



FIRE GUIDANCE



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FIRE AND RESCUE SERVICE

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Overview of General Fire Safety Legislation

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Overview of General Fire Safety Legislation

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INTRODUCTION

1. The non-domestic fire safety regime in Scotland is contained principally in Part 3 of the Fire (Scotland) Act 2005 (“the 2005 Act”) and the Fire Safety (Scotland) Regulations 2006 (“the 2006 Regulations”). Both impose obligations on dutyholders and both must be considered together.
2. This note contains an overview of this legislation. It is intended to be explanatory but is not meant to be a comprehensive description of the legislation. Users are advised to refer to the legislation as the definitive source and, if in doubt about any aspect, to seek independent advice.
3. This note is a replacement to ‘Legislation Overview’ which was written in the early days of the legislation.
4. In considering fire safety, the distinction between ‘general fire safety’ and ‘process fire safety’ needs to be understood. General fire safety, which includes the means of fire warning, fire fighting and escape, etc., thereby dealing with the means to ensure people can escape safely once a fire has started; is within the legislative competence of the Scottish Parliament (with some exceptions).
5. Process fire precautions is a matter reserved to the UK Parliament under Section H2 of Schedule 5 to the Scotland Act 1998. Process fire precautions, including risk assessment, are designed to prevent the outbreak or spread of fire from any work processes, taking into account process risk which can be perceived as the danger, due to the work process, that fire will break out. Process fire precautions fall within the scope of health and safety at work legislation.
6. There are some general fire safety provisions that continue to exist in other legislation, these are described later in the note.

PART 3 OF THE FIRE (SCOTLAND) ACT 2005

CHAPTER 1 - FIRE SAFETY DUTIES

7. Chapter 1 contains sections which impose general fire safety obligations on employers, other dutyholders and employees. One of the principles of the legislation is that of shared responsibility for fire safety - there will often be a number of different dutyholders with obligations for each relevant premises to which Part 3 applies.

Section 53 - Duties of employers to employees

8. **Section 53** contains an employer’s duty to ensure the fire safety of employees in respect of a workplace. ‘Employee’ and ‘workplace’ are defined in section 79. Section 53 only applies to workplaces that are ‘relevant premises’ as defined in section 78. The effect is to give employers the responsibility for the safety of their employees in case of fire. This applies even where other dutyholders also have fire safety obligations in respect of the premises. (An employer may also have obligations in respect of the fire safety of non-employees by virtue of section 54).
9. **Subsection (1)** identifies that the employer’s level of duty is to ensure the fire safety of employees in the workplace ‘so far as is reasonably practicable’. Reasonably practicable is a standard lesser than practicable. Reasonably practicable is about weighing the

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seriousness of the risk against the difficulty, effort and cost of removing or reducing the risk, and implementing measures when these are proportionate to the level of risk.

10. **Subsection (2)** requires an employer to carry out an assessment of the workplace to identify risks and to take fire safety measures which are necessary to achieve compliance with the general duty in subsection (1).
11. **Subsection (3)** requires that when a workplace assessment has been carried out, an employer must review the assessment in accordance with regulations, and fire safety measures that are identified as necessary as a result of this review, should be taken to achieve compliance with the general duty in subsection (1). (The review requirements are in regulations 3 to 6 of the 2006 Regulations).
12. **Subsection (4)** identifies that the 'fire safety measures' referred to in subsections (2) and (3) are the measures listed in schedule 2 to the Act. (Paragraph 2 in schedule 2 makes it clear that fire safety measures do not include process fire precautions).

Section 54 – Duties in relation to relevant premises

13. **Section 54** identifies generally the persons who have responsibility to ensure the fire safety of 'relevant persons' in 'relevant premises'. "Relevant persons" is defined in section 79 – these are persons who are or may be lawfully in the premises and persons in, or who may be in, the immediate vicinity of the premises whose safety would be at risk in the event of fire in the premises. Employees of SFRS are excluded from the definition when they are engaged in operational tasks. "Operational task" is defined in section 79.
14. In respect of workplaces, whereby section 53 requires an employer to ensure the fire safety of employees, section 54 imposes obligations on an employer to ensure the safety of non-employees, to the extent that an employer may have control of the premises.
15. Where an employer requires to carry out an assessment of premises by virtue of both section 53 and section 54, then that employer's employees are not considered relevant persons for the purpose of section 54 (definition of relevant person is in section 79). Such employees are already protected by the section 53 duty.
16. **Subsections (1) and (2)** require that persons who have control to any extent of relevant premises must carry out an assessment of premises to identify fire safety risks to relevant persons in respect of harm caused by fire in the relevant premises and to take fire safety measures which are necessary to ensure the safety of relevant persons. This duty applies to all persons who have control of relevant premises and applies to the extent of that control. Fire safety measures to be taken are those which it is reasonable for a person in that position to take.
17. Where the person in control of relevant premises under subsection (1) is neither the owner nor a person carrying on an undertaking, **subsection (3)** requires the owner of the relevant premises to carry out an assessment and take necessary fire safety measures under subsection (2). This is in addition to the obligations which sit with other persons who have control of premises.
18. **Subsection (4)** extends the requirement to carry out an assessment and put in place fire safety measures, to persons who have an obligation, of any extent, as a result of tenancy or contract in respect of maintenance, repair or fire safety, to the extent of their obligation.

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19. **Subsection (5)** requires the persons who have an obligation to carry out an assessment under section 54, to review that assessment in accordance with regulations and to take such fire safety measures as is reasonable for a person in that position to take. (The duty to review the assessment is in regulation 3 of the 2006 Regulations).

Section 55 – Taking of measures under section 53 or 54: considerations

20. While sections 53 and 54 contain provision for the taking of fire safety measures, section 55 lists considerations which should be taken into account when taking these fire safety measures.

Section 56 – Duties of employees

21. This section contains duties which are imposed on an employee while at work. 'At work' is defined in section 79. Every employee should take reasonable care for their own safety in respect of fire and of any other relevant persons who may be affected by their acts or omissions at work. The employee should also co-operate with the employer, so far as is necessary to enable the employer to comply with their obligations and duties under Part 3 of the Act.

Section 57 – Risk assessments: power to make regulations

Section 58 – Scottish Ministers' power to make regulations about fire safety

Section 59 – Power to make further provision for protection of fire-fighters

22. Sections 57 to 59 enable regulations to be made in connection with Part 3 of the Act.

Section 60 – Special case: temporary suspension of Chapter 1 duties

23. **Section 60** seeks to ensure that fire safety duties will not prevent armed forces, police constables and other persons prescribed in regulations from carrying out their normal duties.
24. **Subsection (1)** disapplies the Chapter 1 duties where they would prevent certain persons from carrying out operational duties. **Subsection (2)** identifies the category of person that this exception applies to, namely the armed forces of the Crown, visiting forces, police constables and others as may be prescribed by regulations. (A related saving provision continues in force a provision in the Fire Precautions (Workplace) Regulations 1997 which disapplies fire safety regulations in respect of emergency workers).
25. **Subsection (3)** provides a qualification on the extent of the disapplication. Where the application of Chapter 1 duties to a person are temporarily suspended by virtue of section 60, that person must ensure so far as possible the safety of relevant persons in respect of harm from fire.
26. **Subsection (4)** provides a definition of 'operational duties' for the purpose of this section.

CHAPTER 2 – ENFORCEMENT

27. **Chapter 2** contains provisions in respect of enforcing authorities and enforcement powers

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Section 61 – Enforcing authorities (as variously amended)

28. **Section 61** identifies those authorities which will enforce the legislation and includes related enforcement provisions.
29. **Subsection (1)** requires each enforcing authority to enforce the Chapter 1 duties, while **Subsection (2)** requires that in carrying out their duty, enforcing authorities will have regard to any guidance given by the Scottish Ministers.
30. **Subsection (3)** allows enforcing authorities to appoint enforcement officers for the purpose of carrying out the enforcement duty.
31. **Subsections (4) and (5)** are repealed
32. **Subsection (6)** repeats the constraint that, in Scotland, an enforcing authority cannot institute proceedings.
33. **Subsections (7) and (7A)** give SFRS (Scottish Fire and Rescue Service) the power to arrange for such of SFRS's functions under Part 3 to be performed on its behalf. This applies in respect of the Office for Nuclear Regulation in relation to premises where ONR is the enforcing authority, and to the Health and Safety Executive in respect of any other workplace. **Subsection (8)** is a provision which allows the discharge of functions arrangement to be made with other persons to be prescribed by regulations - this power has been used to make regulation 25 of the 2006 Regulations - which allows the making of an arrangement between SFRS and the Office of Rail Regulation.
34. **Subsection (9)** specifies the enforcing authorities for Part 3 in respect of relevant premises. **Subsection (9A)** explains the definition of construction site and the related responsibility of ONR.
35. The enforcing authorities and the premises for which they have responsibility are:

The Health and Safety Executive (HSE) in respect of

- a ship which is in the course of construction, reconstruction, conversion or repair by persons other than the master and crew of the ship;
- a workplace which is or is on a construction site within the meaning of regulation 2(1) of the Construction Design and Management Regulations 2007, (other than sites to which regulation 46(1) applies: these are sites in otherwise occupied premises). And other than sites where ONR is the enforcing authority.

The Office for Nuclear Regulation in respect of

- Certain nuclear installations, as specified;
- Those construction sites where ONR enforce health and safety provisions.

The Defence Fire and Rescue Service in respect of:

- Relevant premises occupied solely for the purposes of the armed forces of the Crown other than HM Ships which are subject to construction, reconstruction, conversion or repair;
- Relevant premises occupied solely by visiting forces or certain designated international headquarters or defence organisations;
- Relevant premises which are situated within premises occupied solely for the purposes of the armed forces of the Crown, but not themselves so occupied,

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other than ships subject to construction, reconstruction, conversion or repair by persons other than the master and crew of the ship.

The local authority in respect of:

- A major sports ground which requires a safety certificate under section 1 of the Safety of Sports Grounds Acts 1975;
- A sports ground to which Part III of the Fire Safety and Safety of Places of Sport Act 1987 applies (a ground in which there is a regulated stand); and the regulated stand itself.

The SFRS in respect of relevant premises that do not fall within the responsibility of any of the preceding enforcing authorities.

36. **Subsection (10)** allows Scottish Ministers, by regulation, to modify the enforcing authorities and the premises for which they are responsible.

Section 62 - Powers of enforcement officers

37. **Section 62** sets out the powers that enforcement officers have in carrying out enforcement duties in respect of relevant premises. These powers can only be exercised as is necessary to enforce the fire safety regime by a person who has been appointed as an enforcement officer by virtue of section 61(3) of the Act.

38. **Subsection (1)** empowers an enforcement officer to do anything necessary for the purpose of carrying out enforcement duties while **subsection (2)** contains a list of specific powers for enforcement officers in respect of relevant premises.

39. **Subsection (3)** requires an enforcement officer to provide evidence of authority before or when exercising the power of entry, if requested.

40. **Subsection (4)** requires that if an enforcement officer uses the power to take samples, a notice must be left with a Chapter 1 dutyholder at the premises confirming the action and giving details of the article or substance. If it is impractical to leave the notice with a person, the notice should be fixed in a prominent position at the relevant premises. A portion of the sample should be given to that person if this is practical.

41. **Subsection (5)** refers to an enforcement officer carrying out the power to dismantle an article causing or thought likely to cause danger. The enforcement officer is required to seek specialist advice, if considered necessary, to determine if there is any danger involved in the proposal. This is a common sense safeguard which would apply when dealing with situations or items which are beyond the knowledge and experience of the enforcement officer.

42. **Subsection (6)** requires that when an enforcement officer exercises the enforcement powers to inspect, copy, measure, test or dismantle, this should be carried out in the presence of a Chapter 1 dutyholder in the premises, if requested.

43. **Subsection (7)** requires that if an enforcement officer uses the power to take possession of an article or substance, a notice must be left with a Chapter 1 dutyholder at the premises confirming the action and giving details. If it is impractical to leave the notice with a person, it should be fixed in a prominent position at the premises.

44. **Subsection (8)** considers a situation where an enforcement officer may have entered premises which are unoccupied or where the occupier is not present. The enforcement

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officer on leaving must leave these premises as secure against entry as they were when found.

Section 63 – Prohibition notices

45. **Section 63** provides that an enforcing authority is able to prohibit or restrict the use of relevant premises in serious cases by use of a prohibition notice. It is designed for the more serious cases to prevent loss of life or serious injury. (Pre-existing prohibition notices issued under the Fire Precautions Act 1971 continue in force by virtue of a saving provision).
46. **Subsection (1)** empowers an enforcing authority to issue a prohibition notice. The notice must be served on the occupier of premises (This ensures that the persons at risk are informed immediately).
47. **Subsection (2)** identifies that the circumstances which justify a prohibition or restriction, involves or will involve a risk to relevant persons so serious that use of the relevant premises ought to be prohibited or restricted. **Subsection (3)** specifies that in assessing the seriousness of the risk to relevant persons an enforcing authority must in particular have regard to anything affecting relevant persons' escape from the relevant premises in the event of fire.
48. **Subsection (4)** specifies what a prohibition notice should contain.
49. **Subsection (5)** provides that a prohibition or restriction contained in a prohibition notice shall take effect immediately it is served if the enforcing authority consider that the risk of serious personal injury is or will be imminent, and in any other case will take effect at the end of the period specified in the notice.
50. **Subsection (6)** provides the option that a prohibition notice may specify remedial steps to be taken.
51. **Subsection (7)** requires an enforcing authority, before serving a prohibition notice in relation to a house in multiple occupation, to notify the local authority of its intention and the use which it intends to prohibit or restrict, where practicable.
52. **Subsection (8)** provides that an enforcing authority may withdraw a prohibition notice in writing at any time.

Section 64 - Enforcement notices

53. **Section 64** contains provision in respect of the use of enforcement notices by the enforcing authority in cases where the enforcing authority considers that there is non-compliance with the Chapter 1 duties (other than the employee's duty in section 56).
54. **Subsection (1)** gives an enforcing authority the power to issue an enforcement notice if the enforcing authority consider that a person has failed to comply with the Chapter 1 duties. An enforcement notice can therefore be issued to any person to whom section 53 or 54 applies. This could be an employer, tenant or contractor with obligations, owner, employee or any other person who has control of relevant premises. An enforcement notice however cannot be issued to an employee in respect of compliance with the section 56 duty.
55. **Subsection (2)** specifies what an enforcement notice must contain. It must
 - state that it is considered that there is non-compliance with the Chapter 1 duties,

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- specify why the enforcing authority considers there is non-compliance, and
 - require the person to take action to remedy the non-compliance within such period as may be specified in the notice. This period must not be less than 28 days. The recipient of the notice has the option to appeal to the court within 21 days of service.
56. **Subsection (3)** allows an enforcing authority, when it issues an enforcement notice, to extend that notice to a workplace (or employees) for which it is not the enforcing authority. This can be done where it is of the opinion that a person has failed to comply with any Chapter 1 duty relating to that other workplace or employees. The notice may include requirements concerning that other workplace or those employees; **subsection (4)** requires the enforcing authority to consult the enforcing authority for the other workplace before including any such requirements in a notice.
57. **Subsection (5)** makes it a duty for an enforcing authority to consult others, prior to serving an enforcement notice which would oblige a person to make an alteration to relevant premises. This procedure will identify any conflict between the proposal and building law, and health and safety law, and any other relevant legislation. The consultation is required with;
- The building standards verifier within the meaning of the Building (Scotland) Act 2003;
 - The Health and Safety at Work enforcing authority, if the relevant premises is a workplace; and
 - Any other person whose approval to the alteration is required by an enactment.
58. A local authority could be consulted by an enforcing authority by virtue of being the building standards verifier and/or the Health and Safety at Work enforcing authority. **Subsection (6)** contains a common sense provision that disapplies the requirement for consultation with the building standards verifier in cases where the local authority is the enforcing authority for Part 3 and is also the building standards verifier.
59. **Subsection (7)** provides that a failure to carry out the required consultation prior to enforcement notice issue, does not make the enforcement notice invalid.
60. **Subsection (8)** provides that an enforcing authority may withdraw an enforcement notice by means of a notice at any time before the end of the period specified in the enforcement notice. Where an appeal against the enforcement notice is not pending, the enforcing authority may extend or further extend the period specified in the enforcement notice.
61. **Subsection (10)** prevents an enforcement notice being used to compel employees to comply with the duty to take reasonable care or to co-operate with the employer, which is imposed by section 56.

Section 65 – Alterations notices

62. **Section 65** introduces a procedure for issuing alterations notices, which can be used at the discretion of the enforcing authority. The alterations notice procedure allows enforcing authorities to require notification of proposed changes in higher risk premises. An alterations notice can only be served in relation to relevant premises which either constitutes a serious fire risk to relevant persons or where, if particular changes are made to the relevant premises, such as to their nature or use, it is likely that a serious fire risk would be posed to relevant persons.

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63. The issuing of an alterations notice does not prevent the appropriate person from undertaking the changes proposed. However, it requires that person to notify the enforcing authority in advance of the change(s) being made and allows the enforcing authority the opportunity to intervene if it considers this appropriate, before the changes are made.
64. **Subsection (1)** allows an enforcing authority to serve an alterations notice on an appropriate person in respect of relevant premises, 'appropriate person' is defined in subsection (8).
65. **Subsections (2) and (3)** identify the circumstances under which an alterations notice can be issued. This is where premises would pose a serious risk to relevant persons in respect of fire or where the making of specified changes would be likely to introduce a serious risk.
66. **Subsection (4)** provides that where an alterations notice has been served in respect of premises, the appropriate person (as defined in subsection (8)) must, before making any of the specified changes which may result in a serious risk, notify the enforcing authority of the proposed changes. **Subsection (5)** specifies the changes. These are in respect of the premises; services, fittings or equipment; the use to which the premises are put, or where there is an increase in the quantities of dangerous substances present.
67. **Subsection (6)** gives an enforcing authority the power to include in an alterations notice, a requirement for the appropriate person to keep records of specified information and to include additional specified information when notifying any change to the enforcing authority.
68. The option to specify record keeping in an alterations notice, applies to any record keeping relevant to assessment of premises and fire safety arrangements, which has been specified by regulation. This applies to the recording requirements in regulations 8, 9 and 10 of the 2006 Regulations. Regulations 8, 9 and 10 already impose compulsory record keeping requirements in the circumstances specified in the 2006 Regulations. An alterations notice can therefore extend this recording requirement to other premises. This optional recording requirement is cross referenced in regulations 8(c) and 10(2)(c) of the 2006 Regulations.
69. Optional information that can be requested to accompany a notification of change is a copy of the assessment and a summary of the changes proposed to be made to the existing fire safety measures.
70. **Subsection (7)** allows an enforcing authority to withdraw an alterations notice by means of a notice.
71. **Subsection (8)** defines 'appropriate person' as anyone who has duties under sections 53 or 54.

Section 66 – Appeals

72. **Section 66** contains provision for appeal to the sheriff against the operation of a prohibition, enforcement or alterations notice.
73. Where an appeal is made, **subsection (1)** allows the sheriff to make an order revoking, varying or confirming the notice. The appeal can be made by the person on whom the notice is served or, where it is a prohibition notice, by any dutyholder in respect of the

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premises to which the prohibition notice relates. **Subsection (2)** specifies that an appeal can be made to the sheriff within 21 days from the day on which a notice is served.

74. **Subsection (3)** provides that in the case of an appeal against an alterations notice or an enforcement notice, the bringing of the appeal has the effect of suspending the operation of the notice until an order is made by the sheriff or until the appeal is abandoned. An appeal against a prohibition notice does not have the effect of suspending the operation of the prohibition notice.
75. **Subsection (4)** provides that the sheriff can, in respect of an appeal against a prohibition notice, issue a suspension order which will have the effect of suspending the operation of the prohibition notice. This will be a temporary arrangement until an order is made giving a final decision on the appeal or until the appeal application is abandoned.
76. **Subsection (6)** specifies that the procedure for an appeal is by way of summary application.

Section 67 – Determination of disputes

77. **Section 67** introduces a non-judicial review procedure for use in situations where the enforcing authority and a dutyholder fail to agree on compliance issues.
78. **Subsections (1), (1A) and (1B)** provide for the referral of disputed matters to the Chief Inspector of the Scottish Fire and Rescue Service for determination in cases where the enforcing authority and dutyholder cannot agree on the measures which are necessary to ensure compliance with the Chapter 1 duties. In cases, where SFRS is the enforcing authority, either party can make a referral. In cases involving the other enforcing authorities, both parties must agree for the determination procedure to be used.
79. **Subsection (2)** is repealed.
80. **Subsection (3)** is a regulation-making power.
81. **Subsection (4)** provides that where there has been an application and a determination has been made, the enforcing authority may not serve an enforcement notice which would be in conflict with the determination. It can be seen from this restriction that the use of the determination procedure is meant to be carried out prior to any formal enforcement action. This is in keeping with good enforcement practice where a dutyholder's failings should be pointed out and an opportunity given to discuss the issues prior to formal enforcement action (other than in cases of serious risk). **Subsection (5)** provides that the restriction on an enforcing authority serving an enforcement notice in subsection (4) does not apply where, since the date of the determination, there has been a change to the premises or use of the premises such that the risk to relevant persons has significantly increased.

CHAPTER 3 – MISCELLANEOUS

Section 68 – Prohibition of charging employees

82. This section provides that no employer shall charge an employee in respect of anything done or provided by the employer in pursuance of compliance with the Chapter 1 duties.

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Section 69 – Civil liability for breach of statutory duty

83. **Subsection (1)** states that nothing in Part 3 is to be construed as conferring a right of action in any civil proceedings other than proceedings for recovery of a fine, but **subsection (2)** provides that an employee has a right of action in civil proceedings where a breach of a duty imposed on an employer by virtue of Part 3, has caused damage.

Section 70 – Consequential restriction of application of Part 1 of Health and Safety at Work etc. Act 1974

84. The 1974 Act has wide potential application and could be used for the control of general fire safety measures in premises which are also subject to more specific fire safety law. **Subsection (1)** disapplies the 1974 Act and any regulations and orders made under that Act in respect of general fire safety for devolved issues, which are now dealt with under the 2005 Act. This removes the potential for dual application.
85. **Subsection (2)** restricts the disapplication in subsection (1); the disapplication will not apply where the 2005 Act enforcing authority is also the enforcing authority within the meaning of the 1974 Act. This will allow the dual application potential to continue but, subject to the saving provision for COMAH premises, this will only apply to premises where the same enforcing authority enforces both Acts. In this situation, this allows enforcement, which may include fire safety and health and safety issues, to be made as a single enforcement action in a joined up approach.

Section 71 – Suspension of terms and conditions of licences dealing with same matters as this Part

86. **Section 71** seeks to ensure that fire safety matters will be dealt with under Part 3 (and regulations) and not in licensing, certification or registration provisions in other enactments. The section provides that terms, conditions or restrictions contained within a licence, or certification or registration scheme issued under an enactment are of no effect insofar as they relate to a matter that could or have been imposed by Part 3. This is designed to reduce the overlap of regimes.
87. **Subsection (1)** applies this section to premises which require a licence under an enactment which provides for the licensing of premises or persons and where the licensing authority can impose terms, conditions or restrictions. This section therefore applies to premises with an appropriate licence and also to those which are yet to be issued with a licence.
88. **Subsection (2)** disapplies any term, condition or restriction imposed in connection with the issue of a licence in so far as it relates to any matter in relation to which requirements or prohibitions are or could be imposed by Part 3.
89. **Subsections (3) and (4)** state that the issue of a licence includes its renewal, transfer and variation and that licensing includes registration and certification schemes.
90. **Subsection (5)** provides that where the licensing authority is also the Part 3 enforcing authority then this section does not apply. This may be the case for some relevant premises which are subject to Part 3 enforcement by the HSE, ONR or the local authority.

CHAPTER 4 – OFFENCES

Section 72 – Offences (as amended)

91. **Section 72** contains provision for offences and associated penalties in respect of compliance failure. The most serious offences are subject to a maximum penalty on summary conviction of a fine not exceeding £20,000 or on conviction on indictment to imprisonment not exceeding 2 years or to a fine, or to both. In other cases on summary conviction the statutory maximum applies and on conviction on indictment the penalty is a fine. Other less serious offences are subject to lesser maximum penalties.
92. **Subsection (1)** makes it an offence for a dutyholder to fail to comply with a duty in section 53, 54 or 55, **subsection (2)** makes it an offence for an employee to fail to comply with the general duty of employees at work contained in section 56, and **subsection (3)** extends the offence provision to non-compliance with regulations made under section 57 or 58. In each of these cases, non-compliance alone does not constitute an offence, it must be accompanied by the risk of death or serious injury to relevant persons in the event of fire. These offences therefore are only committed where a serious consequence might result or has occurred.
93. **Subsection (4)** contains a list of specific free standing offences.
94. There are four levels of penalty provision contained in **subsections (5),(6),(7) and (8)**. These penalties and offence provisions are replicated in an abbreviated form at the rear of this note.
95. **Subsection (5A)** modifies the penalty for certain offences in respect of ships and certain defence premises.
96. **Subsection (9)** states that it is a defence for a person to prove that they took all reasonable precautions and exercised all due diligence. There are two offences where this defence is excluded by virtue of **subsection (10)**. This is where either there has been an offence under subsection (1) relating to non-compliance with the employer's duty in section 53 or where an offence under subsection (3) relating to non-compliance with a requirement or prohibition to which the person is subject to comply with so far as is reasonably practicable by virtue of regulations and which puts a relevant person at risk of death or serious injury in the event of fire. Regulation 11 of the 2006 Regulations is the only regulation imposing obligations 'so far as is reasonably practicable' and therefore breach of that regulation cannot be defended on the basis of due diligence.
97. In proceedings in relation to the offence under subsection (1) in respect of a failure to comply with the duty in section 53 (duty to ensure fire safety of employees so far as is reasonably practicable), **subsection (11)** provides that the onus of showing that it was not reasonably practicable to do more than was done is on the accused.
98. **Subsections (12) and (13)** create an automatic reverse burden of proof (i.e. the onus is on the accused to show that it was not practicable or reasonably practicable) whenever regulations made under section 57 or 58 impose a "so far as is practicable" or "so far as is reasonably practicable" duty or requirement, the breach of which results in an offence under section 72(3).

Section 73 – Offences by bodies corporate and partnerships

99. **Subsection (1)** provides that where an offence by a body corporate is proved to have been due to consent or connivance or attributable to neglect by a director, manager, secretary or other similar officer of that body, or a person purporting to act in any such capacity, that person is also guilty of that offence and is liable to be proceeded against and punished.
100. **Subsection (2)** provides that subsection (1) also applies to the acts and defaults of a member in connection with management functions where the affairs of a body corporate are managed by its members.
101. Where an offence has been committed by a partnership, **subsection (3)** provides for a partner to be guilty of an offence as well as the partnership where it is proved that the offence has been committed with the consent or connivance of a partner, or is attributable to their neglect.

Section 74 – Offences due to fault of other person

102. **Subsection (1)** provides that where the commission of an offence by a person under Part 3 is due to the act or default of another person, then the other person can be guilty of the offence. (This other person may or may not be someone who has Chapter 1 duties). **Subsection (2)** provides that the other person can be charged regardless of whether proceedings are taken against the first person.

Section 75 – Employee’s act or omission not to afford employer defence

103. This section provides that the act or omission of an employee is not a defence for an employer in the commission of an offence. Regulation 26 of the 2006 Regulations further specifies that the actions of competent persons nominated for particular tasks in accordance with those regulations, similarly do not afford a defence.

CHAPTER 5 – GENERAL

Section 76 – Service of documents

104. **Section 76** contains provision in terms of service of documents and should be read with regulation 27 of the 2006 Regulations which contains further provision.
105. **Subsection (1)** lists the methods by which a document can be served on a person, these are;
- By delivering it to the person or by posting or leaving it at their proper address;
 - In the case of a body corporate which is not a limited liability partnership, delivering, posting or leaving it with the secretary or clerk of the body;
 - In the case of a limited liability partnership, by delivering, posting or leaving it with a member of the partnership; or
 - In the case of a partnership, delivering, posting or leaving it with a partner or a person having the control or management of the partnership business.
106. **Subsection (2)** provides that, with certain exceptions, the proper address of any person is his last known address. The exceptions are listed.

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107. **Subsection (3)** specifies that in the case of a company or partnership constituted under a law other than that of the UK, the proper address is the principal UK office.
108. **Subsections (4) and (5)** allow the potential recipient of a document to specify another UK address where someone will accept documents.
109. **Subsection (6)** is a regulation-making power.

Section 77 – Crown application (as amended)

110. **Subsection (1)** binds the Crown in respect of compliance with Part 3 and regulations made under section 57 or 58, subject to the following provision.
111. **Subsection (1A)** disapplies some compliance, enforcement and offence provisions in respect of premises where the Defence Fire and Rescue Service is the enforcing authority, to maintain a consistent approach across GB for fire safety in defence premises.
112. **Subsection (2)** prevents the Crown from being criminally liable in respect of non-compliance with Part 3 or regulations made under section 57 or 58, but an enforcing authority can apply to the Court of Session to declare non-compliance by the Crown unlawful.
113. **Subsection (3)** provides that the provisions of Part 3 and regulations made under section 57 or 58 apply to persons in the service of the Crown in the same way as they apply to others.
114. **Subsection (4)** confirms that right of entry cannot be exercised in respect of premises occupied by the Crown.
115. **Subsection (6)** applies Part 3 to premises owned or occupied by the Parliamentary Corporation in the same way to premises owned or occupied by the Crown.

Section 77A - Application to visiting forces etc

116. This section applies the fire safety regime in Part 3 to visiting forces and certain international headquarters and defence organisations in the same manner and to the extent that there is application to the Crown where enforcement sits with the Defence Fire and Rescue Service.

Section 78 – Meaning of relevant premises (as variously amended)

117. **Section 78** identifies which premises are relevant premises.
118. **Subsection (1)** states that relevant premises means any premises other than the premises excluded in **subsection (2)**.
119. The exceptions are:
- Domestic premises - defined in **subsection (4)** as premises occupied as a private dwelling including specified parts used in common by the occupants of more than one dwelling. The effect is that Chapter 1 duties do not apply to private dwellings and their communal areas and enforcing authorities have no Chapter 1 enforcement duty or powers in those premises or areas (other than in connection

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with enforcing the maintenance duty in regulation 24 of the 2006 Regulations which may apply to common areas). For the purpose of this section, houses in multiple occupation which require a licence are not domestic premises, neither are premises in which a childminding service is provided;

- Ships in respect of normal ship-board activities solely carried out by the crew. This exclusion is further qualified by **subsection (5A)** which includes repair, other than in dry dock. Permanently moored ships or ships on land are not therefore excluded from Part 3;
- Mines and offshore installations;
- A borehole site to which the Borehole Sites and Operations Regulations 1995 apply; and
- Agricultural or forestry undertaking land which is situated away from the undertaking's buildings. This excludes, for example, forests and farmland from Part 3 other than where they are close to buildings.

120. **Subsection (3)** contains a list of premises for the purpose of subsection (1) and is any place, any installation on land, ships (other than in respect of normal ship board activities by the crew), premises occupied solely for the purposes of the armed forces (or located within them), by visiting forces, by certain international headquarters or defence organisations, any tent or movable structure and vehicles other than vehicles listed in subsection (6).

121. **Subsection (5)** lists premises which are not to be included in the definition of domestic premises. This includes a house which requires a licence as a house in multiple occupation (HMO) and other premises which would be subject to HMO licensing other than for the fact that they are subject to a management control order under the Antisocial Behaviour etc. (Scotland) Act 2004

122. For the purposes of fire safety legislation, the following are also not considered to be domestic premises: premises providing a care home service; certain school care accommodation services, an independent health care service, and a secure accommodation service, and a childminding service.

123. **Subsection (6)** contains a description of vehicle types which are outwith the definition of premises and therefore not subject to Part 3.

124. **Subsection (7)** allows the definition of relevant premises used in this section, to be applied to a part of relevant premises.

125. **Subsection (8)** is a regulation making power and **subsection (9)** gives fuller explanation behind the potential use of this power.

Section 79 – Interpretation of Part 3

126. This section contains a list of defined terms. For a definition of 'work' and 'at work' reference is made to the 1974 Act and these definitions are reproduced below.

- “(a) “work” means work as an employee or as a self-employed person;*
- (b) an employee is at work throughout the time when he is in the course of his employment, but not otherwise;*

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*(bb) a person holding the office of constable is at work throughout the time when he is on duty, but not otherwise; and
(c) a self-employed person is at work throughout such time as he devotes to work as a self-employed person;”*

Fire Safety (Scotland) Regulations 2006 (S.S.I. 2006/456)

127. The Fire Safety (Scotland) Regulations 2006 (“the 2006 Regulations”) are made under the 2005 Act and contain provisions which are part of the fire safety regime. The fire safety regime in Scotland is split into primary and secondary legislation and dutyholders have obligations under the 2005 Act and these regulations. The primary legislation (the 2005 Act) contains a broad brush approach to fire safety measures while the 2006 Regulations contain more detailed provisions.
128. Some of these regulations implement EC Directives to the extent that they impose fire safety duties on employers (although their inclusion in the 2006 Regulations extends their application beyond workplaces).
129. When considering the requirements set out in the 2006 Regulations, it is necessary to consider that there are limitations to the extent of the regulations. These limitations relate to scope, appropriateness and proportionality.

Scope

130. The non-domestic fire safety regime deals only with general fire safety there is no application to process fire safety. Process fire precautions is reserved to the UK Parliament. The 2006 Regulations are made under devolved powers and can only impose obligations to the extent of the devolved legislative competence of the Scottish Parliament.
131. The 2006 Regulations are included within the definition of ‘fire safety measures’. The 2005 Act specifically states that fire safety measures do not include process fire safety
132. **Therefore the obligations set out in the 2006 Regulations must be interpreted only insofar as they relate to general fire safety. They do not impose any obligations in terms of process fire precautions and accordingly, some of the Regulations need to be interpreted narrowly.**
133. For example, Regulations 6, 7, 11, 15 and part of regulation 18 and 21 are closely modelled on provisions in the Dangerous Substances and Explosive Atmospheres Regulations 2002 (‘DSEAR’). Their copy-out inclusion in the 2006 Regulations is intended to catch any general fire safety provisions that may have been imposed by DSEAR had section 70 of the 2005 Act not disapplied general fire safety matters from DSEAR.

Appropriateness and proportionality

134. Many of the requirements of the 2006 Regulations are not prescriptive and only require to be complied with ‘where necessary’ (this is specified in individual regulations where this is the case). When ‘where necessary’ appears, the content of the regulation may or may not be appropriate in individual premises, it will depend on the circumstances of each case.

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135. Additionally, the 2006 Regulations do not impose unqualified obligations on dutyholders. For the purposes of the 2005 Act, the 2006 Regulations are fire safety measures by virtue of the definition in schedule 2 of that Act. Regulation 2(4) states that any duties imposed by the regulations on dutyholders are imposed to the extent that the person has duties under those sections. The extent of the obligations will vary. In section 53(2)(b) and 53(3)(b) an employer must take such fire safety measures 'as are necessary.....'. In section 54(2)(b) and 54(5)(b) a dutyholder must take fire safety measures 'as in all the circumstances it is reasonable for a person in his position to take.....'. These qualify the obligations to comply with the duties in sections 53 and 54.
136. **Regulations 1 and 2** (as amended) contain citation, commencement and interpretation provisions.
137. **Regulation 3** requires that the assessment review which is imposed by sections 53(3) and 54(5) should be carried out regularly to keep it up to date and a review should also be carried out where there is reason to suspect it is no longer valid or there has been significant change in related matters including change to premises or organisation of work or a change to special, technical or organisational measures (STOM).
138. There is a definition of STOM in regulation 2. STOM is relevant only to workplaces in connection with work processes. STOM are defined as certain measures taken in connection with a work process, and the measures included within STOM are based on those listed as technical aspects of work in the definition of "work processes" found in DSEAR. The effect of this is that where regulation 3 requires the review of an assessment when there is a significant change to STOM, that particular duty only ever applies to workplaces.
139. STOM are measures designed to minimise the likelihood or reduce the intensity of fire from a work process where those measures are taken in accordance with relevant statutory provisions. "Work process" is defined in regulation 2. Measures which fall within the scope of STOM are not imposed by the 2006 Regulations, but they must be taken into consideration as STOM may clearly have an effect on general fire safety.
140. **Regulation 4** requires an employer to carry out or review a section 53 or 54 assessment in relation to the risks to young persons from fire before employing a young person. Young person is defined in regulation 1 and is someone under the age of 18. **Regulation 5** lists the factors which must be taken account of by employers, specifically for the section 53 assessment or assessment review. These matters which must be taken into account are to be taken into account only in respect of harm caused by fire. Regulation 3 of the Management of Health and Safety at Work Regulations 1999 contains similar requirements in terms of general health and safety.
141. However regulations 4 and 5 do not apply in relation to occasional or short-term work regulated as not being harmful, damaging or dangerous to young people in a family undertaking by virtue of regulation 28(1).
142. **Regulation 6** relates to matters which must be taken into account by a dutyholder when carrying out or reviewing an assessment where there is a dangerous substance present. The wording of regulation 6 is in similar terms to regulation 5 of DSEAR, but it must be remembered that the 2006 Regulations are restricted to the devolved matter of general fire safety
143. 'Dangerous substance' is defined in regulation 2. The definition is closely modelled on the definition in DSEAR but is 'fire' specific. It applies to substances which are explosive, oxidising, extremely flammable, highly flammable or flammable and a

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substance or preparation because of its physico-chemical or chemical properties and the way used or is present creates a risk to the safety of persons from fire, and dusts which can form an explosive atmosphere. Essentially the definition of dangerous substance for the fire safety regime is substances which are explosive, within all ranges of flammability, or oxidising.

144. Although the outcome of the assessment in the 2006 Regulations is restricted to general fire safety matters, the assessment must take into account wider aspects of dangerous substances. The requirement applies irrespective of the quantity of dangerous substance on the premises.
145. Regulation 6 then lists the matters which must be taken into account in the assessment or the review of the assessment. Although many of these matters concern fire safety in relation to work processes, and are hence not duties imposed under the 2006 Regulations (which relates only to general fire safety), these matters will inform the assessment in terms of general fire safety outcomes.
146. **Regulation 7** imposes a prohibition on work activity where there is a dangerous substance unless the Chapter 1 duty has been fulfilled.
147. **Regulation 8** identifies circumstances where there is a requirement for information relative to an assessment to be recorded. This is where there are 5 or more employees or a licence or registration is required (other than registration for childminding¹) or an alterations notice has been issued which requires this. The threshold of 5 includes employees who may work in another location (as does regulation 10). **Regulation 9** lists the information that should be recorded.
148. **Regulation 10** requires a dutyholder when taking fire safety measures as a result of the assessment or review of an assessment in section 53 or 54, to make appropriate arrangements for effective planning, organisation, control, monitoring and review of the fire safety measures. What is appropriate will depend on the size of the undertaking and nature of activities. Paragraph 2 specifies the circumstances where these arrangements must be recorded. These circumstances are the same as the recording requirement in regulation 8.
149. **Regulation 11** imposes obligations on all section 53 and 54 dutyholders where there is a dangerous substance in relevant premises. The dutyholder must eliminate or reduce the risk to the safety of relevant persons so far as is reasonably practicable. To achieve this, also if reasonably practicable, a dangerous substance, or its use, must be replaced with a substance or process which eliminates or reduces risk. Where it is not reasonably practicable to apply measures to eliminate risk, measures must be taken, consistent with the assessment, to control the risk and mitigate the detrimental effects of fire. The schedule to the 2006 Regulations contains associated measures to control risk. The dutyholder must also arrange safe handling, storage and transport of dangerous substances; and maintain any conditions for the elimination or reduction of risk. Regulation 11 is similar to the wording of regulation 6 of DSEAR but is restricted in its operation to the narrower definition and focus of dangerous substance in the 2006 Regulations and applies only in respect of general fire safety provision.
150. **Regulation 12** contains specific requirements in respect of means for fighting fire and giving warning. A dutyholder must, where necessary, to ensure the safety of relevant persons, ensure that premises are equipped with appropriate means for fighting fire and giving warning in event of fire. Non automatic fire-fighting equipment must be easily

¹ Application modified by Regulation 3 of the Fire (Scotland) Act 2005 Relevant Premises Regulations 2012

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accessible, simple to use and signed. These requirements may or may not be necessary in premises - but the requirement in section 53 and 54 (as read with schedule 2 to the 2005 Act) to carry out fire safety measures, including '*measures in relation to the means of fighting fires...*' and '*measures in relation to the means of detecting fires....and giving warning in the event of fire....*' is wider ranging in its scope. The detailed content of this regulation should not be seen as restricting the wider potential application of the duties to take fire safety measures through section 53 or 54.

