideally – and space permitting – though, the layout should be such that the gap significantly exceeds this and ensures that rows are served by more than one gangway. The table below shows the recommended maximum number of seats in a row based on the seat way widths and number of gangways:

Seat way width in mm	Maximum number of seats in a row	
	Gangway on one side	Gangway on two sides
300 to 324	7	14
325 to 349	8	16
350 to 374	9	18

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375 to 399	10	20
400 to 424	11	22
425 to 449	12	24
450 to 474	12	26
475 to 499	12	28
500 or more	12	Limited by the escape travel distance

Inner rooms

7.29 In some instances, the only way out of a room might be through another room. This means that a fire starting in the inner room could threaten the escape of those needing to pass through it. Where inner rooms exist one of the following is required:

- A vision panel between the two rooms so that occupants of the inner room could see a fire beginning.
- A large enough gap (at least 500mm) at ceiling height between the inner and dividing rooms (above the separating wall/partition) so that smoke would pass through and be seen.
- An automatic smoke detector in the outer room that would be activated if a fire starts and so notify those in the inner room.

7.30 In addition:

- Numbers using the room should be restricted to 60.
- No more than one inner room should need to be passed through.
- The outer room should not be of high fire risk.

Assembly points

7.31 Assembly points should be safe areas in which occupants can gather (and for example, a roll call be carried out or further instructions issued etc.) while a fire situation is investigated or controlled. Wherever possible these should be away from the building (in case of explosion, glass shattering etc) and traffic. Signage indicating assembly points may be needed where there may be staff and visitors unfamiliar with where this is.

8. Fire resisting structure

8.1 Fire resisting structures are intended to help restrict the spread of fire and smoke through a building and usually include doors, walls, and ceilings/floors. They should be used when:

- Significant areas of high fire risk need to be separated from the rest of the building.
- Escape routes need protecting e.g. a corridor serving as the sole means of escape from the building (or part of it).

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- The evacuation plan requires progressive horizontal evacuation to an area of relative safety i.e. to an area separated by fire resisting construction.
 - Needing to limit the extent of the damage caused to a building.
- 8.2 Staircases and escape routes are often constructed within a fire resisting structure. This is so that a fire cannot spread quickly and threaten escape before evacuation is achieved. If refuges are used as part of an evacuation strategy for those with mobility issues from upper floors, it is also common to have this area protected by a fire resisting structure.

Identifying fire resisting structures

- 8.3 In many buildings, this may often require some level of further exploration. For example, where there are suspended ceilings it may not be possible to see whether the walls extend to the floor above without lifting a ceiling tile. Additionally, identifying the construction materials to determine whether a structure would be adequately fire resisting, can be difficult without a greater level of expertise.
- 8.4 Fire Risk Assessments are carried out by competent contractors managed by Estates.

Factors that may impact on a structure's fire resisting capability

- 8.5 Maintaining a fire resisting compartment's structural integrity is key to ensuring it remains able to withstand/resist the spread of fire and smoke. Factors which would influence structural integrity include:
- **The materials used in its construction** – Some materials withstand fire better than others. For example, a solid wall constructed of concrete would better withstand a fire than a hardboard partition.
 - Where an area needs to be fire protected, it should be of appropriate construction, including any doors and glazing.
 - **Any defects** – Over time, deterioration (e.g. cracks and crumbling) may occur or work take place (e.g. holes drilled through walls to accommodate IT cables) to a fire resisting structure that may lessen its capacity to resist fire and smoke spread.
 - **Quality of construction/installation** – If the structure was not constructed to an appropriate standard it may not adequately serve its fire resisting role. For example, poorly installed fire doors may have large gaps through which smoke could spread. Similarly, walls supposed to be fire resisting may not have been constructed so that they extend fully to the next floor without a break.
 - **Misuse of fire doors** – Often these are propped open or may have been damaged/twisted e.g. by being kicked open or pushed open with trolleys. This means they may not provide an adequate seal within the door frame to prevent smoke/fire passing through.

