PAS 79-2:2020

Fire risk assessment – Part 2: Housing – Code of practice

Redacted and withdrawn pending development of a British Standard

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Foreword

Publishing information

The development of this PAS was facilitated by BSI Standards Limited and published under licence from The British Standards Institution. It came into effect on 31 December 2020.

Acknowledgement is given to Colin Todd, as the technical author, and the following organizations that were involved in the development of this PAS as members of the steering group:

- CBRE PMFM UK
- Consumer and Public Interest Network
- Fire Industry Association
- Institution of Fire Engineers
- Lendlease
- Metro Safety Ltd
- National Fire Chiefs Council
- National Residential Landlords Association
- National Security Inspectorate
- National Social Housing Fire Strategy Group
- NHS England/NHS Improvements
- Savills (UK) Limited
- Scottish Fire and Rescue Service
- University College London

Acknowledgement is also given to the members of a wider review panel who were consulted in the development of this PAS.

The PAS process enables a code of practice to be rapidly developed in order to fulfil an immediate need in industry. A PAS can be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

Supersession

Together with PAS 79-1, this part of PAS 79 supersedes PAS 79:2012, which is withdrawn.

Relationship with other publications

PAS 79 is published in two parts:

- Part 1: *Premises other than housing – Code of practice*;
- Part 2: *Housing – Code of practice*.

PAS 9980, which is in the course of preparation at the time of publication of this current PAS, will give recommendations for fire risk appraisal and assessment of external wall construction and cladding of blocks of flats.

Information about this document

This PAS is a new, second part of the original PAS 79. That PAS was first prepared in 2005 by BSI in association with C.S. Todd & Associates Ltd, with the support and encouragement of the Institution of Fire Engineers and the Northern Ireland Fire Safety Panel, the latter of which represents building control and licensing authorities in Northern Ireland and the Northern Ireland Fire & Rescue Service. It was subsequently revised in 2007 and 2012. Those revisions, a new PAS 79-1, which excludes housing from its scope, and this new Part 2 of PAS 79, which relates specifically to housing, were again, drafted by C.S. Todd & Associates Ltd. This new Part 2 was developed by C.S. Todd & Associates Ltd at the request of the housing sector.

This new Part 2 of PAS 79 is based on PAS 79:2012, but introduces the following principal changes.

- PAS 79 has been split into two parts, with PAS 79-1 dealing with non-housing premises and PAS 79-2 dealing with housing premises.