151. There is also an obligation, where necessary, to take fire-fighting measures and nominate competent persons to implement these measures; and a requirement to arrange any necessary contacts with external emergency services.
152. **Regulation 13** contains specific provisions for means of escape which are imposed where necessary. These are specific provisions but must be considered alongside the more general requirement in sections 53 and 54 to take fire safety measures including '*measures in relation to the means of escape.....*' and '*measures for securing that.....the means of escape.....can be safely and effectively used*'. The content of this regulation cannot be seen as restricting the wider potential application of these duties to take fire safety measures through section 53 or 54.
153. **Regulation 14** requires a dutyholder to put in place procedures for serious and imminent danger from fire including persons to operate and to put them into operation where necessary. This effectively requires an emergency fire action plan to be established. To allow the implementation of those procedures, competent persons should be nominated for evacuation of the premises.
154. Paragraph 1(c) deals with areas where access should only be allowed to persons with adequate safety instruction. Dutyholders should restrict access to persons without this instruction. This duty is not related to any restriction that has been imposed by the use of a Prohibition Notice by an enforcing authority and does not allow persons to access areas where there is such a prohibition or restriction.
155. **Regulation 15** contains further provision for dangerous substances which is closely modelled on the wording in regulation 8 of DSEAR. However, regulation 15 does not apply where there is only slight risk to relevant persons because of the quantity of dangerous substances and where measures taken under regulation 11 are sufficient to control the risk.
156. Where regulation 15 does apply, dutyholders are required to provide, to the extent that it is relevant to general fire safety, information on emergency arrangements, systems and action which must be taken, warning and escape provision. Information on emergency arrangements must be available including work hazards and hazard identification arrangements for the specific hazards likely to arise. Warning and other communication systems should be established to enable appropriate response, including remedial actions and rescue operations.
157. **Regulation 16** requires maintenance of premises and maintenance of fittings, equipment and devices provided under the 2006 Regulations; or any enactment where they are provided in conjunction with fire safety measures. There is also provision for a dutyholder to make arrangements with occupiers and owners of other parts of a building to ensure these maintenance requirements.
158. **Regulation 17** requires a dutyholder to nominate one or more competent persons to assist in undertaking measures to comply with the Chapter 1 duties, and arrange time and means to achieve the function. Where there is more than one person, arrangements

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should be made for co-ordination. Where the nominated person is not in the dutyholder's employment then there is an obligation to supply them with information. There are exclusions in this regulation for certain self-employed persons and partners. There are also exclusions in respect of premises used for childminding for a dutyholder who is not an employer by virtue of Regulation 3 of the Fire (Scotland) Act 2005 Relevant Premises Regulations 2012.

159. **Regulation 18** imposes obligations on employers: they must give information to employees as specified in paragraph 1 and where there is a dangerous substance, the information in paragraph 3.
160. An employer, before employing a child, must give the person with parental responsibilities, information on risks to that child identified by the section 53 risk assessment, fire safety measures taken consequent to the assessment and any risks notified to him by another person having duties under section 53 or 54.
161. Paragraph 3 lists information on dangerous substances that an employer must provide to employees. It should be noted that the information is not restricted to fire safety issues: all aspects of dangerous substances are included to the extent that they are necessary to determine general fire safety measures. This is similar to regulation 9 of DSEAR.
162. **Regulation 19** requires a dutyholder to give information on risks, fire safety measures and the identity of a person nominated to implement procedures under regulation 14, to the employer of employees from an outside undertaking working in the premises. Instruction and information on risks and the identity of that nominated person must also be given to those employees.
163. **Regulation 20** imposes obligations on an employer to ensure the employees have adequate fire safety training in the circumstances listed. Paragraph 2 sets out the requirements in respect of training: it should include instruction and training on precautions and actions to be taken by an employee to safeguard themselves and others on premises, be repeated periodically, adapted to take account of new or changed risks from fire, be provided in a manner appropriate to the risk assessment and take place during working hours.
164. **Regulation 20A** requires an employer with section 53 duties, to consider the capability of employees who are entrusted fire safety tasks.
165. Where responsibility in premises is shared between dutyholders, **Regulation 21** requires dutyholders to co-operate with each other to enable each to comply, to co-ordinate measures and inform each other of risks. Where the premises may contain an explosive atmosphere, paragraph 2 introduces the concept of a dutyholder with 'overall responsibility'. That person must co-ordinate implementation of the measures required to protect persons from the explosive atmosphere. The text of this regulation is modelled on regulation 11 of DSEAR but the regulation applies only in respect of Chapter 1 duties.
166. **Regulation 22** contains a requirement for employees while at work, to inform their employer or an employee with fire safety responsibility where there is serious and imminent danger, or shortcomings in an employer's protection arrangements where the matters affect the person's own fire safety or in connection with their own work activities.
167. **Regulations 23 and 24** do not relate to the safety of relevant persons, rather they are designed to ensure that facilities for fire-fighters are maintained. In regulation 23, dutyholders are required to maintain the premises and any facilities, equipment and

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devices for the use by or for the safety of fire-fighters. This applies to anything under the 2005 Act or any other enactment including those revoked.

168. **Regulation 24** applies the maintenance provision in regulation 23, to the common parts of private dwellings and the duty applies to a person with control of the common areas and in some circumstances the owner. The regulation also specifies the parts of the 2005 Act which specifically apply in extending this provision.
169. Section 61(8) of the 2005 Act enables SFRS to delegate its fire safety enforcement functions to persons prescribed in regulations, in relation to specified workplaces. **Regulation 25** prescribes the Office of Rail Regulator (“ORR”) for this purpose. This enables the ORR to take on fire safety enforcement functions should SFRS enter into such arrangements with ORR.
170. Section 75 provides that the act or omission of an employee is not a defence for an employer charged with an offence. **Regulation 26** further provides that the competent persons nominated under certain regulations are also persons whose acts or omissions do not offer an employer a defence.
171. **Regulation 27** contains provision for the service of documents and is additional to the provisions in section 76.
172. **Regulation 28** disapplies some of the regulations in specified circumstances. This includes - the regulations concerning dangerous substances which are modelled on provisions in DSEAR do not apply to means of transport regulated by international agreements and certain other provisions; and the provision on door fastening at regulation 13(2)(f) does not apply to prisons and other places of lawful detention but with the proviso that the fire safety of relevant persons should be ensured so far as is possible.

.....

Related Savings Provisions

Fire Precautions Act 1971

173. Prohibition Notices in force at October 2006 issued under section 10 of the 1971 Act continue in force and are deemed to be prohibition notices issued under section 63 of the 2005 Act by virtue of the saving provision in S.S.I. 2006/475

The Fire Precautions (Sub-surface Railway Stations) Regulations 1989

174. These regulations which are issued under the 1971 Act are saved by S.S.I. 2006/475 even though the 1971 Act is repealed. They continue in force as if made under section 58 of the 2005 Act.

The Fire Precautions (Workplace) Regulations 1997

175. A saving provision in article 3 of S.S.I. 2006/457 continues the disapplication of certain fire safety duties to emergency workers.

The Control of Major Accident Hazards Regulations 1999

176. These regulations are saved by article 3 of S.S.I. 2006/458 from the disapplication in section 70 of the 2005 Act. The effect is that the 1999 Regulations continue to impose

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fire safety measures in sites to which these regulations apply, this is in addition to the 2005 Act. There is therefore dual application to COMAH sites.

.....

Other general fire safety legislation

177. There are general fire safety provisions within the following legislative provisions and these co-exist with the 2005 Act fire safety regime.

The Construction (Design and Management) Regulations 2007

178. These Regulations apply to construction sites, some of the regulations impose general fire safety obligations. These fire safety provisions are not disapplied by section 70 of the 2005 Act because subsection 70(2) applies.

The Health and Safety (Safety Signs and Signals) Regulations 1996

179. These regulations impose requirements in respect for signs, including fire safety signs.

The Civic Government (Scotland) Act 1982

180. This Act includes obligations and enforcement power in respect of common areas.

The Fire Precautions (Sub-surface Railway Stations) Regulations 1989

181. These regulations contain prescriptive fire safety provisions which apply to sub-surface railway stations. In Scotland, there are 20 stations (all in Glasgow) to which the regulations apply. These regulations apply to these premises in addition to the risk based provisions in the 2005 Act and 2006 Regulations.

Overview of General Fire Safety Legislation

Table of Fire Safety Offences
Fire (Scotland) Act 2005

Brief description of Offence	Offence provision	Penalty provision	Duty (where applicable)
	section	section	section
Assault, obstruct or hinder an employee of a relevant authority who is discharging a fire safety enforcement function	39	39(4)	-
Employer fails to ensure safety of employees*	72(1)	72(5) or (5A)	53(1)
Employer fails to carry out an assessment*	72(1)	72(5) or (5A)	53(2)(a)
Employer fails to take fire safety measures*	72(1)	72(5) or (5A)	53(2)(b) or (3)(b)
Employer fails to review an assessment*	72(1)	72(5) or (5A)	53(3)(a)
Employer fails to implement fire safety measures on basis of considerations*	72(1)	72(5) or (5A)	55(2)
Dutyholder fails to carry out an assessment*	72(1)	72(5) or (5A)	54(2)(a)
Dutyholder fails to take fire safety measures*	72(1)	72(5) or (5A)	54(2)(b) or (5)(b)
Dutyholder fails to review an assessment*	72(1)	72(5) or (5A)	54(5)(a)
Dutyholder fails to implement fire safety measures on basis of considerations*	72(1)	72(5) or (5A)	55(2)
Employee fails to take reasonable care*	72(2)	72(6)	56(a)
Employee fails to cooperate with employer*	72(2)	72(6)	56(b)
Failure to comply with regulations*	72(3)	72(5) or (5A)	
Failure to comply with Enforcement Officer request	72(4)(a)	72(7)	62(2)(c)
Pretend to be Enforcement Officer	72(4)(b)	72(8)	-
Obstruct Enforcement Officer	72(4)(c)	72(7)	-
Obstruct person accompanying Enforcement Officer	72(4)(d)	72(7)	-
Failure to comply with prohibition notice	72(4)(e)	72(5) or (5A)	-
Failure to comply with alterations notice	72(4)(f)	72(5) or (5A)	-
Failure to comply with enforcement notice	72(4)(f)	72(5) or (5A)	-
Charge employees	72(4)(g)	72(7)	68
Make a false entry	72(4)(h)	72(7)	-
Give false information	72(4)(i)	72(7)	-

* where this puts a relevant person at risk of death, or serious injury, in the event of fire

Penalty provision	Penalty on summary	Penalty on indictment
Section 39(4)	9 months or level 4 fine	Not applicable
Section 72(5)	£20,000	2 years and a fine
Section 72(5)**	level 5 fine	2 years and a fine
Section 72(6)	level 5 fine	fine
Section 72(7)	level 5 fine	Not applicable
Section 72(8)	level 3	Not applicable

** modified penalty applies in respect of some specific premises listed in section 72(5A)

Practical Fire Safety Guidance for Existing Non-Residential Premises

Summer 2017



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Riaghaltas na h-Alba
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PRACTICAL FIRE SAFETY GUIDANCE FOR EXISTING NON-RESIDENTIAL PREMISES

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Chapter 1: PREFACE

Introduction

1. In 2006, the Fire (Scotland) Act 2005 (“the 2005 Act”) introduced changes to fire safety law in Scotland and repealed previous fire safety legislation. This guide has been produced to assist those who have responsibility under this Act for ensuring fire safety in premises in Scotland. In addition, the guide has a statutory basis for the Scottish Fire and Rescue Service (“SFRS”) and local authorities, as enforcers.

2. This guide, prepared by the Scottish Government, offers fire safety advice in respect of existing non-residential premises. It consolidates and supersedes a number of individual Scottish Government guides, and introduces a substantial number of editorial changes in the revision aimed at improving dutyholders’ understanding. The guides superseded are:

- Practical Fire Safety Guidance for Educational and Day Care for Children Premises: February 2008
- Practical Fire Safety Guidance for Places of Entertainment and Assembly: December 2007
- Practical Fire Safety Guidance for Factories and Storage Premises: February 2008
- Practical Fire Safety Guidance for Offices, Shops and Similar Premises: February 2008
- Practical Fire Safety Guidance for Transport Premises: February 2008

Scope

3. The guidance in this document is applicable to general fire safety in existing non-residential commercial, industrial, transport, assembly, educational, day care or entertainment premises. The guide does not apply to premises used for overnight sleeping accommodation and does not apply to premises used for child-minding, for which other guidance has been produced¹.

4. Much of the guidance in this document relates to buildings, however, the requirements of fire safety law also apply to other structures, external areas and open air sites.

5. This guide extends to fire safety measures intended to protect life. Fire protection for the protection of property is not within the scope of this guide.

6. This guide applies to existing premises and is not a design guide for new build. New buildings must be designed to the mandatory functional standards under the Building (Scotland) Regulations 2004. Similarly, buildings which undergo extension, structural alteration or change of use should also meet the standards (and be subject to building warrant approval, where required). Design guidance in

¹ “*Fire Precautions in Domestic Childminding Premises: A Guide to Childminders*” produced by the Chief Fire Officers Association (Scotland).

respect of building regulations is contained in the [Scottish Building Standards Technical Handbook for Non-Domestic Buildings](#).

7. There are types of premises which, due to their complexity and use, require or will have involved specialist consideration for fire safety. There are also buildings where fire safety engineering has produced bespoke fire safety measures. In these cases, specific sector information and advice may be applied and this guide used for general principles. Examples are large transport hubs, enclosed shopping centres, and certain industrial premises which contain special processes or hazards such as high bay warehouse, automated retrieval system, explosives, petrochemical plant; and power generation.

8. In major sports grounds, fire safety is closely related to other aspects of spectator safety and reference should also be made to the document commonly known as the Green Guide - 'Guide to Safety at Sports Grounds'.

Fire Safety Law

9. Part 3 of the 2005 Act, along with the Fire Safety (Scotland) Regulations 2006, sets out the fire safety duties in respect of the majority of non-domestic premises in Scotland.

10. The legislation requires the provision of fire safety measures; this includes risk reduction measures, means of fire warning, fire-fighting, escape, staff training and instruction, as well as emergency procedures. It sets out fire safety responsibilities and seeks to ensure the safety of persons from harm caused by fire.

11. The list below is a summary of the general requirements imposed and is not intended to be comprehensive; anyone in doubt about their legal obligations may wish to seek further advice. Guidance on complying with these general requirements is considered in the remaining chapters:

- assessing the risk from fire in respect of the premises;
- identifying the fire safety measures necessary as a result of the assessment of risk;
- implementing these fire safety measures, using risk reduction principles;
- putting in place fire safety arrangements for the ongoing control and review of the fire safety measures;
- complying additionally with the specific requirements of the fire safety regulations;
- keeping the fire safety risk assessment and outcome under review; and
- record keeping.

12. Underground railway stations and certain mainline stations² in Scotland are additionally subject to the general fire safety provisions in the Fire Precautions (Sub-surface Railway Stations) Regulations 1989.

² This applies to mainline stations with an underground platform

13. The general fire safety provisions in Part 3 of the 2005 Act take precedence over the terms and conditions imposed in relation to licences issued under other legislation. Section 71 of the 2005 Act provides that terms, conditions or restrictions in such licences – including statutory certification or registration schemes – have no effect if they relate to fire safety requirements or prohibitions which are, or could be, imposed under Part 3. For example, fire safety in sports grounds is governed through Part 3 of the 2005 Act and not through sports grounds certification.

Who Must Comply with these Duties?

14. The responsibility for complying with the fire safety duties in premises sits with the employer and other persons who operate or have control of the premises to any extent. This may include managing agents, landlords and tenants, factors, owners, and managers and staff. Contractors and volunteers working on site may also have some responsibilities through their degree of control or responsibility for safety systems. In this guide, persons with fire safety responsibilities are referred to generally as ‘dutyholders’.

15. Under fire safety law, all dutyholders are required to take all reasonable measures regarding the safety of persons. Employers additionally have a specific obligation to ensure the safety of employees in the event of fire, so far as is reasonably practicable. This means that fire safety measures need to be taken to address risk, but not to the extent that the cost, effort and other disadvantages associated with the provision of fire safety measures would be disproportionate to the risk to life. In this respect, a judgement is made about the cost of measures being proportionate to the resulting risk reduction, not the capacity of a dutyholder to pay.

16. Where premises or responsibilities are shared, each employer, or other dutyholder who has control over any part of the premises is required to co-operate and co-ordinate in respect of complying with fire safety law and to inform each other of risks.

17. If the requirements of fire safety law are not complied with, the omission may constitute a criminal offence with a penalty of a fine or imprisonment.

Obtaining Advice on Fire Safety

18. The responsibility for carrying out an assessment of fire risk, reviewing such an assessment and taking fire safety measures rests with dutyholders. General guidance is available on the [Scottish Government Firelaw webpages](#).

19. Dutyholders should consider their own capabilities and circumstances in respect of assessing and managing risk, and factors such as the size and use of premises and the number and type of persons involved.

20. Whilst dutyholders are usually best placed to know their premises, they will need to decide whether they, or their employees, have the capability to assess fire risk. If dutyholders do not have sufficient resources, skills or experience to undertake a fire safety risk assessment themselves they can arrange for a suitably qualified person or company to carry out an assessment on their behalf.

21. When looking to contract a specialist, it can be difficult to judge the competence of companies and persons who advertise their services. The fact that a person or company is operating in the fire sector or that someone has previous fire service experience, does not mean that they are a fire safety specialist.

22. Both the Scottish Government and the SFRS recommend that dutyholders who wish to contract the services of an external fire safety risk assessor, select an assessor from a list of competent fire risk assessors maintained by a professional body or a UKAS accredited third party certification body. Alternatively they could use the services of companies, including sole traders, that are third party certificated under appropriate schemes operated by certification bodies that have, themselves, been UKAS accredited as competent to certificate against such schemes. (The benefit of company certification is that the certification body monitors the quality of the certificated company's work and confirms that there is a system for management of quality within the certificated company).

23. The SFRS maintains a list of UKAS accredited certification bodies and professional registration schemes, which can be accessed on its website http://www.firescotland.gov.uk/media/1173445/sfrs_advice_on_fire_safety.pdf. The SFRS has not assessed and does not endorse any individuals or companies participating in these schemes. However, participation in such schemes can offer a degree of assurance that a risk assessor (individual or company) has met the professional requirements of the scheme.

24. Generally, reviews of a risk assessment should be carried out regularly by the dutyholder to ensure it remains valid. This will reinforce ownership of fire safety management and assist in the development of relevant knowledge, and of a fire safety culture. However, where significant changes to premises have occurred or if the dutyholder continues to feel that they lack the time, knowledge or skills required to undertake a thorough review, it may be advisable to seek specialist advice to review and revise the initial assessment.

Who Enforces the Fire Safety Law?

25. While the responsibility for compliance with the legislation sits principally with the persons who operate and employ persons to work in the premises, there is provision in the legislation for an enforcing authority with enforcement powers.

26. The SFRS enforces Part 3 of the 2005 Act and relevant regulations in respect of the majority of non-domestic premises. Though there are certain premises where enforcement is by other bodies:

- in premises occupied by the armed forces or visiting forces - the Defence Fire and Rescue Service;
- in ships under repair or construction and in some construction sites - the Health and Safety Executive;
- in nuclear installations - the Office for Nuclear Regulation; and
- in major sports grounds - the local authority.

27. The SFRS policy towards enforcement is proactive and it adopts an enabling approach to assist dutyholders in complying with their obligations.

28. Enforcement officers' powers are listed in section 62 of the 2005 Act: they may do anything necessary to allow them to enforce the provisions of the legislation. This includes entering premises, inspecting, requesting information, records or assistance, copying or removing documents; carrying out measurements or tests; taking samples, dismantling articles, and taking possession of an article for examination or evidence.

29. If the SFRS is not satisfied with the outcome of a dutyholder's assessment of fire risk in the premises, or the action taken by a dutyholder, or the fire safety measures in place, it may send out a letter which requests or specifies that certain action or measures be taken and may request that a dutyholder draws up an action plan for implementation of the measures.

30. The SFRS has the power to take more formal action in certain situations. This could involve:

- the issuing of an 'Enforcement Notice' that requires specified action to be taken;
- the issuing of a 'Prohibition Notice' in cases of serious risk so that the use of all or part of the premises is prohibited or restricted until specified matters are remedied; or
- reporting the matter for prosecution.

31. Additionally, the SFRS has power to issue an 'Alterations Notice' that requires the recipient to inform the enforcing authority before making specified changes to the premises.

32. Failure to comply with a notice issued by the enforcing authority or placing persons at risk of death or serious injury by failing to carry out any duty imposed by fire safety law is an offence.

33. Where there is disagreement between a dutyholder and the enforcing authority on compliance issues, the dispute may be suitable for referral for a determination. Dispute determination is a third party independent resolution arrangement. Information on this provision is available on the web pages of the Fire Service Inspectorate at www.gov.scot/fireinspectorate.

34. There is also a right of appeal to the court against a Prohibition Notice, Enforcement Notice or Alterations Notice, within 21 days from the date the notice is issued.

35. While the general fire safety measures required by the 2005 Act are enforced by SFRS (or other enforcing authority), there are some matters that are enforced by the Health and Safety Executive or the local authority, under various pieces of health and safety legislation. Some examples are precautions relating to:

- use and storage of flammable liquids;
- ventilation systems to dilute or remove flammable gas or vapour;
- selecting equipment that will not be a source of ignition; and
- maintenance of electrical equipment.

36. Certain premises which pose a risk of major accident are also subject to the Control of Major Accident Hazard Regulations 2015 (“COMAH”). Where COMAH applies, general fire safety is controlled through both the 2005 Act, by the appropriate enforcing authority, and also through COMAH by the Health and Safety Executive.

How to Use this Guide

37. The remaining chapters in this guide provide information on the assessment of fire risk, the reduction of risk and identification and implementation of fire safety measures. It is not necessary to follow the risk assessment method in this guide or the guidance on fire safety measures; other suitable methods and measures may be appropriate.

38. The fire safety measures described in this guide are principally benchmarks. When deciding what fire safety measures are appropriate for premises, the benchmarks can be used as a comparison against what exists in the premises. The benchmarks should not be applied prescriptively to premises, they are not minimum standards nor are they provisions that are deemed to satisfy the legislation. In each case, the measures adopted should be risk appropriate for the particular circumstances in which they are applied. A standard lower than the benchmark may be adequate, in other cases a standard above the benchmark may be necessary. The assessment of risk needs to be specific to the individual premises.

39. If persons feel unable to interpret this guidance, they should seek assistance from someone with technical knowledge. The SFRS as an enforcer of the legislation, cannot undertake a dutyholder’s risk assessment obligation. But it has a statutory requirement to provide general advice on request about issues relating to fire safety and should be able to provide information and advice which will assist dutyholders to understand their obligations under the law.

40. While the principal purpose of this guide is to provide guidance to assist dutyholders in complying with their legal obligations, the guide and its contents constitute guidance given by the Scottish Ministers to the SFRS and local authorities in terms of section 61(2) of the 2005 Act and the SFRS and local authorities are therefore required to take it into account in determining whether enforcement action may be necessary. In their enforcement function, these enforcing authorities are also required to have regard to the Scottish Regulators' Strategic Code of Practice.

41. Where an enforcement officer considers that additional fire safety measures are necessary in premises, this decision should be based on risk, taking likely cost benefit into account. It will assist the awareness of dutyholders if enforcement officers explain why the existing fire safety measures are not acceptable, and how additional fire safety measures will deliver improvement.

42. Nothing in this guide should be interpreted as permitting a reduction in the standard of fire safety measures where the measures have been incorporated to comply with Building Regulations. But it is possible for a standard higher than that required by Building Regulations to be necessary as a consequence of assessment of risk.

43. From October 2013, a Fire Safety Design Summary is recorded as part of the building regulation process. This may be a useful source of information to assist dutyholders with the safe operation of the premises and to inform the assessment of fire risk.

Chapter 2: ASSESSMENT OF FIRE RISK IN PREMISES

44. Where fire safety law applies, it is a legal requirement to assess the premises to identify risk to persons from fire and to take fire safety measures. The assessment of risk should be specific to fire safety and to the specific premises concerned. A generic risk assessment will not be sufficient.

45. Fire safety risk assessment is a practical exercise aimed at evaluating the risk from fire and how to ensure the safety of persons in the event of fire. It involves an organised and methodical look at the premises, the activities within the premises, the type of occupants, the potential for a fire to occur and the harm it could cause to people. The existing fire safety measures are evaluated to establish whether they are adequate or if more requires to be done. In this respect, fire safety measures include not just physical measures, such as fire alarm systems and escape routes, but also standards of management.

46. The risk assessment process described in this chapter is shown in Figure 1.



Figure 1 Fire safety risk assessment process

Identify People at Risk

47. An assessment should be made of those persons at risk if a fire occurs within, or in the immediate vicinity of the premises. The number, characteristics and location of occupants, staff and other persons who frequent the premises should be identified. Disabilities should be taken into account along with people's familiarity with the premises. The inexperience, lack of awareness and immaturity of any young persons (under 18 years) employed, should also be considered.

Identify Potential Causes of Fire

48. For a fire to start, three components are needed: a source of ignition; fuel; and oxygen. These components can be represented as the sides in a simple 'triangle of fire' model shown in Figure 2. If any one of these components is missing, a fire cannot start. Taking steps to avoid the three coming together will reduce the chance of a fire occurring, while reducing the quantity of oxygen (smothering) or fuel (starvation) may restrict the development of a fire.

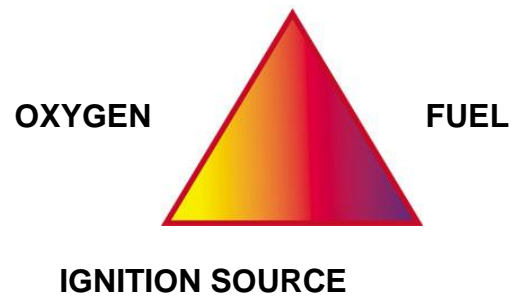


Figure 2 Triangle of Fire

49. The premises should be critically examined to identify potential ignition sources and materials that might fuel a fire and the circumstances which might allow a fire to start. Any previous fires should also be considered, as should indications of 'near misses', such as scorch marks on furniture or fittings, discoloured or charred electrical plugs and sockets or cigarette burns. Some general information and examples are given in Tables 1 to 3 at the end of this chapter and recommendations on controlling ignition sources are contained in **Chapter 5**.

Evaluate the Risk

50. The risk in the premises should be evaluated so that a judgement can be made on the adequacy of fire safety measures. Risk has two components: the likelihood that a fire may occur; and the potential for a fire to cause death or injury i.e. consequence. Both likelihood and consequence should be considered when assessing risk.

51. The likelihood of a fire starting will be low if there are few ignition sources, and if combustible materials are kept away from them.

52. Having considered the people likely to be at risk and the chances of a fire occurring, the consequences and extent of the risk to those people if a fire starts and spreads should be considered. In evaluating the risk to people, it is necessary to consider different situations and possible scenarios such as:

- fire starting on a lower floor affecting the escape of people on upper floors;
- the potential for fire to affect escape routes, particularly where there is a single escape route;
- fire developing in a space that people have to pass to escape from the building;
- fire or smoke spread through a building via routes such as vertical shafts, service ducts, service penetrations, ventilation systems, cavities, roof voids and open doors;
- fire and smoke spread through open areas such as atria and concourses;
- fire and smoke affecting the behaviour of occupants;

- the contribution to fire spread and development if dangerous substances are involved or if there is failure of work processes;
- fire and smoke spread into the premises from exterior fires;
- underground or tunnel fires where escape may involve upward travel above a fire;
- the potential for fire originating in the premises to pose a threat to persons in the surrounding area.

53. Additionally, where the building is in multi-occupancy, consider;

- the risk from a fire which may occur in communal parts or in another part of the building occupied by a different person; and
- the risk which a fire in the premises may pose to other occupiers of the building and any adjoining premises.

54. If there have been any previous fires in the premises, considering the circumstances and lessons learned may assist with evaluating risk.

Decide if Existing Fire Safety Measures are Adequate

55. A judgement needs to be made to determine whether the fire safety measures and fire safety arrangements are adequate or if more needs to be done to safeguard persons. The level of fire safety measures provided in premises should be proportionate to the level of risk posed to the safety of people and will therefore vary between different premises.

Formulate an Improvement Plan

56. Carrying out an assessment of the premises is not an end in itself. The outcome of the risk assessment needs to be acted upon; risks need to be controlled in a practical way and fire safety measures and arrangements need to be put in place.

57. Potential causes of fire identified should be avoided or removed, if reasonably practicable to do so. If they cannot be removed, measures should be taken to control the risks.

58. Where improvements to fire safety measures in premises are considered necessary as a result of assessment of risk, a plan for implementation of the improvements should be drawn up. The plan should have priorities and timescales for the completion of the action required.

59. Where improvements involve building work, the work should be carried out in accordance with Building Regulation procedures. In a listed building (a building of special architectural or historic interest included in a list compiled by the Scottish Ministers), alternatives to conventional fire safety measures may be appropriate. Guidance is available in [*Guide for Practitioners 7 Fire Safety Management in Traditional Buildings*](#) issued by Historic Scotland.

Record the Findings

60. Having carried out a fire safety risk assessment of the premises, fire safety law requires that certain information be recorded where five or more employees are employed by an employer (whether they are on the premises or not), or the premises is subject to licensing or registration, or an Alterations Notice has been issued requiring this. **Chapter 4** contains recommendations in respect of record keeping.

Review the Assessment

61. The fire safety risk assessment should be reviewed regularly and also before any significant or relevant changes are made or if relevant safety issues arise. This will involve setting time aside to consider whether change has affected the risk and whether fire safety measures remain appropriate.

62. Where changes are proposed, the consequence to fire safety in the premises should be considered before the change is introduced. Changes that might prompt a review of the risk assessment include:

- a change in the number of people present or the characteristics of the occupants;
- changes to work procedures, including the introduction of new equipment;
- alterations to the building, including the internal layout; and
- the introduction or increase in the storage of dangerous substances.

63. A review should occur on becoming aware of shortcomings in fire safety measures; potential improvements; or if a fire or 'near miss' occurs which may indicate that the existing fire safety measures are inadequate. If the Fire and Rescue Service has attended a fire in the premises, its fire investigation findings may help inform a review.

64. Generally, reviews of a risk assessment should be carried out in-house by the premises management. This will reinforce ownership of fire safety management and assist in the development of relevant knowledge and of a fire safety culture. However where significant changes to premises have occurred, it may be advisable to seek specialist advice.

65. In respect of entertainment events, there may be a need for frequent reviews in cases such as where there are regular changes to premises or contents.

Table 1 - Ignition Sources

Potential ignition sources are those where sources of heat could get hot enough to ignite material. This could include:

- smokers' material - such as cigarettes, matches and lighters;
- naked flames - such as candles or open-flame equipment;
- heaters - fixed or portable;
- hot processes - such as cutting and welding or repair work;
- cooking equipment and lighting equipment;
- deliberate fire raising;
- electrical equipment or fixed installations;
- interaction of reactive chemicals;
- spontaneous ignition; and
- pyrotechnics and special effects.

There are various ways to reduce potential sources of ignition, for example:

- replace naked flame and radiant heaters with a central heating system
restrict the movement of, and provide guards for portable heaters;
- install, use and maintain electrical and mechanical equipment in accordance with the manufacturer's instructions;
- inspect and test electrical installations and equipment;
- ensure that the prohibition of smoking is enforced;
- take precautions to avoid deliberate fire-raising; and
- control the storage and use of pyrotechnics.

Table 2 - Fuel

Material which will burn and is in enough quantity may provide fuel for a fire. This includes contents, fixtures, fittings, structure, wall and ceiling linings and surfaces. Some examples of 'fuels' are:

- textiles, soft furnishings and clothing;
- flammable liquids and solvents, such as white spirit, methylated spirit, and adhesives;
- wood, paper, cardboard, plastics, cellular foam, rubber and upholstered furniture;
- waste and litter such as paper, packaging, wood shavings, off-cuts and dust;
- flammable gases such as liquefied petroleum gas (LPG) and aerosol contents;
- hydrogen produced during battery charging;
- powdered materials or dusts (including materials not normally considered combustible but where, as a dust, they may be prone to dust explosions (examples are flour, animal feed and some metals); and
- dry vegetation.

There are various ways to reduce the materials and substances which burn, and to separate them from ignition sources, for example:

- store flammable materials properly;
- remove combustible wall and ceiling linings, such as timber, polystyrene or carpeting (to reduce the surface rate of flame spread and smoke production);
- keep flammable or combustible materials in public areas to a minimum with stock in storage areas secure against fire raising; and
- control the build-up of combustible waste with proper disposal.

Table 3 - Oxygen

The main source of oxygen for a fire is in the air around us. Air supply can be by natural air flow through doors, windows and other openings; or mechanical air conditioning systems and air handling systems. Buildings may have a combination of sources capable of introducing or extracting air.

Potential sources of oxygen supplied to a fire can be reduced by:

- closing doors and other openings;
- ensuring that doors are close fitting and, where appropriate, fitted with seals; and
- closing down ventilation equipment.

The action may be a precaution taken in case a fire starts, such as keeping certain doors closed. In other cases, the action may take place once a fire is detected, such as when ventilation equipment is shut down (either manually or automatically), or when doors are closed, either manually or by the automatic release of hold-open devices. (This subject can be complex where an automatic smoke-control system is installed).

Chapter 3: THE PERSONS IN THE PREMISES

66. The number, nature and location of the occupants needs to be considered. This will influence the fire safety measures necessary. In some cases, the risk to persons will be influenced by their particular circumstances and by their location in, and familiarity with, the premises. Premises-based employees and other persons who regularly frequent premises may be expected to have some familiarity with layouts and procedures, while visitors and members of the public may be unfamiliar. In public access buildings many of the public may only know building entrances and be unfamiliar with alternative escape routes.

67. Numbers of persons can be anticipated from the size of the premises and knowledge of occupancy levels. A guide to potential capacity of a room or space is to divide the area by an occupancy load factor. For example a room of 50 m² with a load factor of 5 gives an occupancy of 10 persons.

Table 4 - Occupancy load factor of a room or space by use

Description of room or space	Load factor
standing spectator area	0.3
assembly area, bar, open air standing spectator area	0.5
queuing area, concourse	0.7
conference room, lounge, staff room, waiting room, dining room, meeting room, restaurant	1
shop sales area - high occupancy e.g. supermarket	2
factory production area, museum	5
office	6
shop sales area - low density e.g. furniture shop library, kitchen	7
storage, warehouse, enclosed car park	30

68. In a shopping centre, a load factor of 0.7 may be used for mall areas up to a width of 6 m and a load factor of 2 for areas beyond the 6 m. Footfall data may provide a more accurate measure of actual occupancy.

69. Occupancy capacity is not used for determining capacity limits because it takes no account of means of escape or other fire safety measures. For example, exit capacity needs to be compared to occupancy capacity. The number of persons who can safely use rooms, areas or storeys may be more or be less than calculated because of the means of escape provided, or other fire safety measures in place.

70. Some persons who have a disability may have difficulty in perceiving or responding to a fire or in leaving the premises if there is a fire. In considering staff and frequent visitors, any disability and associated difficulty should be identified. The personal evacuation needs of staff should be considered and be discussed with each individual along with the assistance required. An individual personal emergency egress plan (PEEP) for each of these persons should be established. Information and guidance on the evacuation of disabled persons in the event of fire is available in Practical Fire Safety Guidance: The Evacuation of Disabled Persons from Buildings.

71. In some premises, such as a crèche, multiscreen cinema or summer play scheme, where children are separated from adults, following activation of the fire alarm system, adults may attempt to contact the children inside the building rather than evacuate the premises separately. Account needs to be taken of this.

72. The age and ability of children, pupils and students should be considered. Account should be taken of the vulnerability and supervision needs of children and of the lack of awareness and immaturity of young persons including any young persons employed.

73. Consideration should be given to employees and others who may work alone such as cleaners and security staff and anyone who may be in isolated areas, such as maintenance staff and staff who have control of critical processes which cannot be left unattended.

74. In entertainment premises, the age range and behaviour profile of different types of audience should be taken into account. Events attended by children or young persons may require a greater degree of control and stewarding than other events which, despite similar audience numbers, may have a different behaviour profile.

Transport Premises

75. Passengers using transport terminals on an occasional basis may have less familiarity than people who are using the same facility daily, but in any case persons may be familiar only with routes they normally use.

76. Delays and special events may greatly increase passenger numbers and more generally, passenger disembarkation during a fire is a factor to consider. For some premises, an elevated risk to life safety may occur at peak times when a high volume of people are passing through the premises and account should also be taken of the psychological stress and behaviour of passengers that may be associated with congestion or perceived evacuation delay.

77. The behaviour of passengers in the event of fire may offer difficulty and they may be reluctant to obey instructions or evacuate. Examples are:

- people may be reluctant to evacuate without their luggage;
- people may be in a state of undress such as in changing rooms;
- people may decide their first priority is to try and re-join children and/or friends; and
- people in queues may be concerned at losing their place in the queue.

78. Where large numbers of people use transport premises, there may be a need to monitor the number of people entering the premises to prevent capacity being exceeded and avoid overcrowding.

Chapter 4: MANAGING FIRE SAFETY

79. A management commitment to fire safety is important to assist with achieving suitable fire safety standards in premises and in maintaining a staff culture of fire safety.

Fire Safety Policy

80. There should be a clearly defined fire safety policy which includes arrangements for planning, organisation, control, monitoring and review of fire safety measures.

81. There should be one named individual with responsibility for the coordination of fire safety management within each premises. In multi-site organisations additionally there is a need to establish responsibility for fire safety within the organisation as a whole and the arrangements for monitoring the management of fire safety.

82. In multi-occupied premises there is a need for co-ordination between occupiers to account for the overall fire safety arrangements.

Emergency Fire Action Plan

83. An emergency fire action plan sets out the action that staff and other people in the premises should take in the event of a fire. It is a management responsibility to have in place an emergency fire action plan specific to the premises and to have in place arrangements to implement the plan.

84. In multi-occupied premises the emergency fire action plan will need to be coordinated between all occupiers.

85. For locations where the Fire and Rescue Service has a specific emergency response plan, then there should be compatibility between the premises' emergency fire action plan and the response plan.

86. The emergency fire action plan for a major open air event such as a music festival will normally be prepared after consultation with all dutyholders and agencies involved.