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- **Changes in use** – Over time, the use of different parts of a building may change or the layout of the building modified. For example, a suspended ceiling may have been added to a room designated as a fire resisting compartment. Electrical cabling may also have been run above the suspended ceiling to power the lighting units added. Therefore, what may originally have been a 'sterile' environment is subsequently fitted with a source of fuel (the ceiling tiles) and ignition (overheating or malfunctioning light units).

Reducing the risk of fire resisting structures being compromised

8.6 There are many actions that can be taken to ensure the continued integrity of fire resisting structures. For example, when considering the doors, walls, floors and ceilings within a building, ensure that:

- Following work carried out by contractors, checks are made to ensure holes or other damage caused by them has been 'made good' e.g. has been appropriately fire stopped to prevent the passage of smoke/fire.
- Significant signs of damage or deterioration are reported to Estates immediately.
- The condition of fire doors is monitored during premises inspections e.g., Estates, Health and Safety risk based inspections or site responsible person quarterly tours, to ensure they close properly (e.g. they have not been damaged and are not being propped open). Signs of damage or deterioration to other fire resisting structures must also be identified and reported to the Estates and Facilities Department.
- Ensuring readily flammable materials are not fixed to or used to decorate the surfaces of fire resisting structures.

9. Fire Doors

9.1 Fire doors serve two main functions:

- Maintaining the integrity of fire resisting compartments that have been constructed to protect the building and limit the size and spread of fire.
- Allowing access to protected escape routes without causing a loss in fire resistance.

9.2 Fire doors provide a physical barrier to fire and the gases that they generate. New or recently purchased fire doors incorporate intumescent strips (expanding seals) that are fitted either to the door frame or to the door itself. These expand when heated sufficiently so that they fill the gap between the door edges and frame.

9.3 Fire doors are also often fitted with cold smoke seals as a barrier to smoke produced at ambient temperatures (e.g. during smouldering fires) that would not be hot enough to heat and expand the intumescent seals.

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Therefore, smoke seals are especially important where smoke could threaten escape routes e.g. by reducing visibility.

Final exits

- 9.4 These are final doors on an escape route which open into a place of safety (i.e. outside the building) and as such **are not the same as fire doors used to protect compartments or escape routes**. They should be capable of being opened quickly in an emergency. This means that while the building is being occupied, final exits should be kept unlocked. If for reasons of security external access needs to be prevented fire exit doors can be fitted with a device to open them from the inside only.
- 9.5 In buildings where members of the public or others who are not familiar with the building are present, panic exit bar devices should be fitted such as push or touch bars. Premises with limited numbers of staff or accessed by others familiar with the building, may use alternative devices such as push pads or lever handles.
- 9.6 Final exit doors also need to be kept clear either side so that they are available for use when needed. Commonly seen scenarios include equipment stored in corridors in front of doors and also cars parked outside doors preventing them from being opened.

Security of doors on escape routes

- 9.7 Where some form of security device is needed, the type used needs to fail to safety i.e. where a failure of the electrical mains or activation of the fire alarm would result in the doors automatically becoming unlocked.
- 9.8 Examples of locking devices that should not be used in these cases include:
- Key and lock – Keys can go missing or locks be changed but old keys remain in place and keys can also be fumbled and dropped in a panic.
 - Mechanical key pad devices – These are not linked to the alarm or a power failure. They rely on remembering the code during an emergency (new staff and visitors may not know what this is).
- 9.9 Alternatives to these types of devices are electrically powered devices (with normal access being gained by swipe cards or key codes) that are linked to and release on activation of, the fire alarm, a power failure or when a manual override device is pressed (e.g. a green door release button). Another option that may be sufficient, depending on the premises circumstances, is to alarm a door into a restricted area.
- 9.10 If security devices are required this should be considered within the overall evacuation plan and an appropriate system discussed with and designed by a competent engineer so that escape is not restricted.