- The scope of this new Part 2 of PAS 79 comprises blocks of flats, sheltered housing, extra care housing, supported housing and certain houses in multiple occupation (i.e. those falling within the scope of the relevant fire safety legislation). Fire risk assessment for other, non-housing premises is addressed in a new Part 1 of PAS 79.
- PAS 79-2 is a code of practice, whereas PAS 79:2012 was a guide. PAS 79:2012 was already written in the form of a code of practice, and the change in status is simply to recognize this, noting that guides are not usually of such a nature as to sustain a reliable claim of compliance.
- Guidance, published in England by the Local Government Association, on fire safety in purpose-built blocks of flats [1] has been taken into account, along with equivalent guidance for high-rise blocks of flats published in Scotland by Scottish Government[1)] [2].
- Guidance produced by the National Fire Chiefs Council on fire safety in specialized housing [3] has been taken into account, along with equivalent guidance published in Scotland by Scottish Government [4].
- For blocks of flats, sheltered housing and extra care housing, recommendations are provided for Type 2, Type 3 and Type 4 fire risk assessments, as defined in the Local Government Association guidance [1] and the National Fire Chiefs Council guidance [3]. However, for these housing premises, this PAS is primarily concerned with the Type 1 fire risk assessment required for compliance with the relevant fire safety legislation in England and Wales.
- The technical content has been subject to amendment in the light of experience in the use of PAS 79:2012.
- There is new guidance on the consideration to be given to external wall construction and cladding, which takes into account knowledge, current at the time of publication, arising from the fire disaster at Grenfell Tower, a high-rise block of flats in London, in 2017.
- There is recognition of pre-occupation fire safety assessments, a term now defined in this PAS, and a clarification to avoid confusion between these assessments and the fire risk assessment to which this PAS refers.
- There is even greater emphasis on competence of fire risk assessors and reference to future competence standards in consequence of the Hackitt Review of building regulations and fire safety, which was ordered by the Government following the fire at Grenfell Tower, and the recommendation of that Review that an enhanced level of competence is required in the case of fire risk assessors who carry out fire risk assessments of high-risk residential buildings. It is also noted in this PAS that fire safety specialists with experience only in the design of new buildings might not possess an appreciation of standards against which older buildings were designed and the possible continued acceptability of such standards.
- There is new, more detailed discussion of the stay put strategy normally adopted in blocks of flats and maisonettes, and this term, as well as the converse strategy of simultaneous evacuation, is now defined in this PAS.
- A warning is included in respect of the potential risk to residents if a stay put strategy is inappropriately abandoned.
- Reference is made to evacuation alert systems for use by the fire and rescue service in blocks of flats and maisonettes, which are the subject of BS 8629.
- Reference is made to person-centred fire risk assessments in specialized housing, though specific recommendations for these fire risk assessments are outside the scope of this PAS.
- Changes to, and publication of relevant new, British Standards have been taken into account.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this PAS takes the form of guidance and recommendations. It should not be quoted as if it were a specification, and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this PAS is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the drafting of this PAS that the execution of its provisions will be entrusted to appropriately qualified and competent people, for whose use it has been produced.

[1)] The equivalent guidance in Scotland relates only to high-rise, purpose-built blocks of flats.

The copyright for Annex A, Annex D and Annex G of this PAS, and for the electronic copies of the separately available pro formas (including the modified versions for use in Scotland and Northern Ireland), is owned by C.S. Todd & Associates Ltd. Purchasers of this PAS are authorized to use the pro formas contained within Annex A and Annex D, and the separately available electronic copies, and to make an unlimited number of copies for their own use, without infringement of copyright. However, following the recommendations given in this PAS does not necessitate use of these pro formas.

This PAS is not intended to constitute a textbook on fire safety, and it is not to be regarded as a substitute for knowledge of fire safety principles and the practical use and application of fire protection measures or an understanding of the premises, their features, usage and occupancy. In carrying out the fire risk assessment, there is likely to be a need for reference to other codes of practice and guidance documents on specific aspects of fire prevention, fire protection and management of fire safety, a number of which are listed in the Bibliography. Moreover, this PAS is not intended to provide guidance on the detailed requirements of the relevant fire safety legislation. Such guidance can be found in the relevant government guidance documents listed in the Bibliography.

Presentational conventions

The provisions of this PAS are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

The word "should" is used to express recommendations of this PAS. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this PAS. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

It is envisaged that, when a fire risk assessment is audited for compliance with this PAS, the audit will be based on the recommendations only.

Contractual and legal considerations

This PAS does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a PAS cannot confer immunity from legal obligations.

Attention is drawn to the legislation described in the Introduction to this PAS and to guidance available from the Ministry of Housing, Communities and Local Government, Scottish Government and the Northern Ireland Fire & Rescue Service.

At the time of publication of this PAS, a Public Inquiry, ordered by the Government, into the 72 deaths that occurred in the Grenfell Tower fire is in progress. Nothing in this PAS pre-empts, or is intended to conflict with, any future findings of that Public Inquiry.

Introduction

Persons who have control of the housing premises to which this PAS applies are required by legislation to carry out an assessment of the fire risks (other than fire risks within private dwellings). This is to ensure that relevant persons (as defined within the legislation) are safe from fire and its effects (other than in the case of blocks of flats, sheltered housing and extra care housing in Scotland and Northern Ireland). For the purposes of this PAS, a fire risk assessment carried out in the structured manner described herein is referred to as "the fire risk assessment" or "the FRA".