Table 5 - Emergency Fire Action Plan Checklist

- how people will be warned if there is a fire;
- what staff should do if they discover a fire;
- what staff should do in the event of a fire or the fire alarm activating;
- the arrangements for calling the Fire and Rescue Service;
- the action to be taken by the person in charge when the fire alarm activates or a fire is discovered;
- any arrangements for fighting fire by staff trained to use fire extinguishers;
- any processes, machines or power supplies that need to be stopped or isolated;
- the procedure to evacuate the premises, taking into account the personal evacuation needs of individuals;
- procedures for checking whether the premises have been evacuated and where persons should assemble or be taken after they have left the premises;
- procedures for meeting the Fire and Rescue Service and passing on details of the incident, whether all persons have evacuated and the presence of any dangers; and
- contingency arrangements for the relocation or welfare of evacuees.

87. There should be an adequate number of trained persons responsible for supervising and implementing the emergency fire action plan. Emergency evacuation is a management responsibility and the plan should not rely on the attendance of the Fire and Rescue Service to work.

88. Stewarding and crowd control are vital components in the safe evacuation of the public from large places of assembly and entertainment.

89. The use of lifts needs to be considered. In general, lifts should not be used for evacuation, though some lifts may be designed for evacuation of disabled persons. And in some situations, particularly in large complexes, the fire safety measures provided may allow for the use of specific lifts for fire evacuation purposes. If fire-fighting lifts are to be used for evacuation, this should be agreed and co-ordinated with the Fire and Rescue Service who may, on arrival, need to take control of the lift for fire-fighting.

90. Where escalators are used for evacuation, there is the potential that persons could inadvertently be conveyed up (or down) into a fire situation. There needs to be consideration whether in event of fire alarm activation, an escalator can continue to operate along with staff supervision and control; or whether the escalator should stop on activation of the fire alarm. The use of escalators to facilitate evacuation is an established protocol in some transport premises.

91. Similarly, if travelators continue to run during a fire incident they could inadvertently convey passengers towards the fire. Therefore they should normally come to a halt on activation of a fire alarm.

92. In larger buildings or complexes, phased evacuation may be appropriate. This describes a situation where those people most at risk from a fire, usually those closest to where the alarm has originated, will be immediately evacuated, while others in the building are given an alert signal and will then evacuate when it becomes necessary or after a pre-determined timescale. The initial movement, depending on the layout and configuration of the premises, can be either horizontal or vertical. Where a phased evacuation strategy is in place, it may be appropriate for those disabled people who have an extended evacuation time to be alerted at the first stage to give them the maximum time to escape. Phased evacuation requires a fire-warning system capable of giving staged alarms, including an 'alert' and a different 'evacuate' signal.

93. With a staged alarm system, an initial staff alarm may be given to staff before the general alarm is given. This gives time for investigation purposes or to carry out pre-arranged actions. Normally staff alarms are restricted to signals from smoke detectors, an evacuation signal is given if a manual call point, heat detector or sprinkler head activates.

94. In enclosed shopping centres, the emergency fire action plan may involve immediate evacuation of the shop concerned where an alarm originates and allow for the activation to be investigated without full centre evacuation. After a pre-determined time delay, commonly up to four minutes, the evacuation of the whole centre would commence. If during the investigation period there is further alarm activation then the system would go to full evacuation. In the case of fire alarm activation anywhere other than in an individual shop, or on activation of sprinklers anywhere within the shopping centre, evacuation would commence immediately.

95. Staff should be aware of the emergency fire action plan through their training and instruction. Staff notices containing extracts of the emergency fire action plan should be permanently displayed in appropriate positions in the building. These notices should contain sufficient instructions for staff on their actions in the event of fire. There may also be a need for notices designed specifically for other occupants.

Transport Premises

96. Due to the significant disruption and associated risks that may be caused by a false alarm or a minor incident, the provision of a staff alarm may be appropriate for some transport premises.

97. Fire safety law does not specifically apply to means of transport but traffic issues need to be taken into account, such as their potential to be the origin of a fire, be involved in fire or for the consequences of their movement and passenger disembarkation in a fire or emergency situation.

98. In respect of rail management there are specific issues which need to be considered and pre-planned for, such as:

- the procedure, should a fire occur while a train is in a sub-surface station, and whether a train should leave with passengers to reduce the number of persons using the station means of escape;
- whether to prevent trains stopping at a sub-surface station in which there is a fire;
- the need to consider that the movement of a train may cause undesirable air flows within tunnels, station and communicating areas;
- in other stations, whether trains should be stopped to prevent arrival and discharge of passengers;
- in a tunnel. the need to consider planning for de-training and whether passengers need to alight from the train and walk along at track level, whether passengers can use cross-passages to an adjacent tunnel, and whether passengers have to travel along the tunnel to a final exit or station; and
- where relevant, arranging disconnection and earthing of the traction current.

99. Where major airport terminals have large compartments or smoke control zones, the evacuation of persons into adjacent zones may be appropriate for the following reasons:

- to prevent people having to enter a hostile environment such as the airport apron;
- to avoid disruption to the operation of the building;
- to avoid the airside/landside barriers being breached;
- to maintain the segregation of arriving and departing passengers; and
- to assist in the evacuation of people with disabilities.

100. In all cases, communication with passengers is important. The plan should include the arrangements for informing passengers and travellers of what action they should take.

Fire Safety Information and Training

101. It is important that staff know what they have to do to safeguard themselves and others on the premises and to have an awareness of the importance of their actions including risk reduction, maintenance of fire safety measures and action if there is a fire.

102. All staff (including shift workers, stewards, cleaners, volunteers, temporary and agency staff) should be given information, instruction and training on the action to be taken in case of fire and the measures to be taken or observed on the premises.

103. Staff training should take place at a frequency which will ensure that staff remain familiar with procedures. The specific fire safety training needs of any young persons employed should be considered.

104. Fire safety training should be specific to the premises. Table 6 shows a staff training checklist. What is important is not simply the fact that staff training has taken place, but that staff have the knowledge and understanding of what they should do in the event of fire and also actions to prevent fire. Assurance to confirm staff understanding could be achieved by incorporating a post-training check.

Table 6 - Fire safety training checklist

- instruction on the fire alarm control panel (if applicable);
- the action to take on discovering a fire;
- how to raise the alarm of fire;
- the action to take upon hearing the fire alarm;
- the arrangements for calling the Fire and Rescue Service;
- information on risks;
- the identity of people nominated with responsibilities for fire safety;
- any special arrangements for serious and imminent danger to persons from fire;
- the procedures for evacuating visitors and the public;
- the measures in place to ensure a safe escape from the building and how they will operate;
- the personal emergency egress plans for disabled persons;
- the fire prevention and fire safety measures and procedures in the premises;
- the location and, where appropriate, use of fire-fighting equipment;
- the risks from flammable materials used or stored on the premises;
- the precautions to be taken to minimise and control the risks, with particular attention to their role in reducing and controlling fuel and ignition sources;
- the identity of persons nominated to use fire extinguishers; and
- the need for staff to report defects in fire safety measures.

105. The knowledge and understanding that employees require will be guided by the role and function the member of staff is expected to fulfil. Staff who have a supervisory role should receive additional training which will enable them to discharge their specific responsibility.

106. Those staff who may require to physically move persons during an evacuation, should receive manual handling training and should be familiar with the use of any evacuation aids or equipment provided.

107. A record should be kept of individual staff member training and should include the date and time, content, duration and trainer.

108. Where work is undertaken in the premises by outside contractors, then fire safety law specifically requires that information on risks and fire safety measures be notified to these workers and their employers. If any child (not over school age) is employed to work on the premises, information on risks and fire safety measures must be given to their parents.

109. Information may need to be issued to staff whenever there is a change in the risk from fire, where changes have been made to the emergency fire action plan or other fire safety measures, or where working practices or people's responsibilities have changed. This includes temporary changes such as when contractors' work is in progress.

Fire Drills

110. Staff may not follow appropriate action in an emergency if they have never experienced that action. Fire drills should be carried out to check that staff understand and are familiar with the operation of the emergency fire action plan, to evaluate its effectiveness and identify any weaknesses.

111. During fire drills, scenarios should be introduced to reflect what could occur in a fire and problems that staff may be faced with, such as an escape route unusable due to fire. During drills, a member of staff who is told of the supposed outbreak should operate the fire alarm and the staff should then rehearse the routine as fully as possible.

112. The frequency of drills for each building should reflect the level of risk and may therefore be different for different premises. Within each building the fire drill evacuation should be tailored to the needs of the premises and take into account what is achievable and what is realistic. When planning the timing of drills, the existence of occasional and shift workers should be considered.

113. The minimum frequency for an evacuation drill is once a year, but 6-monthly may be more appropriate for many premises. In schools there is a need for familiarity and discipline by children or pupils and fire drills should take place preferably once a term.

114. If the fire warning system is connected to a remote alarm receiving centre, the receiving centre should be informed or the link should be taken off-line (to prevent the Fire and Rescue Service being called) and then reinstated when the drill is terminated.

115. When carrying out a fire drill it may prove helpful to nominate observers to assess the appropriateness of actions and identify problems such as communication difficulties caused by sounders, the use of a frequently used route instead of the most appropriate escape route, or difficulties experienced by people with disabilities.

116. Where the drill involves evacuation, the drill should include the means of establishing and reporting that all persons have evacuated.

117. The results of the fire drill should be recorded, discussed with staff, and action should be taken to address any issues which have arisen.

118. Where there are infrequent or one-off major events such as a music festival, a fire drill should be rehearsed prior to the commencement of the event to ensure that all persons with responsibilities during any fire emergency, such as stewards, know what is expected of them.

119. In premises where the public have access, fire drills should involve a rehearsal for evacuation and may be scheduled when there are few members of the public in the premises.

120. In entertainment premises, whilst it may be impractical to expect fire drills to involve full audience evacuation, in some cases there may be an opportunity to practise all, or specific, aspects of a fire drill at the end of an event or performance when members of the public are leaving the premises. It may be appropriate to give advance notice to attendees that a fire drill will be undertaken at the end of the event or performance.

Maintenance of Fire Safety Measures

121. There should be regular checks, periodic servicing and maintenance of the physical fire safety measures. Any defects which occur should be put right as quickly as possible, though there may be a need for contingency plans when life safety systems such as fire-warning systems or sprinklers are defective.

122. The maintenance and testing of some systems and equipment will fall within the recommendations of a British Standard. Examples of testing and maintenance are given below. Some six monthly and annual tests may normally be carried out by a person with specialist knowledge, usually via a service contract. Experience in individual premises may show a need to vary the suggested frequencies, such as for premises which are unstaffed or used on an infrequent basis. The fault occurrence frequency in premises may suggest more frequent checks. In the case of periodic sporting events or open air concerts, it may be appropriate to carry out tests and checks prior to public access.

Escape routes and doors

- Daily walk through to check escape routes are clear of obstructions and combustible materials, and that self-closing doors are not wedged open, and that out of hours security devices have been removed or disabled;
- Weekly check of escape routes, safety signs and notices, exit securing mechanism; and door self-closing devices; and
- Six monthly check that fire doors are in good working order: inspect doors for warping or distortion, fire-resisting glazed panels are in good condition and secure in their frame, and that intumescent strips and smoke seals are in good condition.

Portable fire fighting equipment

- Monthly visual check of fire extinguishers and hose reels to ensure no obvious faults; and
- Annual maintenance.

Fire warning system

- Daily check of the control and indicating equipment to ensure the system is operational;
- Weekly test by activating a manual call point (usually by inserting a test key). This checks that the control equipment is capable of receiving a signal and in turn, activating the sounders. A different call point is used for each successive weekly test. Call points can be numbered to assist with sequential testing. It is good practice to test the alarm at the same time each week, but also to ensure that shift workers are given the opportunity to hear the alarm. During the test, the alarm should not operate for too long so there is a distinction between a test and an unplanned activation. Check that the test causes the operation or disabling of other features such as electrically powered locks, the release of doors on hold-open devices, the operation of doors on swing free arms and automatic opening doors reverting to manual operation. Where the system is connected to an alarm receiving centre (ARC), the ARC should be warned before carrying out the test, then confirmation requested after the test that the signal was received correctly; and
- Six monthly servicing and preventive maintenance.

Emergency lighting

- Monthly functional test of all emergency light fittings at a time when, following the test, the lighting will not be immediately required. Test methods vary; some systems have self-testing facilities that reduce routine checks to a minimum; and
- Annual maintenance and full discharge test.

Suppression system

- Six-monthly and annual check and routine.

Smoke control system supporting escape

- Weekly test; and
- Annual service.

Third Party Certification

123. Other than where work is exempt, any work to a building must comply with the building regulations irrespective of whether or not a building warrant is required. Building regulations require that materials, fittings and components used should be suitable for their purpose, correctly used or applied, and sufficiently durable.

124. Fire protection products should be fit for purpose and properly installed and maintained, while installation and maintenance contractors should be competent. Third-party certification, where a reputable certification body independently checks competencies and processes and that standards are being met, is one method of providing a reasonable assurance of quality of products and services, provided that the certification body itself is a competent evaluator. Accreditation by UKAS is an indication that a third-party certification body is a competent evaluator. Products and

services that are not third-party approved by an accredited body are not necessarily less reliable, but accredited third-party certification can offer assurance. Information on schemes is available from trade associations.

Recording Information and Keeping Records

125. Paragraph 60 indicates those premises where there is a requirement to keep records in respect of fire safety. The records that should be kept are:

- the significant findings from the fire safety risk assessment;
- the resulting fire safety measures and action to be taken;
- persons who are especially at risk; and
- fire safety arrangements for the effective planning, organisation, control, monitoring and review of the fire safety measures.

126. In low risk premises and most small premises, it will be proportionate to keep no more than details of the significant findings from the risk assessment, any action taken as a result of the fire safety risk assessment, and a copy of the emergency fire action plan.

127. In other premises a full record should be kept. As part of the requirement to record fire safety arrangements, this should include a record of the results of maintenance and testing, This could be either electronic or paper based and retained for at least three years for possible audit by the enforcing authority.

128. Where premises have a complex layout or bespoke fire safety measures, a fire safety manual should be kept in addition to other records. This type of fire safety manual should contain technical specifications, detail of any fire safety engineered design, an explanation of the operation of different systems and specific information on testing and maintenance.

Chapter 5: REDUCING THE LIKELIHOOD OF FIRE

129. An effective strategy should be in place to reduce the likelihood of a fire starting. At its simplest, this means separating flammable and combustible materials from ignition sources and ensuring that equipment and installations are maintained.

Housekeeping and Storage

130. Control of combustible materials should be achieved by attention to good housekeeping principles. By carefully considering the type of material, the quantities kept and the storage arrangements, risks can be significantly reduced. Appropriate practices are:

- not storing combustible materials in plant rooms, boiler rooms, attics, service voids and shafts, electrical main or sub-switch rooms;
- control and frequent disposal of packaging, waste and other combustible rubbish;
- loose storage, bins and waste external to the building, sited well away from the building so that any fire cannot affect external walls or overhanging eaves;
- external bins and storage containers secured to prevent movement;
- regular building checks to ensure that storage arrangements are appropriate; and
- combustible material in external storage areas should be divided into separate stacks or piles with sufficient space separation between them to restrict the spread of fire.

131. In temporary classrooms buildings, boarding or 'skirts' should be fitted around the base to prevent combustible material being placed under the structure.

132. A feature in older sports stands may be the existence of voids under seating decks which can be a resting place for litter. Voids below seating decks should be separated from the deck to prevent litter falling through and accumulating below the seating deck.

Storage and Use of Dangerous Substances

133. Certain substances and materials are by their nature flammable, oxidising or potentially explosive. These substances are controlled by legislation, in particular the Dangerous Substances and Explosive Atmospheres Regulations 2002. The principles of safe handling and storage are:

- avoid the use of flammable materials and liquids wherever possible or substitute flammable substances and materials with those that are preferably non-flammable or with those that are less flammable;
- reduce the quantity of dangerous substances to the smallest reasonable amount necessary for use;
- correctly store dangerous substances, for example in a fire-resisting metal enclosure: all flammable liquids and gases should ideally be locked away, and segregated if necessary, to reduce the chance of them being involved in a fire or used in deliberate ignition;
- ensure good ventilation is provided by way of high and low level vents to allow any flammable vapours to be dispersed; and

- ensure that all staff are aware of the fire risk of dangerous substances present and the precautions necessary.

134. The presence of flammable liquids increases the chance of a fire starting and its rate of development. For example, a leak from a container of flammable liquid may produce flammable vapours which can travel some distance away from the source of the leak, increasing the likelihood of reaching a source of ignition. The risk can be reduced by ensuring the storage and use of flammable liquids is carefully managed and materials contaminated with flammable liquids are properly disposed of. Further guidance is available on the HSE website at www.hse.gov.uk/fireandexplosion/.

135. Where gases are stored in cylinders these should ideally be stored and used in the open air outside the building and be located where they cannot be interfered with, and where they will not affect the means of escape. They should not be beside heat, a source of ignition or readily ignitable material and care should be taken to minimise the possibility of involvement in a fire.

136. Acetylene cylinders are found in many workshops and pose particular problems if subjected to fire. If heated in a fire an acetylene cylinder can fail violently due to progressive decomposition of the acetylene, even after the fire has been extinguished. Due to this potential for explosion, the Fire and Rescue Service generally adopts the strategy of cooling a heated cylinder for 24 hours and establishing a 200 m hazard zone. A small fire can therefore result in major disruption to the affected area, adjoining premises and transport networks.

137. Under normal circumstances, Liquefied Petroleum Gas (LPG) is flammable and is heavier than air. Where LPG cylinders or cartridges are used, these should be stored and used in the open air outside the building. Care should be taken to minimise the possibility of involvement in a fire.

138. The total stock of LPG for display or demonstration in retail areas should be kept to the minimum necessary to meet business needs. The maximum stock should be in accordance with HSE guidance.

139. Some premises use bulk LPG fixed installations for cooking or heating, comprising an external tank and supply piping. In these installations there is a need to ensure that there are no fires in the vicinity of the LPG tank, and to consider the maintenance of the installation and piping.

140. Guidance on the safe storage and use of LPG is available from the supplier, and the trade association for the LPG industry UKLPG (www.uklpga.org), and on the gas safety pages of the HSE website at www.hse.gov.uk.

141. Flammable propellants are often used in aerosol cans. Aerosols are liable to explode if involved in a fire, causing spread and intensification of fire and possibly damaging doors so that they fail to function in restricting the spread of fire and smoke. These potential consequences should be taken into account and appropriate use, storage and disposal arrangements put into place for aerosols, taking into account the quantities involved. Manufacturers' instructions should be followed. Storage should be away from escape routes and no storage should be allowed in boiler houses or other areas containing fixed sources of ignition. They should not be stored or placed in damp areas where the container might corrode. Aerosol cans can overheat and rupture in direct sunlight therefore avoid placing aerosol cans containing LPG/flammable liquid propellant on window ledges.

142. The ignition of combustible dusts can result in fires which range from a slow smoulder to very rapid combustion or, where the dust is dispersed in the atmosphere, a dust explosion. Dust flammability is affected by factors such as particle size and moisture content. Where dust is present, deposits should not be allowed to accumulate, since dust deposits can be disturbed and give rise to a dust explosion.

143. Sources of oxygen can sometimes be found in some chemicals (oxidising materials), which can provide a fire with additional oxygen and so assist it to burn, or oxygen supplies from cylinder storage. High concentrations of oxygen can cause materials to burn extremely rapidly and some materials, which are not normally considered combustible, can burn in an enriched oxygen atmosphere. Oxygen is dangerous when in contact with grease or oil.

Furniture and Textiles

144. The choice of furniture, fittings and textiles, can influence the ease of ignition and growth of a fire. There is a need to consider the combustibility and flammability, particularly in premises where large numbers of people assemble. In entertainment premises this consideration includes theatrical curtains, drapes and scenery. Items used in theatrical productions or other events such as concerts, should be durably flame-retardant.

145. It is difficult to assess dried or artificial foliage in terms of flame retardance. These and similar items could be subject to ignition tests using a suitable ignition source such as the match equivalent flame, prior to introduction. Consideration may also be given to the location, ease of access by the public and the overall amounts of artificial foliage/decorative materials present.

146. In places of assembly and entertainment, upholstered furniture (and composites of cover material and infill) should meet the standards in the Furniture and Furnishings (Fire) (Safety) Regulations 1988³ and in addition, pass the flammability standard in BS 5852 with ignition sources 0 and 5. BS EN 1021: Part 1 offers an acceptable direct equivalent standard to ignition source 0 of BS 5852. Upholstered furniture should be maintained so that there are no tears which have caused the filling material to be exposed.

³ At time of writing these Regulations are under review.

147. Where the fire performance of curtains needs to be controlled, textile fabrics for curtains (including nets, linings and blackout curtains) should meet the standards of BS 5867: Part 2 Type B.

148. Textile floor coverings bonded to the floor present a lower fire risk than those loosely laid. BS 5287 contains an assessment system for textile floor coverings.

149. Polypropylene chairs should have flame retardant polypropylene shells.

Cellular Foam Fillings

150. Gymnasium mats and crash pads with cellular foam fillings may burn fiercely and generate dense toxic smoke. Cellular foam in places such as sports halls or gymnasia may affect the safety of persons using parts of the premises if the cellular foam is involved in fire. Gymnastic mats and similar equipment should contain combustion modified high resilience foam. Mats and other such equipment should also comply with the provisions of BS 1892: Part 3. When not in use they should be kept in a locked store which has a minimum of 60 minutes fire-resistance.

151. Soft play environments can contain a large volume of foam in various shapes. The covered foam should meet BS 5852 with ignition sources 0 and 5.

Safe Use of Equipment

152. Lack of preventive maintenance increases the likelihood of fire starting in equipment. A competent person should regularly maintain (and where necessary clean) machinery, equipment and plant, including cooking, heating and office equipment. Appropriate signs and instructions on the safe use of equipment may be necessary.

153. Generally, equipment ventilation points should be kept clear to avoid becoming clogged or blocked. A build-up of grease or fat deposits should be removed from equipment in kitchens, including extraction equipment.

154. There should be a procedure for reporting faults. Faulty equipment should be taken out of use when it is identified or suspected of being defective, and thereafter repaired or replaced.

Electrical

155. Electrical installations⁴ and electrical equipment can be a significant cause of fire. Possible causes include:

- equipment faults;
- overheating cables and equipment due to overloading or loose connections;
- incorrect installation, use or maintenance;
- damaged or inadequate insulation;
- combustible materials placed close to heat-producing electrical equipment;
- arcing or sparking; and
- modifications to an installation by unskilled/incompetent persons.

156. Some precautions are:

- maintenance of installations and equipment should be done only by persons competent to do so;
- electrical equipment should only be used for its designed purpose;
- correctly wired and fused extension leads and plugs should be used; and
- sockets and extension leads should not be overloaded.

157. To reduce the potential for a fire occurring, there should be an effective programme of planned preventive maintenance for electrical installations and equipment.

158. Where there is the potential for flammable or combustible atmospheres, then hazardous area classification is a methodology imposed by the Dangerous Substances and Explosive Atmospheres Regulations 2002 for protecting against potentially explosive atmospheres. This is then used in the selection of appropriate certified installed and portable equipment and vehicles etc, including electrical equipment. Where only certified equipment should be installed, this also applies to electrical fire safety systems such as a fire warning system.

159. Guidance on electrical safety, including FAQs on maintaining portable appliances, is available on the HSE website at www.hse.gov.uk/electricity/index.

Smoking

160. Careless use of cigarettes and other smoking materials is a common cause of fire. A cigarette can smoulder for some time, especially when surrounded by combustible material, however, smoking is banned in all wholly or substantially enclosed public places. Staff should be aware of the potential for fires associated with illicit smoking. Where smoking takes place in external areas, consideration should be given to minimising the risk of combustible materials being ignited.

⁴ An 'electrical installation' is the electrical system from the premises' supply meter point to the socket outlets etc.

Managing Building Works and Alterations

161. Fires often occur when buildings are undergoing refurbishment or alteration. Before any major building work or decoration, the fire safety risk assessment should be reviewed and additional risks considered and evaluated. There are three aspects of building work that should be considered:

- the introduction of new ignition sources and combustibles and the associated risk of fire occurring during the work;
- the potential interference with the existing fire safety measures while the building work is underway; and
- whether the building work will result in adverse changes to existing fire safety measures.

162. To ensure that fire safety measures are not compromised and that adequate controls are in place, it is important to ensure co-operation between the building contractor and management. It may be appropriate to specify site-specific fire precautions in contract conditions.

163. Examples of issues that may arise with building work and that need to be considered and controlled are:

- the potential for fires to be caused by hot work such as soldering, welding, flame-cutting, roof repair, paint stripping;
- increased quantities of combustible materials and accumulated waste;
- obstruction of internal and external escape routes;
- loss of normal storage facilities;
- fire safety equipment, such as automatic fire detectors being out of use; and
- Fire-resisting construction being breached or fire-resisting doors being wedged open.

164. Hot work should only be undertaken when suitable precautions and equipment are in place. This may be the use of an industrial quality fire blanket to mask areas adjacent to the work being carried on, an appropriate fire extinguisher provided immediately to hand, or where the activity presents a high fire risk, an observer standing-by to identify any fire propagation from sparks or other source. Areas where hot work is undertaken should be frequently inspected during the first 30 minutes after the work is completed, and then 30 minutes later to ensure that no materials are smouldering. A 'permit to work' system is a useful procedure and management tool which allows a degree of control over contractors or staff who may be carrying out hot work.

165. Modern buildings of timber frame construction contain combustible material in the structure. Care needs to be taken with tools or heat sources where any construction work or alteration involves drilling or cutting openings in the outer cladding or the inner plasterboard skin.

166. The content of skips, waste containers or combustible material may be subject to deliberate ignition. Storage, preferably in lockfast non-combustible containers, should be away from the building so that any fire cannot affect external walls or overhanging eaves.

167. Only the minimum materials necessary for the work in hand should be allowed within the building or close to the exterior of the building.

Keeping Escape Routes Clear

168. There needs to be control over the provision of combustible materials in escape routes. If a fire were to occur in an escape route or spread to material in the escape route, this could be a particularly difficult and threatening situation, preventing occupants from escaping.

169. Stairways that form part of escape routes should be kept clear of combustible items and items that could be a source of ignition. Items kept in corridors should be controlled, consistent with the need for the normal functioning of the premises.

170. The maintenance of adequate escape route width and prevention of obstruction is also relevant. Escape route width is covered in **Chapter 7**.

171. Examples of some items which are normally unacceptable in stair and protected escape routes are:

- gas cylinders, gas pipes, meters and similar fittings;
- cooking appliances;
- upholstered furniture;
- coat racks;
- electrical equipment such as photocopiers and battery chargers; and
- storage of combustibles.

Fire-Raising

172. The possibility of deliberate fire-raising should be considered. This may be particularly relevant in areas with a history of vandalism or fire-setting.

173. Appropriate precautions should be taken. This may involve ensuring the outside of the premises is well lit and secure against unauthorised access, and that waste stored external to the building is kept in lockfast bins or stores. Security measures should not compromise the means of escape and the ability to evacuate including those working late or alone.

174. In schools some fires are started deliberately and there has been a trend for deliberately started fires to occur during school time.

Tented Structures

175. The ignitability and flame-spread characteristic of tents, marquees and air supported or pneumatic structures should be considered. In addition, certain plastics used in the construction of such structures can produce highly toxic fumes when subjected to heat.

176. Tent membranes and fabrics, including wall hangings and other decorative display materials, should be of inherently flame retardant fabric or durably flame retardant fabric when tested to BS 5438 or BS 7157. Materials should be free of flaming molten droplet characteristics and should not support combustion.

177. A test certificate to show compliance with the appropriate standard should be obtained from the manufacturer or supplier.

Pyrotechnics and Special Effects

178. Pyrotechnics and special effects may produce light, colour, heat, sound or smoke, or a combination of these. They are used in outdoor and indoor places of entertainment or assembly for a variety of purposes such as outdoor firework displays and in theatres and other venues to enhance performance.

179. Operators of pyrotechnics and special effects should be suitably qualified to manage such equipment. Pyrotechnics/special effects should be obtained from a reputable supplier who can demonstrate suitability of products. The manufacturer's and supplier's instructions regarding use and storage should be followed as should the Event Safety guidance issued by the HSE.

180. The use of pyrotechnics needs to be carefully controlled. Fireworks and pyrotechnics intended for outdoor use should not be used within buildings or structures. The indoor use of outdoor pyrotechnics has been a cause of fire in entertainment venues worldwide which have included multiple fatalities (see case studies annex).

181. Factors to consider prior to the use of pyrotechnics and special effects include:

- positioning pyrotechnics in an area upstage of the safety curtain where installed;
- the height that will be reached by any flaming effect;
- safe positioning away from audience, performers and flammable materials;
- escape routes for firers of fireworks;
- the potential for heat, flame or sparks starting fires in adjacent materials;
- burning residue from pyrotechnics setting off non-fired pyrotechnics;
- potential for smoke effects to obscure signage and escape routes or actuate smoke detectors;
- gaps in flooring might allow sparks or material to fall through to ignite combustible materials below;
- hot surfaces on special effects machinery;
- noise levels affecting fire warning or verbal evacuation signals; and
- the co-ordination and co-operation between occupiers and participants at events to ensure their awareness of the use of pyrotechnics.

Chapter 6: RESTRICTING THE SPREAD OF FIRE AND SMOKE

182. To reduce the risk to persons from fire, it is necessary to consider how to restrict the spread of fire and smoke. The majority of people who die in fires are overcome by smoke. To evaluate the risk requires a basic appreciation of the way fires grow and how smoke can spread through a building. A fire in a building can generate smoke that is thick and black, obscures vision, causes difficulty in breathing, and can prevent persons from using escape routes. Smoke is a serious threat to life which should not be underestimated.

183. Fire is spread by convection, conduction and radiation. Convection causes the major proportion of injuries and deaths. When fire starts in a building, the smoke rising from the fire becomes trapped by the ceiling and then spreads in all directions to form an ever-deepening layer over the entire room space. The smoke will pass through any holes or gaps in the walls, ceiling and floor into other parts of the building. The heat from the fire gets trapped in the building and the temperature rises. Some materials, such as metal beams can absorb heat and transmit it to other rooms by conduction, where it can set fire to combustible items that are in contact with the heated material. Radiation transfers heat in the air in the same way that an electric bar heater heats a room. Combustible material close to a fire will absorb the heat until the item starts to smoulder and then burn.

Layout of Transport Premises

184. In some transport premises, the open design gives the potential for rapid heat, smoke or fire spread and exposure to occupants. Also openings in floors may allow smoke and hot gases to move from the fire source to areas occupied by people who may not be aware of the fire. Lack of containment potentially increases the number of people at risk from a fire.

185. Consideration of materials' fire properties and smoke production is important for tunnels, stations and transport premises that are underground. The use of combustible materials should be minimised. Some materials can be replaced by materials that are more difficult to ignite, less capable of spreading flame or do not emit toxic fumes or smoke when subject to high temperatures.

Auditoria Design

186. In some traditional theatres, the stage area may be equipped with a high level outlet over the stage to allow the escape of smoke and hot gases in the event of a fire on the stage, and a fire-resisting wall and a safety curtain in the proscenium opening to provide separation between the fire and the audience.

187. In the event of fire, the direction of air movement by the ventilation system is from the auditorium towards the stage.

188. Escape from the stage area behind the curtain is independent of that from the auditorium and escape provision from elevated areas such as grids and fly galleries is direct to open air, or to another part of the premises (other than to the auditorium) via a door providing at least 60 minutes fire-resistance leading to a separate fire compartment or protected area.

189. An under stage area used in conjunction with a stage presentation may require two exits, one of which is independent of the stage. An under stage area used for storage should be separated from the remainder of the building by at least 60 minutes fire-resistance.

Stadia Design

190. The fire safety design of sports stadia may include:

- viewing accommodation separated from other parts of the building by fire-resisting construction - as far as possible no storage areas form part of the stand building; where this is unavoidable, storerooms are provided with fire suppression system appropriate to the risk and are not accessible from public areas;
- low flammability and fire risk potential in fixture and fittings, and contents; and surface finishes which have low surface spread of flame characteristics;
- contents which are not capable of being easily dismantled or moved to block exit routes;
- voids sealed so that litter cannot collect;
- a fire warning system including, where appropriate, automatic fire detection;
- a roof geometry to restrict smoke and flame travel along the underside of stand roofs;
- in some cases, the provision of smoke ventilation within structures; and
- escape routes which allow free flow of people.

191. For sports stadia, reference should be made to the guidance and benchmarks in the Green Guide. (See paragraph 8).

Fire Separation and Compartmentation

192. The purpose of fire separation is to provide a physical fire-resisting barrier to restrict fire spread between different occupancies and between single occupancy parts and communal areas. Where premises adjoin or are part of a larger building, the potential for an outbreak of fire to spread to or from the neighbouring building or another occupancy should be considered.

193. A fire compartment is part of a building constructed to provide a physical fire-resisting barrier to prevent the spread of fire and smoke to or from another part of the building. The life safety objectives of fire compartmentation may be to:

- reduce the number of occupants who may be immediately at risk;
- reduce the travel distance for persons;
- restrict the size and growth of fire; and/or
- protect occupants where there may be delayed evacuation of premises.

194. For the purposes of smoke control, corridors which are not protected corridors, and which have at least two directions of escape, and with more than 12 m in length between the exits, may be divided in the middle third of the corridor with a wall or screen with at least 30 minutes fire-resistance (for integrity) and the door in the wall or screen at least an FD30S self-closing fire door.

195. A lift well can be a route for vertical fire spread. A lift well which is enclosed by walls with fire-resistance will be a barrier to fire spread. A lift well which is totally within a protected area such as an enclosed stair, is already within a fire-resisting enclosure. Where a lift well is not the full height of the building, the fire-resistance of the floor and/or ceiling needs also to be considered.

196. Where services pass through any fire-resisting structure, gaps should be sealed or fire stopped to maintain the fire-resistance of the structure and prevent the passage of fire or smoke. Pipes should be fitted with a proprietary sealing system capable of maintaining the fire-resistance. A similar consideration exists for penetration by ventilation ducts.

197. Boiler rooms and plant rooms are a possible source of fire. To contain a fire, at least in its early stages, a room may be enclosed by walls with fire-resistance where it contains an appliance (solid fuel, oil or gas fired, or fuel oil tanks). Where the appliance or equipment uses liquid fuel, the room should be able to contain all the liquid plus 10%.

Smoke Control

198. In some premises such as atrium buildings and enclosed shopping complexes, fire safety measures may include an automatic smoke and heat exhaust ventilation system (SHEVS). SHEVS are often used in conjunction with automatic fire suppression systems; suppression limits the size of a fire therefore controlling the amount of smoke produced. Smoke control in this context is a specialist subject.

199. In the malls and some large units of shopping centres, smoke reservoirs at roof level allow heat and smoke to vent to the outside. The design should maintain the smoke layer above head height to allow persons to use the mall as an escape route.

200. The fans or ventilators in a reservoir operate:

- on activation of any automatic fire suppression system; or
- on activation of smoke detection within the reservoir; or
- on activation of more than one smoke detector anywhere in the shopping centre; or
- following a delay (of perhaps 4 minutes) from the first fire alarm activation.

201. A smoke control system needs replacement air to function. This is provided automatically on the operation of the system with the air entering below the smoke layer level.

202. A manual override may be provided at access points and in the centre control room.

Doors

Fire doors

203. A 'fire door' is a fire-resisting door which is rated by performance to fire under test conditions. Fire doors are used to prevent fire spread and for the protection of means of escape. A self-closing device is a normal feature of a fire door, though there are some exceptions, such as doors to small cupboards which are kept locked shut.

204. A fire door rated to 30 minutes is described as FD30⁵ or E30⁶. A suffix is added to denote that the door has a smoke control function giving FD30S and E30Sa respectively. A 60 minutes fire door with smoke control is designated FD60S or E60Sa. The door rating is an indication of test performance and is not necessarily how a door will perform in a real fire.

205. The level of protection provided by a fire door is determined by the time taken for a fire to breach the integrity of the door assembly, together with its resistance to the passage of smoke, hot gases and flame. The gap between the door leaf and the frame is normally fitted with intumescent strips, in either the door or the frame (but not at the bottom of the door). The strips expand in response to heat from a fire, to seal the gap between the door leaf and the frame.

206. Smoke seals fitted to the door leaf gap prevent the spread of smoke at ambient temperatures, before an intumescent strip expands.

207. In determining the performance of a door in fire, it is necessary to consider the whole door assembly including the frame, glazing, side-panels, transoms and ironmongery. In the case of a new door assembly, the manufacturer's installation instructions should be followed.

⁵ tested to BS 476: Part 22

⁶ tested to BS EN 1634: Part 1

208. Some existing non-fire-resisting doors may have the potential to be upgraded to nominal 30 minutes standard, but replacement of existing doors and frames is often preferable.

Self-closing function

209. A fire door will only fulfil its function to provide a barrier to fire and smoke if it is closed at the time a fire occurs. A controlled self-closing device, complying with BS EN 1154, will be fitted to each fire door (other than to certain cupboard doors). The closing pressure of the self-closing device needs to be sufficient to overcome any latch mechanism. It is inappropriate to rely on a procedure whereby staff will attend and close doors as an alternative to fitting self-closers.

Hold-open and door release devices

210. There are devices which hold self-closing fire doors in the open position until a fire detection system operates. It follows that these are only appropriate in premises provided with an automatic smoke detection system. They should not be used for a door to a room in which the type of automatic fire detector is solely a heat detector.

211. A self-closing fire door can be held open by an electromagnetic hold-open device (which complies, where appropriate, to BS EN 1155 or BS 5839: Part 3) or with electromagnetic hold-open door closers (to BS EN 1155). Electrically operated hold-open devices should deactivate and release the door on operation of the fire warning system or any loss of power to the hold-open device. Doors to a stairway that forms the only means of escape from an upper floor should close automatically in the event of fault in the fire warning system.

212. An alternative release is an acoustically-activated door release mechanism complying with BS EN 1155. Acoustic devices should not be used on fire doors to a protected stair that is the only stairway serving the building or part of the building. Acoustic devices actuate in response to the sound from the fire alarm sounders so will not be appropriate where the initial fire alarm activation does not activate the fire alarm sounders (such as a staff alarm).

213. A further type of self-closing device comprises a 'swing free' arm⁷, allowing the door leaf to work normally and independently of the closing device in normal conditions. On the operation of the fire warning system or on power failure, the self-closer operates and closes the door.

214. Radio-linked devices are available; these reduce the need for wiring. Some acoustic systems are battery powered.

215. BS 7273: Part 4 contains detailed guidance on conditions for use of door release devices.

⁷ The mutual terms 'swing-free' and 'free-swing' are both in common use.

216. The automatic closing of doors may take persons by surprise and the force of the closing mechanism could knock someone over and be a source of injury. Consequently precautions should be taken to avoid injury, including during a scheduled test or action which will result in release of the doors.

Fire Spread through Cavities

217. Many buildings have cavities and voids, sometimes hidden from view, which may allow smoke and fire to spread. Examples are:

- vertical shafts, lifts and dumb waiters;
- false ceilings, especially if walls do not continue above the ceiling;
- voids behind wall panelling;
- unsealed holes in walls and ceilings for pipe work, cables or other services;
- a roof space or attic; and
- a duct or any other space used to run services.

218. Potential fire spread through cavities and voids should be assessed and, where practical, examined to see if there are voids that fire and smoke could spread through.

219. Cavity barriers may be necessary to restrict the spread of fire in cavities, particularly for those cavities that could allow fire spread between compartments.

220. Certain modular construction buildings have hidden voids through which fire may spread. Modern timber frame buildings have cavities within the frame and these should have been installed with fire-resisting cavity barriers between the external cladding and the timber wall panel at the time of construction.

221. Poor work standards during building work can result in cavity barriers (or the enclosure of escape routes) being breached and/or not being reinstated. This potential needs to be considered. The control of building work is considered in **Chapter 5**.