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Door signage

9.11 Signage should be fitted to fire doors as detailed below:

'Fire door keep shut'	When fire doors have been fitted with self-closing devices
'Fire door – keep locked'	When fire resisting doors fitted to cupboards, doors and service ducts
'Fire exit – keep clear'	Where final exit doors may become blocked e.g. by cars parking outside of door

9.12 Signage should be obtained through the Estates and Facilities Department.

Opening direction

9.13 Fire doors should open in the direction of travel in most cases to aid smooth flow of pedestrian traffic. However, this is not always required where there are less than sixty people expected to use it or where doing so might lead to additional risk e.g. by opening into a busy escape route.

Factors that may lead to a fire door not working when needed

9.14 When called upon in a fire scenario, fire doors installed may not serve their intended role for many different reasons. Commonly, these would be due to fire doors being:

- Misused e.g. by being propped open where fitted with automatic closing devices.
- Damaged.
- Poorly installed.

9.15 The effectiveness of fire doors can also deteriorate over time. Damage can be caused by trolleys being banged into them or by doors being kicked open/closed. Building movements can lead to doors becoming misaligned. They are also sometimes retrospectively fitted with accessories such as locking devices (requiring holes to be drilled) which can cause damage to the door or otherwise reduce its capabilities to withstand fire/smoke spread. Carpets or other floor surfaces may also have been fitted that do not allow the doors to close fully.

9.16 It is important to note that fire doors usually come as an assembly with the combined parts designed and tested to meet a required standard. Any retrofitting of parts or modification can therefore result in the original standard not being achieved in a fire situation.

9.17 The condition of fire doors should be monitored during site premises inspections/station quarterly tours to ensure:

- They close properly (e.g. have not been damaged and are not being propped open).
- They remain in good condition and that the gap between the door and frame has not increased significantly (3mm +/- 1mm is

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suggested as an acceptable gap, although this may need to be larger if smoke seals are fitted). 8mm is the recommended threshold gap (though older doors may have a 10mm gap).

- Intumescent strips and – where fitted – smoke seals remain in good condition.

Hold open devices

Electromagnetic hold open devices

9.18 These devices hold open doors that have been fitted with self closers. Once the fire alarm has been activated the door is released and is allowed to close. They can only be fitted where an appropriate automatic fire alarm system (which incorporates smoke detectors on escape routes) has been installed within the premises. They may be appropriate where self closing doors are used by significant numbers of people or people with impaired mobility.

9.19 The automatic device should release the door in the event that:

- Smoke is detected by a detector.
- The fire alarm is operated manually (e.g. by pressing a call point).
- The fire alarm fails.
- There is an electrical power failure.

9.20 If hold open devices are needed, this should be identified through the fire risk assessment process.

Dorgard units

9.21 These are sometimes used as an alternative to 'traditional' hold open devices described above as they do not have to be wired into the main fire alarm system and tend to be cheaper. They are fitted to the bottom of a door and hold it open using a plunger that extends to the floor.

9.22 Though not wired into a fire alarm system, they require one to be in place as they are activated by sound from fire alarm sounders. If the sounder activates, the plunger lifts, allowing the door to shut. Advice should be sought when installing these to ensure their appropriateness and necessity. As a general rule, they should not be fitted in higher risk situations such as on fire doors protecting:

- Single staircases.
- Other critical means of escape e.g. fire doors leading from a dead end situation.

9.23 A version of the Dorgard unit is available that uses a device close to a fire alarm sounder which - once activated by the sounder – broadcasts wirelessly to all linked Dorgard units, causing them to operate. This removes some of the problems associated with the standard Dorgard unit needing to be in sufficiently close proximity to an alarm sounder.

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- 9.24 Another version operates on the basis of a broadcasting unit being hardwired into the alarm control panel and which activates upon the fire alarm being triggered; broadcasting a signal wirelessly to all Dorgard units and causing them to operate. This offers additional safeguards by ensuring doors release if a fault develops in the fire alarm system.