In England and Wales, the single, unified fire safety legislation, under which fire safety is controlled in the vast majority of existing buildings, namely the Regulatory Reform (Fire Safety) Order 2005 (the "Fire Safety Order") [5], excludes domestic premises from its scope. However, for the purposes of the Fire Safety Order, "domestic premises" do not include premises used in common by the occupants of more than one private dwelling.

Accordingly, the Fire Safety Order applies to the common parts and non-domestic areas (e.g. plant rooms) within general needs blocks of flats, sheltered housing and extra care housing. The Fire Safety Order also normally applies to, at least, the common parts of supported housing designed for vulnerable people with common characteristics, living as part of a community with support. In the case of a house in multiple occupation (HMO), in which occupants live independently within their own accommodation (as opposed to simply sharing the entire house), the Fire Safety Order applies only to the common circulation areas of the property. Where no common circulation areas exist in an HMO in England or Wales, the Fire Safety Order and accordingly PAS 79-2 do not apply, regardless of any requirement for a licence.

Article 9 of the Fire Safety Order requires that the responsible person, on whom the Fire Safety Order imposes requirements (such as the freeholder of a block of flats), make a suitable and sufficient assessment of the risks to which relevant persons are exposed for the purpose of identifying the general fire precautions they need to take to comply with the requirements and prohibitions imposed on them by or under the Fire Safety Order. (For the purpose of the Fire Safety Order, "a relevant person" is any person who is, or might be, lawfully on the premises, and also any person in the immediate vicinity of the premises who is at risk from a fire on the premises, but not firefighters at the time of a fire.)

The same duty is imposed on every person, other than the responsible person, who has, to any extent, control of the premises so far as the duty relates to matters within their control. (This normally includes, for example, the managing agents of a block of flats.)

Guidance on the requirements of the Fire Safety Order in all premises in which people sleep, and on the FRA required by it, was produced by the then Department for Communities and Local Government (DCLG) (now the Ministry of Housing, Communities and Local Government) in 2006 [6]. For purpose-built blocks of flats and specialized housing, that guidance is largely superseded by guidance produced by the Local Government Association [1] and the National Fire Chiefs Council [3] respectively. In the case of HMOs, the original DCLG guidance is of some relevance, but guidance originally produced by the then Local Authority Coordinators of Regulatory Services (LACoRS) [7] is more relevant.

The guidance in this PAS is more detailed in respect of the FRA process than that contained in the guidance documents to which the previous paragraph refers, but does not conflict with them. However, these guidance documents provide more detailed technical information on the fire safety measures that are needed to meet legislation.

While, in England and Wales, the Fire Safety Order requires that the FRA is "suitable and sufficient", this requirement is not explicitly stated in the equivalent legislation in Scotland or Northern Ireland, though, clearly, all assessments need to be fit for purpose.

In Scotland, the equivalent legislation to the Fire Safety Order comprises the Fire (Scotland) Act 2005 [8] in conjunction with the Fire Safety (Scotland) Regulations 2006 [9]. The scope of this legislation comprises "relevant premises", which, as in England and Wales, exclude domestic premises. However, in contrast with the Fire Safety Order in England and Wales, for the purpose of the Scottish fire safety legislation, the term "domestic premises" includes within its meaning parts of premises used in common by the occupants of more than one private dwelling.

Accordingly, the Scottish fire safety legislation does not apply to any parts of general needs blocks of flats, sheltered housing and extra care housing (other than in relation to maintenance and repair of facilities, equipment and devices required under legislation for use by, or protection of, firefighters and in relation to places of work within these premises). Therefore, the FRAs for these premises, to which this PAS refers, are not required under legislation in Scotland, although the Civic Government (Scotland) Act 1982 [10] places responsibilities upon occupiers to maintain common areas free of combustible materials and to maintain access and egress from the property free of obstructions. However, in Scotland, the fire safety legislation does apply to HMOs that, under the Housing (Scotland) Act 2006 [11], require a licence; these premises do require an FRA of the type described in this PAS.