222. Insulated core panels (sandwich panels) normally consist of an insulated core sandwiched between an inner and outer metal skin. They are used in buildings as exterior cladding or for internal structures and partitions. The retail sector in particular uses insulated core panels because they are easily constructed and suitable for internal alterations. Various materials have been used as a core, some of which are combustible. The existence of panels with a combustible core needs to be carefully considered since fire may spread through the combustible core. Some relevant precautions are:

- avoid siting ignition sources adjacent to panels;
- do not store highly combustible materials against the panels;
- repair damaged panels or sealed joints;
- make sure that jointing compounds or gaskets around the edges of the panels are in good order; and
- openings made for doors, windows, cables and ducts should be effectively sealed so that the inner core is not exposed.

Ventilation Systems

223. The potential for ventilation systems to allow the spread of fire and smoke should be assessed. A powered ventilation system may assist the spread of smoke unless it is designed to shut down automatically if fire is detected.

224. Ventilation ducts may provide a pathway for the spread of fire and smoke between compartments or into stairs. Where ventilation ducts penetrate the walls or floors of these enclosures, automatic dampers provided inside the ducts hold back fire and smoke. Dampers may need to be activated by smoke detection. Specialist guidance on the use of dampers is contained in BS 9999.

Fire Spread on Internal Surfaces

225. Fire can rapidly spread on certain surfaces of walls and ceilings, significantly affecting the rate of fire growth and smoke production. The potential for fire spread on surfaces in escape routes is important as this could prevent occupants from escaping. The internal surfaces may predominantly be:

- category 0 for protected stairs and escape routes, and other corridors of shops, assembly and entertainment buildings; or
- category 1 for corridors in other buildings, and for large rooms.

226. The grading system for surface spread of fire relates to performance against tests set out in certain British Standards. Examples of materials are:

- category 0 - brickwork, blockwork, concrete, ceramic tiles, plaster finishes (including rendering on wood or metal lathes), wood-wool cement slabs and mineral fibre tiles or sheets with cement or resin binding;
- category 1 - timber, hardboard, blockboard and particle board, which have been treated to achieve this category; and
- category 2 - timber, hardboard, blockboard, particle board and certain dense timber or plywood.

227. Additional finishes may be detrimental to the fire performance of the surface. Multiple layers of wallpaper or certain paints applied to the face of a wall or ceiling surface can increase surface flame spread.

228. The use of plastics for surface finishes is a complex issue and outwith the scope of this guidance document. Information on the suitability of plastic materials can be found in the Scottish Building Standards Technical Handbook for Non-Domestic Premises.

Fire Spread on External Walls

229. If there is combustible external wall cladding or construction, it will be necessary to consider the potential for an outbreak of fire within the building, or from an external source, to spread on the external walls of the building and pose a risk to occupants. Recommendations on the fire performance of external walls can be found in the Scottish Building Standards Technical Handbooks.

Chapter 7: PROVISION AND USE OF MEANS OF ESCAPE

230. Once a fire has been detected and a warning given, everyone in the premises should, if necessary, be able to move or be assisted away from the fire to a place of reasonable safety such as an enclosed protected stair or another fire compartment from where they should be able to continue to escape to an unenclosed safe area beyond the premises. Means of escape is the provision of safe escape routes for people to travel from any point in a building to an unenclosed safe area, and includes the measures to maintain those routes. The number and capability of people present will influence the assessment of the escape routes. The escape routes must be sufficient to enable the maximum number of people likely to use the premises at any time to safely escape.

231. Escape must also be considered from external areas like enclosed yards and from within perimeter fences provided for security purposes at outdoor events.

232. Means of escape should be provided both in terms of the number and capacity of escape routes and in terms of their protection from fire and smoke. When determining whether premises have adequate escape routes, a number of interdependent factors should be considered, including:

- the characteristic, number and location of people in the premises;
- the construction of the premises and the potential for fire and smoke spread;
- the fire compartmentation of the premises; and
- the time it will take people to escape.

233. The provision of means of escape and the fire protection given to an escape route will vary depending on the level of risk within the premises and the occupants. In some premises a single escape route will be acceptable, in other cases there should be at least two exits and independent escape routes from each storey of the premises.

234. In public access premises, persons will generally use routes with which they are familiar therefore there is advantage if escape routes are aligned with the general access and circulation routes.

Escape Routes

235. A room containing more than 60 persons should have at least two exits, a room with more than 600 should have at least three exits. But a greater number of exits may be necessary, this will depend on the actual numbers resorting and travel distance to the nearest room exit.

236. Even where the number of persons is low, at least two escape routes may be necessary from:

- a storey over 7.5 m in height;
- a basement used by the public (other than only toilets); or
- a basement more than 4.5 m deep.

237. In an auditorium that has more than one exit, at least one exit should be provided not less than two thirds of the distance from the stage or screen to the back of the room.

238. The direction of travel of alternative escape routes from any point within a room should:

- diverge at an angle of at least 45 °; or
- after a single direction of escape (limit as shown in table 7) then diverge at an angle of at least 45 ° plus 2½ ° for every metre travelled in the single direction.

239. Escape routes should be via a direct and unobstructed route. Once occupants have left a room they should ideally not have to pass through another room to reach a protected escape route or a place of safety. In existing low risk situations, escape may be from an inner room through an outer room. (See paragraph 258).

240. Where travel distance is to a compartment that does not itself contain either a final exit or direct access to a protected stair, then the next adjoining compartments should contain either a final exit or direct access to a protected stair.

241. An escape route should not be by way of:

- a lift (unless specifically designed for evacuation);
- an escalator;
- turnstiles, other than those with breakout facility opening in the direction of escape;
- a fire shutter which closes automatically in the event of fire;
- a manual sliding door, other than one to which the general public does not have access;
- revolving or automatic doors unless arranged to fail safely in the outward opening position in accordance with BS 7036; or
- a window.

242. Where children are at a different location in a building from adults, then the adults may desire to go to the child facility if the fire alarm sounds. This could involve adults travelling against the normal direction of escape and this needs to be considered. Where practicable, relocating the child facility may avoid this.

243. A clear headroom for escape routes and circulation areas is at least 2 m, and not less than 1.9 m in a doorway.

244. The width and geometry of escape routes should be sufficient to facilitate the evacuation method used and for the number of occupants to escape. From a room or storey with not more than 100 persons, an escape route width not less than 1000 mm. Where in excess of 100 persons, 1100 mm may be adequate. At least 1200 mm may be necessary where the room or storey is accessible to wheelchair users.

245. An escape route will not normally narrow in the direction of escape but at doorways the width can generally be 150 mm less than the escape route. Where the number of people using the escape route is not more than 225, the door width may be at least 850 mm, and may be 800 mm where the number of people is not more than 100.

246. To assist with evacuation, a door across an escape route should open in the direction of escape where there are 60 persons or more (or in factories 10 persons), or where occupants may need to exit quickly, or the door is a final exit. In other situations it is good practice for a door to be outward opening if practicable.

247. The area outside final exit doors should have suitable underfoot conditions for persons evacuating and pathways so that persons can move away from the building. Where escape is across grass or open ground, including from tented structures and open air locations, the surface should be capable of withstanding the traffic volumes, taking account of weather conditions and avoiding the potential for trips and falls.

248. In multi-occupied buildings, escape routes from individual occupancies should normally be independent of parts in separate occupancy; people should not have to go through another occupier's premises to escape as the route may be secured or otherwise unavailable.

249. In storage areas, the width of gangways between fixed obstructions such as racking or shelving may not be less than 530 mm. In bulk storage of spirituous liquor, gangways may not be less than 400 mm.

250. In part of a building with fixed seating consideration should be given to seating arrangements. Gangway widths and seatway lengths should allow ease of escape for the numbers present. A gangway (or exit door) should be provided at each end of a row of more than 12 fixed seats.

Shopping Centres

251. There will normally be at least 2 directions of travel from every part of a mall and from every mall-level shop without passing through a space in single occupation. Each shop with a frontage to the mall, other than small units, will normally have an alternative escape route that is not through the mall.

252. The aggregate unobstructed width, in mm, of all escape routes from a mall should be at least 2.65 multiplied by the occupancy capacity of the entire centre.

253. Each exit from a mall should be at least 1.8 m wide. Where occupancy levels will be higher than in other parts of the shopping centre, a wider exit would be appropriate in those parts. The entrances used by the public should have the greatest escape route width as evacuees will tend to use the egress routes with which they are familiar.

254. Where a service corridor is used for means of escape from a shop, the width would be based on the total number of persons that evacuate into the corridor from the largest shop plus an additional width of 1 m to allow for goods in transit.

Travel Distance

255. There should be a limit on the distance that persons have to travel to reach a place of reasonable safety. Travel distance is the distance measured along the actual route of escape (having regard to the layout) from any point within a storey to the nearest door giving direct access to either another compartment; a protected stair; or to a final exit. From a mall-level storey of a shop in an enclosed shopping centre, travel distance may be measured to the mall. Travel distance benchmarks are given in Table 7.

Table 7 - Travel distance benchmarks

Use	Single direction distance (m)	Maximum distance* (m)
Primarily for persons who need more time to evacuate, such as disabled people, or people with learning difficulties Boiler room	9	18
Public-access buildings Education and day care High hazard storage	15	32
Non public-access buildings Enclosed car park	18	45
Within a protected escape route	100	unlimited

* this includes the single direction distance

256. Travel distance benchmarks for occupants of buildings will not be appropriate for some large or underground travel facilities. Greater distances may be acceptable in railway stations with a large dispersal volume for smoke and heat from a fire, and in underground facilities where combustible materials have been reduced to a point where there is little to burn.

257. A single direction of escape is travel before there is the choice of escape routes. See **Figures 3, 4 and 5**. A single direction of escape may involve persons moving towards or past a fire, if the fire occurs between the occupant and the choice of escape routes.

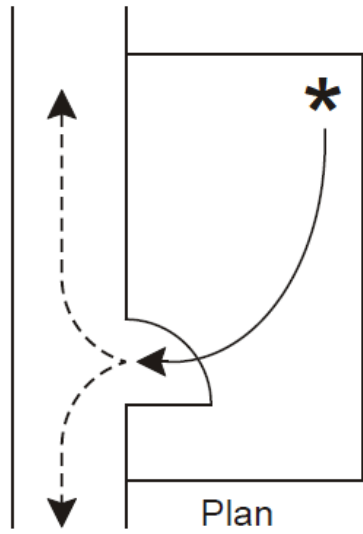


Figure 3 Single direction of escape within a room before a choice of escape routes becomes available

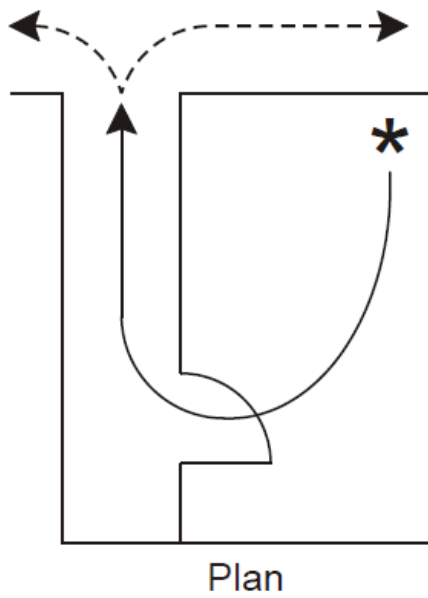


Figure 4 Single direction of escape out of room and along a corridor before a choice of escape routes becomes available

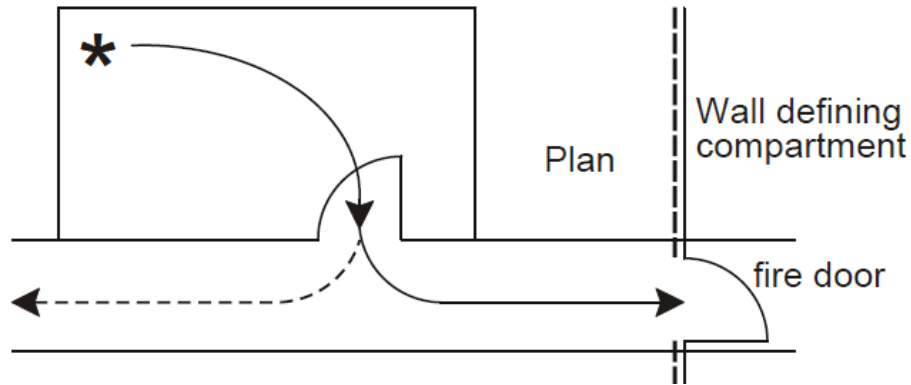


Figure 5 Single direction of escape within a room before a choice of escape routes, one of which goes through a fire door into another compartment

Inner Rooms

258. An inner room is a room where access to a circulation area can only be achieved by passing through an access room (see Figure 6). A fire could develop unnoticed in the access room preventing the occupants of the inner room escaping. The risk to persons in the inner room will be less if the access room contains limited combustibles and ignition sources; and travel distance from any point in the inner room to the exit from the outer room are short. A smoke alarm or automatic smoke detector in the access room may give an early warning and may be appropriate where the risk of fire occurring in the access room is high and cannot be reduced.

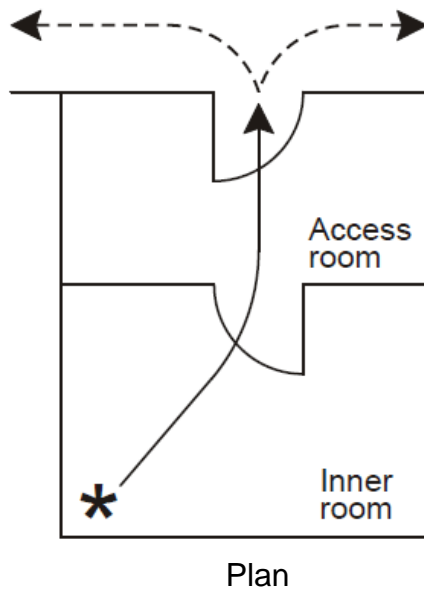


Figure 6 Single direction of escape out of an inner room and through an access room before a choice of escape routes becomes available

Stairs

Escape stairs

259. To protect escape routes from fire, the normal standard for escape stairs is for stairs to be enclosed within a fire-resisting enclosure (creating a protected zone) such that the enclosing structure between the stair and the rest of the building has fire-resistance and any door in the enclosing structure is a self-closing fire door. Each escape stair should have its own independent final exit.

260. However, an enclosure is not normally necessary for:

- an escape stair within a single storey where the difference in level is not more than 1.8 m;
- an external escape stair with a total rise of not more than 1.6 m; or
- an escape stair from a gallery where the gallery has:
 - an occupancy capacity of not more than 60 or;
 - an occupancy capacity of 61 to 100 and at least one route of escape is by way of a protected zone, an external escape stair, or another compartment.

261. If the enclosure has an external wall that projects beyond the face of a building or is set back in a recess, the route may be vulnerable should fire break through an adjacent window, door, or other opening. Radiated heat or flames from the fire may impede escaping occupants. Therefore an external wall of a building which makes an angle less than 135° with the external wall of the enclosure might need to have fire-resistance.

262. The width of an escape stair should be at least the width of any escape route giving access to it. A check should be made that the width of an existing escape stair is suitable for the persons who would use it and the method of evacuation. Where there is simultaneous evacuation, the number and capacity of stairs serving a building needs to be sufficient for the number of persons to allow the occupants of all storeys to evacuate at the same time.

263. Where part of a building has only one escape route by way of an escape stair, if access to the escape stair is by way of a protected lobby, this will provide an additional barrier to fire and may afford people additional time to escape. A protected lobby is where there are two self-closing fire doors between the adjoining accommodation and the stair.

264. Access by way of a protected lobby is also relevant to a storey at a height of more than 18 m.

265. Where an escape stair also serves a basement storey, a self-closing fire door at ground floor level separating the basement stair enclosure from the stair enclosure serving the rest of the building will provide improved protection to the means of escape from any fire that may start in the basement.

266. Ideally, an escape stair (including landings) and the floor of a protected lobby will be non-combustible. Where an existing escape stair is combustible, consider the potential for the stair to be directly affected by fire, such as a fire occurring in an under-stair cupboard, and the possibility of lining the underside of the stair with non-combustible material.

267. A small room, reception, cupboard or toilet may be sited within the enclosure of an escape stair if the fire risk is considered low and all other parts of the building served by the escape stair have at least one other escape route.

268. The evacuation speed of people with a mobility disability can be slow and there may be a space within the protected stair so that they can wait temporarily until it is safe to use the stair - a space capable of accommodating a wheelchair and measuring not less than 700 mm x 1200 mm. These spaces should not be used for storage. Modern buildings may have an emergency voice communication system in the temporary waiting space to assist the escape process and reduce the anxiety of occupants making use of the space.

External stairs

269. An external escape stair may present problems for persons evacuating a building because people can feel less confident using an unenclosed stair at a height. For this reason, an external escape stair may only be suitable where the topmost storey height is not more than 7.5 m; and the stair is used only by those who can safely use it. Appropriate weather protection may be necessary to enable the stair to be used in all weather conditions.

270. An external escape stair should lead directly to a safe area beyond the premises and should be non-combustible.

271. An external escape stair may be unusable if fire occurs in the building. External stairs with a rise of more than 1.6 m may need to be protected against fire from within the building with at least 30 minutes fire-resistance.

Escape across Flat Roofs

272. Where the occupants of premises can safely use it, an escape route may be across a flat roof, and be an alternative additional provision to another escape route in the premises.

273. The following criteria apply to an escape route across a flat roof:

- be clearly defined, illuminated and guarded with barriers not less than 1.1 m in height;
- have a slip free surface;
- have fire-resistance for a distance of 3 m on either side of the route; and/or
- have no unprotected openings from adjacent structures, within 2 m.

Door Fastening

274. It is important that doors necessary for escape be easily openable while the premises are occupied. Where a door across an escape route has to be secured against entry, it should be fitted with a fastening which is readily operated without a key, from the side approached by people making their escape. Where a door is operated by a code, combination, card, biometric data or similar means, it should be capable of being manually overridden from the side approached by people making their escape. The potential for persons having to retrace their route during an evacuation to use an alternative escape route, should also be considered.

275. Push pad devices (to BS EN 179) are suitable securing devices for outward opening final exit doors where occupants can be expected to be familiar with the devices. In other cases, panic exit devices operated by a horizontal bar (to BS EN 1125) are suitable.

276. When premises are being used out of normal hours, including use by community or outside groups, or by security or cleaning staff, in addition to arranging and controlling access, sufficient escape routes and exits require to be kept available for the duration of the occupation.

Electrically powered locks

277. Electrically powered locks can be operated by electromagnetic or electromechanical means.

278. Electrically powered locks should not be installed on a door which provides the only route of escape for persons, or which serves a room or storey with more than 60 persons, or a door on a fire-fighting shaft.

279. Electrically powered locks should return to the unlocked position:

- On operation of the fire warning system;
- On loss of power; and
- On actuation of a manual door release unit positioned at the door on the side approached by people making their escape (where the door provides escape in either direction, a unit should be installed on both sides).

280. Access control systems may be in the form of revolving doors, sliding doors, ticket barriers, or entrance gates. Where there is no alternative adjacent means of escape, access control systems across the escape route should in the event of a fire, power failure, or malfunction, continue to provide a means of escape without reducing the width by automatically opening and remaining open; or being readily pushed to the outward open position by occupants in an emergency.

281. In railway stations, fences and automatic barriers are often used for revenue protection purposes. The potential impact of these on escape needs to be assessed and the consequences considered in respect of congestion, reduction in escape width and emergency opening arrangements.

282. BS 7273: Part 4 provides detailed guidance on the electrical control arrangements for the fail-safe release of powered locks.

Automatic opening doors

283. An internal door may be linked to a motion sensor or other device so that the door opens automatically to facilitate movement of occupants. Some devices can be triggered by smoke movement which may cause a door to open precisely at the time when it should be closed as a barrier to fire and smoke. These doors should be linked to the fire warning system so that the automatic opening function is disabled if the fire warning system is triggered (but still permitting the door to be manually opened). If the door is a fire door, the opening mechanism should not reduce the fire-resistance of the door. When the automatic opening function is disabled following activation of the fire warning system, the fire door's normal self-closing function should continue to operate.

284. Automatic opening doors should not be placed across escape routes unless they are designed in accordance with BS 7036 and are either:

- arranged to fail safely to outward opening from any position of opening; or
- are provided with a monitored fail-safe system for opening the door from any position in the event of mains supply failure and also in the event of failure of the opening sensing device; and open automatically from any position in the event of operation of the fire alarm in the fire alarm zone within which the door is situated.

Powered sliding doors

285. Powered sliding doors often open in response to a motion sensor. Such a door across an escape route, should be fail-safe and should open:

- on operation of the fire warning system; where installed;
- on loss of power; and
- on activation of a manual door release unit positioned at the door on the side approached by people making their escape (where the door provides escape in either direction, a unit should be installed on both sides).

286. BS 7273: Part 4 contains detailed guidance on the electrical control arrangements for fail-safe operation of powered sliding doors.

Lighting

287. Escape routes should be provided with lighting to allow persons to safely use these routes in the event of a fire occurring or in the event of failure of the normal lighting power supply.

Escape route lighting

288. Premises should be provided with lighting in the escape routes to the extent necessary to ensure that in the event of an outbreak of fire, illumination is provided to assist in escape and to aid staff in implementing the emergency fire action plan.

289. If there are escape routes that are not permanently illuminated, such as external stairs, then a marked switch or some other means of switching on the lighting, such as a motion sensor, should be provided.

Emergency escape lighting

290. Emergency lighting is lighting designed to operate or remain in operation automatically in the event of a local or general power failure. The size and type of the premises and the risk to the occupants will determine whether there is a need for emergency escape lighting.

291. Emergency lighting can be stand-alone dedicated units or incorporated into normal light fittings. Power supplies can be rechargeable batteries integral to each unit or a central battery bank. Single 'stand-alone' emergency lighting units may be sufficient in some premises and these can sometimes be combined with exit or directional exit signs, though the level of general illumination should not be significantly reduced by the sign.

292. Emergency lighting is described as 'maintained' if it is permanently illuminated, and 'non-maintained' when it only operates if the normal lighting fails.

293. In small premises, in which the escape routes are simple and straightforward, borrowed light may be relied upon to illuminate escape routes.

294. A system of automatic emergency lighting is likely to be needed in large complex premises, particularly in those with extensive occupied basements, sub-surface railway stations or where there are significant numbers of people. If some escape routes are internal and without windows, then some form of emergency lighting may be required. Emergency lighting may be necessary in a room with more than 60 occupants and escape routes serving such a room and escape routes in public access buildings which have two storey exits.

295. A maintained system should be installed in premises such as cinemas, theatres or nightclubs where the normal lighting can be dimmed or reduced below the levels required for escape route identification and illumination while the premises are occupied.

296. An emergency lighting system provided for escape purposes may be used to illuminate the following:

- internal and external escape routes, exit doors and escape route signs;
- intersections of corridors;
- staircases so that each flight receives adequate light;
- changes in floor level;
- fire-fighting equipment;
- fire alarm call points;
- signs; and
- equipment that needs to be shut down in an emergency.

297. In the case of a building with smoke control, the units should be below the smoke reservoir so that it is not rendered ineffective by smoke filled reservoirs.

298. British standards relevant to emergency lighting systems are BS 5266: Part 1 and BS EN 1838.

Signs and Notices

299. In small simple premises where the locations of escape routes and fire-fighting equipment are readily apparent then fire signs may not be necessary.

300. Escape route signs are used to indicate escape routes not in normal use and are only necessary where there might otherwise be confusion regarding the route to follow in the event of fire. The following criteria apply to escape route signs:

- they should provide enough information to enable people to identify escape routes;
- where the location of an exit is not obvious, signs with directional arrows may be provided along the route;
- escape route and exit signs should not be fixed to doors as they may not be visible if the door is open;
- signs mounted above doors should be at a height of between 2 m and 2.5 m above the floor; and
- signs on walls should be mounted between 1.7 m and 2 m above the floor.

301. The legibility of an escape sign is determined by the size of the sign, the level of illumination and the distance over which it is viewed. Signs should be in pictogram form. The pictogram can be supplemented by text if necessary to make the sign easily understood. Guidance on the use of escape route signs is available in BS 5499: Part 10.

302. In public access buildings, persons may be unfamiliar with the location of alternative exits and signs identifying exit location are important. In shops, the presence of advertising and customer information or shop dressing needs to be arranged so that it does not distract from, or obscure escape signs. In storage premises, escape signs should not be obscured by stored goods. In places of entertainment and assembly, advertising, information or other display material should be arranged so that it does not distract attention from, or obscure escape signs.

303. Signs to indicate the location of non-automatic fire safety equipment may be necessary if there is any doubt about its location, such as fire extinguishers that are kept in cabinets or in recesses. Other signs may also be necessary such as:

- 'Fire door keep shut' or 'Fire door keep locked shut' on fire doors;
- 'Automatic fire door – keep clear';
- how to operate the securing devices on doors; and
- location of sprinkler stop valve.

304. New safety signs should comply with BS EN ISO 7010.

305. Notices are used to provide instructions on how to use any fire safety equipment and the actions to be taken in the event of fire. Notices containing details of the emergency fire action plan specific to the premises should be permanently displayed in appropriate positions throughout the building. A distinction may be required between notices that are designed for visitors as opposed to those for staff.

306. In small premises where there is a limited number of people and there is no fire warning system, notices may not be necessary.

307. As well as positioning fire instruction notices on escape routes adjacent to fire alarm call points, they should be located where staff frequently assemble in the premises.

Chapter 8: FIRE DETECTION AND WARNING

308. A fire warning system allows occupants to be alerted and the emergency fire action plan to be implemented. In some small premises, a fire may be obvious soon after it starts. In such cases and where travel distances are short, a shouted warning of 'fire' or a simple manually operated device that can be heard throughout when operated from any single point within the building, may be all that is needed.

309. In larger premises, particularly those with more than one floor or that are multi occupied, where a shout or warning sounded from a single point will not be heard throughout, an electrical fire alarm system incorporating sounders and manually operated call points is likely to be required. In large or complex premises, particularly those accommodating large numbers of people, a more sophisticated fire alarm system may be required.

310. Information on maintenance and testing of fire warning systems is in **Chapter 4**. Guidance on the design, installation and maintenance of fire detection and warning systems is contained in BS 5839: Part 1.

System Type

311. Where an electrical fire alarm system is considered necessary, a fire warning system in accordance with the guidance in BS 5839: Part 1 for a category M system is likely to be appropriate for many premises. A category M system is operated by manual call points only.

312. Where automatic detection of fire is necessary for life safety, the system will be designated as a category L system, within which there are subdivisions L1 to L5.

- L5 is a system designed to achieve a specific fire safety objective;
- L4 is a system which provides warning of smoke within escape routes;
- L3 is a system designed to give a warning before escape routes are impassable;
- L2 is a system designed to give warning before escape routes are impassable but with enhanced coverage in specified areas; and
- L1 is a system installed throughout all areas of the building.

313. In areas where an explosive atmosphere could result from the presence of flammable gases, vapours, mists, or dusts, an electrical fire alarm system will require the same consideration as would other electrical equipment in respect of protection to prevent the potential for ignition.

314. An enclosed shopping centre will have a category L1 automatic fire detection and alarm system with a staff alarm capability. The system should activate upon the operation of the sprinkler system, a manual call point or automatic fire detection. The alert is by voice alarm system, however individual shops may have conventional sounders.

Call Points

315. Manual call points, often known as 'break-glass' call points, enable a person who discovers a fire to operate the fire warning system and immediately raise the alarm to warn other people in the premises. Manual call points are normally positioned at exit doors. They should be conspicuous and positioned no higher than 1.4 m from the floor, but may be reduced to make accessible to wheelchair users. Building occupants should not have to travel more than 45 m to reach the nearest call point. Where there is particularly high hazard equipment or activity, it may be desirable to have a call point located close by to allow early warning to be given.

316. A hinged cover on the call point can be a deterrent where there is the potential for malicious operation or accidental damage. Hinged covers are particularly recommended for the public access parts of buildings.

317. In some premises, such as assembly or entertainment premises where there is high potential for malicious operation, call points may be sited in positions readily accessible only to staff, such as behind bar counters or in box offices, if these positions are staffed at all material times.

318. Conventionally sited call points that operate a general alarm are not desirable in supervised transport premises due to the potential for malicious or accidental operation which may promote unnecessary evacuation. Alternative arrangements will be appropriate.

Automatic Fire Detection

319. Existing fire warning systems may have automatic fire detection incorporated for the purpose of property protection, or speculatively because the end use of the building was unknown, or just to have a very high specification. However, the inclusion of automatic fire detection in a fire warning system is only required under fire safety law when it is needed to safeguard life on the basis of risk. Examples of the use of automatic fire detection for life safety in non-residential premises are:

- to ensure an early warning of fire in situations where a fire could develop and affect escape routes before a building could be evacuated;
- to operate smoke control systems or door release devices; and
- to ensure early warning of fire where this is necessary to allow the use of phased evacuation.

320. Where the layout of the premises is such that a fire could develop to the extent that escape routes could be affected before the fire is discovered, it may be necessary for the fire alarm system to incorporate automatic fire detectors to ensure an early warning. This may be the case where there are unoccupied areas or circulation areas in multi-occupied buildings or where people work alone and might not see a fire; but the need for the provision of automatic fire detection will be influenced by the means of escape available.

321. Automatic fire detection may be necessary in the rooms and napping areas which accommodate young children in childcare premises, to ensure an early warning of fire. This will be influenced by the level of adult supervision and the layout of the premises.

322. The choice of automatic fire detector type depends on the nature of the hazard and the balance between the speed of system response and the need to avoid false alarms. The common types of automatic fire detector are:

- Heat detectors which operate when a fixed temperature is reached (and may also respond to abnormal rate of rise of temperature). Heat detectors have a good performance in respect of false alarms but are not appropriate where the detection of smoke is required (such as in escape routes);
- Smoke detectors which detect the presence of smoke (either ionisation or optical type). They give a speedier response to most fires than heat detectors but have greater potential to generate false alarms. (Smoke detectors within corridors and stairs should be the optical type);
- Combustion gas detectors which respond to the gases produced in a fire such as carbon monoxide. They can be sensitive to smouldering fires, respond to many fires faster than heat detectors and have a good false alarm performance in the presence of dust, steam and cigarette smoke; and
- Multi-sensor detectors contain a combination of heat, smoke or combustion gas detection. These sensors enhance system performance and some types have a low potential for false alarm actuations.

Warning

323. Sounders are provided to alert building occupants. The type of warning signal and sound level should be appropriate for the premises, the characteristic of the occupants, the fire action plan, and staffing arrangements. A coded staff alert may be desirable in some circumstances to initially warn only staff.

324. It may be necessary to provide tactile and/or visual alarms for staff in high noise level areas or where there are occupants or staff with hearing impairment to the extent that the sounders cannot be perceived.

325. As an alternative to conventional sounders, a voice-alarm facility that provides an automatically broadcast verbal warning of fire, may be suitable for some premises. Voice alarm systems can provide benefits in terms of reduced response time and improved information dissemination. A new voice alarm system should comply with the guidance in BS 5839: Part 8. In considering the areas to be provided with a voice alarm system, the desirability of providing occupants with information regarding the fire and factors such as background noise levels need to be taken into account. The wording of the message on a voice alarm system needs to be clear and precise.

326. In certain types of premises, for example sports grounds/stadia, theatres, cinemas or nightclubs, a conventional audible warning via a fire alarm sounder may provide insufficient information for the patrons to take appropriate action. A fire warning that initially alerts staff members only, by means of lights, a pager or another form of audible or coded alarm at permanently staffed points in the premises may be appropriate. In the case of major sports grounds and stadia, the indication of the fire warning and its location should be given to a central control point.

327. Areas of buildings to which only staff have access could have a conventional audible warning of fire provided, if such an alarm cannot be heard within public areas.

328. The provision of a combined public address/voice alarm system is appropriate for some transport premises, and can allow the use of coded messages for staff investigation where this is part of the pre-planned response to activation of the fire alarm.

System Information

329. A control and indicating panel provides facility for indication of fire or fault signals and manual controls such as silencing and resetting. Where a control and indicating panel is installed, it should be sited at a location which is appropriate both for staff and for the arriving Fire and Rescue Service.

330. The provision of a suitable fire detection and warning system should be accompanied by suitable staff training so that staff know how to operate the system and how to respond to system operation. A schematic plan should be displayed adjacent to the control panel to allow staff to quickly identify and locate the source of an activation. If the fire warning system has detection zones, these zones should be shown on a zone plan in a simple and unambiguous way.

331. The evacuation strategy for premises may require the source of activation to be quickly identifiable. The building should be divided into detection zones so that the activation can be located quickly. The allocation of detection zones needs to take into account the layout of the building and should facilitate the emergency fire action plan. Detection zoning should comply with the recommendation in BS 5839-1, and should not be determined purely for the convenience of the system installer.

332. An addressable fire warning system is one where individual detectors and call points can be identified at the control and indicating equipment. Addressable systems are of great advantage in some premises as they reduce the time taken to identify the location of a fire. Where an addressable system is installed, zone indication is also necessary.

333. Certain fire safety measures are designed so that they operate when the fire warning system operates; examples are:

- automatic release of door hold-open devices;
- automatic closure of self-closing doors which are fitted with swing free arms;
- automatic opening facility disabled on swing doors with automatic opening;
- electronically powered locks on doors returning to the unlocked position; and
- automatic opening of some exit doors.

334. In entertainment and assembly premises, where the sound pressure level of amplified music exceeds 80 dB(A) then the music should be muted automatically when the fire alarm signal is given.

335. If an automatic life safety fire suppression system is installed, the fire warning should activate if the suppression system operates.

336. In the case of enclosed shopping centres, on the operation of the fire alarm:

- unless a different strategy in a fire applies, escalators would come to a controlled halt and lifts would return to the exit level;
- amplified music systems within the mall or shops are silenced; and
- subject to the pre-determined delay, shutdown of air-moving and other systems in the relevant smoke reservoir.

Remote Monitoring

337. With remote monitoring, the activation of the fire warning system causes a signal to be transmitted automatically to a remote alarm receiving centre (ARC). On receipt of a signal, the ARC then calls the Fire and Rescue Service.

338. There are standards and third party certification schemes for ARCs. Dutyholders with a system connected to an ARC may wish to assure themselves about the quality of their own arrangement.

Reducing False Alarms

339. False alarms from automatic fire detectors or manual call point activation are a major problem causing disruption to the running of premises and many unwanted calls to the Fire and Rescue Service. If frequent false alarms occur in the premises, members of staff may become complacent and may not respond correctly to a warning in the event of a real fire.

340. A record log of system activations should be kept. Each false alarm should be investigated to try to establish the cause. Remedial action may be needed, such as re-positioning a detector head or changing a detector to a different type. A fire warning system should not be disabled: if it is posing a problem, specialist advice should be sought from a competent contractor.

341. Steps can be taken to discourage inappropriate or accidental call point use such as the provision of a protective hinged cover on the call point, with or without a tamper alarm. In cases where there is the potential for objects to collide with a call point, then side impact protection should be provided.

342. Where a call point is sited close to a green box or button for door control, the door control feature should be clearly signed, to avoid unintentional activation of the fire alarm.

343. Where a fire warning system is connected to an alarm receiving centre, robust arrangements need to be in place to take the system off-line during tests or for notification of the ARC.

Chapter 9: MEANS FOR FIGHTING FIRE

344. A small fire tackled with fire-fighting equipment in the early stages may be prevented from developing into a fire of life-threatening proportions. Fire-fighting equipment can fall into one of two categories; either (a) it is designed for use by persons, such as portable fire extinguishers or (b) it is a fixed installation, such as a sprinkler system, which comes into operation automatically in the event of fire.

Automatic Life Safety Fire Suppression

345. An automatic life safety fire suppression system operates automatically on detection of an outbreak of fire within the building. In the case of a conventional sprinkler system, water is discharged from the individual head which has detected heat from the fire; all other discharge heads remain closed unless similarly affected by heat. An automatic life safety fire suppression system can be effective in controlling a fire and limiting fire growth.

346. Part 3 of the 2005 Act covers life safety. Some suppression systems will have been provided to protect property. Some schools have sprinkler systems installed for the protection of property and assets as opposed to life safety.

347. Where buildings are fitted with a smoke and heat exhaust ventilation system, sprinklers are usually installed to restrict fire size. Sprinklers may also have been fitted where there is a large compartment size.

348. Fire suppression should be appropriate to the occupancy and should be determined on the basis of risk. Design and installation rules for automatic life safety sprinkler system are contained in BS EN 12845 or LPC Rules. Water mist systems are bespoke systems designed on the basis of established test performance. Many suppression systems are third party certificated which helps to assure their quality.

349. Other suppression systems may be used for high hazard industrial situations such as foam installations and gas flooding systems (total flooding or local application). Information on the systems available is contained in BS 5306: Part 0.

350. In storage areas, there should be appropriate clearance between the storage and sprinkler heads so that there is no interference with sprinkler water distribution.

Fire-Fighting Equipment for Use by Persons

351. Portable fire-fighting equipment may be provided for use by persons. There are third party certification schemes for fire-fighting equipment; this can give some assurance of quality.

352. The number of fire extinguishers provided will depend on the circumstances within and the size of individual premises. Portable extinguishers should be simple to operate, readily accessible, within the handling capabilities of staff and be suitable for the classes of fire anticipated (see Table 8). Extinguishers are described by extinguishing capacity. They are marked with a letter and a number: the letter denotes the class of fire, the number denotes the fire size extinguishing capability. An extinguisher could for example have a rating such as '13A' or '55B'.

353. Information on the selection and installation of fire extinguishers is contained in BS 5306: Part 8. A guide to the level of provision of class A extinguishers is obtained by multiplying the floor area of a storey by 0.065. For example, a floor area of 400 m² would have a rating of 26A (400 x 0.065 = 26) which is the total value of class A extinguishers and can be achieved by combinations of extinguishers with different ratings to achieve the total value. Where there are other classes of fire, appropriate extinguishers for these may be necessary. In small premises, having one or two portable fire extinguishers of an appropriate type and readily available for use may be all that is necessary.





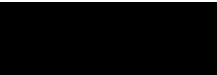

354. Fire extinguishers are positioned on escape routes, close to room or storey exits, final exits from the building or, if necessary, adjacent to hazards. They may be placed on a stand or hung on a wall at a convenient height so that they can be easily lifted off. Generally no one should have to travel more than 30 m to reach a fire extinguisher. It is good practice to group extinguishers together in fire points at a similar position on each floor.

355. Where there is high potential for malicious operation, consideration may be given to siting extinguishers in areas under staff control.

356. While permanent hose reels can provide an effective fire-fighting facility when used by trained personnel, there are disadvantages. When deployed, a hose reel may prevent doors from fully closing causing the spread of smoke, and the hose may pose an obstacle to the escape of occupants.

357. A fire blanket may be appropriate. It may be used to smother a small fire involving cooking oil or fat. Where a kitchen provides meals on a scale larger than a normal domestic household, a heavy duty fire blanket may be appropriate.