10. Vertical evacuation

- 10.1 This refers to the upwards or downwards evacuation of occupants from an upstairs or lower ground/basement area. Typically, this will be by way of stairs or lift.
- 10.2 The movement of those needing additional assistance (e.g. wheelchair users in evac chairs) in their vertical evacuation is covered in separate guidance, which also includes the use of refuges.

Stairs

- 10.3 This will be the most commonly used means of vertical evacuation. Normal measures taken to ensure the continued safety of stairs will help ensure they are safe to use during a fire e.g. clearing up spills and ensuring handrails, stairs and nosings are in good condition.
- 10.4 Storage of items at the bottom of (or underneath) stairs can be an obstacle to quick egress. Where stairs are designated escape routes, flammable materials should not be stored on or under them unless accommodated within a suitably constructed fire resisting structure. It is common to see recycling bins, tables etc stored under staircases and this should be avoided.
- 10.5 Similarly, where external stairs have been identified as an escape route, wheelie bins, skips etc should not be stored in close vicinity as any fire beginning (e.g. through arson) would render the escape route unusable.
- 10.6 External escape staircases should be kept free of snow, ice, leaves and mud.

Lifts

- 10.7 Lifts should not be used for fire evacuation unless they have been designed and installed for this purpose. Specially designed fire evacuation and firefighting lifts have additional features that normal lifts may not have such as a secondary power supply and fire resisting cab and shaft. Therefore, the use of non-fire safe passenger lifts should **not** be incorporated into any fire evacuation strategy. This should be highlighted by the use of signage (red prohibition sign) in the immediate vicinity of the lift stating "In the event of fire – Do not use this lift".
- 10.8 In some instances, it may be possible that 'normal' passenger lifts for fire evacuation can be incorporated within a pre-planned evacuation strategy. However, due to the risks involved and technical information needed on the construction and operation of the lift; such a decision must only be

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implemented following advice from a competent person and the completion of a comprehensive fire risk assessment justifying their use.

10.9 Some lifts are designed to go to ground (or other safe floor) and their doors open should one of the following conditions occur:

- The fire alarm is activated.
- The power supply is cut to the lift e.g. due to an electrical fault.

10.10 The main reasons for this is to ensure any passengers already inside are not trapped during a fire and also to prevent the lift being available for anybody else to enter.

10.11 Managers, Responsible Persons or people responsible for developing evacuation plans where the Joint Constabulary Standard Evacuation Guidance cannot be followed must ensure they understand the type of lifts that exist in their premises and how they will behave in emergency situations so that these details can be incorporated into the evacuation procedures. If the building was recently constructed, this information may be available in the health and safety file for the building.

10.12 Additionally, contact Estates, Mitie or Tascor for further information on the operation of the lift.

10.13 If the lift is unsuitable for fire evacuation and does not 'ground'/'fail' to safety in the scenarios described above, a plan will need to be developed detailing how the site responsible person will check for and assist anyone trapped inside in making a safe exit. Only lift service engineers or the fire service (who may not attend) are permitted to affect a release from a lift, Officers and staff are prohibited from doing so. It is important to note a lift engineer may not be available to attend a site in an emergency and is unlikely to enter a building in a fire situation.

10.14 It is important to note that **the Fire Service must not be relied upon to rescue passengers from a lift.**

Lift considerations when moving into or designing new buildings

10.15 It is easier and more economical to incorporate suitable fire evacuation lifts (or lifts which go to ground) during a lift's design and installation stage than it is to try and modify unsuitable lifts retrospectively. Therefore, opportunities for installing lifts that enhance fire safety (by being available for evacuation) or at least do not hinder it (by trapping people inside), should always be considered when undertaking building refurbishments, moving into new accommodation or when designing new buildings. The installation of such lifts should be considered bearing in mind the users/potential future users of the building.

11. Fire warning systems

11.1 Fire warning systems are required so that when a fire begins, occupants are alerted and able to commence the evacuation plan.

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11.2 In simple premises, a bell, whistle, gong or shout might be all that is needed as a warning. In more complex buildings, electronic sounders, installed in different parts of the building so that the fire warning would be audible throughout, are likely to be needed.