In Scotland, the duty to carry out an FRA is imposed on every employer by section 53(2)(a) of the Fire (Scotland) Act 2005 [8]. The Act requires that the risk assessment identifies any risks to the safety of the employer's employees in respect of harm caused by fire in the workplace. Section 54(2)(a) of the Act also imposes a duty, on any person who has control to any extent of relevant premises, to carry out an FRA, and this risk assessment is required to identify any risks to the safety of relevant persons in respect of harm caused by fire in the relevant premises; the term "relevant persons" is defined in much the same manner as it is defined in the Fire Safety Order in England and Wales. Fire safety duties are also imposed, under Section 54(4) of the Fire (Scotland) Act 2005 [8], on persons who have, under a contract or tenancy, an obligation of any extent in relation to maintenance or repair of relevant premises, or anything in relevant premises, or safety in respect of harm caused by fire in relevant premises.

In Scotland, further requirements in respect of the FRAs required by the Fire (Scotland) Act 2005 [8] are imposed by the Fire Safety (Scotland) Regulations 2006 [9]. Guidance on the requirements of this legislation, and the FRA required by it, is published by Scottish Government [12]. As in England and Wales, the guidance in this PAS is more detailed in respect of the FRA process than the guidance in the Scottish Government guidance documents, but does not conflict with them. However, the Scottish Government guidance provides more technical information on the fire safety measures required under the Scottish fire safety legislation.

In Northern Ireland, the requirements for FRAs are identical to those in Scotland, but are imposed by Articles 25(2)(a) and 26(2)(a) of the Fire and Rescue Services (Northern Ireland) Order 2006 [13]. As in Scotland, further requirements in respect of the FRAs are imposed by secondary legislation, namely the Fire Safety Regulations (Northern Ireland) 2010 [14]. As in Scotland, the FRAs to which his PAS applies are not required for blocks of flats, sheltered housing and extra care housing, but they are required for HMOs as defined in Section 1 of the Houses in Multiple Occupation (Northern Ireland) Act 2016 [15]. Guidance on the requirements of Northern Ireland fire safety legislation, and the FRA required by it, has been published by the Department of Health, Social Services and Public Safety [16]. Again, PAS 79 does not conflict with this guidance, which gives greater technical information on fire safety measures required by legislation.

Fire and rescue authorities can advise on the fire safety legislation that applies to any premises, and on means for compliance. If in doubt regarding the requirements of legislation, consultation with the fire and rescue authority is strongly recommended. Advice can also be obtained from a suitably qualified and experienced fire risk assessor or fire safety practitioner. A number of bodies maintain a register of persons who they consider competent to carry out FRAs. These include relevant professional bodies, and certification bodies accredited by UKAS[2)] to provide assessment and certification services. Registration of a fire risk assessor on such a register can give the dutyholder confidence in the education, training and experience of the fire risk assessor if the dutyholder wishes to use the fire risk assessor's services.

Legislation requires "suitable and sufficient" assessments to ensure that organizations comply with health and safety legislation. Accordingly, an organization could choose to carry out, and document, a single combined health, safety and fire risk assessment. In practice, this approach is normally only adopted in the case of very small premises, and most organizations choose to carry out a separate FRA, independent of their health and safety risk assessment. The reason for this is that, for most premises, different skills, experience and expertise are required for each of the two forms of risk assessment.

[2)] UKAS is the sole national accreditation body recognized by government to assess, against internationally agreed standards, organizations that provide certification, testing, inspection and calibration services.