Table 8 - Extinguisher types

<p>Water Extinguisher</p> <ul style="list-style-type: none"> Suitable for Class A fires (fires involving solid materials such as wood, paper or textiles) but not suitable for use on live electrical equipment because water is a conductor of electricity. 		<p><i>Red body</i></p>
<p>Water Extinguisher with Additives</p> <ul style="list-style-type: none"> Suitable for Class A fires. Some also suitable for Class B fires (fires involving flammable liquids such as petrol, diesel or oils) if so indicated on the extinguisher. 		<p><i>Red body</i></p>
<p>Foam Extinguisher</p> <ul style="list-style-type: none"> Suitable for Class A or B fires and particularly suited to extinguishing liquid fires; Should not be used on free-flowing liquid fires unless the operator has been specially trained; and Not suitable for deep-fat fryers or chip pans. 		<p><i>Red body with cream label/band</i></p>
<p>Powder Extinguisher</p> <ul style="list-style-type: none"> Suitable for most classes of fire; Can be used on fires involving electrical equipment but may damage the equipment; and Since powder does not cool a fire appreciably, the fire may re-ignite. 		<p><i>Red body with blue label/band</i></p>
<p>Carbon Dioxide (CO2) Extinguisher</p> <ul style="list-style-type: none"> Suitable for Class B fires and particularly suitable for fires involving electrical equipment as it is a non-conductor; and Since CO2 does not cool a fire appreciably, the fire may re-ignite. 		<p><i>Red body with black label/band</i></p>
<p>Wet Chemical Extinguisher</p> <ul style="list-style-type: none"> Suitable for Class F Fires (fires involving cooking oils such as in deep-fat fryers). 		<p><i>Red with canary yellow label/band</i></p>

Chapter 10: FIRE AND RESCUE SERVICE FACILITIES

358. To comply with building regulations or other legislation, premises may have been provided with facilities, equipment and devices for use by, or protection of, fire-fighters. Fire safety law includes a duty requiring maintenance of such features. Some general information is included below. Current standards for some can be obtained from the Building Regulation Technical Handbook.

359. The Fire and Rescue Service should be notified of any changes affecting existing facilities for fire-fighters.

Fire and Rescue Service Access

360. Buildings may have been provided with facilities such as access roads and hard standing areas that allow Fire and Rescue Service vehicles to approach and park within a reasonable distance. Vehicle access to the building exterior may enable high reach appliances to be used, and enable pumping appliances to supply water and equipment for fire-fighting and rescue. **Table 9** shows access dimensions.

Table 9 Access route for Fire and Rescue Service vehicles

	High reach appliance	Pumping appliance
Minimum width of road between kerbs	3.7 m	3.7 m
Minimum width of gateways etc	3.5 m	3.5 m
Minimum clearance height	4 m	3.7 m
Minimum turning circle between kerbs	26 m	16.8 m
Minimum turning circle between walls	29 m	19.2 m
Minimum axle loading	14 tonnes	14 tonnes

Water Supply for Fire and Rescue Service Use

361. Fire-fighting operations often depend on a sufficient supply of water. External water hydrants provide a water supply for use by the Fire and Rescue Service. Where no adequate piped water supply is available, an alternative supply may have been provided such as a fixed water tank, or access to a spring, river, canal, loch or pond, with access for a Fire and Rescue Service pumping appliance.

Smoke Ventilation

362. Smoke ventilators or outlets may be provided for assisting Fire and Rescue Service personnel with smoke control and clearance. These may be located in basement storeys and stairs, and may be openable windows.

Fire-Fighting Shafts and Lifts

363. Fire-fighting shafts are provided in tall buildings to provide fire-fighters with a protected route from the point of building entry to the floor where the fire has occurred and to enable fire-fighting operations to commence. The stairway within the shaft is likely also to be used for normal movement through the building. Entry points from a stairway in a fire-fighting shaft to a floor will be via a protected lobby. Most fire-fighting shafts incorporate a fire-fighting lift which has a back-up electrical supply and car control override.

Dry and Wet Rising Fire Mains

364. The rising fire main is a facility mostly in medium and high rise buildings, for the Fire and Rescue Service. It consists of a pipe running up or through the building, an inlet box where fire-fighters can connect their hose; and outlet valves for the connection of a hose. A dry riser is empty and is charged with water by the Fire and Rescue Service; a wet riser is kept full of water from the mains water supply. Wet rising mains have a facility to allow the Fire and Rescue Service to supplement the water supply.

365. Issues to consider include:

- the approach to allow a Fire and Rescue Service vehicle close to the inlet box;
- prohibition of car parking in front of the inlet box;
- the inlet box door secured in a way that fire-fighters can readily open the door;
- the outlet valves secured in the closed position, usually with a leather strap and padlock, to prevent tampering; and
- the outlet valves being easily openable.

Information Arrangements for Fire-Fighters

366. In some buildings, there may be layout plans available for fire-fighters or information on the presence of particular hazards.

367. For certain premises where 25 tonnes or more of dangerous substances are used or stored, there is a requirement to give written notification to the Fire and Rescue Service and the Health and Safety Executive and to provide signs to give warning to fire-fighters. This is to comply with the Dangerous Substances (Notification and Marking of Sites) Regulations 1990. Even where dangerous substances are below the threshold, notifying the Fire and Rescue Service is good practice.

ANNEX

Pyrotechnics in Entertainment Premises

In January 2009, there was a fire in an Edinburgh nightclub which was caused when pyrotechnics used during a Hogmanay celebration ignited a suspended plastic net. There were no fatalities though some patrons were injured. This involved inappropriate selection of pyrotechnics. The events manager of the premises was prosecuted for non-compliance with the Fire (Scotland) Act 2005.

The use of outdoor pyrotechnics has been associated with major loss of life in fires in entertainment premises throughout the world. The following list shows premises where pyrotechnics have been reported as a cause of fire. Sometimes other factors have been contributory such as combustible sound-insulation and means of escape issues.

- Nightclub, Rhode Island, USA - February 2003 – 100 deaths
- Club, Buenos Aires, Argentina – December 2004 – 194 deaths
- Nightclub, Quito, Ecuador – April 2008 – 15 deaths
- Club, Bangkok, Thailand – January 2009 – 66 deaths
- Nightclub, Perm, Russia – December 2009 – 154 deaths
- Nightclub Brazil January 2013 – 242 deaths
- Nightclub Bucharest October 2015 – 64 deaths

British Standards British Standards Institution (www.bsi-global.com).

EN 179 Building hardware. Emergency exit devices operated by a lever handle or push pad. Requirements and test methods

EN 1125: Building hardware. Panic exit devices operated by a horizontal bar. Requirements and test methods

EN 1154: Building hardware. Controlled door closing devices. Requirements and test methods

EN 1155: Building hardware. Electrically powered hold open devices for swing doors. Requirements and test methods

EN 1634: Part 1: Fire-resistance tests for door, shutters and openable windows

EN 12845 Fixed firefighting systems: automatic sprinkler systems: design, installation and maintenance

EN ISO 7010 graphical symbols – safety colours and safety signs - registered safety signs

476: Part 22: Fire tests on building materials and structures. Methods for determination of the fire-resistance of non-loadbearing elements of construction

5266: Part 1: Emergency lighting. Code of practice for the emergency lighting of premises

5306: Part 0: Fire protection installations and equipment on premises. Guide for selection

5306: Part 8: Fire extinguishing installations and equipment on premises. Selection and installation of portable fire extinguishers. Code of practice

5499: Part 10: Guidance for the selection and use of safety signs and fire safety notices

5839: Part 1: Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises

5839: Part 3: Fire detection and alarm systems for buildings. Specification for automatic release mechanisms for certain fire protection equipment

5839: Part 8: Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning, and maintenance of voice alarm systems

5852: Methods of test for assessment of ignitability of upholstered seating by smouldering and flaming ignition sources

5867: Part 2: Fabrics for curtains drapes and window blinds. Flammability requirements. Specification

7036: Code of practice for safety at powered doors for pedestrian use

7273: Part 4: Code of practice for the operation of fire protection measures. Actuation of release mechanisms for doors

9999: Code of practice for fire safety in the design, management and use of buildings.



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W W W . G O V . S C O T

Practical Fire Safety Guidance for Existing Premises with Sleeping Accommodation

June 2018



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Riaghaltas na h-Alba
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PRACTICAL FIRE SAFETY GUIDANCE FOR EXISTING PREMISES WITH SLEEPING ACCOMMODATION

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Chapter 1: PREFACE

Introduction

1. In 2006, the Fire (Scotland) Act 2005 ('the 2005 Act') introduced changes to fire safety law in Scotland and repealed previous fire safety legislation. This guide has been produced to assist those who have responsibility under this Act for ensuring fire safety in certain premises with sleeping accommodation in Scotland. In addition, this guide provides statutory guidance for the Scottish Fire and Rescue Service ('SFRS'), as an enforcing authority.

2. This guide, prepared by the Scottish Government, offers fire safety advice in respect of certain existing premises with sleeping accommodation. It consolidates and supersedes a number of individual Scottish Government guides, and introduces a substantial number of editorial changes aimed at improving dutyholders' understanding of the guidance. The guides superseded are:

- *Practical Fire Safety Guidance for Small Premises Providing Sleeping Accommodation, 2010*
- *Practical Fire Safety Guidance for Medium and Large Premises Providing Sleeping Accommodation, 2008*
- *Practical Fire Safety Guidance for Small Bed and Breakfast and Self-catering Premises, 2010* (The content of this superseded guide has been used as the basis for annex 2, see paragraph 13)

3. At the same time, the Scottish Government guide *Practical Fire Safety Guidance for Healthcare Premises, 2008* is withdrawn, giving preference to the fire safety guidance issued by NHS Scotland (see paragraph 6).

Scope

4. The guidance in this document is applicable to general fire safety in existing residential premises in which there is sleeping accommodation and to which Part 3 of the 2005 Act applies (known generally as 'relevant premises'). This includes:

- hotels and tourism hostels
- holiday lets
- holiday complexes, camping, glamping and caravan sites (other than privately used individual units)
- church halls and similar premises used regularly or occasionally for sleeping
- bunkhouses and bunk barns
- certain types of sleeping accommodation for pupils or employees
- all types of houses in multiple occupation (HMO)¹
- boarding houses, guest houses and bed and breakfast accommodation

5. Fire safety law applies to these types of premises regardless of how they are marketed, so will include relevant premises marketed through 'peer to peer' online platforms.

¹ In general, an HMO may be any house, flat or building which is the only or principal residence of three or more people, who belong to three or more families and share a toilet, bathroom or cooking facilities. HMOs require to be licensed under the Housing (Scotland) Act 2006

6. This guide does not apply to care homes for which there is a separate guide², nor to premises where persons are detained in lawful custody, such as prisons.

7. This guide does not apply to hospitals. Guidance for fire safety in hospitals in Scotland is contained in the suite of documents known as *NHS Scotland Firecode* issued by Health Facilities Scotland.

8. This guide does not apply to private dwellings and their common areas which fall within the definition of “domestic premises”. “Domestic premises” are generally not ‘relevant premises’, whether social rented, owner occupied or private rented sector. However there are some exceptions.

9. HMOs, holiday lets and bed and breakfast type accommodation do not fall within the definition of private dwelling for the purposes of Part 3 of the 2005 Act.

10. Dwellings used for childminding are ‘relevant premises’ for the time that they are put to that purpose. However, this guide does not apply to premises used for childminding with sleeping provision, for which there is separate general guidance³.

11. This guide does not apply to sheltered housing. Sheltered housing comprises private dwellings so they are generally not relevant premises. However some sheltered housing may have partial application and some very sheltered housing may be an HMO and therefore be relevant premises.

12. Annex 1 contains a guidance note issued in 2013 by the Scottish Government on the application of fire safety law. Among other categories, it contains guidance on the application to sheltered housing, school care accommodation, adult placement, and domestic premises used for care (support service).

13. Annex 2 to this guide contains stand-alone simple guidance for well-managed small bed and breakfast and self-catering premises. Compared to other ‘sleeping risk’ premises, the risk from fire to persons in this type of property is likely to be relatively low. Annex 2 applies where:

- premises are used for self-catering holidays if occupied by not more than 10 persons
- bed and breakfast premises in the home of a resident operator (for not more than 8 guests)

and which in either case, have a means of escape from bedrooms via a traditional ‘hall’ with at least one exit directly to the outside; do not have letting or guest accommodation below a ground floor or above a first floor; do not act as the principal residence for paying guests; and do not have any storey area over 200 m² internal floor space.

14. Annex 3 contains benchmarks applicable for holiday camping and caravan sites.

15. Much of the guidance in this document relates to buildings. However, the requirements of fire safety law also apply to other structures, external areas and open air sites.

16. This guide applies to existing premises and is not a design guide for new build. All new residential buildings must be designed to the mandatory standards under the Building

² Practical Fire Safety Guidance for Care Homes, 2014

³ *Fire Precautions in Domestic Childminding Premises: A Guide to Childminders* produced by the Chief Fire Officers Association (Scotland)

(Scotland) Regulations 2004. Similarly, buildings which undergo extension, structural alteration or conversion (as defined in building regulations) should also meet the standards (and be subject to building warrant approval, where required). Design guidance in respect of building regulations is contained in the [Scottish Building Standards Technical Handbooks](#).

Fire Safety Law

17. Part 3 of the 2005 Act, along with the Fire Safety (Scotland) Regulations 2006, sets out the fire safety duties in respect of the majority of non-domestic premises in Scotland.

18. The legislation requires the provision of fire safety measures; this includes risk reduction measures, means of fire warning, fire-fighting, escape, staff training and instruction, as well as emergency procedures. It sets out fire safety responsibilities and seeks to ensure the safety of persons from harm caused by fire.

19. The list below is a summary of the general requirements imposed and is not intended to be comprehensive; anyone in doubt about their legal obligations may wish to seek further advice. Guidance on complying with these general requirements is considered in more detail in the remaining chapters:

- assessing the risk from fire in respect of the premises
- identifying the fire safety measures necessary as a result of the assessment of risk
- implementing these fire safety measures, using risk reduction principles
- putting in place fire safety arrangements for the ongoing control and review of the fire safety measures
- complying additionally with the specific requirements of the fire safety regulations
- keeping the fire safety risk assessment and outcome under review
- record keeping

20. The general fire safety provisions in Part 3 of the 2005 Act take precedence over the terms and conditions imposed in relation to licences issued under other legislation. Section 71 of the 2005 Act has the effect that terms, conditions or restrictions in such licences – including statutory certification or registration schemes – have no effect if they relate to fire safety requirements or prohibitions which are, or could be, imposed under Part 3.

Who Must Comply with these Duties?

21. The responsibility for complying with the fire safety duties in premises which provide sleeping accommodation sits with the employer and/or other persons who operate or have control of the premises to any extent. This might include managers, landlords, owners and staff – and in some cases, residents. Contractors and volunteers working on site may also have some responsibilities through their degree of control or responsibility for fire safety. In this guide, persons with fire safety responsibilities are referred to generally as ‘dutyholders’.

22. In the case of unstaffed HMOs and other premises with no management or proprietor presence, some fire safety responsibility may sit with residents and this should be considered as part of the tenancy or letting arrangement.

23. Under fire safety law, all dutyholders are required to take all reasonable measures regarding the safety of persons. Employers additionally have a specific obligation to ensure the safety of employees in the event of fire, so far as is reasonably practicable. This means that fire safety measures need to be taken to address risk, but not to the extent that cost, effort and other disadvantages associated with the provision of fire safety measures would be disproportionate to the risk to life. In this respect a judgement is made about the cost of

measures being proportionate to the resulting risk reduction, not the capacity of a dutyholder to pay.

24. Where premises or responsibilities are shared, each employer, owner or other person who has control over any part of the premises is required to co-operate and co-ordinate in respect of complying with fire safety law and to inform each other of risks.

25. If the requirements of fire safety law are not complied with, the omission may constitute a criminal offence with a penalty of a fine or imprisonment.

Obtaining Advice on Fire Safety

26. The responsibility for carrying out an assessment of fire risk, reviewing such an assessment and taking fire safety measures rests with dutyholders.

27. Dutyholders should consider their own capabilities and circumstances in respect of assessing and managing risk, and factors such as the size and use of premises and the number and type of persons involved.

28. Whilst dutyholders are usually best placed to know their premises, they will need to decide whether they, or their employees where applicable, have the capability to assess fire risk. If dutyholders do not have sufficient resources, skills or experience to undertake a fire safety risk assessment themselves they can arrange for a suitably qualified person or company to carry out an assessment on their behalf.

29. When looking to contract a specialist, it can be difficult to judge the competence of companies and persons who advertise their services. The fact that a person or company is operating in the fire sector or that someone has previous fire service experience, does not mean that they are a fire safety specialist.

30. Both the Scottish Government and the SFRS recommend that dutyholders who wish to contract the services of an external fire safety risk assessor, select an assessor from a list of competent fire risk assessors maintained by a professional body or a UKAS⁴ accredited third party certification body. Alternatively they could use the services of companies, including sole traders, that are third party certificated under appropriate schemes operated by certification bodies that have, themselves, been UKAS accredited as competent to certificate against such schemes. (The benefit of company certification is that the certification body monitors the quality of the certificated company's work and confirms that there is a system for management of quality within the certificated company).

31. The SFRS maintains a list of UKAS accredited certification bodies and professional registration schemes, which can be accessed on its website⁵. The SFRS has not assessed and does not endorse any individuals or companies participating in these schemes. However, participation in such schemes can offer a degree of assurance that a risk assessor (individual or company) has met the professional requirements of the scheme.

Who Enforces the Fire Safety Law?

32. While the responsibility for compliance with the legislation sits with dutyholders, there is provision in the legislation for an enforcing authority with enforcement powers.

⁴ UKAS (United Kingdom Accreditation Service) is the national accreditation body for the UK

⁵ http://www.firescotland.gov.uk/media/1173445/sfrs_advice_on_fire_safety.pdf

33. The SFRS enforces Part 3 of the 2005 Act and relevant regulations in respect of the majority of residential non-domestic premises.

34. The SFRS policy towards enforcement is proactive and it adopts an enabling approach to assist dutyholders in complying with their obligations.

35. Enforcement officers' powers are listed in section 62 of the 2005 Act: they may do anything necessary to allow them to enforce the provisions of the legislation. This includes entering relevant premises, inspecting, requesting information, records or assistance, copying or removing documents; carrying out measurements or tests; taking samples, dismantling articles, and taking possession of an article for examination or evidence.

36. If the SFRS is not satisfied with the outcome of a dutyholder's assessment of fire risk in the premises, or the action taken by a dutyholder, or the fire safety measures in place, it may send out a letter which requests or specifies that certain action or measures be taken and may request that a dutyholder draws up an action plan for implementation of the measures.

37. Where an enforcement officer considers that additional fire safety measures are necessary in relevant premises, this decision should be based on the factors described in paragraph 23. It will assist the awareness of dutyholders if enforcement officers explain why the existing fire safety measures are not acceptable, and how additional fire safety measures will deliver improvement.

38. The SFRS has the power to take formal action in certain situations. This could involve:

- the issuing of an 'Enforcement Notice' that requires specified action to be taken
- the issuing of a 'Prohibition Notice' in cases of serious risk so that the use of all or part of the premises is prohibited or restricted until specified matters are remedied
- reporting the matter for prosecution

39. Additionally, the SFRS has power to issue an 'Alterations Notice' that requires the recipient to inform the enforcing authority before making specified changes to the relevant premises.

40. Failure to comply with a notice issued by the enforcing authority or placing persons at risk of death or serious injury by failing to carry out any duty imposed by fire safety law is an offence.

41. Where there is disagreement between a dutyholder and the enforcing authority on compliance issues, the dispute may be suitable for referral for a determination. Dispute determination is a third-party independent resolution arrangement. Information on this provision is available on the web pages of the Fire Service Inspectorate⁶.

42. There is also a right of appeal to the court against a Prohibition Notice, Enforcement Notice or Alterations Notice, within 21 days from the date the notice is issued.

43. While the general fire safety measures required by the 2005 Act are enforced by the SFRS, there are some matters that are enforced by the Health and Safety Executive or the

⁶ www.gov.scot/fireinspectorate

local authority, under various pieces of health and safety legislation. Some examples are precautions relating to:

- storage of flammable liquids
- ventilation systems to dilute or remove flammable gas or vapour
- selecting equipment that will not be a source of ignition
- maintenance of electrical equipment

How to Use this Guide

44. The remaining chapters in this guide provide information on the assessment of fire risk, the reduction of risk and identification and implementation of fire safety measures. It is not necessary to follow the risk assessment method in this guide or the fire safety measures; other suitable methods and measures may be appropriate.

45. The fire safety measures described in this guide are principally benchmarks. When deciding what fire safety measures are appropriate for premises, the benchmarks can be used as a comparison against what exists in the premises. The benchmarks should not be applied prescriptively to premises, they are not minimum standards nor are they provisions that are deemed to satisfy the legislation. In each case, the measures adopted should be risk appropriate for the particular circumstances in which they are applied. A standard lower than the benchmark may be adequate, in other cases a standard above the benchmark may be necessary. The assessment of risk needs to be specific to the individual premises.

46. If persons feel unable to interpret this guidance, they should seek assistance from someone with technical knowledge. The SFRS as an enforcer of the legislation, cannot undertake a dutyholder's risk assessment obligation. Though it has a statutory requirement to provide general advice on request about issues relating to fire safety and should be able to provide information and advice which will assist dutyholders to understand their obligations under the law.

47. While the principal purpose of this guide is to provide guidance to assist dutyholders comply with their legal obligations, the guide and its contents constitute guidance given by the Scottish Ministers to the SFRS in terms of section 61(2) of the 2005 Act and the SFRS is therefore required to take it into account in determining whether enforcement action may be necessary. In its enforcement function, the SFRS is also required to have regard to the [Scottish Regulators' Strategic Code of Practice](#).

48. Nothing in this guide should be interpreted as permitting a reduction in the standard of fire safety measures where the measures have been incorporated to comply with Building Regulations. But it is possible for a standard higher than that required by Building Regulations to be necessary as a consequence of assessment of risk.

49. From October 2013, a *Fire Safety Design Summary* is recorded as part of the building regulation process. This may be a useful source of information to assist dutyholders with the safe operation of the premises and to inform the assessment of fire risk.

Chapter 2: ASSESSMENT OF FIRE RISK IN PREMISES

50. Where fire safety law applies, it is a legal requirement to assess the premises to identify risk to persons from fire and to take fire safety measures. The assessment of risk should be specific to fire safety and to the specific premises concerned. A generic risk assessment will not be sufficient.

51. Fire safety risk assessment is a practical exercise aimed at evaluating the risk from fire and how to ensure the safety of persons in the event of fire. It involves an organised and methodical look at the premises, the activities within the premises, the type of occupants, the potential for a fire to occur and the harm it could cause to people. The existing fire safety measures are evaluated to establish whether they are adequate or if more requires to be done. In this respect, fire safety measures include not just physical measures, such as fire alarm systems and escape routes, but also standards of management.

52. The risk assessment process described in this chapter is shown in Figure 1.



Figure 1 - Fire safety risk assessment process

Identify People at Risk

53. An assessment should be made of those persons at risk if a fire occurs within or in the immediate vicinity of the premises. The number, characteristics and location of occupants, residents, staff and other persons who frequent the premises should be identified. Disabilities should be taken into account along with peoples' familiarity with the premises. The inexperience, lack of awareness and immaturity of any young persons (under 18 years) employed or resident, should be also considered.

Identify Potential Causes of Fire

54. For a fire to start, three components are needed: a source of ignition; fuel; and oxygen. These components can be represented as the sides in a simple 'triangle of fire' model shown in Figure 2. If any one of these components is missing, a fire cannot start. Taking steps to avoid the three coming together will reduce the chance of a fire occurring, while reducing the quantity of oxygen (smothering) or fuel (starvation) may restrict the development of a fire.

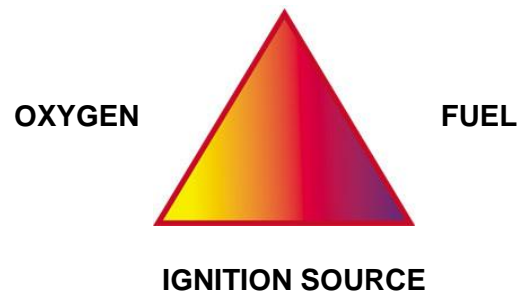


Figure 2 - Triangle of fire

55. The premises should be critically examined to identify potential ignition sources and materials that might fuel a fire and the circumstances which might allow a fire to start. Any previous fires should also be considered, as should indications of 'near misses' such as scorch marks on furniture or fittings, discoloured or charred electrical plugs and sockets or cigarette burns. Some general information and examples are given in Tables 1 to 3 at the end of this chapter and recommendations on controlling ignition sources are contained in Chapter 5.

Evaluate the Risk

56. The risk in the premises should be evaluated so that a judgement can be made on the adequacy of fire safety measures. Risk has two components: the likelihood that a fire may occur; and the potential for a fire to cause death or injury i.e. consequence. Both likelihood and consequence should be considered when assessing risk.

57. The likelihood of a fire starting will be low if there are few ignition sources, and if combustible materials are kept away from them.

58. Having considered the people likely to be at risk should a fire start in the building and the chances of a fire occurring, the consequences and extent of the risk to those people if a fire starts and spreads should be considered. In evaluating the risk to people, it is necessary to consider different situations and possible scenarios such as:

- fire starting on a lower floor affecting the escape of people on upper floors
- the potential for fire to affect escape routes, particularly where there is a single escape route
- fire developing in a space that people have to pass by to escape from the building
- fire or smoke spread through a building via routes such as vertical shafts, service ducts, service penetrations, ventilation systems, cavities, roof voids and open doors
- fire and smoke affecting the behaviour of occupants
- the contribution to fire spread and development if dangerous substances are involved
- fire and smoke spread into the premises from exterior fires
- the potential for fire originating in the premises to pose a threat to persons in the surrounding area

59. Additionally where the building is in multi-occupancy such as a flatted building, or is multi-use, specifically consider:

- the risk from a fire which may occur in communal parts or in another part of the building occupied by a different person

- the risk which a fire in the premises may pose to other occupiers of the building and any adjoining premises

60. If there have been any previous fires in the premises, considering the circumstances and lessons learned may assist with evaluating risk.

Decide if Existing Fire Safety Measures are Adequate

61. A judgement needs to be made to determine whether the fire safety measures and fire safety arrangements are adequate or if more needs to be done to safeguard persons. The level of fire safety measures provided in premises should be proportionate to the level of risk posed to the safety of people and will therefore vary between premises.

Formulate an Improvement Plan

62. Carrying out an assessment of the premises is not an end in itself. The outcome of the risk assessment needs to be acted upon; risks need to be controlled in a practical way and fire safety measures and arrangements need to be put in place.

63. Potential causes of fire identified should be avoided or removed, if reasonably practicable to do so. If they cannot be removed, measures should be taken to control the risks.

64. Where improvements to fire safety measures in premises are considered necessary as a result of assessment of risk, a plan for implementation of the improvements should be drawn up. The plan should have priorities and timescales for the completion of the action required.

65. Where improvements involve building work, the work should be done in accordance with Building Regulation procedures.

66. In a listed building (a building of special architectural or historic interest included in a list compiled by the Scottish Ministers), alternatives to conventional fire safety measures may be appropriate. Guidance has been issued by Historic Scotland (now Historic Environment Scotland):

- [Guide for Practitioners 7: Fire Safety Management in Traditional Buildings, 2010](#)
- [Managing Change in the Historic Environment: Fire Safety Management, 2015](#)

Record the Findings

67. Having carried out a fire safety risk assessment of the premises, fire safety law requires that certain information be recorded where five or more employees are employed by an employer (whether they are on the premises or not) or the premises is subject to licensing or registration, or an Alterations Notice has been issued requiring this. Chapter 4 contains recommendations in respect of record keeping.

Review the Assessment

68. The fire safety risk assessment should be reviewed regularly and also before any significant or relevant changes are made or if relevant safety issues arise. This will involve setting time aside to consider whether change has affected the risk and whether fire safety measures remain appropriate.

69. Where changes are proposed, the consequence to fire safety in the premises should be considered before the change is introduced. Changes that might prompt a review of the risk assessment include:

- a change in the number of people present or the characteristics of the occupants
- changes to work procedures, including the introduction of new equipment
- alterations to the building, including the internal layout
- significant changes to furniture and fixings
- the introduction or increase in the storage of dangerous substances

70. A review should occur on becoming aware of shortcomings in fire safety measures, potential improvements, or a fire or 'near miss' occurs which may indicate that the existing fire safety measures are inadequate. If the Fire and Rescue Service has attended a fire in the premises, its fire investigation findings may help inform a review.

71. Even where a dutyholder has obtained assistance with assessing risk, general reviews of a risk assessment should be carried out regularly by the dutyholder to ensure it remains valid. This will reinforce ownership of fire safety management and assist in the development of relevant knowledge, and of a fire safety culture. However, there may be some occasions where significant changes to premises have occurred for which the dutyholder feels that they lack the knowledge or skills required to undertake a review, then it may be advisable to seek specialist advice to review the assessment (see paragraphs 26 to 31).

Table 1 – Ignition Sources

Potential ignition sources are those where sources of heat could get hot enough to ignite material. This could include:

- smokers' material - such as cigarettes, matches and lighters
- naked flames - such as candles or gas open-flame equipment
- heaters - electrical, gas or oil-fired (fixed or portable)
- hot processes - such as repair work by contractors
- cooking, laundry, and lighting equipment
- deliberate fire raising
- electrical equipment or fixed installations

There are various ways to reduce potential sources of ignition, for example:

- replace naked flame and radiant heaters with a central heating system
- restrict the movement of, and guard portable heating appliances
- install, use and maintain electrical, gas and mechanical equipment in accordance with the manufacturer's instructions
- take precautions to avoid deliberate fire-raising

Table 2 - Fuel

Material which will burn and is in enough quantity may provide fuel for a fire. This includes contents, fixtures, fittings, structure, wall and ceiling linings and surfaces. Some examples of 'fuels' are:

- textiles, soft furnishings, clothing and laundry
- flammable liquids and solvents, such as white spirit, methylated spirit, cooking oils, disposable cigarette lighters and adhesives
- wood, paper, cardboard, plastics, cellular foam, rubber and upholstered furniture
- flammable gases such as liquefied petroleum gas (LPG) and aerosol contents
- grease deposits from cooking

There are various ways to reduce the materials and substances which burn, and to separate them from ignition sources, for example:

- control the storage of flammable and combustible materials
- remove combustible wall and ceiling linings, such as timber, polystyrene or carpet tiles (to reduce the surface rate of flame spread and smoke production)
- ensure that rubbish is not allowed to build up

Table 3 - Oxygen

The main source of oxygen for a fire is in the air around us. Air supply can be by natural air flow through doors, windows and other openings; or mechanical air conditioning systems and air handling systems. Buildings may have a combination of sources capable of

introducing or extracting air.

Potential sources of oxygen supplied to a fire can be reduced by:

- closing doors and other openings
- ensuring that doors are close fitting and, where appropriate, fitted with seals and self-closers
- closing down ventilation equipment

The action may be a precaution taken in case a fire starts, such as keeping certain doors closed. In other cases, the action may take place once a fire is detected, such as when ventilation equipment is shut down (either manually or automatically), or when doors are closed, either manually or by the automatic release of hold-open devices.

High concentrations of oxygen pose a special hazard.

Chapter 3: THE PERSONS IN THE PREMISES

72. The number, nature and location of the occupants needs to be considered. This will influence the fire safety measures necessary. In some cases, the risk to persons will be influenced by their particular circumstances and by their location in, and familiarity with, the premises.

73. Fire can pose a serious risk to the occupants of premises providing sleeping accommodation. There are changes to people's sensory perception while asleep and people can therefore be vulnerable to fire with a greater level of risk at night.

74. In some premises, such as premises where residents are vulnerable due to lifestyle factors or are undergoing rehabilitation, there may be residents under the influence of drugs, alcohol or medication. As a result, the nature of the residents often pose special problems in respect of fire as a result of their mobility, awareness and understanding may be impaired. This will directly affect their ability to respond to a fire. Where this is the case, then consideration should be given to the additional risks posed and the assistance which may be required.

75. Other than staff, the persons residing in premises to which this guide applies can generally be considered in three different categories:

- short-term guests who are largely unfamiliar with the premises – residing in premises where there is some day-to-day management control or supervision, such as hotels, tourism hostels and bed and breakfast
- longer term residents who have familiarity with their own part of the premises and who reside in premises with or without day-to-day management control or supervision, such as some hostels and other HMOs
- short term occupiers of premises where there is no day-to-day management control or supervision - such as self-catering holiday accommodation

76. The category of resident and the presence or otherwise of management are factors to take into account in making judgements about fire safety.

77. Numbers of persons can be anticipated from the size of the premises, number of beds, occupancy levels and trading patterns. A guide to potential capacity of some rooms is to divide the area by an occupancy load factor. For example a common room of 30 m² with a load factor of 1 gives an occupancy of 30 persons.

Table 4 Occupancy load factor of rooms

Description of room	load factor
committee room, common room, conference room, dining room, lounge (other than lounge bar), meeting room, reading room, restaurant, staff room, waiting room	1

78. Occupancy capacity is not used for determining capacity limits because it takes no account of means of escape or other fire safety measures. For example, exit capacity needs to be compared to occupancy capacity. The number of persons who can safely use rooms or storeys may be more or less than calculated because of the means of escape provided, or other fire safety measures in place.

79. Some persons who have a disability may have difficulty in perceiving or responding to a fire or in leaving the premises if there is a fire. In considering staff, guests, residents and visitors, any disability and associated difficulty should be identified. Any special assistance or personal evacuation needs can be identified when guests first register, residents are first accommodated or when tenants take up a tenancy. Information and guidance on the evacuation of disabled persons in the event of fire is available in [Practical Fire Safety Guidance: The Evacuation of Disabled Persons from Buildings](#).

80. Residents and guests with mobility impairment should be considered in respect of whether their particular location in a building might pose evacuation problems and if they could be located to minimise their evacuation route or effort in the event of fire.

81. Where children or young persons are accommodated, account should be taken of the vulnerability and supervision needs and the lack of awareness and immaturity of young persons, including any young persons employed. In some hotels children might be otherwise left unattended in hotel bedrooms where there is a child listening or patrolling service.

Chapter 4: MANAGING FIRE SAFETY

82. A management commitment to fire safety is important to assist with achieving suitable fire safety standards in premises and in maintaining a culture of fire safety.

Fire Safety Policy

83. There should be a clearly defined fire safety policy which includes arrangements for planning, organisation, control, monitoring and review of fire safety measures.

84. There should be one named individual with overall responsibility for the coordination of fire safety management within each premises. Additionally, in multi-site organisations there is a need to establish responsibility for fire safety within the organisation as a whole and the arrangements for monitoring the management of fire safety.

85. In multi-occupied buildings there is a need for co-ordination between proprietors or occupiers to account for the overall fire safety arrangements.

Emergency Fire Action Plan

86. An emergency fire action plan sets out the action that staff and other people in the premises should take in the event of a fire. It is a management responsibility to have in place an emergency fire action plan specific to the premises and to have in place arrangements to implement the plan. Table 5 shows a checklist relevant to an emergency fire action plan.

Table 5 - Emergency Fire Action Plan Checklist

- how people will be warned if there is a fire
- what staff or occupants should do if they discover a fire
- what staff or occupants should do in the event of a fire or the fire alarm activating
- the arrangements for calling the Fire and Rescue Service
- the action to be taken by the person in charge (if relevant) when the fire alarm activates or a fire is discovered
- arrangements for fighting fire by staff trained to use fire extinguishers
- any processes or power supplies that need to be stopped or isolated
- the procedure to evacuate the premises, taking into account the personal evacuation needs of individual residents or occupants
- procedures for checking whether the premises have been evacuated and where occupants should assemble or be taken after they have left the premises
- procedures for meeting the Fire and Rescue Service and passing on details of the incident, whether all persons are accounted for and the presence of any dangers
- contingency arrangements for the relocation or welfare of evacuees

87. Emergency evacuation is a management responsibility and the plan should not rely on the attendance of the Fire and Rescue Service to work. The creation of an evacuation plan for all occupants is a responsibility of the employer (where there are employees) or the persons with control of the premises such as proprietor, owner, landlord or agent, whether the premises are usually staffed or not.

88. Staff should be aware of the emergency fire action plan through their training and instruction.

89. In premises where staff are not usually present, arrangements should be in place to make occupants aware of these arrangements. Residents and others in premises which are not usually staffed should be in no doubt of the action to be taken in the event of fire and of the measures necessary to prevent an outbreak of fire.

90. Where provided, the use of lifts needs to be considered. In general, lifts should not be used for evacuation, though some lifts may be designed for evacuation of disabled persons. If fire-fighting lifts are to be used for evacuation, this should be agreed and co-ordinated with the Fire and Rescue Service who may, on arrival, need to take control of the lift for fire-fighting.

91. Notices containing extracts of the emergency fire action plan should be permanently displayed in appropriate positions throughout the building. Residents and overnight guests should be made aware of the fire procedure by means of a written fire action plan within their bedroom. The provision of notices is covered in paragraph 258.

Fire Safety Information and Training

92. It is important that staff know what they have to do to safeguard themselves and others on the premises and to have an awareness of the importance of their actions including risk reduction, maintenance of fire safety measures and action if there is a fire.

93. All staff (including shift workers, cleaners, volunteers, temporary staff) should be given information, instruction and training on the action to be taken in case of fire and the measures to be taken or observed on the premises.

94. A suitable staff training regime should be in place, tailored to the individual premises and to the staff who work in the premises, which will ensure that staff are suitably trained and know what they should do in the event of fire. The specific fire safety training needs of any young persons employed should be considered.

95. Fire safety training should be specific to the premises. Table 6 shows a staff training checklist. What is important is not simply the fact that staff training has taken place, but that staff have the knowledge and understanding of what they should do in the event of fire and also actions to prevent fire. Assurance to confirm staff understanding could be achieved by incorporating a post-training check.

Table 6 - Fire safety training checklist

- instruction on the operation of the fire alarm control panel, with particular attention to the information displayed and how to interpret this information
- the action to take on discovering a fire
- how to raise the alarm of fire
- the action to take upon hearing the fire alarm
- the arrangements for calling the Fire and Rescue Service
- the significant findings of the fire safety risk assessments
- the measures that have been put in place to reduce the risk from fire
- the identity of people nominated with responsibilities for fire safety
- any special arrangements for serious and imminent danger to persons from fire
- the procedures for alerting visitors including, where appropriate, directing them to exits
- the measures in place to ensure a safe escape from the building and how they will operate
- the personal evacuation needs unique to each resident
- the evacuation procedures for everyone in the building to reach an assembly point at a safe place
- the fire prevention and fire safety measures and procedures in the premises and where they impact on staff and others in the building
- the location and use of fire-fighting equipment
- the location of the escape routes, especially those not in regular use
- how to open all doors on escape routes, including the use of any emergency fastenings (and locks where appropriate)
- the purpose of fire doors and the importance of keeping fire doors closed to prevent the spread of fire, heat and smoke
- the importance of good housekeeping
- the risks from flammable materials used or stored on the premises
- the precautions to be taken to minimise and control the risks, with particular attention to their role in reducing and controlling fuel and ignition sources
- the need for staff to report defects in fire safety measures

96. The knowledge and understanding that employees require will be guided by the role and function the member of staff is expected to fulfil. Staff who have a supervisory role should receive additional training which will enable them to discharge their specific responsibility.

97. Those staff who may require to physically move or assist residents during an evacuation, should receive manual handling training on the method of achieving this and should be familiar with the use of any evacuation aids or equipment provided for this purpose.

98. A record should be kept of individual staff member training and should include the date and time, content, duration and trainer.

99. Where work is undertaken in the premises by outside contractors, then fire safety law specifically requires that information on risks and fire safety measures be notified to these workers and their employers. If any child (not over school age) is employed to work on the premises, information on risks and fire safety measures must be given to their parents.

100. Information may need to be issued to staff whenever there is a change in the risk from fire, where changes have been made to the emergency fire action plan or other fire safety measures, or where working practices or people's responsibilities have changed. This includes temporary changes such as when contractors' work is in progress.