11.3 In these instances the alarm system would be activated either manually or automatically:

- Manual system – Activation would be through an occupant of the building discovering a fire and pressing a manual ‘call point’ button.

For buildings where all rooms would be routinely occupied (i.e. where a fire could not begin undetected), a manual fire alarm system may be appropriate. People leaving a building because of a fire will normally leave by the way they entered. Consequently, manual call points are normally positioned at exits and storey exits that people may reasonably be expected to use in case of fire, not just those designated as fire exits. However, it is not necessary in every case to provide call points at every exit. Some may be located where they can be reached quickly by staff.

However, these systems are unlikely to be adequate in buildings where there are unoccupied areas as a fire could begin and grow unnoticed; especially those with limited means of escape.

- Automatic system – Activation would be by smoke (or heat in some instances) detectors detecting a fire and triggering the alarm. Automatic systems will also have manual call points so that the alarm can still be triggered by somebody discovering a fire.

Determining whether an automated fire alarm system is needed

11.4 In most cases, during normal working hours, a fire is likely to be detected by the building’s occupants who will raise the alarm. However, where there are unoccupied areas in the building or common corridors and circulation spaces that fire and/or smoke could develop in and so compromise escape; an automatic fire alarm system may be more appropriate.

11.5 It is also important to consider how the building is used and the levels of occupancy at different times of the day. For example, outside of core hours, lone workers may not have the benefit of colleagues present to detect a fire and raise the alarm. In such circumstances it might be that localised automatic detection to serve the purposes of protecting the escape route for such staff is required.

11.6 Whether a building needs a fire alarm system will be identified through the risk assessment process. Factors to consider when determining if an automatic system is required include if:

- Parts of the building are often unoccupied.
- Lone working takes place in isolated parts of the building.
- The building is publicly accessed.

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- The building is accessed by persons who may need early warning and assistance to evacuate e.g. by people of different ages and levels of mobility.
- There are large quantities of flammable materials that could facilitate the quick spread of fire.
- There are escape routes that need to be protected (e.g. rooms leading from 'dead end' situations or single staircases leading from upstairs areas) for which early warning is crucial.

Automated systems for the purposes of property protection

11.7 Even if the premises, work activity, or fire risk assessment determines automatic fire detection is unnecessary from a life safety perspective; the Constabulary may decide such a system is necessary to safeguard the property or contents. For example, though a fire beginning in a back area may not compromise escape, it may be that if undetected early, it could cause significant damage to the building (and/or its contents) and threaten business continuity.

Additional functions of some electronic fire alarm systems

11.8 Depending on how sophisticated the system is; activation of the fire alarm, as well as causing sounders to operate, may initiate further events. For example:

- A message being sent to the Fire Service* or alarm monitoring system e.g. CCR, notifying them of an activation.
- Doors held open by magnetic devices being released.
- Doors kept closed with electronic security devices being released to allow egress.
- Ventilation systems being shut down or ductwork being stopped (to restrict the supply of fresh air to the fire).
- Certain processes being shut down.
- Activation of other evacuation aids e.g. flashing beacons for those with hearing difficulties or working in noisy environments.

**Fire crews will not automatically respond to calls from automatic fire alarms from commercial premises, offices, shops and public buildings during the day within the working week unless there is a confirmed report of fire at the premises.*

11.9 During week day periods (Monday to Friday), between 0700 and 1900 hours, calls from Automatic Fire Alarm systems from these premises will need to provide confirmation that a fire (or perception of fire i.e. a smell of smoke) is at the premises via a 999 call before an emergency response will be made by the Fire Service.

11.10 Outside of these hours and during bank holidays an emergency response will remain regardless of premises type.

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12. Emergency lighting

12.1 In an emergency, those inside a building need to be able to escape safely. This means ensuring adequate lighting is available. When a building is used during the hours of darkness or there is no natural lighting; it will usually be necessary to ensure back up is available for normal lighting. This is generally achieved through the provision of emergency lighting.

Areas where emergency lighting is required

12.2 Emergency lighting systems usually cover:

- Escape routes.
- Changes of level.
- Fire exit doors and fire escape signage.
- Stairways.
- Other areas of importance including external escape routes where needed to exit the building or to see assembly points.
- Fire fighting equipment and call points.
- Lifts.

Different types of emergency lighting

12.3 The main types of emergency lighting tend to be:

- Maintained – Where they are permanently on (i.e. producing light).
- Non-maintained – Operate (produce light) when the normal lighting fails.

12.4 Both types upon failure of the normal lighting would operate using an alternative power supply. Depending on the system, power could come from a central bank of batteries, a generator or as is more common, a battery built into the emergency lighting unit itself.

Identifying whether there is emergency lighting in buildings

12.5 This is not always easy to know though there are several ways to find out. For example, if emergency lighting has been installed recently, Estates will have copies of certificates or plans provided by the installer outlining the work carried out and indicating their position. Alternatively, if the building was recently constructed, this information may be available in the health and safety file for the building.

12.6 Other ways of telling might be:

- The presence of a slot in which a 'fish key' is inserted to test the lighting.

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- During a power failure (or power being cut), emergency light units activating or staying on when the normal lighting has ceased to operate.
- A small, green or red light visible in lighting units (indicating power is being supplied and is charging the unit's battery).
- A contractor visiting to test the units and providing information on where the emergency lighting units are located.

Testing emergency lighting

12.7 To ensure the emergency lighting works when needed it is important to ensure it is regularly tested. Requirements for this are included within the Site Log Folder and via the PMS spreadsheets. **It is important all testing, including by contractors, is recorded in this log book.**

12.8 Other lighting that might be considered depending on the site fire risk assessment findings:

- **Borrowed lighting** – Where a building has a reliable source of borrowed lighting nearby, this may be sufficient to illuminate escape routes inside the building. Reliable borrowed lighting includes for example, public street lighting. It should be adequate to illuminate those areas usually catered for by emergency lighting.
- **Torches** – In certain circumstances, the Constabulary may determine these to be suitable for premises though careful consideration should be given to whether they would always be available in an emergency and be easy to locate once the building is already in the dark. If this method is used somebody must be responsible for keeping them charged and available in an emergency. A wind-up torch is an alternative. Any torches selected must be adequate to illuminate changes in levels, stairs and other hazards in the building. Torches are not appropriate for buildings where there may be large numbers of staff, visitors, or others requiring additional assistance to evacuate.

13. Fire signs and notices

When signs are needed

13.1 Fire related signage must be used where necessary to help make those inside a building aware of the escape routes to follow, the actions to be taken in the event of a fire and the location of fire safety equipment e.g. extinguishers. A table showing the types of signs, what they are used for and what they look like is provided at Appendix A.

13.2 Most premises will require some directional signage except in the cases of very small buildings that have fire exits in regular use and where trained staff are always available. However, the nature of the undertaking e.g. size and complexity of the building, number of escape routes, quantity of fire safety equipment etc; will determine the extent of the signage necessary.

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13.3 Additional signage may also be needed to:

- Provide warnings on the presence of fire hazards.
- Highlight any prohibitions.
- Highlight any mandatory requirements.

13.4 In general, fire equipment and safe condition signs are most relevant to fire safety but, as seen in the table at Appendix A, other signs may be necessary in helping manage fire risks.

Positioning and visibility

13.5 Where signage is needed it should be positioned where it can be easily seen. This means that signs should not be hidden e.g. behind shelving, displays etc.

13.6 Directional fire signage should be:

- Positioned to highlight the escape route when the nearest exit is not obvious. The next sign should always be in sight.
- Fixed above doors in the direction of escape and not to the door (where they would not be visible if the door is opened).
- Mounted 2.0m-2.5m from the floor when fixed above doors and 1.7m-2.0m when fixed to walls.

13.7 Signs also need to be adequately illuminated at all times when they may need to be used in assisting with escape. In most circumstances this would be achieved through ordinary lighting with emergency lighting operating in the event of a power failure.