101. Arrangements for the provision of information to occupiers who are not staff members, should also be devised and implemented as necessary. Information should be tailored to the needs of each category of occupier and take into account whether there is normally a management presence in the premises.

102. Residents or tenants and others in premises which are not usually staffed should be in no doubt of the action to be taken in the event of fire and of the measures necessary to prevent an outbreak of fire.

Fire Drills

103. The extent of fire drills will vary, depending on individual circumstances found in the range of premises covered by this guide. Drills should be tailored to suit the needs of different occupancies and should be aimed at ensuring that those persons with responsibilities know what is required of them.

104. Staff and permanent residents may not follow appropriate action in an emergency if they have never experienced that action. Fire drills should be carried out to check their understanding and familiarity with the operation of the emergency fire action plan, to evaluate its effectiveness and identify any weaknesses.

105. The frequency of drills for each building should reflect the level of risk and may therefore be different for different premises. Fire drills should take place no less frequent than twice a year or once a year for small premises. Experience in individual premises, especially premises which are not usually staffed, may show that there is a need to vary the suggested frequencies.

106. In small establishments, it may be impractical to carry out a full evacuation of premises. Nonetheless, it is essential that proprietors or staff are aware of their duties and carry out their own modified "fire drill" periodically to ensure that their role in a fire is tested in practice.

107. For small holiday home accommodation where staff are not usually present, a fire drill will not be necessary or practical.

108. Where premises have residents or tenants staying for longer periods, the residents or tenants should be made fully aware of emergency procedures which should be tested by a fire drill involving a full evacuation of the premises concerned.

109. During drills, the fire routine should be rehearsed as fully as possible. A member of staff who is told of the supposed outbreak should operate the fire alarm. In large premises, scenarios can be introduced to reflect what could occur in a fire, such as an escape route being unusable.

110. If the fire warning system is connected to a remote alarm receiving centre, the receiving centre should be informed or the link should be taken off-line (to prevent the Fire and Rescue Service being called) and then reinstated when the drill is terminated.

111. When carrying out a fire drill in large premises, it may prove helpful to nominate observers to assess the appropriateness of actions and identify problems such as communication difficulties, the use of a frequently used route instead of the most appropriate escape route or difficulties with door fastenings.

112. Where the drill involves evacuation, the drill should include a means of establishing and reporting that all persons have evacuated.

113. The results of the fire drill should be recorded, discussed with staff or occupants, and action should be taken to address any issues which have arisen.

Maintenance of Fire Safety Measures

114. There should be regular checks, periodic servicing and maintenance of the physical fire safety measures. Any defects which occur should be put right as quickly as possible, though there may be a need for contingency plans when life safety systems such as fire-warning systems or sprinklers are defective.

115. The maintenance and testing of some systems and equipment will fall within the recommendations of a British Standard. Examples of testing and maintenance are given below. Some six monthly and annual tests may normally be carried out as part of a service contract. Experience in individual premises may show a need to vary the suggested frequencies, such as for premises that are unstaffed or used on an infrequent basis.

Escape routes and doors

- Daily walk through to check escape routes are clear of obstructions and combustible material. And that self-closing doors are not wedged open
- Weekly check of escape routes, safety signs and notices, exit securing mechanism; and door self-closing devices
- Six monthly check that fire doors are in good working order: inspect doors for warping or distortion, fire-resisting glazed panels are in good condition and secure in their frame, and that intumescent strips and smoke seals are in good condition

Portable fire fighting equipment

- Monthly visual check of fire extinguishers and hose reels to ensure no obvious faults
- Annual maintenance

Fire warning system

- Daily check of the control and indicating equipment (where provided) to ensure the system is operational
- Weekly test by activating a manual call point (usually by inserting a test key). This checks that the control equipment is capable of receiving a signal and in turn, activating the sounders. A different call point is used for each successive weekly test. Call points can be numbered to assist with sequential testing. It is good practice to test the alarm at the same time each week, but also to ensure that shift workers are given the opportunity to hear the alarm. During the test, the alarm should not operate for too long so there is a distinction between a test and an unplanned activation. Check that the test causes the operation or disabling of other features such as electrically powered locks, the release of doors on hold-open devices, the operation of doors on swing free arms and automatic opening doors reverting to manual operation. Where the system is connected to an alarm receiving centre (ARC), the

ARC should be warned before carrying out the test, then confirmation requested after the test that the signal was received correctly

- Six monthly servicing and preventive maintenance
- Where a BS 5839: Part 6 Grade A or D fire alarm system has been installed, then test the system by activating the test facility

Emergency lighting

- Monthly functional test of all emergency light fittings at a time when, following the test, the lighting will not be immediately required. Test methods vary; some systems have self-testing facilities that reduce routine checks to a minimum
- Annual maintenance and full discharge test

Suppression system

- Six monthly (where appropriate) and annual check and routine

116. Residents or tenants in some premises without a management presence, such as HMOs may have some responsibilities as a result of their tenancy agreement or lease. It may be appropriate for residents/tenants to carry out some basic tests and checks, in the absence of the owner or landlord/managing agent, subject to them being proficient to do so. However, responsibilities are likely to be restricted to some daily and/or weekly tests and checks only. Residents and tenants should report any deficiencies in fire safety measures, such as inoperative smoke detectors, smoke alarms or broken door closers. Landlords/managing agents should have a system to resolve deficiencies identified by tenants or by their normal routine inspection programme.

Third Party Certification

117. Other than where work is exempt, any work to a building must comply with the building regulations irrespective of whether or not a building warrant is required Building regulations requires that materials, fittings, and components used should be suitable for their purpose, correctly used or applied, and sufficiently durable.

118. Fire protection products should be fit for purpose and properly installed and maintained, while installation and maintenance contractors should be competent. Third-party certification, where a reputable certification body independently checks competencies and processes and that standards are being met, is one method of providing a reasonable assurance of quality of products and services, provided that the certification body itself is a competent evaluator. Accreditation by UKAS is an indication that a third-party certification body is a competent evaluator. Products and services that are not third-party approved by an accredited body are not necessarily less reliable, but accredited third-party certification can offer assurance. Information on schemes is available from trade associations.

119. There are third-party certification schemes for emergency lighting, fire warning systems and fire fighting equipment which can add reassurance for design, installation and maintenance.

Recording Information and Keeping Records

120. Paragraph 67 indicates those premises where there is a requirement to keep records in respect of fire safety. The records that should be kept are:

- the significant findings from the fire safety risk assessment

- the resulting fire safety measures and action to be taken
- persons who are especially at risk
- fire safety arrangements for the effective planning, organisation, control, monitoring and review of the fire safety measures

121. In most small premises, it will be proportionate to keep no more than details of the significant findings from the risk assessment, any action taken as a result of the fire safety risk assessment, and a copy of the emergency fire action plan.

122. In other premises a full record should be kept. As part of the requirement to record fire safety arrangements, this should include a record of the results of maintenance and testing. These could be either electronic or paper based and retained for at least three years for possible audit by the enforcing authority.

123. For large premises, a fire safety manual for staff should be kept in addition to other records. This type of fire safety manual should contain technical specifications, detail of the fire safety measures, an explanation of the operation of different systems and specific information on testing and maintenance.

Chapter 5: REDUCING THE LIKELIHOOD OF FIRE

124. An effective strategy should be in place to reduce the likelihood of a fire starting. At its simplest, this means separating flammable and combustible materials from ignition sources and ensuring that equipment and installations are maintained.

Housekeeping and Storage

125. Control of combustible materials should be achieved by attention to good housekeeping principles. By carefully considering the type of material, the quantities kept and the storage arrangements, risks can be significantly reduced. Appropriate practices are:

- not storing combustible materials in plant rooms, boiler rooms, attics, service voids and shafts, electrical main or sub-switch rooms
- control and frequent disposal of packaging, waste and other combustible rubbish
- loose storage, bins and waste external to the building, sited well away from the building so that any fire cannot affect external walls or overhanging eaves
- external bins and storage containers secured to prevent movement
- where fire-raising is a potential problem, bin and container lids fitted with locks
- regular building checks to ensure that storage arrangements are appropriate

Storage and Use of Dangerous Substances

126. Certain substances and materials are by their nature, flammable, oxidising or potentially explosive. These substances are controlled by legislation, in particular the Dangerous Substances and Explosive Atmospheres Regulations 2002. The principles of safe handling and storage are:

- avoid the use of flammable materials and liquids wherever possible or substitute flammable substances and materials with those that are preferably non-flammable or with those that are less flammable
- reduce the quantity of dangerous substances to the smallest reasonable amount necessary for use
- correctly store dangerous substances, for example in a fire-resisting metal enclosure - all flammable liquids and gases should ideally be locked away, and segregated if necessary, to reduce the chance of them being involved in a fire or used in deliberate ignition
- ensure good ventilation is provided by way of high and low level vents to allow any flammable vapours to be dispersed
- ensure that all persons are aware of the fire risk of dangerous substances present and the precautions necessary

127. Where gases are stored in cylinders these should ideally be stored and used in the open air outside the building and be located where they cannot be interfered with, and where they will not affect the means of escape. They should not be beside heat, a source of ignition or readily ignitable material and care should be taken to minimise the possibility of involvement in a fire.

128. The presence of flammable liquids increases the chance of a fire starting and its rate of development. For example, a leak from a container of flammable liquid may produce flammable vapours which can travel some distance away from the source of the leak, increasing the likelihood of reaching a source of ignition. Vapours could reach rooms containing heating plant or electrical equipment. The risk can be reduced by ensuring the

storage and use of flammable liquids is carefully managed and materials contaminated with flammable liquids are properly disposed of. Further guidance is available on the HSE website at www.hse.gov.uk/fireandexplosion/.

129. Under normal circumstances, Liquefied Petroleum Gas (LPG) is flammable and is heavier than air. Where LPG cylinders or cartridges are used, these should be stored and used in the open air outside the building. Care should be taken to minimise the possibility of involvement in a fire.

130. Some premises use bulk LPG fixed installations for cooking or heating, comprising an external tank and supply piping. In these installations there is a need to ensure that there are no fires in the vicinity of the LPG tank, and to consider the maintenance of the installation and piping.

131. Guidance on the safe storage and use of LPG is available from the supplier, and the trade association for the LPG industry UKLPG (www.uklpga.org), and on the gas safety pages of the HSE website at www.hse.gov.uk.

132. Flammable propellants are often used in aerosol cans. Aerosols are liable to explode if involved in a fire, causing spread and intensification of fire and possibly damaging doors so that they fail to function in restricting the spread of fire and smoke. These potential consequences should be taken into account and appropriate use, storage and disposal arrangements put into place for aerosols, taking into account the quantities involved. Manufacturers' instructions should be followed. Storage should be away from escape routes and no storage should be allowed in boiler houses or other areas containing fixed sources of ignition. They should not be stored or placed in damp areas where the container might corrode. Aerosol cans can overheat and rupture in direct sunlight therefore avoid placing aerosol cans containing LPG/flammable liquid propellant on window ledges.

Furniture and Textiles

133. The choice of furniture, fittings and textiles can influence the ease of ignition and growth of a fire. Fabrics and textiles should be either inherently flame retardant or durably treated and appropriately labelled. Laundering should be undertaken in accordance with the manufacturers' specific instructions.

134. Upholstered furniture (and composites of cover material and infill) should meet the standards in the Furniture and Furnishings (Fire) (Safety) Regulations 1988, and in addition, pass the flammability standard in BS 5852 with ignition source 5. Upholstered furniture should be maintained in good condition so that there are no tears which expose the filling material.

135. It is recognised that some premises may contain period items of significant monetary, sentimental or historic value which, due to their age, will not comply with modern British Standard requirements. Where such items are not replaced, this should be taken into account when carrying out the fire safety risk assessment.

Safe Use of Equipment

136. Lack of preventive maintenance increases the likelihood of fire starting in equipment. A competent person should regularly maintain (and where necessary clean) machinery, equipment and plant, including cooking, heating and office equipment. Appropriate signs and instructions on the safe use of equipment may be necessary.

137. Generally, equipment ventilation points should be kept clear to avoid becoming clogged or blocked.

138. There should be a procedure for reporting faults. Faulty equipment should be taken out of use when it is identified or suspected of being defective, and thereafter repaired or replaced.

139. Where premises have kitchens, a build-up of grease or fat deposits in equipment and grease extract ventilation systems and ducting linked to the catering facilities can be a source of fire and of fire spread. There should be a cleaning and maintenance programme in place where deposits are removed.

Electrical

140. Electrical installations⁷ and electrical equipment can be a significant cause of fire. Possible causes include:

- equipment faults
- overheating cables and equipment due to overloading or loose connections
- incorrect installation, use or maintenance
- damaged or inadequate insulation
- combustible materials placed close to heat-producing electrical equipment
- arcing or sparking
- modifications to an installation by unskilled/incompetent persons

141. Some precautions are:

- maintenance of installations and equipment should be done only by persons competent to do so
- electrical equipment should only be used for its designed purpose
- correctly wired and fused extension leads and plugs should be used
- electric blankets should be maintained and serviced in accordance with the manufacturers' guidance
- sockets and extension leads should not be overloaded

142. To reduce the potential for a fire occurring, there should be an effective programme of planned preventive maintenance for electrical installations and equipment.

143. Guidance on electrical safety, including FAQs on maintaining portable appliances, is available on the HSE website at www.hse.gov.uk/electricity/index.

Smoking

144. Careless use of cigarettes and other smoking materials is a common cause of fire. A cigarette can smoulder for some time, especially when surrounded by combustible material.

145. Smoking should only be permitted in those areas where the statutory prohibition on smoking does not apply. In each case, there should be a clearly defined smoking policy for residents, staff, guests and visitors. Where designated smoking bedrooms are provided in hotels or hostels, these should be enclosed spaces with ventilation systems that do not ventilate into any other part of the building that is required to be smoke-free and should be marked as a room in which smoking is permitted.

⁷ An 'electrical installation' is the electrical system from the premise's supply meter point to the socket outlets etc.

146. Where smoking is permitted in designated rooms, sufficient quantities of ashtrays should be provided. Ashtrays should be emptied regularly each day into a metal container which is then taken outside. Ashtrays should not be emptied into plastic waste bags. Inspections of smoking areas should be made at regular intervals with staff being vigilant for any sign of scorch marks or burning. Staff should ensure that discarded smokers' materials are removed and that they are fully extinguished. Evidence of scorch marks or burning on furniture or carpets indicates that some residents may need additional supervision.

147. Supervision and precautions need to be considered if there are residents that have a known history involving careless use of smoking materials.

Managing Building Works and Alterations

148. Fires often occur when buildings are undergoing refurbishment or alteration. Before any major building work or decoration, the fire safety risk assessment should be reviewed and additional risks considered and evaluated. There are three aspects of building work that should be considered:

- the introduction of new ignition sources and combustibles and the associated risk of fire occurring during the work
- the potential interference with the existing fire safety measures while the building work is underway
- whether the building work will result in adverse changes to existing fire safety measures

149. To ensure that fire safety measures are not compromised and that adequate controls are in place, it is important to ensure co-operation between the building contractor and management. It may be appropriate to specify site-specific fire precautions in contract conditions.

150. Examples of issues that may arise with building work that need to be considered and controlled are:

- the potential for fires to be caused by hot work such as soldering, welding, flame-cutting, roof repair, paint stripping
- increased quantities of combustible materials and accumulated waste
- obstruction of internal and external escape routes
- loss of normal storage facilities
- fire safety equipment, such as automatic fire detectors, out of use
- fire-resisting construction being breached or fire-resisting doors being wedged open

151. Hot work should only be undertaken when suitable precautions and equipment are in place. This may be the use of an industrial quality fire blanket to mask areas adjacent to the work being carried on, an appropriate fire extinguisher provided immediately to hand, or where the activity presents a high fire risk, an observer standing-by with responsibility to identify any fire propagation from sparks or other source. Areas where hot work is undertaken should be frequently inspected during the first 30 minutes after the work is completed, and then 30 minutes later to ensure that no materials are smouldering. A 'permit to work' system is a useful procedure and management tool which allows a degree of control over contractors or staff who may be carrying out hot work.

152. Modern buildings of timber frame construction contain combustible material in the structure. Care needs to be taken with tools or heat sources where any construction work or

alteration involves drilling or cutting openings in the outer cladding or the inner plasterboard skin.

153. The content of skips, waste containers or combustible material may be subject to deliberate ignition. Storage, preferably in lockfast non-combustible containers, should be away from the building so that any fire cannot affect external walls or overhanging eaves.

154. Only the minimum materials necessary for the work in hand should be allowed within the building or close to the exterior of the building.

Keeping Escape Routes Clear

155. There needs to be control over the provision of combustible materials in escape routes. If a fire was to occur in an escape route or spread to material in the escape route, this could be a particularly difficult and threatening situation, preventing occupants from escaping.

156. Stairways that form part of escape routes should be kept clear of combustible items and items that could be a source of ignition. Items kept in corridors should be controlled, particularly bedroom corridors, consistent with the need for the normal functioning of the premises.

157. The maintenance of adequate escape route width and prevention of obstruction is also relevant. Escape route width is covered in Chapter 7.

158. Examples of some items which are normally unacceptable in stair and corridor escape routes are:

- gas cylinders, gas pipes, meters and similar fittings
- cooking appliances
- upholstered furniture
- coat racks
- electrical equipment such as photocopiers and battery chargers
- storage of combustibles

Fire-raising

159. The possibility of deliberate fire-raising should be considered. This may be particularly relevant in areas with a history of vandalism or fire-setting.

160. Appropriate precautions should be taken. This may involve ensuring the premises is secure against unauthorised access to non-residents, there is no unauthorised access to plant areas or other unoccupied spaces, and that waste stored external to the building, is kept in lockfast bins or stores. Security measures should not compromise the means of escape and the ability to evacuate.

161. In institutional premises, where there may be residents with a known predisposition to starting fires, increased supervisory measures may need to be implemented.

Chapter 6: RESTRICTING THE SPREAD OF FIRE AND SMOKE

162. To reduce the risk to persons from fire, it is necessary to consider how to restrict the spread of fire and smoke. The majority of people who die in fires are overcome by smoke. To evaluate the risk requires a basic appreciation of the way fires grow and how smoke can spread through a building. A fire in a building can generate smoke that is thick and black, obscures vision, causes difficulty in breathing, and can prevent persons from using escape routes. Smoke is a serious threat to life which should not be underestimated.

163. Fire is spread by convection, conduction and radiation. When fire starts in a building, the smoke rising from the fire becomes trapped by the ceiling and then spreads in all directions to form an ever-deepening layer over the entire room space. The smoke will pass through any holes or gaps in the walls, ceiling and floor into other parts of the building. The heat from the fire gets trapped in the building and the temperature rises. Some materials, such as metals are particularly prone to absorbing and transmitting heat by conduction, where this can set fire to combustible items that are in contact with the heated material. Radiation transfers heat in the air in the same way that an electric bar heater heats a room. Combustible material close to a fire will absorb the heat until the item starts to smoulder and then burn.

Fire Separation and Compartmentation

164. The purpose of fire separation is to provide a physical fire-resisting barrier to restrict fire and smoke spread between different occupancies and between single occupancy parts and communal areas. Where premises adjoin or are part of a larger building, the potential for an outbreak of fire to spread to or from the neighbouring building or another occupancy should be considered.

165. A fire compartment is part of a building constructed to provide a physical fire-resisting barrier to prevent the spread of fire and smoke to or from another part of the building. The life safety objectives of fire compartmentation may be to:

- reduce the number of occupants who may be immediately at risk
- reduce the travel distance for persons
- restrict the size and growth of fire
- protect occupants where there may be delayed evacuation of premises

166. A lift well can be a route for vertical fire spread. A lift well which is enclosed by walls with fire-resistance will be a barrier to fire spread. A lift well which is totally within a protected area such as an enclosed stair, is already within a fire resisting enclosure. Where a lift well is not the full height of the building, the fire resistance of the floor and/or ceiling needs also to be considered.

167. Where services pass through any fire resisting structure, gaps should be sealed or fire stopped to maintain the fire resistance of the structure and prevent the passage of fire or smoke. Pipes should be fitted with a proprietary sealing system capable of maintaining the fire-resistance. A similar consideration exists for penetration by ventilation ducts.

168. Boiler rooms and plant rooms are a possible source of fire. To contain a fire, at least in its early stages, a room may be enclosed by walls with fire-resistance where it contains a major appliance (solid fuel, oil or gas fired, or fuel oil tanks). Where the appliance or equipment uses liquid fuel, the room should have a design that could contain all the liquid plus an extra 10%, within the room in the event of a leakage.

169. Some rooms may need to be enclosed by floors, walls, doors and ceilings, to provide at least 30 minutes fire-resistance, in order to contain a fire in its early stages. Some examples are shown below.

- storage rooms and cupboards
- staff changing and locker rooms
- smoking rooms
- kitchens and laundry rooms
- day rooms
- rooms containing a lift drive mechanism (unless already within an enclosure)

Corridors

170. Where bedrooms open into a circulation area, a fire occurring in a bedroom or other room opening into the circulation area will pose a threat to the occupants of other rooms who have to use this circulation area for escape.

171. The provision of self-closing fire-resisting doors with smoke seals offers protection to a bedroom corridor escape route from fire and smoke if a fire starts in a room, maintaining the tenability of the escape route to give maximum evacuation time. Some premises will have fire doors fitted to bedrooms to comply with Building Regulations. In older buildings, existing doors may be suitable which, while not meeting the specification for a fire door, are of substantial construction and close fitting.

172. Figure 3 shows a floor layout with there is a protected bedroom corridor where the doors and walls forming the bedroom corridor, other than doors serving only toilets where the potential for fire is low, have at least a nominal 30 minutes fire resistance.

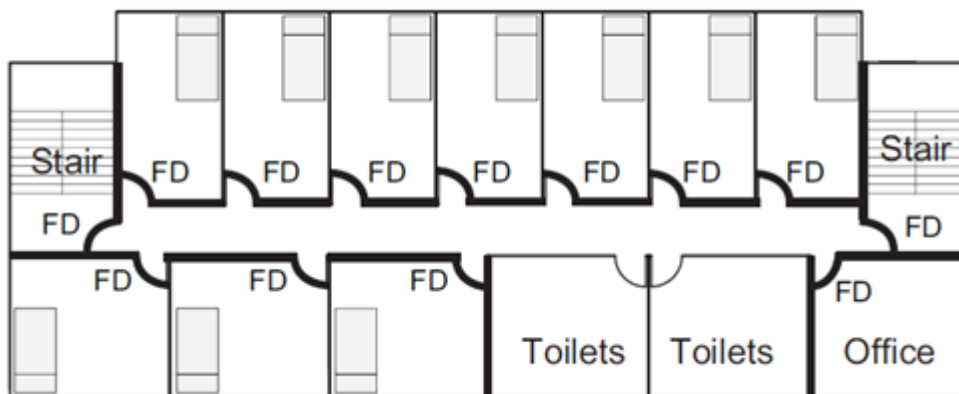


Figure 3 - Protected bedroom corridor

173. For the purpose of limiting smoke spread, corridors which have at least two directions of escape, and with more than 12 m in length between the exits, may be divided in the middle third of the corridor with a wall or screen with at least 30 minutes fire-resistance (for integrity) and the door in the wall or screen at least an FD 30S self-closing fire door.

Doors

Fire doors

174. A 'fire door' is a fire-resisting door which is rated by performance to fire under test conditions. Fire doors are used to prevent fire spread and for the protection of means of

escape. A self-closing device is a normal feature of a fire door, though there are some exceptions such as doors to small cupboards which are kept locked shut.

175. A fire door rated to 30 minutes is described as FD30⁸ or E30⁹. A suffix is added to denote that the door has a smoke seal function giving FD30S and E30Sa respectively. A 60 minutes fire door with smoke seal is designated FD60S or E60Sa. The door rating is an indication of test performance and is not necessarily how a door will perform in a real fire.

176. The level of protection provided by a fire door is determined by the time taken for a fire to breach the integrity of the door assembly, together with its resistance to the passage of smoke, hot gases and flame. The gap between the door leaf and the frame is normally fitted with intumescent strips, in either the door or the frame (but not at the bottom of the door). The strips expand in response to heat from a fire, to seal the gap between the door leaf and the frame.

177. Smoke seals fitted to the door leaf gap prevent the spread of smoke at ambient temperatures, before an intumescent strip expands.

178. In determining the performance of a door in fire, it is necessary to consider the whole door assembly including the frame, glazing, side-panels, transoms and ironmongery. In the case of a new door assembly, the manufacturer's installation instructions should be followed.

179. Some existing non-fire-resisting doors may have the potential to be upgraded to nominal 30 minutes standard, but replacement of existing doors and frames is often preferable. Though door replacement may not be appropriate for some listed buildings.

Self-closing function

180. A fire door will only fulfil its function to provide a barrier to fire and smoke if it is closed at the time a fire occurs. A controlled self-closing device, complying with BS EN 1154, will be fitted to each fire door (other than to certain cupboard doors). The closing pressure of the self-closing device needs to be sufficient to overcome any latch mechanism. It is inappropriate to rely on a procedure whereby staff will attend and close doors as an alternative to fitting self-closers.

Hold-open and door release devices

181. There are devices which hold self-closing fire doors in the open position until a fire detection system operates. They should not be used for a door to a room in which the type of automatic fire detector is solely a heat detector.

182. A self-closing fire door can be held open by an electromagnetic hold-open device (which complies, where appropriate, to BS EN 1155 or BS 5839: Part 3) or with electromagnetic hold-open door closers (to BS EN 1155). Electrically operated hold-open devices should deactivate and release the door on operation of the fire warning system or any loss of power to the hold-open device. Doors to a stairway that forms the only means of escape from an upper floor should close automatically in the event of fault in the fire warning system.

183. An alternative release is an acoustically-activated door release mechanism complying with BS EN 1155. Acoustic devices should not be used on fire doors to a

⁸ tested to BS 476: Part 22

⁹ tested to BS EN 1634: Part 1

protected stair that is the only stairway serving the building or part of the building. Acoustic devices actuate in response to the sound from the fire alarm sounders so will not be appropriate where the initial fire alarm activation does not activate the fire alarm sounders (such as a staff alarm).

184. A further type of self-closing device comprises a 'swing-free' arm¹⁰, allowing the door leaf to work normally and independently of the closing device in normal conditions. On the operation of the fire warning system or on power failure, the self-closer operates and closes the door.

185. Radio-linked devices are available; these reduce the need for wiring. Some acoustic systems are battery powered.

186. BS 7273: Part 4 contains detailed guidance on conditions for use of door release devices.

187. The automatic closing of doors may take persons by surprise and the force of the closing mechanism could knock someone over and be a source of injury. Consequently precautions should be taken to avoid injury, including during a scheduled test or action which will result in release of the doors.

Smoke Control

188. A hotel with an atrium may include an automatic smoke and heat exhaust ventilation system (SHEVS). SHEVS are used in conjunction with automatic fire suppression systems; suppression limits the size of a fire therefore controlling the amount of smoke produced. Smoke control in this context is a specialist subject.

Fire Spread through Cavities

189. Many buildings have cavities and voids, sometimes hidden from view, which may allow smoke and fire to spread. Examples are:

- vertical shafts, lifts and dumb waiters
- false ceilings, especially if walls do not continue above the ceiling
- voids behind wall panelling
- unsealed holes in walls and ceilings for pipe work, cables or other services
- a roof space or attic
- a duct or any other space used to run services

190. Potential fire spread through cavities and voids should be assessed and, where practical, examined to see if there are voids that fire and smoke could spread through.

191. Cavity barriers may be necessary to restrict the spread of fire in cavities, particularly for those cavities that could allow fire spread between compartments.

192. Certain modular construction buildings have hidden voids through which fire may spread. Modern timber frame buildings have cavities within the frame and these should have been installed with fire resisting cavity barriers between the external cladding and the timber wall panel at the time of construction.

¹⁰ The mutual terms 'swing-free' and 'free-swing' are both in common use

193. Poor work standards during building work can result in cavity barriers (or the enclosure of escape routes) being breached and/or not being reinstated. This potential needs to be considered. The control of building work is covered in Chapter 5.

194. Insulated core panels (sandwich panels) normally consist of an insulated core sandwiched between an inner core and an outer metal skin. They are used in buildings as exterior cladding or for internal structures and partitions. Various materials have been used as a core. The existence of panels with a combustible core needs to be carefully considered since fire may spread through the combustible core.

Ventilation Systems

195. The potential for ventilation systems to allow the spread of fire and smoke should be assessed. A powered ventilation system may assist the spread of smoke unless it is designed to shut down automatically if fire is detected.

196. Ventilation ducts may provide a pathway for the spread of fire and smoke between compartments or into stairs. Some ductwork may be fire rated. In other cases, where ventilation ducts penetrate the walls or floors of these enclosures, automatic dampers provided inside the ducts hold back fire and smoke. Dampers may need to be actuated by smoke detection. Guidance on the type of damper and actuation methods is contained in BS 9999.

Fire Spread on Internal Surfaces

197. Fire can rapidly spread on the surfaces of walls and ceilings, significantly affecting the rate of fire growth and smoke production. The potential for fire spread on surfaces in escape routes is important as this could prevent occupants from escaping. The internal surfaces may predominantly be:

- Category 0 for bedroom corridors, protected stairs and escape routes
- Category 1 for other corridors and large rooms

198. The grading system for surface spread of fire relates to performance against tests set out in certain British Standards. Examples of materials are:

Category 0 - brickwork, blockwork, concrete, ceramic tiles, plaster finishes (including rendering on wood or metal lathes), wood-wool cement slabs and mineral fibre tiles or sheets with cement or resin binding

Category 1 - timber, hardboard, blockboard and particle board, which have been treated to achieve this category

199. Additional finishes may be detrimental to the fire performance of the surface. Multiple layers of wallpaper or certain paints applied to the face of a wall or ceiling surface can increase surface flame spread.

200. The use of plastics for surface finishes is a complex issue and outwith the scope of this guidance document. Information on the suitability of plastic materials can be found in section 2.5 of the *Scottish Building Standards Technical Handbooks*.

Fire Spread on External walls

201. If there is combustible external wall cladding or construction, it will be necessary to consider the potential for an outbreak of fire within the building, or from an external source, to spread on the external walls of the building and pose a risk to occupants.

Fire Spread from Neighbouring Buildings

202. An assessment should be made in respect of the potential for a fire to spread to the premises from any neighbouring buildings or structures and whether this could pose a risk to occupants.

Chapter 7: PROVISION AND USE OF MEANS OF ESCAPE

203. Once a fire has been detected and a warning given, everyone in the premises should, if necessary, be able to move or be assisted away from the fire to a place of reasonable safety such as an enclosed protected stair or another compartment from where they should be able to continue to escape to an unenclosed safe area beyond the premises. Means of escape is the provision of safe escape routes for people to travel from any point in a building to an unenclosed safe area, and includes the measures to maintain those routes. The number and capability of people will influence the assessment of the escape routes. The escape routes should be sufficient to enable the maximum number of people likely to use the premises at any time to safely escape¹¹.

204. Escape should also be considered from external areas like enclosed yards.

205. Means of escape should be provided both in terms of the number and capacity of escape routes and in terms of their protection from fire and smoke. When determining whether premises have adequate escape routes, a number of interdependent factors should be considered, including:

- the characteristics, number and location of people in the premises
- the construction of the premises and the potential for fire and smoke spread
- the fire compartmentation of the premises
- the time it will take people to escape

Escape Routes

206. A room containing more than 60 persons should have at least two exits, a room with more than 600 should have at least three exits. But a greater number of exits may be necessary, this will depend on the actual numbers resorting and travel distance to the nearest room exit.

207. Even where the number of persons is low, at least two escape routes may be necessary from:

- a storey over 7.5 m in height (other than flats, maisonettes and small premises)
- a basement used by the public (other than only toilets)
- a basement more than 4.5 m deep
- a flat entered from above the accommodation level

208. Larger premises will normally have at least two independent escape routes from each storey of the premises used for sleeping accommodation.

209. The direction of travel of alternative escape routes from any point within a room should:

- diverge at an angle of at least 45°; or
- after a single direction of escape not more than 12 m, then diverge at an angle of at least 45° plus 2½° for every metre travelled in the single direction.

210. Escape routes should be via a direct and unobstructed route. Once occupants have left a room they should ideally not have to pass through another room to reach a protected

¹¹ In a small number of cases where a phased evacuation strategy is used, the capacity of escape stairs is designed on the basis that not all occupants will evacuate at the same time.

escape route or a place of safety. Though in existing low risk situations, escape may be from an inner room through an outer room (see paragraph 220).

211. An escape route should not be by way of

- a lift (unless specifically designed for evacuation)
- an escalator
- a manual sliding door, other than one to which the general public does not have access
- revolving or automatic doors unless arranged to fail safely in the outward opening position in accordance with BS 7036
- a window

212. A clear headroom for escape routes and circulation areas is at least 2 m, and not less than 1.9 m in a doorway.

213. The width and geometry of escape routes should be sufficient to facilitate the evacuation method used and for the number of occupants to escape. From a room or storey with not more than 100 persons, an escape width not less than 1000 mm may be adequate. Where in excess of 100 persons, 1100 mm may be adequate. At least 1200 mm may be necessary where the room or storey is accessible to wheelchair users.

214. An escape route will not normally narrow in the direction of escape but at doorways the width can generally be 150 mm less than the escape route. Where the number of people using the escape route is not more than 225, the door width may be at least 850 mm where the number of people is not more than 100.

215. To assist with evacuation, a door across an escape route should open in the direction of escape where the occupancy capacity is 60 or more, or where occupants may need to exit quickly or the door is a final exit. In other situations it is good practice for a door to be outward opening if practicable.

216. The area outside final exit doors should have suitable underfoot conditions for persons evacuating and pathways so that persons can move away from the building.

Travel Distance

217. There should be a limit on the distance that persons should have to travel to reach a place of reasonable safety. In general, travel distance is the distance measured along the actual route of escape (having regard to the layout) from any point within a storey to the nearest door giving direct access to either; another compartment; a protected stair; or to a final exit. However in the case of flats and maisonettes, two separate travel distances are considered:

- the distance travelled within the flat or maisonettes to its main entrance or exit door
- the distance travelled from the main entrance or exit door of a flat or maisonette to the final exit, protected escape route or external escape stair.

218. Travel distance benchmarks are given in Table 7.

Table 7 Travel distance by reference to building type

	Height	Description	Single direction of travel (m)	More than one direction of travel (m)*
Flats and Maisonettes				
Within flat or maisonette	NA	NA	15	32
From flat or maisonette door	Not more than 7.5 m	Single exit	7.5	32
		With alternative exit	unlimited	unlimited
	More than 7.5 m	Single exit	7.5	32
		With alternative exit	32	unlimited
	Any height	open access deck or open access balcony serving accommodation	40	unlimited
Other Premises				
	NA	NA	15	32

* this includes the single direction distance

219. A single direction of escape is travel before there is the choice of escape routes. See Figures 4 to 6. A single direction of escape may involve persons moving towards or past a fire, if the fire occurs between the occupant and the choice of escape routes.

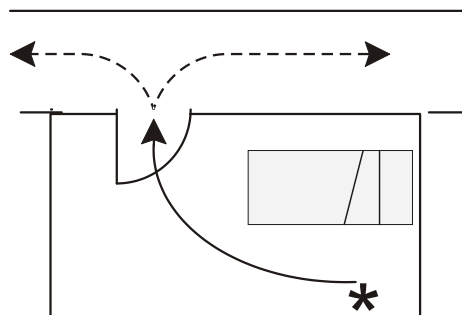


Figure 4 - Single direction of escape within a room before a choice of escape routes becomes available

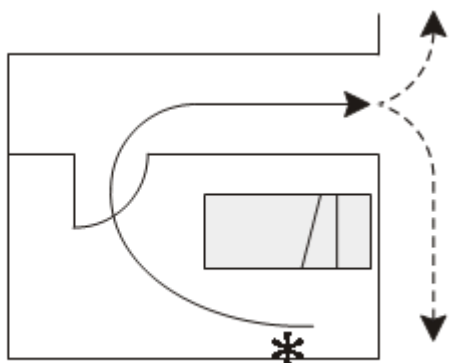


Figure 5 - Single direction of escape out of room and along a corridor before a choice of escape routes becomes available

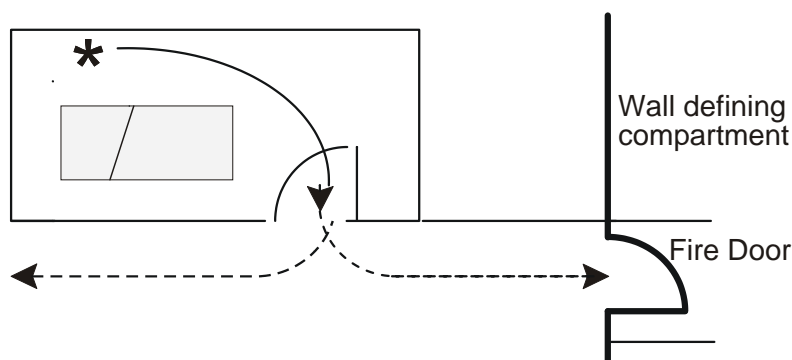


Figure 6 - Single direction of escape within a room before a choice of escape routes, one of which goes through a fire door into another compartment

Inner Rooms

220. An inner room is a room where access to a circulation area can only be achieved by passing through an access room (see Figure 7). A fire could develop unnoticed in the access room preventing the occupants of the inner room escaping. The risk to persons in the inner room will be less if the access room contains limited combustibles and ignition sources, and travel distance from any point in the inner room to the exit from the outer room are short. The following conditions will limit the risk to persons in the inner room:

- where the inner room is used as a bedroom
 - the access room should not be of a higher fire risk than the inner room and should contain limited combustibles and ignition sources
 - a smoke detector should be provided within the access room and be capable of providing a warning of fire to persons within the inner room
- the maximum travel distance from any point in the inner room to the exit from the access room should not exceed 15 m, unless there are alternative exits from the access room

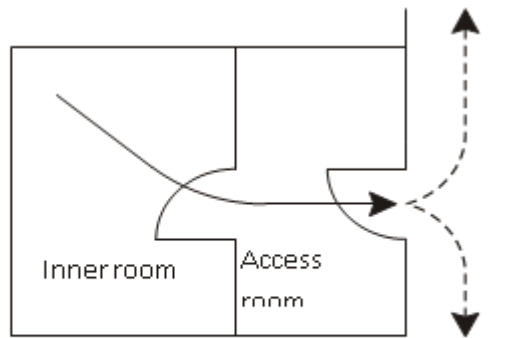


Figure 7 - Inner room arrangement

Stairs

Escape stairs

221. To protect escape routes from fire, the normal standard for escape stairs is for stairs to be enclosed within a fire resisting enclosure (creating a protected zone) such that the enclosing structure between the stair and the rest of the building has fire-resistance and any door in the enclosing structure is a self-closing fire door. This arrangement is shown in Figure 8. Each escape stair should have its own independent final exit.

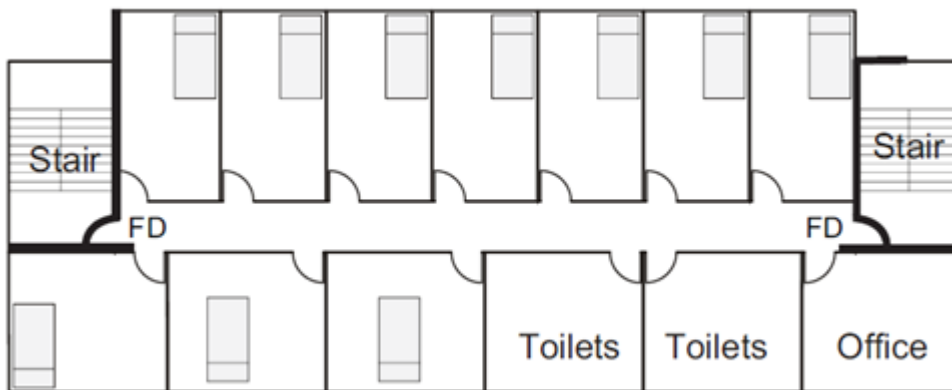


Figure 8 - Protection of escape stairs

222. If the enclosure has an external wall that projects beyond the face of a building or is set back in a recess, the route may be vulnerable should fire break through an adjacent window, door or other opening. Radiated heat or flames from the fire may impede escaping occupants. Therefore an external wall of a building which makes an angle less than 135° with the external wall of the enclosure might need to be fire-resisting.