Language

13.8 Where the building is regularly accessed by those whose first language is not English, the Constabulary may need to consider translating key information into more than one language. It is important that where this happens, the instruction precisely translates the existing signage provided.

14. Fire Extinguishers

14.1 Fire extinguishers can reduce the risk of a small fire (e.g. waste paper bin size) developing into a large fire that damages the building and/or threatens the escape of its occupants.

14.2 There needs to be appropriate provision, placement and maintenance of the extinguishers.

Policy on the use of fire extinguishers

14.3 The Joint Constabularies policy on fire extinguisher use is that:

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- 1) Only staff who have attended formal fire extinguisher training should actively fight a fire; if they feel confident and it is safe to do so.
- 2) All staff should have a basic awareness of fire extinguishers in case they ever need to use one to safeguard their own personal safety e.g. where a fire might be blocking their own or somebody else's escape route.

Adequate provision

- 14.4 The British Standard now recommends a minimum of two class A extinguishers (designed to tackle solid materials usually of an organic nature such as wood, paper etc) should be provided for every storey with a floor area up to 400m² in size. This is the standard for new installations, and the decision whether additional extinguishers are needed should be determined by the fire risk assessment.
- 14.5 Additionally, fire guidance from the Department for Communities and Local Government at present has not changed in recommending that one or two extinguishers may be all that is necessary in simple premises.

Placement

- 14.6 Normally, extinguishers should be located in conspicuous positions where persons following an escape route can easily see them, e.g. close to exits.
- 14.7 The intention is to encourage people to move towards the exit, rather than towards danger. It is usual to locate extinguishers adjacent to fire alarm call points, so people can operate the fire alarm before picking up an extinguisher. Extinguishers should be sited so that it is not necessary to travel more than 30m to reach one.
- 14.8 Sometimes this may not be appropriate e.g. the extinguisher may create a trip hazard or there may be a risk that they are moved or discharged if the building is open to the public. In these instances, extinguisher stations located near final exits, but not in general view may be appropriate provided that there is prominently displayed fire extinguisher location signage in place and where appropriate directional arrow signs.
- 14.9 **Where there are special fire risks, extinguishers should be sited near to the risk, but not so near as to be inaccessible or place the operator in undue danger from fire e.g. in a kitchen the extinguisher should be next to the door rather than next to the cooker.**
- 14.10 Normally, extinguishers should be permanently mounted on brackets or stands. Small extinguishers weighing up to 4kg should be mounted with the carrying handle about 1.5m from the floor, whilst larger, heavier extinguishers should be mounted with their handles at about 1m from the floor. Care should be taken to ensure that injury will not result from extinguishers being dislodged and falling onto people.

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Maintenance

14.11 A contractor appointed by the Estates and Facilities Department completes annual maintenance of extinguishers. Details of the maintenance should be recorded in the site log book and other service related documentation. The contractor will also advise when an extinguisher has reached the end of its serviceable life and so when replacement is needed.

14.12 Fire wardens or others with a similar role, should check regularly to ensure extinguishers are in place. Ideally, this should be done as part of a daily check by a responsible person.

Fire class	Extinguishing agent				
					
	Water	Foam	CO2	Powder	Wet chemical
A. Solids (usually organic based e.g. cardboard, paper, wood, textiles)	Yes	Yes	No	Yes	Yes
B. Flammable liquids (e.g. petrol, oils, paints)	No	Yes	Yes	Yes	Yes
C. Fires involving gases (e.g. propane)	No	No	No	Yes	No
D. Fires involving metals (Special extinguishers needed)	No	No	No	No	No
E. Live electrical equipment	No	No	Yes	Yes	No
F: Cooking oils (e.g. chip pans)	No	No	No	No	Yes

15. Fire instruction and training

15.1 Staff should have an appropriate level of training to ensure they are:

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- Competent to perform any fire role they have been assigned.
- Aware of the arrangements in place for managing fire risks within their place of work.

Key training areas required by staff with a role in fire safety

	All staff	Responsible Persons	Fire wardens	Fire extinguisher operators*	Evacuation Assistants
	- Basic awareness of fire safety issues and prevention - Details of site emergency fire plan e.g. raising the alarm and evacuation - Awareness of basic fire extinguisher operating procedures and type/location of those on site - Site rules e.g. smoking areas, storage etc	- Same as All staff - Detailed in Fire Safety Management Policy In addition: - Response Persons eLearning completion - Site inspections – monitoring fire safety compliance.	- Detailed knowledge of the emergency fire plan and their role in effecting this - Checks to make e.g. escape routes kept clear, fire doors shut etc. - Awareness of human behaviour - How to search safely and recognise areas unsafe to enter. - Measures for evacuating those needing additional assistance. - Knowledge of any fixed firefighting equipment such as sprinklers	Staff who might be expected to tackle a small fire should have formal fire extinguisher training	- Instruction on the use of any relevant evacuation devices - Awareness of the content of any PEEP or GEEP in place for areas they would be expected to cover - Dignity/ awareness training - Means of assistance available for the building
Training required	- E-Learning fire awareness course available on learning pool	- Responsible persons eLearning	- Evacuation Marshall Training inc. fire and bomb awareness	- eLearning	- Training by a trained/experienced colleague on use of chair or training provided by an evac chair supplier - Dignity/ Awareness training

**As stated in 14.3, Norfolk and Suffolk Constabularies policy on fire extinguisher use is that:*

- 1) Only staff who have attended formal fire extinguisher training should actively fight a fire; if they feel confident and it is safe to do so.*
- 2) All staff should have a basic awareness of fire extinguishers in case they ever need to use one to safeguard their own personal safety e.g. where a fire might be blocking their own or somebody else's escape route.*

15.2 The general fire awareness e-learning course includes basic information on fire extinguishers. This is not intended to enable those undertaking this training to fight a fire as part of an active fire management strategy. It is intended only to give an understanding of fire extinguisher use should one ever need to be used in a worst case scenario e.g. their escape route was

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threatened. Therefore, where there is a foreseeable need for staff to tackle a fire, formal training should be provided.

Determining how many people to train

15.3 This will depend on several factors such as:

- The outcome of a fire risk assessment i.e. the nature of the risks and how they arise.
- The level of cover needed when considering opening hours, shift patterns etc.

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Appendix A – Fire Safety Management Procedures

Sign type	What are they used for	Typical uses	What do they look like*	Example
Fire equipment	To indicate the location of fire equipment such as extinguishers, call points, sprinkler controls, dry risers etc	- Fire extinguishers - Fire alarm call points - Fire blankets - Dry or wet riser points	Rectangular or square in shape with a white pictogram on a red background	
Safe condition	To indicate the presence or location of safe conditions	- Directional signage - Fire assembly - Fire exit - 'Push bar to open' - Refuge point	Rectangular or square in shape and feature a white pictogram on a green background.	
Prohibition	They indicate where there is a prohibition on something. With regards to fire, this might be that naked flames in a certain area (e.g. where there is a flammable atmosphere) are prohibited.	- No smoking – Note: This does not refer to the signs needing to be displayed at the entry point of all workplaces - 'In the event of a fire – do not use this lift'	Round with a white background and a red border and crossbar. Any symbols should be black.	
Mandatory	To convey actions that must be carried out e.g. fire doors must be kept shut, final exits must be kept clear etc. They are also present as fire action notices indicating the mandatory actions to be taken in the event of a fire.	- Fire action notice - 'Fire door keep shut' - 'Fire door – keep locked' - 'Fire exit – Keep clear'	Round with blue background and white symbol.	

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Hazard warning	To warn people of the potential dangers present within the workplace. Related to fire, this might include the presence of highly flammable materials	Warning – Flammable liquids, highly flammable (or similar)	Triangular with a black border and black pictogram on a yellow background.	 Caution Flammable material
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