223. The width of an escape stair should be at least the width of any escape route giving access to it. A check should be made that the width of an existing escape stair is suitable for the persons who would use it and the method of evacuation. The number and capacity of stairs serving a building needs to be sufficient for the number of persons to allow the occupants of all storeys to evacuate at the same time, other than where the escape stair has been designed to support phased evacuation.

224. Where part of a building has only one escape route by way of an escape stair, if access to the escape stair is by way of a protected lobby, this will provide an additional barrier to fire and may afford people additional time to escape. A protected lobby is where there are two self-closing fire doors between the adjoining accommodation and the stair. Access to any escape stair which serves a storey at a height of more than 18 m should be by way of a protected lobby.

225. Where an escape stair also serves a basement storey, a self-closing fire door at ground floor level separating the basement stair enclosure from the stair enclosure serving the rest of the building will provide improved protection to the means of escape from any fire that may start in the basement.

226. Ideally, an escape stair (including landings) and the floor of a protected lobby will be non-combustible. Where an existing escape stair is combustible, consider the potential for the stair to be directly affected by fire, such as a fire occurring in an under-stair cupboard, and the possibility of lining the underside of the stair with non-combustible material.

227. A small room, reception, cupboard or toilet may be sited within the enclosure of an escape stair if the fire risk is low and all other parts of the building served by the escape stair have at least one other escape route.

228. The evacuation speed of people with mobility disability can be slow and there may be a space within the protected stair so that they can wait temporarily until it is safe to use the stair – a space capable of accommodating a wheelchair and not less than 700 mm x 1200 mm. These spaces should not be used for storage. Modern buildings may have an emergency voice communication system in the temporary waiting space to assist the escape process and reduce the anxiety of occupants making use of the space.

External stairs

229. An external escape stair may present problems for persons evacuating a building because people can feel less confident using an unenclosed stair at a height. For this reason, an external escape stair may only be suitable where the topmost storey height is not more than 7.5 m; and the stair is used only by those who can safely use it. Appropriate weather protection may be necessary to enable the stair to be used in all weather conditions. The state of repair of external stairs exposed to the weather should be checked.

230. An external escape stair should lead directly to a safe area beyond the premises and should be non-combustible.

231. An external escape stair may be unusable if fire occurs in the building. External stairs with a rise more than 1.6 m, may need to be protected against fire from within the building with at least 30 minutes fire-resistance.

Escape across Flat Roofs

232. Where the occupants of premises can safely use it, an escape route may be across a flat roof, and be an alternative additional provision to another escape route.

233. The following criteria apply to an escape route across a flat roof:

- be clearly defined, illuminated and guarded with protective barriers not less than 1.1 m in height
- have a slip free surface

- have fire-resistance for a distance of 3 m on either side of the route
- have no unprotected openings from adjacent structures, within 2 m

Door Fastening

234. It is important that doors necessary for escape be easily openable while the premises are occupied. Where a door across an escape route has to be secured against entry, it should be fitted with a fastening which is readily operated without a key, from the side approached by people making their escape. Where a door is operated by a code, combination, card, biometric data or similar means, it should be capable of being manually overridden from the side approached by people making their escape.

235. Push pad devices (to BS EN 179) are suitable securing devices for outward opening final exit doors where occupants can be expected to be familiar with the devices. In other cases, panic exit devices operated by a horizontal bar (to BS EN 1125), are suitable.

Electrically powered locks

236. Electrically powered locks can be operated by electromagnetic or electromechanical means.

237. Electrically powered locks should not be installed on any door which provides the only route of escape for persons, or which serves a room or storey with more than 60 persons, or a door on a fire-fighting shaft.

238. Electrically powered locks should return to the unlocked position:

- on operation of the fire warning system
- on loss of power
- on actuation of a manual door release unit positioned at the door on the side approached by people making their escape (where the door provides escape in either direction, a unit should be installed on both sides)

239. BS 7273: Part 4 provides detailed guidance on the electrical control arrangements for the fail-safe release of powered locks.

Automatic Opening Doors

240. Some internal doors may be linked to a motion sensor or other device so that the door opens automatically to facilitate movement of residents. Some devices can be triggered by smoke movement which may cause a fire door to open precisely at the time when it should be closed as a barrier to fire and smoke. These doors should be linked to the fire warning system so that the automatic opening function is disabled if the fire warning system is triggered (but still permitting the door to be manually opened). If the door is a fire door, the opening mechanism should not reduce the fire resistance of the door. When the automatic opening function is disabled following activation of the fire warning system, the fire door's normal self-closing function should continue to operate.

241. Automatic opening doors should not be placed across exits unless they are designed in accordance with BS 7036 and are either:

- arranged to fail safely to outward opening from any position of opening; or
- are provided with a monitored fail-safe system for opening the door from any position in the event of mains supply failure and also in the event of failure of the opening

sensing device; and open automatically from any position in the event of operation of the fire alarm in the fire alarm zone within which the door is situated.

Powered sliding doors

242. Powered sliding doors often open in response to a motion sensor. Such a door across an escape route, should be fail-safe and should open:

- on operation of the fire warning system
- on loss of power
- on activation of a manual door release unit positioned at the door on the side approached by people making their escape (where the door provides escape in either direction, a unit should be installed on both sides).

243. BS 7273: Part 4 contains detailed guidance on the electrical control arrangements for fail-safe operation of powered sliding doors.

Lighting

244. Escape routes should be provided with lighting to allow persons to safely use these routes in the event of a fire occurring or in the event of failure of the normal lighting power supply.

Escape route lighting

245. Premises should be provided with lighting in the escape routes to the extent necessary to ensure that in the event of an outbreak of fire, illumination is provided to assist in escape and to aid staff in implementing the emergency fire action plan.

246. If there are escape routes that are not permanently illuminated, such as external stairs, then a marked switch or some other means of switching on the lighting, such as a motion sensor, should be provided.

Emergency escape lighting

247. Emergency lighting is lighting designed to operate or remain in operation automatically in the event of a local or general power failure. The size and type of the premises and the risk to the occupants will determine whether there is a need for emergency escape lighting.

248. Emergency lighting can be stand-alone dedicated units or incorporated into normal light fittings. Power supplies can be rechargeable batteries integral to each unit or a central battery bank. Single 'stand-alone' emergency lighting units may be sufficient in some premises and these can sometimes be combined with exit or directional exit signs, though the level of general illumination should not be significantly reduced by the sign.

249. Emergency lighting is described as 'maintained' if it is permanently illuminated, and 'non-maintained' when it only operates if the normal lighting fails.

250. A system of automatic emergency lighting is likely to be needed in large premises, particularly in those with extensive occupied basements, or where there are significant numbers of people. If some escape routes are internal and without windows, then some form of emergency lighting may be required. Emergency lighting may be necessary in a

room with more than 60 occupants and escape routes serving such a room and escape routes in public access buildings which have two storey exits.

251. An emergency lighting system provided for escape purposes may be used to illuminate the following:

- internal and external escape routes, exit doors and escape route signs
- intersections of corridors
- staircases so that each flight receives adequate light
- changes in floor level
- fire-fighting equipment
- fire alarm call points
- signs
- equipment that needs to be shut down in an emergency

252. New emergency lighting systems should comply with BS 5266: Part 1.

Signs and Notices

253. In small simple premises where the locations of escape routes and fire-fighting equipment are readily apparent then fire signs may not be necessary.

254. Escape route signs are used to indicate escape routes not in normal use and are only necessary where there might otherwise be confusion regarding the route to follow in the event of fire. The following criteria apply to escape route signs:

- they should provide enough information to enable people to identify escape routes
- where the location of an exit is not obvious, signs with directional arrows may be provided along the route
- escape route and exit signs should not be fixed to doors as they may not be visible if the door is open
- signs mounted above doors should be at a height of between 2 m and 2.5 m above the floor
- signs on walls should be mounted between 1.7 m and 2 m above the floor

255. The legibility of an escape sign is determined by the size of the sign, the level of illumination and the distance over which it is viewed. Signs should be in pictogram form. The pictogram can be supplemented by text and/or directional arrows if necessary to make the sign easily understood. Guidance on the use of escape route signs is available in BS 5499: Part 10.

256. Signs to indicate the location of non-automatic fire safety equipment may be necessary if there is any doubt about its location, such as fire extinguishers that are kept in cabinets or in recesses. Other signs may also be necessary such as:

- 'Fire door keep shut' or 'Fire door keep locked shut' on fire doors
- 'Automatic fire door – keep clear'
- how to operate the securing devices on doors
- location of sprinkler stop valve

257. New safety signs should comply with BS EN ISO 7010.

258. Notices are used to provide instructions on how to use any fire safety equipment and the actions to take in the event of fire. Notices containing details of the emergency fire action

plan specific to the premises should be permanently displayed in appropriate positions throughout the building. A distinction may be required between notices that are designed for visitors, guests or residents as opposed to those for staff. Notices giving full instruction for staff should also be displayed on staff notice boards. Notices for guests and residents should be provided in each bedroom and in common areas, where appropriate, and should include a simple layout plan of the floor level.

259. If premises regularly accommodate people whose first language is not English there may be a need to consider providing instruction in the most commonly used languages.

Chapter 8: FIRE DETECTION AND WARNING

260. A fire warning system allows occupants to be alerted and the emergency fire action plan to be implemented. It is important that an outbreak of fire in premises with sleeping accommodation should be detected at an early stage so that the occupants are alerted and the emergency fire action plan implemented as soon as possible. The longer a fire continues undetected, the greater the risk to the safety of occupants.

261. Individual flats, and small premises normally comprising of no more than two storeys should be provided with a fire alarm system (designed for dwellings) complying with the recommendations of BS 5839: Part 6 for Grade D Category LD2, comprising interlinked, mains-operated smoke and heat detectors (with battery back-up) connected to either a regularly used local lighting circuit, or to an entirely independent circuit to which no other electrical equipment is connected.

262. Small premises comprising of 3 storeys in height should be provided with a fire alarm system (designed for dwellings) complying with the recommendations of BS 5839: Part 6 for a Grade A Category LD2 system. It should incorporate control and indicating equipment complying with the recommendations of BS EN 54: Part 2 and comprise interlinked, mains-operated smoke and heat detectors (with battery back-up) connected to an entirely independent circuit to which no other electrical equipment is connected.

263. In larger premises, particularly those with more than one floor, an electrical fire warning system should be provided which can be activated by a person using a manual call point and automatically by means of automatic fire detectors. In large or complex premises, particularly those accommodating large numbers of people, a more sophisticated fire alarm system may be required.

264. Other than the domestic type systems described above, a fire detection and warning system designed, installed and maintained in accordance with the guidance in BS 5839: Part 1 for a category L2 system is likely to be appropriate for the majority of other sleeping accommodation premises. A category L2 system is a system designed for the protection of life and which has automatic detectors installed in escape routes and rooms adjoining escape routes.

265. Information on maintenance and testing of fire warning systems is in Chapter 4. Guidance on the design, installation and maintenance of fire detection and warning system is contained in BS 5839: Part 1.

266. Where automatic detection of fire is provided for life safety, the system will be designated as a category L system, within which there are subdivisions L1 to L5.

L5 is a system designed to achieve a specific fire safety objective

L4 is a system which provides warning of smoke within escape routes

L3 is a system designed to give a warning before escape routes are impassable

L2 is a system designed to give warning before escape routes are impassable but with enhanced coverage in specified areas

L1 is a system installed throughout all areas of the building

Call Points

267. Manual call points, often known as 'break-glass' call points, enable a person who discovers a fire to operate the fire warning system and immediately raise the alarm to warn other people in the premises. Manual call points are normally positioned at exit doors. They

should be conspicuous and positioned no higher than 1.4 m from the floor, but may be reduced to make accessible to wheelchair users. Building occupants should not have to travel more than 45 m to reach the nearest call point.

268. A hinged cover on the call point can be a deterrent where there is the potential for malicious operation or accidental damage. Hinged covers are particularly recommended for the public access parts of buildings.

Automatic Fire Detection

269. The choice of automatic fire detector type depends on the nature of the hazard and the balance between the speed of system response and the need to avoid false alarms. The common types of automatic fire detector are:

- Heat Detectors which operate when a fixed temperature is reached (and may also respond to abnormal rate of rise of temperature). Heat detectors have a good performance in types respect of false alarms but are not appropriate where the detection of smoke is required (such as in escape routes)
- Smoke Detectors which detect the presence of smoke (either ionisation or optical type). They give a speedier response to most fires than heat detectors but have greater potential to generate false alarms. (Smoke detectors within corridors and stairs should be the optical type)
- Combustion Gas Detectors which respond to the gases produced in a fire such as Carbon Monoxide. They can be sensitive to smouldering fires, respond to many fires faster than heat detectors and have a good false alarm performance in the presence of dust, steam and cigarette smoke
- Multi-sensor Detectors contain a combination of heat, smoke or combustion gas detection. These sensors enhance system performance and some types have a low potential for false alarm actuations

Warning

270. Sounders are provided to alert building occupants and should be capable of rousing them from sleep. The type of warning signal and sound level should be appropriate for the premises, the characteristic of the occupants, the fire action plan, and staffing arrangements. Automatic fire detectors with integral sounders may be appropriate for most premises to which this guide applies. Systems that incorporate a sounder base unit in each detector head can provide a more even and tolerable sound level throughout than the peak sound associated with the use of separate point sounders.

271. An appropriate sound level will vary with the nature of the premises, the fire action plan, and staffing arrangements. Although 65 dB(A) is appropriate throughout the building, when persons are asleep on the premises a sound level of 75 dB(A) will be needed at the bed-head in bedrooms.

272. Where there are or may be occupants with hearing impairment to the extent that the fire alarm sounders cannot be perceived, then it will be necessary to consider whether there is a need to provide tactile and/or visual alarm devices for those persons.

273. As an alternative to conventional sounders, a specially designed voice-alarm may be suitable for some premises. Voice alarm systems can provide significant benefits in terms of reduced response time and improved information.

System Information

274. A control and indicating panel provides facility for indication of fire or fault signals and manual controls such as silencing and resetting. Where a control and indicating panel is installed, it should be sited at a location which is appropriate both for staff and for the arriving Fire and Rescue Service.

275. The provision of a suitable fire detection and warning system should be accompanied by suitable staff training and resident awareness so that persons know how to operate the system and how to respond to system operation. A schematic plan should be displayed adjacent to the control panel to allow staff to quickly identify and locate the source of an actuation. If the fire warning system has detection zones, these zones should be shown on a zone plan in a simple and unambiguous way.

276. The building should be divided into detection zones so that the actuation can be located quickly. The allocation of detection zones needs to take into account the layout of the building and should facilitate the emergency fire action plan. Detection zoning should comply with the recommendation in BS 5839-1, and should not be determined purely for the convenience of the system installer.

277. An addressable fire warning system is one where individual detectors and call points can be identified at the control and indicating equipment. Addressable systems are of great advantage in some premises as they reduce the time taken to identify the location of a fire. Where an addressable system is installed, zone indication is also necessary.

278. Certain fire safety equipment is designed so that it operates when the fire warning system operates; examples are:

- automatic release of door hold-open devices
- automatic closure of self-closing doors which are fitted with swing free arms
- automatic opening facility disabled on swing doors with automatic opening
- electronically powered locks on doors returning to the unlocked position
- automatic opening of some exit doors

279. In entertainment areas where the sound pressure level of amplified music exceeds 80 dB(A) then the music should be muted automatically in response to fire alarm actuation.

280. If an automatic life safety fire suppression system is installed, the fire warning should actuate if the suppression system operates.

Remote Monitoring

281. With remote monitoring, the actuation of the fire warning system causes a signal to be transmitted automatically to a remote alarm receiving centre (ARC). On receipt of a signal, the ARC then calls the Fire and Rescue Service. The arrangements with an ARC may contain conditions such as call filtering if requested by the premises management.

282. There are standards and third party certification schemes for ARCs. Dutyholders with a system connected to an ARC may wish to assure themselves about the quality of their own arrangements.

Reducing False Alarms

283. False alarms from automatic fire detectors or manual call point activation are a major problem causing disruption to the running of premises and many unwanted calls to the Fire and Rescue Service. If frequent false alarms occur in the premises, members of staff may become complacent and may not respond correctly to a warning in the event of a real fire.

284. A record of system activations should be kept. Each false alarm should be investigated to try to establish the cause. Remedial action may be needed, such as re-positioning a detector head or changing a detector to a different type. A fire warning system should not be disabled: if it is posing a problem, specialist advice should be sought from a competent contractor.

285. Steps can be taken to discourage inappropriate or accidental call point use such as the provision of a protective hinged cover on the call point, with or without a tamper alarm. In cases where there is the potential for objects to collide with a call point, then side impact protection could be provided.

286. Where a call point is sited close to a green box or button for door control, the door control feature should be clearly signed, to avoid unintentional activation of the fire alarm.

287. Where a fire warning system is connected to an ARC, arrangements need to be in place to take the system off-line during tests or for notification of the ARC.

288. In premises that have no management presence, residents and tenants should be encouraged to notify the landlord or managing agent of false alarms that occur so that remedial action can be taken.

Replacement Systems

289. When a fire warning system needs to be replaced due to age or condition or because dutyholders wish to improve reliability or functionality, dutyholders should consider technological advances. A replacement fire warning system should be an addressable system, other than in small or simple layout premises where identification of actuation will be obvious. Dutyholders should also consider the benefit of incorporating multi-sensor detectors as part of a replacement system.

Chapter 9: MEANS FOR FIGHTING FIRE

290. A small fire tackled with fire-fighting equipment in the early stages may be prevented from developing into a fire of life-threatening proportions. Fire-fighting equipment can fall into one of two categories; either (a) it is designed for use by persons, such as portable fire extinguishers or (b) it is a fixed installation, such as a sprinkler system which comes into operation automatically in the event of fire.

Automatic Life Safety Fire Suppression

291. An automatic life safety fire suppression system operates automatically on detection of an outbreak of fire within the building. In the case of a conventional sprinkler system, water is discharged from the individual head which has detected heat from the fire, all other discharge heads remain closed unless similarly affected by heat. An automatic life safety fire suppression system can be effective in controlling a fire and limiting fire growth.

292. Where buildings are fitted with a smoke and heat exhaust ventilation system, sprinklers are usually installed to restrict fire size.

293. Fire suppression should be appropriate to the occupancy and should be determined on the basis of risk. Design and installation rules for automatic life safety sprinkler systems are contained in BS 9251 or BS EN 12845.

294. Water mist systems are bespoke systems designed on the basis of established test performance. Design guidance is contained in BS 8458 or BS 8489.

295. Many suppression systems are third party certificated which helps to assure their quality.

Fire-fighting Equipment for Use by Persons

296. The safe use of an appropriate fire extinguisher to control a fire in its early stages can reduce the risk to people in the premises. However, tackling a fire with a portable extinguisher should not be undertaken at the expense of ensuring the Fire and Rescue Service has been called, or the commencement of evacuation.

297. The provision of fire extinguishers will depend on the circumstances within and the size of individual premises and the presence of staff who can be trained in their use. Portable extinguishers should be simple to operate, readily accessible, within the handling capabilities of staff or the persons who may use them and be suitable for the classes of fire anticipated (see Table 8). Extinguishers are described by their extinguishing capacity. They are marked with a letter and a number: the letter denotes the class of fire, the number denotes the fire size extinguishing capability. An extinguisher could for example have a rating such as '13A' or '55B'.

298. Information on the selection and installation of fire extinguishers is contained in BS 5306: Part 8. A guide to the level of provision of class A extinguishers is obtained by multiplying the floor area of a storey by 0.065. For example, a floor area of 400 m² would have a rating of 26A (400 x 0.065 = 26) which is the total value of class A extinguisher and can be achieved by combinations of extinguishers with different ratings to achieve the total value. Where there are other classes of fire, appropriate extinguishers for these may be necessary.



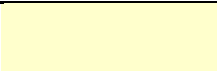

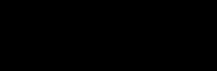

299. In small premises, having one or two portable fire extinguishers of an appropriate type and readily available for use may be all that is necessary. In small unstaffed HMOs a fire blanket in the kitchen may be all that is necessary.

300. Fire extinguishers are positioned on escape routes, close to room or storey exits, final exits from the building or, if necessary, adjacent to hazards. They may be placed on a stand or hung on a wall at a convenient height so that they can be easily lifted off. Generally no one should have to travel more than 30 m to reach a fire extinguisher. It is good practice to group extinguishers together in fire points at a similar position on each floor.

301. While permanent hose reels can provide an effective fire-fighting facility when used by trained personnel, there are disadvantages. When deployed, a hose reel may prevent doors from fully closing causing the spread of smoke, and the hose may pose an obstacle to the movement or escape of occupants.

302. A fire blanket may be appropriate. It may be used to smother a small fire involving cooking oil or fat. Where a kitchen provides meals on a scale larger than a normal domestic household, a heavy duty fire blanket may be appropriate.

Table 8 - Extinguisher types

<p>Water Extinguisher</p> <ul style="list-style-type: none"> • Suitable for Class A fires (fires involving solid materials such as wood, paper or textiles) but not suitable for use on live electrical equipment because water is a conductor of electricity 		<p><i>Red body</i></p>
<p>Water Extinguisher with Additives</p> <ul style="list-style-type: none"> • Suitable for Class A fires. Some also suitable for Class B fires (fires involving flammable liquids such as petrol, diesel or oils) if so indicated on the extinguisher 		<p><i>Red body</i></p>
<p>Foam Extinguisher</p> <ul style="list-style-type: none"> • Suitable for Class A or B fires and particularly suited to extinguishing liquid fires. • Should not be used on free-flowing liquid fires unless the operator has been specially trained • Not suitable for deep-fat fryers or chip pans 		<p><i>Red body with cream label/band</i></p>
<p>Powder Extinguisher</p> <ul style="list-style-type: none"> • Suitable for most classes of fire. • Can be used on fires involving electrical equipment but may damage the equipment • Since powder does not cool a fire appreciably, the fire may re-ignite • No longer generally recommended for use indoors. May cause reduction in visibility and impair breathing if used within buildings 		<p><i>Red body with blue label/band</i></p>
<p>Carbon Dioxide (CO2) Extinguisher</p> <ul style="list-style-type: none"> • Suitable for Class B fires and particularly suitable for fires involving electrical equipment as it is a non-conductor • Since CO2 does not cool a fire appreciably, the fire may re-ignite 		<p><i>Red body with black label/band</i></p>
<p>Wet chemical Extinguisher</p> <ul style="list-style-type: none"> • Suitable for Class F Fires (fires involving cooking oils such as in deep-fat fryers) 		<p><i>Red with canary yellow label/band</i></p>

Chapter 10: FIRE AND RESCUE SERVICE FACILITIES

303. To comply with building regulations or other legislation, premises may have been provided with facilities, equipment and devices for use by, or protection of, fire-fighters. Fire safety law includes a duty requiring maintenance of such features. Some general information is included below. Current standards for some can be obtained in section 2.14 of the *Scottish Building Standards Technical Handbooks*.

304. The Fire and Rescue Service should be notified of any changes affecting existing facilities for fire-fighters.

Fire and Rescue Service Access

305. Buildings may have been provided with facilities such as access roads and hard standing areas that allow Fire and Rescue Service vehicles to approach and park within a reasonable distance. Vehicle access to the building exterior may enable high reach appliances to be used, and enable pumping appliances to supply water and equipment for fire-fighting and rescue. Table 9 shows access dimensions.

Table 9 - Access route for Fire and Rescue Service vehicles

	High reach appliance	Pumping appliance only
Minimum width of road between kerbs	3.7 m	3.7 m
Minimum width of gateways etc	3.5 m	3.5 m
Minimum clearance height	4 m	3.7 m
Minimum turning circle between kerbs	26 m	16.8 m
Minimum turning circle between walls	29 m	19.2 m
Minimum axle loading	14 tonnes	14 tonnes

Water Supply for Fire and Rescue Service Use

306. Fire-fighting operations often depend on a sufficient supply of water. External water hydrants provide a water supply for use by the Fire and Rescue Service. Where no adequate piped water supply is available, an alternative supply may have been provided such as a fixed water tank, or access to a spring, river, canal, loch or pond, with suitable access for a Fire and Rescue Service pumping appliance.

Smoke Ventilation

307. Smoke ventilators or outlets may be provided for assisting Fire and Rescue Service personnel with smoke control and clearance. These may be located in basement storeys and stairs, and may be openable windows.

Fire-fighting Shafts and Lifts

308. Fire-fighting shafts are provided in tall buildings to provide fire-fighters with a protected route from the point of building entry to the floor where the fire has occurred and to enable fire-fighting operations to commence. The stairway within the shaft is likely also to be used for normal movement through the building. Entry points from a stairway in a fire-fighting shaft to a floor will be via a protected lobby. Most fire-fighting shafts incorporate a fire-fighting lift which has a back-up electrical supply and car control override.

Dry and Wet Rising Fire Mains

309. The rising fire main is a facility mostly in medium and high rise buildings, for the Fire and Rescue Service. It consists of a pipe running up or through the building, an inlet box where fire-fighters can connect their hose; and outlet valves for the connection of a hose. A dry riser is empty and is charged with water by the Fire and Rescue Service; a wet riser is kept full of water from the mains water supply. Wet rising mains have a facility to allow the Fire and Rescue Service to supplement the water supply.

310. Issues to consider include:

- the approach to allow a Fire and Rescue Service vehicle close to the inlet box
- prohibition of car parking in front of the inlet box
- the inlet box door secured in a way that fire-fighters can readily open the door
- the outlet valves secured in the closed position, usually with a leather strap and padlock, to prevent tampering
- the outlet valves being easily openable

Information Arrangements for Fire-fighters

311. In some buildings, there may be layout plans available for fire-fighters or information on the presence of particular hazards.

GUIDANCE ON THE APPLICATION
OF
FIRE SAFETY LAW IN SCOTLAND
Version 1. January 2013

Background

1. Fire safety obligations are imposed on dutyholders by Part 3 of the Fire (Scotland) Act 2005 (“the 2005 Act”). Whether these fire safety duties apply in respect of premises, or part of premises, depends on whether the premises, or part of the premises, are ‘relevant premises’ as defined in section 78 of the 2005 Act. In most cases this will be a straightforward consideration, but in some cases the application may not be straightforward and may require interpretation and judgement.
2. In response to a public consultation by the Scottish Government on the definition of relevant premises, a number of respondents identified premises types for which there was a desire for clarity to aid consistent interpretation.
3. To assist dutyholders and enforcing authorities with consistent interpretation, the Scottish Government has therefore developed this non-statutory guidance on how it considers fire safety law may apply in respect of particular types of premises. While section 61(2) of the 2005 Act requires enforcing authorities to have regard to any guidance given by Scottish Ministers when enforcing the fire safety duties, this guidance is not definitive and it therefore remains for each dutyholder and enforcing authority to reach their own conclusions in the individual circumstances of each case.
4. The fire and rescue service use some system tools that contain generic premises categories. Because the generic categories do not always align with the definitions in fire safety legislation in Scotland, the fire and rescue service needs to be mindful that the generic categories should not be used in determining whether premises are relevant premises.
5. Premises are excluded from being relevant premises when they are ‘domestic premises’, as defined. However some premises, such as houses which fall within the scope of House in Multiple Occupation (HMO) licensing in the Housing (Scotland) Act 2006, which may normally be considered domestic in nature, are excluded from the definition of domestic premises in section 78.

Scope

6. The premises and categories covered in this note are:
 - SHELTERED HOUSING FOR OLDER PEOPLE
 - SCHOOL CARE ACCOMMODATION
 - PROVISION OF SUPPORT SERVICE
 - CARE HOMES
 - ADULT PLACEMENT SERVICE

- SITES FOR CARAVANS, MOBILE HOMES OR PARK LODGES
- COMMON AREAS OF PRIVATE DWELLINGS

SHELTERED HOUSING FOR OLDER PEOPLE

Background information

7. Housing for older people falls into the following broad categories:

- **Amenity or medium dependency housing.** This is housing generally considered suitable for older people due to the physical characteristics of the house, but does not necessarily include any services.
- **Sheltered housing.** This is a generic term to describe housing with a warden service which combines older people's accommodation requirements and support needs into a single package. Usually built in a block or comprises a cluster of bungalows and often includes communal facilities, such as a lounge. Scheme residents can call upon a warden for support and the warden may also organise activities. Wardens tend to live off-site. Sheltered wheelchair housing is housing adapted to wheelchair standards for elderly people who use wheelchairs.
- **Very sheltered housing** (sometimes known as 'care housing' or 'extra care housing'). This is accommodation generally suitable for frailer people who might otherwise be in a care home. These schemes may have additional facilities such as special bathroom facilities, a greater level of care and support through extra wardens, full-time carers, domiciliary assistance, or the provision of meals. However there is no single model for this type and provision can vary.

8. There are three main categories of provider of sheltered housing for older people.

- Local Authority Providers

Most Scottish local authorities provide sheltered housing and several also provide very sheltered housing. Some have transferred their stock to housing associations.

- Housing Association Providers

A number of housing associations provide sheltered and/or very sheltered housing. These range from 'national' organisations such as Bield and Hanover (Scotland) who manage large numbers, to small organisations responsible for one or two schemes. Some of these organisations have a small proportion of shared ownership or shared equity accommodation.

- Private Sector Providers

There is private sector provided sheltered housing where the dwellings within the schemes are privately owned and buildings are managed by a private company.

Dwellings can subsequently be sold on. Some private sector schemes include very sheltered housing. Almost all the schemes provided by the private sector comprise freehold properties.

9. In general, sheltered housing comprises private dwellings. These dwellings, and the common areas serving the dwellings such as the corridors, entrance lobby, stairs, common room/lounge etc., are therefore not relevant premises.
10. However some specific parts of some sheltered housing complexes may be relevant premises, examples are:
 - Offices used by persons other than the residents, such as a non-resident warden,
 - Guest overnight rooms, outwith individual dwellings, which are kept available for the exclusive use of visitors,
 - Rooms or facilities within a building which are regularly used for the day care of non-residents.
11. Where, within a building, there are areas that are relevant premises, such as an office used by a warden, this does not mean that the common areas of the building such as corridors or a common room then become relevant premises simply because they may be accessed by employees. See paragraph 47 for an explanation of the treatment of common areas connected to private dwellings.
12. In some very sheltered housing complexes, shared facilities are provided to the extent that this brings the premises within the scope of HMO licensing. Where HMO licensing applies to sheltered housing, the premises will then be relevant premises.
13. Where only part of a building is relevant premises, such as will be the case in many sheltered housing complexes, persons in other parts of the building may fall within the description of 'relevant persons' in section 79 of the 2005 Act, with the effect that dutyholders responsible for fire safety in the parts that are relevant premises, must take into account the safety of the other persons in the building from a fire starting in the relevant premises.

SCHOOL CARE ACCOMMODATION

14. School care accommodation is residential accommodation provided for school pupils in connection with their school attendance. This may be provided by the school or arranged by the school in other premises. Some pupils will be at boarding school through choice, some pupils will stay in accommodation because there are no schools within travelling distance of their home and some pupils will be at residential schools which meet their particular care and education needs.

School care accommodation provided by a school

15. Any school care accommodation provided by a school will be relevant premises because this category is specifically excluded from being considered domestic premises by section 78(5)(c) of the 2005 Act.

School care accommodation not provided by a school

16. School care accommodation not provided by a school but provided by arrangement with another person is specifically not excluded from the definition of domestic premises in the 2005 Act. This means that a decision on whether such accommodation is relevant premises or not depends on an assessment of the premises and whether they are occupied as a private dwelling.
17. Where by arrangement a pupil resides with a person or family in what is otherwise a private dwelling, the existence of a contract for the provision of school care accommodation should not alter the standing of the premises as a private dwelling, and the premises should therefore not be relevant premises. But where a pupil resides in accommodation not provided by the school but which is not in a private dwelling, such as a hostel, then the premises will be relevant premises.

PROVISION OF SUPPORT SERVICE

18. Support services are services designed to help a wide range of people, from those who need support with very complicated needs, to people who need time-limited support at different points in their lives.
19. The Public Services Reform (Scotland) Act 2010 (“the 2010 Act”) includes a care registration category of ‘support service’ and a separate category of “housing support service’. The ‘support service’ category can be subdivided into ‘care at home’ and ‘day care’.
20. Registration of these services under the 2010 Act applies to the service provider rather than to the premises where support is delivered. There are no references to these services in the 2005 Act.

Care at home

21. ‘Care at home’ (also known as ‘home care’ or ‘home support’) is care and support provided in a person’s own home to enable that person to function as independently as possible and/or continue to live in their own home.
22. Home care services may be provided to older people, children and young people and their families and carers; adults with learning disability or mental health problems; people with physical disabilities; people with alcohol and drug problems, and other vulnerable groups. The time, length and areas covered will be different for different individuals. Care at home can include:
- Routine household tasks within or outside the home (basic housework, shopping, laundry, paying bills)
 - Personal care¹
 - respite care in support of the person’s regular carer(s).

¹ Personal Care is defined in Schedule 1 of the Community Care and Health (Scotland) Act 2002

- Overnight, live-in and 24 hour services

23. Care at home may be provided by local authorities or private or voluntary sector agencies. Primary healthcare teams may also be involved in intensive home care schemes.

24. There are a significant number of dwellings where treatment and care is provided by NHS Scotland bodies for patients in their own homes.

25. Since care at home is delivered in a person's own home it follows that these will generally be private dwellings and will therefore not be relevant premises. Where a person living in their own private dwelling receives care or support to allow that person to continue to occupy their home, their home is deemed to be domestic premises; a change in mobility and dependency of the person, or the provision of a carer, will not alter this.

26. Private dwellings, within the meaning of section 78 of the 2005 Act, are not relevant premises. Obligations in respect of the fire safety of employees involved in domiciliary care may sit within the scope of the Health and Safety at Work Etc. Act 1974. Guidance is available on the HSE website at www.hse.gov.uk/healthservices/domiciliary-care.htm

27. Day care²

28. Day care aims to provide care to meet a person's individual needs, teach skills to promote independence, a meal, the opportunity to meet and mix with other people and the choice of taking part in varied activities.

29. Day care support is usually provided in a day care centre. Specially trained staff there can help with learning or re-learning skills as part of a rehabilitation programme or help a person learn to cope with a new disability. Some day care centres are specially designed for people with dementia or with visual or hearing impairment.

30. Day care is generally provided in premises that are not private dwellings, and when this is the case such premises will therefore be relevant premises.

Housing support service

31. Housing support covers a range of activities that allow people to maintain their accommodation, meet their duties and responsibilities as a tenant and to live independently in the community. Housing support services can range from around one hour a week to 24-hour residential support.

32. A wide range of people with particular needs can receive housing support services - the largest group is older people living in sheltered housing. Other groups include homeless people, refugees, women escaping domestic violence,

² Not to be confused with 'day care of children' service which is a separate registration category and which takes place in premises which are relevant premises

people with a chronic illness, people with a physical impairment or learning disability, ex-offenders and people with drug and alcohol related problems. They may use these services when their accommodation is temporary (for example, in a crisis) or when they are being re-housed.

33. Housing support services may be provided or commissioned by a landlord as part of a tenancy agreement where the provision of accommodation is part of the support.
34. Housing support may be provided in all types of accommodation and tenure such as to people living in ordinary houses, sheltered housing, hostels for the homeless, accommodation for the learning disabled, women's refuges and group homes where people share accommodation supported by residential or visiting housing support workers.
35. Premises where persons are in receipt of housing support may or may not be relevant premises. The existence of housing support in itself is not an indication that premises are relevant premises, there needs to be an individual consideration of each premises.
36. The tenure of the premises - whether the residents are tenants or occupiers - is a strong indication as to whether they are private dwellings or not.
37. A tenancy agreement is an indication that the person rents the house or flat exclusively (or with another person), and that the premises are a private dwelling and not then relevant premises.
38. An occupancy agreement is an indication that the person rents a room in a group home where some rooms are shared with other people, or the main purpose of the stay is to receive support, for example in a rehabilitation centre or a hostel. These premises are likely to be relevant premises. Any premises with shared facilities to the extent that this brings the premises within the scope of HMO licensing, will of course be relevant premises.

CARE HOMES

39. The term care home is sometimes used generically to describe a wide range of premises where care is provided. For the purposes of fire safety legislation, care homes are only relevant premises where there is the provision of a care home service as defined in paragraph 2 of schedule 12 to the 2010 Act.
40. Section 78(5)(b) of the 2005 Act specifies that such premises are not to be regarded as domestic premises. This means that a care home, which matches the description, is always relevant premises. Wider definitions of care home must not be used in the interpretation of the legislation.

ADULT PLACEMENT SERVICE

41. Adult placement is a registered care service which is defined in schedule 12 to the 2010 Act.

42. An adult placement service arranges the provision of accommodation and support for vulnerable adults by placing them in the homes of families or individuals where they will be part of the household, and where there is support and care. Generally, premises used for adult placement are private dwellings and are, therefore, not relevant premises.

43. However, there is no exclusion for adult placement premises from HMO licensing, so in those cases where the number of persons living in the premises exceeds the HMO licensing threshold, the premises may be a licensable HMO and then would be relevant premises.

SITES FOR CARAVANS, MOBILE HOMES OR PARK LODGES

General

44. Two different determinations need to be made on these sites in respect of the application of fire safety law. These are (a) whether the site is considered to be relevant premises, and (b) whether individual units within the site are relevant premises.

Individual units

45. A caravan, mobile home or park lodge which is used by someone as their residence, whether as owner or tenant, will be domestic premises and not relevant premises. Where a unit is let as holiday accommodation or used for a non-domestic purpose (such as office, retail or information booth) then it will be relevant premises.

Sites

46. While individual units may or may not be relevant premises:

a. a site itself will be relevant premises where some or all of the units are let as holiday accommodation.

b. a residential site itself will be relevant premises where it contains units, and the units or pitches are rented on a commercial basis, regardless of whether the occupiers of the individual units are owners or tenants.

COMMON AREAS OF PRIVATE DWELLINGS

47. The common areas of private dwellings, such as stairs and corridors, are specifically excluded from being relevant premises by section 78(4) of the 2005 Act.

48. For the purpose of the 2005 Act, premises can only be considered as a workplace where they already meet the description of relevant premises in section 78. This means that the definition of workplace does not extend to the common areas of private dwellings since these parts are expressly not relevant

premises by virtue of section 78. For example an office for a concierge in a block of flats may be relevant premises, but the common parts of the building are not relevant premises even though the concierge may, as part of his or her employment, use or carry out work in the common parts.

49. However the maintenance provisions in regulation 23 of the Fire Safety (Scotland) Regulations 2006 do apply to the common areas of private dwellings by regulation 24, even though these areas are not relevant premises. These provisions apply to the maintenance of premises and facilities, equipment and devices provided for the use by or protection of fire fighters.
50. Some provisions of the Civic Government (Scotland) Act 1982 will also apply in respect of common areas. Section 93 imposes an obligation on occupiers to keep the common property free from combustible substances and obstructions. Fire and rescue service employees have enforcement powers under section 93 (to the extent that such powers have been delegated to them).

Small Bed and Breakfast and Self-catering Premises

1. The scope of this annex is described in paragraph 13 of the main guidance as simple guidance for well-managed small bed and breakfast and self-catering premises and applies to:
 - premises used for self-catering holidays if occupied by not more than 10 persons
 - bed and breakfast premises in the home of a resident operator (for not more than 8 guests)

and which in either case, have a means of escape from bedrooms via a traditional 'hall' with at least one exit directly to the outside; do not have letting or guest accommodation below a ground floor or above a first floor; do not act as the principal residence for paying guests; and do not have any storey area over 200 m² internal floor space.

Introduction

2. This guidance is for proprietors of certain small self-catering and bed and breakfast properties who have duties under Part 3 of the 2005 Act. It is designed to help proprietors understand steps that they should be taking to meet their legal obligations.
3. In general, Part 3 of the 2005 Act and the Fire Safety (Scotland) Regulations 2006 seek to ensure the safety of persons (whether residents, visitors, employees or others), in the event of a fire, by setting out the responsibilities of persons for fire safety. Anyone who has control to any extent of the premises will have some responsibilities for ensuring that those occupying the premises are safe from harm caused by fire.
4. This guidance applies only to fire safety law. Additionally, building regulations apply to the construction of new premises or conversions, alterations or extensions to existing premises intended to be used for bed and breakfast or self-catering. If in doubt you should contact your Local Authority building standards department for further advice.

What does the Law require?

5. Fire safety law requires any person who has control of the premises to carry out an assessment to identify risks to the safety of persons in respect of harm caused by fire in the premises. It also requires them to take fire safety measures which are reasonable to ensure the safety of persons.
6. As the owner or operator you are likely to be the best person to know about the risks on your own premises and how they can be controlled. You should therefore be able to carry out the fire safety risk assessment yourself. Guidance on the steps you should take are provided below.

7. The Fire and Rescue Service will not carry out a fire safety risk assessment for you, but will be able to give you information and advice. They may also visit your premises, ask about your fire safety risk assessment and examine the fire safety measures. If they are not satisfied with the steps you have taken, they could take formal enforcement action. As an initial step, however, they are more likely to work with you to help you take appropriate measures to ensure the safety of your guests.

Benchmarks for fire safety

8. The following benchmarks describe fire safety measures to ensure the safety of occupants should a fire occur (step 3 of your fire safety risk assessment). Before you consider these benchmarks, you will want to carry out your fire safety risk assessment and take any practical steps highlighted as a result to reduce or limit the risk of a fire starting. It is for you as the proprietor to judge what practical steps to take in individual circumstances.
9. These benchmarks are generally applicable to typical situations in a well-managed property for which it is not expected that a higher level of fire safety measures will be needed to meet obligations under fire safety law. You may of course voluntarily decide to provide enhanced measures in excess of the legal obligation.

Benchmarks for small Self-catering Property

Fire detection and warning

10. A smoke alarm(s) should be installed in the hall, or for a two-storey property to both ground floor hall and first floor landing, so that there is a smoke alarm within 3 m maximum of each bedroom door and no part of a hall or corridor is further than 7.5 m from an alarm. A smoke alarm should also be installed in each living room and separate dining room and a heat alarm should be installed in the kitchen.
11. Where a property has more than three bedrooms, smoke alarms should also be installed in each bedroom. (In such case, the smoke alarm(s) installed in the hall or corridor need not meet the 3 m requirement).
12. Smoke alarms installed in halls and landings should be of the optical type¹ (although there is no need to replace existing non-optical alarms during their lifespan).
13. Alarms should be installed in accordance with the manufacturer's instructions. Alarms should be powered by either:
 - a long-life tamper-proof lithium battery or equivalent; or

¹ An optical smoke alarm is a conventional smoke alarm which utilises a light obscuration principle to detect smoke and is responsive to the type of smoke particles which could enter circulation areas during a fire

- mains electricity (with an additional stand-by supply in the form of a battery or capacitor).
14. The smoke alarms should be capable of rousing sleeping occupants therefore alarms should be interlinked so that actuation of one causes actuation of the others. Interlinking may be by hard wiring or wire-free.
 15. You should establish a system which ensures regular testing and maintenance of the alarms.
 16. If long-life battery powered systems are used, you should consider installing mains-powered alarms permanently wired to a circuit when the life of the battery is ended, or when repair or redecoration work is being carried out to the property.

Doors

17. A door between a room (other than a bathroom or toilet) and any corridor, hall or stair which would be the route out in the case of a fire, need not be a fire door² but should be capable of holding back smoke and fire for sufficient time to allow occupants to escape. An example of a suitable door type is a solid timber door.
18. The following check list will help you decide if you need to repair, adjust or replace any door:
 - the door should be close fitting to its frame with gaps of no more than 4 mm
 - the door should have no sizeable splits, gaps or cracks and should not be warped
 - non-fire-rated glazing may fail early in a fire
 - hollow type doors offer poor protection
19. For a two-storey property with sleeping accommodation on the upper floor, it is important that if a fire occurs in a ground floor room off the escape route while persons are asleep, the door of the room on fire remains closed. Where there are more than three bedrooms on the upper floor of a two-storey property, these ground floor doors should be provided with self-closing devices³.
20. Occupiers should be advised of the benefit of keeping doors closed at night to hold back fire and smoke.
21. Doors will only be effective at holding back fire and smoke if the corridor or hall structure also has the ability to hold back fire.

Exit door locks

22. Although there may be a key operated lock on the door, to facilitate escape from fire the final exit door should be capable of being easily opened from the inside

² A fire door is a door assembly which is rated by its fire-resistance performance under test conditions

³ There are various types of self-closing device available, including concealed, which may be suitable

without the use of a key, although it remains the personal choice of the occupiers how to secure the door.

Lighting

23. If a fire disrupts the normal lighting there should be sufficient illumination for occupants to find their way out of the property. Where an escape route does not receive adequate illumination from a street light or other external source, alternative lighting should be provided. This could be through ensuring that the hall and landing (if applicable) have one or more automatic plug-in night lights of a type which continue to operate if the mains electricity fails.
24. Where additional lighting is provided, you should establish a system which ensures that the plug-in light or other lighting is present and in working order at the commencement of each let.

Fire-fighting equipment

25. A fire blanket should be provided in the kitchen for the occupants to use.

Emergency fire action plan

26. You should prepare a plan of what action any occupier should take in the event of fire. This would include the route of escape, how to raise the alarm and how to call the Fire Service. This should be available for each party arriving at the premises. A simple notice could be fixed in an easily visible place such as the hall, and/or be provided within a welcome pack. You should also ensure that the occupier is advised of basic precautions such as closing doors at night to inhibit the spread of smoke, and the need to inform the owner or agent if any equipment develops a fault (such as electrical or smoke alarm defects).

Benchmarks for Small Bed and Breakfast Property

Fire detection and warning

27. For a single storey property, a smoke alarm(s) should be installed in the hall or corridor, sited so that no part of a hall or corridor is further than 7.5 m from a smoke alarm and no bedroom door is further than 3 m from a smoke alarm. A smoke alarm should also be installed in all living rooms and separate dining rooms and a heat alarm should be installed in the kitchen.
28. For a two-storey property, a smoke alarm(s) should be installed in both the ground floor hall and first floor landing sited so that no part of a hall or corridor is further than 7.5 m from a smoke alarm and no bedroom door is further than 3 m from a smoke alarm. A smoke alarm should also be installed in all living rooms and separate dining rooms and in any ground floor bedroom which has a door to the hall, corridor or stair. A heat alarm should be installed in the kitchen.

29. In all cases where there are more than three guest bedrooms, smoke alarms should also be installed in each bedroom. (In such cases, the smoke alarm(s) in the hall or corridor need not meet the 3 m requirement).
30. Alarms should be installed in accordance with the manufacturer's instructions.
31. Smoke alarms installed in halls and landings should be of the optical type⁴ (although there is no need to replace existing non-optical alarms during their lifetime).
32. Alarms should be powered by either:
- a long-life tamper-proof lithium battery or equivalent; or
 - mains electricity (with an additional stand-by supply in the form of a battery or capacitor).
33. The smoke alarms should be capable of rousing sleeping occupants (including the proprietor) therefore alarms should be interlinked so that actuation of one causes actuation of the others. Interlinking may be by hard wiring or wire-free.
34. You should establish a system which ensures regular testing and maintenance of the alarms.
35. If long-life battery powered systems are used you should consider installing mains-powered alarms permanently wired to a circuit when the lifetime of the battery is ended or when repair or redecoration work is being carried out to the property.

Doors

36. A door between a room (other than a bathroom or toilet) and a corridor, hall or stair which would be the route out in the case of a fire need not be a fire door⁵ but should be capable of holding back smoke and fire for sufficient time to allow the occupants to escape.
37. The following check list will help you decide if you need to repair, adjust or replace any door:
- the door should be close fitting to its frame with gaps of no more than 4 mm
 - the door should have no sizeable splits, gaps or cracks and should not be warped
 - non-fire-rated glazing may fail early in a fire
 - hollow type doors offer poor protection
38. For a two-storey property with sleeping accommodation on the upper floor, it is important that if a fire occurs in a ground floor room off the escape route while

⁴ An optical smoke alarm is a conventional smoke alarm which utilises a light obscuration principle to detect smoke and is responsive to the type of smoke particles which could enter circulation areas during a fire

⁵A fire door is a door assembly which is rated by its fire-resistance performance under test conditions

persons are asleep, the door of the room on fire remains closed. Such doors on the ground floor should therefore be provided with self-closing devices⁶.

39. Doors will only be effective at holding back fire and smoke if the corridor or hall structure also has the ability to hold back fire.

Exit door locks

40. To facilitate escape from fire the exit door should only be secured with a lock or fastening which can be readily opened from the inside, without the use of a key, while the premises are occupied.

Lighting

41. If a fire disrupts the normal lighting there should be sufficient illumination for occupants to find their way out of the property. Where an escape route does not receive adequate illumination from a street light or other external source, alternative lighting should be provided. This could be through ensuring that in the hall and landing (if applicable) you have one or more automatic plug-in night lights of a type which continue to operate if the mains electricity fails.
42. Where additional lighting is provided, you should establish a system which ensures that the plug-in light or other lighting is present and in working order.

Fire-fighting equipment

43. A fire blanket should be provided in the kitchen for the operator to use.

Emergency fire action plan

44. You should prepare a plan of what action you will take in the event of fire including raising the alarm, ensuring all guests are evacuated and calling the Fire Service. A simple notice should be displayed in a prominent place in each bedroom, so that the guests know what to do in the event of fire. You may also wish to give them any further advice, such as the regular emptying of ash trays (if smoking is permitted) and the use of their own portable electrical equipment, when they arrive.
45. You should regularly carry out a rehearsal 'fire drill' when no guests are present to ensure that everyone is aware of their role in a fire.

How to carry out a Fire Safety Risk Assessment

46. The steps below are intended to help you through the process of carrying out an assessment of the fire risks in your property.

Step 1: Who is at risk?

⁶ There are various types of self-closing device available, including concealed, which may be suitable

Consider the numbers and capability of people who may occupy your property and who could be at a risk. This includes guests, owners, any other visitors including cleaners, tradespersons etc. Make a note if particularly vulnerable persons are likely such as children, elderly, or disabled persons (you will need to consider the fire safety of guests with any special needs or vulnerabilities).

Step 2: What potential causes of fire are there?

Think about how a fire could start on your premises and identify sources of ignition such as cooking, heaters, open fires and smoking. Do family members smoke? Are there designated bedrooms where guests are permitted to smoke? Where are electrical appliances such as tumble dryers and TVs? What is the likelihood of a deliberate fire?

Consider what could burn and act as fuel for a fire. This could include furniture, bedding, laundry, wood/kindling for open fires, rubbish, flammable liquids, solvents, chemicals or gases, cooking oil, paint, white spirit, cleaning products, aerosols, LPG, or fuels such as petrol.

Step 3 Evaluate the risk

Consider what could happen if a fire occurred and how quickly it could spread. The construction of the property can affect how fire can spread, it may spread faster if there are multiple layers of wallpaper, polystyrene ceiling tiles or interior wood paneling. If rubbish stored outside caught fire could it spread to inside the property or block an exit door?

Step 4: What can you do to reduce/remove risk, what fire safety measures should be put in place?

Now that you have considered the people at risk and the potential for a fire to occur, you can take steps as necessary to reduce the risk both of a fire occurring and of injury or loss of life should a fire occur. You may also wish to consider the risk of damage to your property, and any subsequent loss of business.

If ignition sources and fuel sources are reduced and these are kept apart, the chances of a fire starting are low. The following lists some of the actions that are advised for dwellings as part of normal community fire safety which you should consider to reduce the risk of a fire occurring:

- ensure good housekeeping, so that storage is in designated areas only, is orderly, refuse and packaging is disposed of frequently and carefully, bins are secure
- ensure flammable materials and liquids are stored properly, away from ignition sources, electrical fuse box and meter, boilers etc. Do not store aerosols in damp areas (such as under sinks)

- avoid the use of portable gas heaters, use only in an emergency when only butane should be used
- ensure that electrical and gas appliances and equipment are maintained, serviced and kept in good working order. Clean extract equipment to kitchens
- replace any chip pan with a deep fat fryer with a thermostat
- individual heating appliances should be fixed in position and guarded
- ensure the electrical installation to the property is in good order, get it checked if in any doubt. Ensure correct wiring of plugs and correct fuse ratings
- if anyone smokes ensure ashtrays are provided, emptied regularly and safely. Inspect or advise your guests to inspect smoking areas before bedtime
- keep halls, corridors and stairs which would be used to escape from a fire clear and hazard free and advise guests to do this also. In particular keep clear of items which can burn, or are a source of ignition such as electrical equipment, coat racks, refuse, laundry, upholstered furniture, portable heaters or gas cylinders
- if your property is in an area where vandalism or deliberate fires can be a problem, consider security measures to prevent entrance to the grounds of the property and access to refuse storage and storage of any flammable liquids/gases

You should then consider what further safety measures are necessary to reduce the risk of injury or loss of life should a fire occur in your premises, for example:

- means for detecting and effectively warning occupants of a fire which occurs in any part of the premises
- means to restrict the spread of fire and smoke from the source to other areas especially the escape route
- means of escape which are easy to use at any time by persons who are not familiar with the premises, for example guests who have recently arrived
- means for fighting a small fire such as a fire in a waste bin or in a cooking pan

Guidance on what is expected in these areas is provided in the section: 'Benchmarks for Fire Safety'

Step 5: Formulate a plan

You should draw up a plan for implementation of any improvements you need to make with your priorities and timescales.

Step 6: Record: It is a good idea to keep a written record of your fire safety risk assessment. This will make it easier for you to review your assessment and it will also be easier to demonstrate that you have carried out an assessment. You should also record the arrangements for reviewing your fire safety risk assessment, your emergency fire action plan and the maintenance arrangements for fire safety measures.

Step 7: Review: You need to regularly review your fire safety risk assessment. Is there anything that has altered the risk and means you need to consider again the fire safety measures you have in place? For example are you doing building work, maintenance or decorative work? Do you have a different range of guests such as elderly or disabled?

Holiday Camping and Caravan Sites

Spacing

51. Subject to the variations listed below, the distance between any two units should generally be not less than 6 m for permanent residential sites and touring sites, and 5 m for holiday caravan sites.
52. The 6 m distance between units may be reduced where caravan construction is inherently fire-resistant. Under such circumstances, the distance may be reduced to 5 m. Where there is a mix of fire-resistant and non fire-resistant construction, the larger separation distances apply.
53. The distance from any part of a tent or caravan to any site road should be not less than 2 m, and not less than 3 m from any site boundary.
54. Variations of spacing requirements (Measurement is taken from the exterior cladding, excluding any tow bar):
 - Porches may protrude 1 m into the 6 m and should be open type construction
 - Where awnings are used, the distance between any part of the awning and an adjoining caravan should be not less than 3 m. They should not incorporate sleeping accommodation and should not face each other or touch
 - Eaves, drainpipes and bay windows may extend into the 6 m space provided the total distance between the extremities of two adjacent units is not less than 5.25 m
 - If there are ramps for disabled persons, verandas or stairs extending from the unit, there should be 4.5 m clear space between them and two such items should not face each other in any space. If they are enclosed, they should normally be considered as part of the unit and, as such, should not intrude at all into the 6 m space
 - A garage, shed or covered space can be sited between units if it is of non-combustible construction and space is maintained around each unit so not to prejudice means of escape in case of fire. Any windows in such structures should not face towards the units on either side. Car ports and covered walkways should not be allowed within the 6 m space.

Car parking

55. One car only should be permitted to park between adjoining units subject to the entrance to the unit not being obstructed. Plastic or wooden boats should not be kept between units.

Fire prevention

56. To avoid the potential for a fire in combustible waste materials, purpose designed containers should be used and regular removal of waste should take place.

57. Grass and other vegetation should be cut at frequent intervals to prevent fire.
58. Spaces below caravans should not be used for combustible materials storage.
59. General guidance on the use and storage of liquefied petroleum gas (LPG) can be found in Chapter 5.
60. Open fires should be prohibited on site.
61. The use of barbecue facilities should be controlled and ideally restricted to purpose designed areas within the site, and remote from units.

Fire points

62. Fire points should be established so that no unit or site building is more than 30 m from a fire point. Fire points should be housed in a weather proof structure easily accessible, and conspicuously marked "FIRE POINT".
63. If there is a water supply of sufficient pressure and flow to project a jet of water about 6 m from the nozzle, and with a flow of at least 30 litres/minute, water standpipes should be provided at each fire point along with a reel that complies with British Standard 5306: Part 1, with a hose not less than 30 m long, connected to the water standpipe and terminating in a small hand control nozzle. Hoses should be housed in a red box marked "HOSE REEL".
64. If standpipes are not provided, or the water pressure or flow is not sufficient, each fire point should be provided with two 9 litre water extinguishers.

Fire warning

65. A means of raising an alarm of fire on the site should be provided at each fire point. This could be a battery or mains powered alarm or a manually operated sounder such as a gong or siren. Smoke alarms should be installed in each unit. A means of calling the Fire and Rescue Service, should be available on the site.

Fire notices and fire procedures

66. A conspicuous notice should be provided at each fire point to indicate the action to be taken in the event of fire. Unit occupiers should be aware of the emergency fire action plan.

British Standards British Standards Institution (www.bsi-global.com)

EN 179 Building hardware. Emergency exit devices operated by a lever handle or push pad. Requirements and test methods

EN 1125: Building hardware. Panic exit devices operated by a horizontal bar. Requirements and test methods

EN 1154: Building hardware. Controlled door closing devices. Requirements and test methods

EN 1155: Building hardware. Electrically powered hold open devices for swing doors. Requirements and test methods

EN 12845: Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance

EN 1634: Part 1: Fire-resistance tests for door and shutter assemblies. Fire doors and shutters

EN ISO 7010: graphical symbols – safety colours and safety signs - registered safety signs

476: Part 22: Fire tests on building materials and structures. Methods for determination of the fire-resistance of non-loadbearing elements of construction

5266: Part 1: Emergency lighting. Code of practice

5266: Part 7: (BS EN 1838:) Lighting applications. Emergency lighting

5266: Part 8: Emergency escape lighting systems (BS EN 50172: 2004)

5306: Part 8: Fire extinguishing installations and equipment on premises. Selection and installation of portable fire extinguishers. Code of practice

5499: Part 4: Safety signs, including fire safety signs. Code of practice for escape route signing

5839: Part 1: Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises

5839: Part 3: Fire detection and alarm systems for buildings. Specification for automatic release mechanisms for certain fire protection equipment

5839: Part 8: Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning, and maintenance of voice alarm systems

5852: Methods of test for assessment of ignitability of upholstered seating by smouldering and flaming ignition sources

7036: Code of practice for safety at powered doors for pedestrian use

7273: Part 4: Code of practice for the operation of fire protection measures. Actuation of release mechanisms for doors

7671: Requirements for Electrical Installations

8458: Fixed fire protection systems. Residential and domestic watermist systems. Code of practice for design and installation

8489: Fixed fire protection systems: industrial and commercial watermist systems code of practice for design and installation

9251: Sprinkler systems for residential and domestic occupancies

9999: Code of practice for fire safety in the design, management and use of buildings.



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W W W . G O V . S C O T



FIRE PRECAUTIONS LOG BOOK



SCOTTISH
FIRE AND RESCUE SERVICE

Working together for a safer Scotland

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Fire Extinguisher – repairs etc		Building Maintenance	
		Fire Safety Enforcement Offices	

1.0 PREMISES SPECIFIC INFORMATION

ADDRESS OF THE PREMISES

RESPONSIBLE PERSON(S)

COMPETENT PERSON(S)

NAME AND ADDRESS OF THE OWNER(S) OF THE PREMISES

This fire safety logbook and maintenance record should remain on the premises at all times. The register will assist you in proving compliance with your legal responsibilities in relation to fire safety and should be completed following the inspection, test and maintenance of any of the items required by the legislation.

The logbook should be available for inspection by any Fire Officer who inspects your premises under the Fire (Scotland) Act 2005.

Detailed information in relation to the testing and maintenance of specific items can be obtained by referring to the relevant standard and/or the manufacturers' instructions.

IMPORTANT:

Your legal responsibilities in relation to the fire precautions in your premises are outlined in the relevant Scottish Government website and can be downloaded free at <http://www.scotland.gov.uk/Topics/Justice/public-safety/Fire-Rescue/FireLaw/FireLaw>

Where Reference is made to British Standards or standards provided by other bodies the reference is intended as guidance only and compliance with any standard is not intended to confer a presumption of conformity with the requirements of the Fire (Scotland) Act 2005.

The level of necessary safety (or service) must be dictated by the findings of your Fire Risk Assessment, so you may need to do more or less than that specified in any particular standard referred to. You must be prepared to show that what you have done complies with the requirements of the ACT irrespective of whether you have relied on any particular standard.

2.1 Escape Routes

All escape routes from your premises must be properly maintained and kept free from obstruction at all times.

A regular inspection should be carried out to ensure that:

- a) All doors that are on escape routes must be easily opened and not require a key or any special procedure to open.
- b) All escape routes, including staircases, corridors, doorways, etc. are free from obstruction.
- c) All self-closing devices fitted to doors should be effective in operation.
- d) All doors fitted with automatic door release mechanisms specified in your fire risk assessment should be tested in conjunction with tests for the fire warning system (see section 2).
- e) All walls, doors, floors and glazing, which are required to stop the passage of fire and smoke should be inspected to ensure that the fire and smoke resistance is being maintained i.e. No holes in walls, floors and ceilings. No glazing is broken, doors are not damaged and smoke seals touch the door and frame continuously, etc.

NOTE:

Before any alteration to the internal layout of the premises, the fire risk assessment must be reviewed as if the changes to the premises had taken place.

Any alterations that affect escape from the premises must be addressed.

2.2. Fire Warning (Alarm) and Automatic Fire Detection Systems

The owner or any other “Responsible Person” having control of the building should appoint a competent person to carry out any necessary work to maintain the system in correct working order this should including the keeping of records. Such a person should be suitably qualified and have received adequate training from the manufacturer, supplier or installer of the fire alarm system.

The following tests/inspections should be carried out in addition to any other tests recommended by the manufacturer, supplier or installer of the system. Please refer to the Maintenance Schedule for recorded servicing frequency.

a) Daily inspection of alarm system panel

Ensure that the panel indicates “normal” operation and that any faults indicated are recorded along with the action taken to remedy the fault. *Satisfactory daily inspections need not be recorded in this register.*

b) Weekly Test

The system should be tested at the same time every week using a different CALL POINT each week. This ensures sequential testing of all CALL POINTS’.

It is recommended that each call point is identified and the identification recorded in this register following the test.

Visual inspections of all call points and any smoke or heat detectors should be carried out to ensure they are not covered or obstructed and have adequate airflow over them.

c) Periodic Inspection and Test

The responsible person should ensure that the time between inspections shall be based on a risk assessment but should not exceed one year. A comprehensive check and test sequence should be carried out by a competent person, in accordance with the current standard such as the British Standard for Fire detection and fire alarm systems for buildings BS5839 Pt1.

d) Electrically Controlled Door Release Mechanisms

In premises where electrically controlled door release mechanisms are used and linked into the fire alarm system, they should be tested weekly in conjunction with the fire alarm test to ensure their correct operation on actuation of the alarm. These devices should also be tested by operating the manual release mechanism to ensure the release mechanism works satisfactorily.

e) False Alarms

Every actuation of the fire alarm should be recorded in the logbook, including false alarms. The cause of the alarm should be recorded together with any action taken to avoid a repeat occurrence. This will enable the alarm system to be managed in accordance with BS5839 Pt1, these records will also assist a service engineer to maintain the system.

NOTE:

Any maintenance of the fire alarm and automatic fire detection system, which necessitates the system being inoperative for any period, must be carried out at a time when the building is unoccupied, unless suitable temporary arrangements are installed.

2.3 Fire Fighting Equipment

a) Fire Extinguishers

Routine Inspection by User:

A regular inspection of all extinguishers should be carried out to ensure that they are in their appropriate position, (e.g. not on the floor) they are unobstructed and have not been discharged, lost pressure (in the case of extinguishers fitted with a pressure indicator) or suffered obvious damage and that any pins or clips are in place. The FREQUENCY OF INSPECTION should be not less than *quarterly and preferably monthly*. The inspection should be recorded in this register.

Annual Inspection, service and maintenance:

The annual inspection, service and maintenance of portable extinguishers must be carried out by a competent person in accordance with the relevant part of the current standard for "Fire Extinguishing Installations and Equipment in Premises", BS5306, Part 3, and in accordance with the manufacturers' instructions.

Satisfactory annual tests should be recorded on a label on each extinguisher or alternatively in a register used solely for this purpose with each extinguisher being identified by number.

Periodic Testing and Discharge:

All extinguishers should be test discharged at specific intervals in accordance with the relevant part of the current Standard for Fire Extinguishing Installations and Equipment in Premises.

b) Hosereels

Routine Inspection by User:

Hose reels should be subject to regular inspection to ensure that the system is free from leaks and that nozzles operate correctly. Hose reels must remain easily accessible and unobstructed, at all times.

If booster pumps are installed these should also be checked. A routine inspection should be carried out not less than *quarterly and preferably monthly* with the inspections recorded in this register.

Annual Inspection and Test:

Once a year each hose reel should be completely run out and subjected to operational water pressure to ensure that hose is in good condition and that all joints and couplings are watertight. A flow test should be carried out to ensure that a discharge of at least 30 litres per minute is achieved.

The annual test should be carried out by a competent person, in accordance with the relevant standard, BS5306, Part 1, and recorded on a label fixed to each hose reel or alternatively in the same register as tests for portable fire extinguishers, with each hose reel being identified by number.

2.4. Emergency Lighting

Regular servicing of emergency lighting systems is essential. The responsible person for the premises should carry out or appoint a competent person to carry out the daily inspection detailed below.

Daily Inspection:

- a) Check to ensure that every lamp in a maintained system is lit.
- b) where necessary the main control or indicating panel of each battery system or engine driven generator plant should be checked to ensure that normal operation is indicated.
- c) Faults noted should be recorded in this register along with the appropriate action taken.

Routine Inspection and Tests;

The monthly function test can be carried out by a trained person. This simply involves switching on the lights for a short period to ensure they illuminate and switching back off.

The three yearly (new system) and subsequent annual discharge tests should be carried out by a competent and suitably qualified electrical engineer in accordance with the current standard for Emergency Lighting, BS5266.

NOTE:

Change of the internal decor of a premises can substantially alter the effective light output level of emergency lighting systems.

3.0 RECORDS OF FIRE DRILLS AND TRAINING

FIRE DRILLS should be conducted on *at least* an annual basis. A debrief should be conducted with all staff as soon as possible after the event. To test site procedures, the responsible person should consider blocking exits or holding persons back from evacuating.

Training

All employees must receive instruction and training to ensure that they understand the fire precautions in the building and the actions to take in the event of fire.

Any special needs for those less able must be taken into account.

Training should be based on *written instructions* but it is important that they are specific to individual needs. Reliance on Standard instructions used by many large organisations may not be satisfactory without modification to suit individual needs.

It is recommended that external instruction (e.g. fire extinguisher/ Marshall/ risk assessment training) should be given by a competent person at such intervals to ensure that all staff receive training that is suitable and sufficient to fulfill their role and safeguard themselves and other persons on the premise. It is recommended that this instruction takes place every twelve months but at periods of no longer than 3 years.

Internal refresher training should take place at least annually, preferably every 6 months.

This should include:

Action to be taken upon discovering a fire

Action to be taken upon hearing the fire alarm

Raising the alarm including location of call points

Correct method of calling the fire service

The location and use of fire fighting equipment

Knowledge of escape routes including stairways not in regular use

Knowledge of the method of special emergency exit fastenings

Appreciation of the importance of fire doors and the need for them to be shut at all times (unless on automatic closers)

Newly appointed staff must receive suitable training and be made aware of the means of escape and fire procedures at the commencement of their employment.

FIRE DRILLS

Date And Time	Person Responsible for Drill	Number Of Staff Involved	Time Taken To Evacuate	Optimum Time To Evacuate
Simulation (i.e. Normal Route blocked/fire in foyer)				
Assessment of Drill				
Recommendations or further actions required.				

Date And Time	Person Responsible for Drill	Number Of Staff Involved	Time Taken To Evacuate	Optimum Time To Evacuate
Simulation (i.e. Normal Route blocked/fire in foyer)				
Assessment of Drill				
Recommendations or further actions required.				

INDIVIDUAL STAFF TRAINING RECORD

Date:		Name:		Dept:	
-------	--	-------	--	-------	--

Staff Fire Procedures	
Raising the alarm	
Calling Fire & Rescue	
Service Actions to Take	
Escape routes & emergency exits	
Types of fire extinguishers & their uses;	
Safety Signs;	
Active Fire Safety Measures;	
Passive Fire Safety Measures;	
Importance of fire doors;	
Security Measures;	
Reporting of hazards;	
Identity of Fire Wardens;	
Dangerous Substances, name, data sheet, legislation provisions;	
Premises fire risk assessment & significant findings	
Equipment & plant shutdown procedure;	
Specific Duties / instruction;	

Instruction given by.....

I hereby confirm that I have received Fire Safety Instructions & understand all of the above.

Signed

Date

FIRE WARDEN TRAINING RECORD

Persons nominated as fire wardens will require additional training to that given to staff.

Date:		Name:		Dept:	
-------	--	-------	--	-------	--

Fire Procedures	
Raising the alarm	
Calling Fire & Rescue	
Service Actions to Take	
Checking premises	
Assisting evacuation	
Refuges and assisting disabled persons (paraid/evac chair etc)	
Escape routes & emergency exits	
Location of fire extinguishers & their uses;	
Fire extinguisher training;	
Safety Signs;	
Active Fire Safety Measures;	
Passive Fire Safety Measures;	
Importance of fire doors;	
Security Measures;	
Reporting of hazards;	
Identity of Fire Wardens;	
Dangerous Substances, name, data sheet, legislation provisions;	
Premises fire risk assessment & significant findings	
Equipment & plant shutdown procedure/Isolating valves;	
Liaising with the Fire Service	
Specific Duties / instructions/area(s) responsible for	

Instruction given by.....

I hereby confirm that I have received Fire Safety Instructions & understand all of the above.

Signed

Date

4.0 OTHER ITEMS FOR CONSIDERATION

Electrical circuit 5-yearly fixed installation inspection and test

Routine Portable Appliance Testing (PAT)

Heating system routine maintenance

Kitchen equipment routine maintenance

Lightning protection system maintenance (if one installed)

Security of the site against arson and proximity of combustibles to the premise e.g. bins.

Control of contractors that includes a safety brief with instruction for action in the event of fire.

Good housekeeping and the correct storage of combustible and hazardous materials.

5.0 EQUIPMENT MANUALS AND SITE LOCATION PLAN

PERPETUAL PLANNER FOR TESTS AND INSPECTIONS

DAILY TESTS AND INSPECTIONS -

WEEKLY TESTS AND INSPECTIONS

OTHER TESTS AND INSPECTIONS AS INDICATED BELOW

DATE	TESTS/INSPECTIONS REQUIRED	DATE	TEST/INSPECTION REQUIRED	DATE	TEST/INSPECTION REQUIRED
JAN		SEPT		MAY	
FEB		OCT		JUNE	
MAR		NOV		JULY	
APR		DEC		AUG	
MAY		JAN		SEPT	
JUNE		FEB		OCT	
JULY		MAR		NOV	
AUG		APR		DEC	
SEPT		MAY		JAN	
OCT		JUNE		FEB	
NOV		JUL		MAR	
DEC		AUG		APR	
JAN		SEPT		MAY	
FEB		OCT		JUNE	
MAR		NOV		JULY	
APR		DEC		AUG	
MAY		JAN		SEPT	
JUNE		FEB		OCT	
JULY		MAR		NOV	
AUG		APR		DEC	



SFRS Advice on Fire Safety

The responsibility to carry out an assessment of fire risk, review such an assessment and to take fire safety measures rests with duty holders. Duty holders, or their employees, may have the necessary training, skills, knowledge and experience to carry out their own fire safety risk assessment and guidance available on the [Scottish Government FireLaw](#) website may be of assistance.

Duty holders must consider their own capabilities, circumstances, and factors such as the size and use of premises and number of persons, in respect of the fire safety risk assessment process. Whilst duty holders are often best placed to know their premises, they may not have sufficient resources, skills or experience to undertake a fire safety risk assessment themselves and can arrange for a suitably qualified or experienced person or company to complete an assessment on their behalf.

If you are looking to contract a specialist, it can be difficult to judge the competence of companies and persons who advertise their services. The fact that a person or company is operating in the fire sector or that someone has previous fire service experience, does not mean that they are a fire safety risk assessment specialist. As with many other services, when looking for a specialist, it is your responsibility to satisfy yourself that they have the necessary qualifications, skills, knowledge and experience to assess the fire safety risk at your particular premises. You may also wish to consider whether you require a specialist who holds professional indemnity insurance.

Both the Scottish Government and the Scottish Fire and Rescue Service recommend that duty holders who wish to contract the services of external fire safety risk assessors verify that the assessor is competent in fire risk assessment. Competence of an individual assessor can be verified by selecting the assessor from a list of competent fire risk assessors maintained by a professional body or a UKAS accredited third party certification body. Companies, including sole traders, can also be third party certificated under appropriate schemes operated by certification bodies that have, themselves, been UKAS accredited as competent to certificate against such schemes. The benefit of company certification is that the certification body monitors the quality of the certificated company's work and confirms that there is a system for management of quality within the certificated company.

The Scottish Fire and Rescue Service has not assessed and does not endorse any individuals or companies participating in these schemes. However, participation in such schemes can offer a degree of assurance that a risk assessor (individual or company) has met the professional requirements of the scheme.

Generally, reviews of a risk assessment should be carried out regularly by the duty holder to ensure it remains valid. This will reinforce ownership of fire safety management and assist in the development of relevant knowledge, and of a fire safety culture. However, where significant changes to premises have occurred or if the duty holder continues to feel that they lack the time, knowledge or skills required to undertake a thorough review, it may be advisable to seek specialist advice to revisit, review and revise the initial assessment.

The Scottish Fire and Rescue Service maintains a list of UKAS accredited certification bodies and professional registration schemes:

Register holders	UKAS Accredited Company Certification Scheme	UKAS Accredited Person Certification Scheme	Professional Body Person Registration Scheme
The BAFE 'SP205' company	✓		
IFC Certification Ltd operate the 'IFCC 0099' company scheme	✓		
Institute of Fire Prevention Officers (IFPO) This is a professional body registration scheme			✓
Institute of Fire Safety Managers (IFSM) This is a professional body registration scheme			✓
Institution of Fire Engineers (IFE) This is a professional body registration scheme			✓
Warrington Certification Ltd operate a 'Fire Risk Assessors Certification Scheme (Individuals) FRACS'		✓	
Warrington Certification Ltd operate a 'Fire Risk Assessors Certification Scheme (Company) FRACS'	✓		

TAKE 5



to reduce the number of
FALSE ALARM SIGNALS



98% of all automated fire alarm calls are unwanted fire alarm signal (UFAS) incidents. YOU CAN PREVENT THIS.



Toast - Is there a smoke detector nearby that could be accidentally set off?

- Don't leave cooking unattended
- Close doors in food prep areas
- Keep area well ventilated



Aerosols - Is there a detector nearby that could be accidentally set off?

- Use aerosol sparingly
- Keep area well ventilated
- Is there an aerosol substitute available?



Kleaning (Cleaning) - Is there a detector nearby that could be accidentally set off?

- Avoid steam cleaning - is there an alternative method?
- Is cleaning process likely to produce fumes to set off a detector
- Can areas of Fire Alarm system be isolated by engineer?



Equipment - Are you testing, moving items or working near fire alarm equipment?

- Ensure system is off line for testing
- Avoid accidental contact with Break glass units
- Consider local isolation for maintenance work



5 - 5 seconds, 5 minutes it doesn't matter

- Think about your actions
- Think how it will impact on the fire alarm system

For further advice, please visit www.firescotland.gov.uk



Scottish Fire and Rescue Service



@scotfirerescueservice



@fire_scot #UFAS #take5

An Alarming Trend of business interruption



SCOTTISH
FIRE AND RESCUE SERVICE
Working together for a safer Scotland

Automatic fire detection and alarm systems protect buildings and their occupants by detecting a fire at an early stage of its development. Each year across Scotland 48,000 fire alarm signals are generated, accounting for 45% of all fire and rescue activity. Less than 2% are as a result of fire, 98% require no intervention.

On average every Unwanted Fire Alarm Signal incident interrupts business for 27 minutes.

Business Continuity Management is a framework for identifying potential threats to an organisation and building organisational capability to respond to such threats. This should include assessing the potential for disruption caused by Unwanted Fire Alarm Signals (UFAS).

Business Interruption Model

MINUTES

1 ALARM RECOGNITION

1 PRE-MOVEMENT

5 EVACUATION

9 FIRE & RESCUE ARRIVAL AND INVESTIGATION

6 RE-ENTRY

5 START UP

27 MINUTES LOST

Negative Impact on your Business

Loss of production

Every UFAS cost UK business £848

Loss of reputation

Loss of customer base

Threat to stakeholders

Loss of brand and value adding activities

**Don't let your fire alarm system affect your business.
It's your system- you can control it!**

For further advice on preventing Unwanted Fire Alarms
www.firescotland.gov.uk | e.edinfe@firescotland.gov.uk



SCOTTISH
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SFRS Fire Risk Assessment Advice-

<https://www.firescotland.gov.uk/your-safety/for-businesses/fire-risk-assessment.aspx>

Firelaw Fire Risk Assessment Guidance and Templates-

<https://www2.gov.scot/Topics/Justice/policies/police-fire-rescue/fire/FireLaw/GeneralGuidance/FireSafetyRiskAssessment>

Practical Fire Safety Guidance for existing Non-Residential Premises (Non Sleeping Risk) -

<https://www.gov.scot/publications/practical-fire-safety-guidance-existing-non-residential-premises-9781788511322/>

Practical Fire Safety Guidance for existing Residential Premises (Sleeping Risk e.g. Hotels) -

<https://www.gov.scot/publications/practical-fire-safety-guidance-existing-premises-sleeping-accommodation/>

NHS Healthy Working Lives Fire Safety Guidance and Templates-

<https://www.healthyworkinglives.scot/workplace-guidance/safety/fire/Pages/fire-related-hazards.aspx>

SFRS UFAS (Unwanted Fire Alarm Signals) managing guidance-

[https://www.firescotland.gov.uk/your-safety/for-businesses/unwanted-fire-alarm-\(ufas\).aspx](https://www.firescotland.gov.uk/your-safety/for-businesses/unwanted-fire-alarm-(ufas).aspx)