The term "suitable and sufficient" (as used in the Fire Safety Order) is not defined in legislation. Moreover, throughout the UK, the relevant fire safety legislation (see **3.79**) requires that the "significant findings" of the risk assessment, and any group of persons "especially at risk", be recorded if the organization employs five or more people (in the entire organization, and not just in the premises in question), or if legislation requires licensing, registration or certification of the premises, or if an alterations notice (requiring that the relevant enforcing authority is notified of proposals to carry out certain alterations to the premises) is in force. Again, the terms "significant findings" and "especially at risk" are not defined in the relevant legislation. However, the "significant findings" ought to indicate measures taken and measures that will be taken for compliance with the legislation.

Nevertheless, it follows that the adequacy of any FRA is a matter for subjective judgement. This can lead, and has led, to inconsistency in interpretation, creating some difficulties for housing providers, their advisers and enforcing authorities. These difficulties have been exacerbated, even for fire safety specialists, by a distinct move, in recent years, towards "risk-proportionate" fire precautions, and away from the more traditional "prescriptive" approach in which there was often a more rigid application of codes of practice without full consideration of fire risk.

This shift was designed to benefit those who own and manage premises, since it provides a better match between risk and precautions, more akin to that found in the field of general health and safety. It therefore precludes unnecessary expenditure in circumstances in which the risk does not justify it. Equally, it ensures adequate protection (possibly to an even higher standard than applied under prescriptive codes) when warranted by the fire risk. Ultimately, the final arbiter as to whether fire precautions satisfy legislation can, however, only be the Courts.

There is, therefore, no single correct or incorrect method of carrying out and recording the significant findings of an FRA. Rather, there are many approaches that can lead to a suitable, and satisfactorily documented, FRA, which, at first sight at least, bear little similarity. Nevertheless, the prerequisites for a suitable and sufficient FRA are implicit in legislation and, accordingly, close scrutiny of most adequate FRAs will reveal consideration of many common factors.

This PAS does not purport to contain a methodology or documentation that is necessarily superior to all others. It takes into account the fire safety legislation that is current at the time of publication. The fire risk assessment methodology is intended to facilitate protection of occupants of housing premises, particularly residents, from fire (but not necessarily a fire within their own private dwelling). Guidance on fire precautions to protect property, and to protect against interruption to business, from fire can be obtained from property insurers, and many suitably qualified and experienced fire safety consultants can advise on these issues as well as on life safety.

The objectives of this PAS are:

- to present to housing providers and their advisers a methodology that can assist them in meeting their legislative responsibilities to undertake FRAs;
- to provide a framework for the assessment of fire risk;
- to promote better understanding of fire risks and fire safety in housing by housing providers and non-fire specialists;
- to enable common relevant terminology to be adopted by those who carry out FRAs;
- to provide an understanding of the principles and scope of FRAs;
- to establish a pragmatic, holistic and risk-proportionate approach towards assessment of fire prevention measures, fire protection measures and management of fire safety, for the purpose of conducting FRAs in housing, based upon a fundamental understanding of fire safety principles;
- to establish a satisfactory basis for documentation of housing FRAs;
- to provide a benchmark for a suitable and sufficient FRA;
- to promote a consistent approach to carrying out and documenting an FRA that is likely to be satisfactory to enforcing authorities; and
- to dispel misconceptions as to the nature and scope of an FRA (see Clause **5**).

This PAS also provides recommendations for Type 2, Type 3 and Type 4 FRAs, as defined in the Local Government Association guidance on fire safety in purpose-built blocks of flats [1], and the National Fire Chiefs Council guidance on fire safety in specialized housing [3], the scope of which either exceeds the minimum requirements of fire safety legislation or is completely outside the scope of the legislation.

The person on whom a duty is imposed to carry out the FRA is described in different ways in different legislation across the UK. For example, as noted above, in England and Wales, the Fire Safety Order describes the person as the "responsible person", whereas this term is not used elsewhere in the UK. Moreover, this duty can be imposed on more than one person within the same premises (e.g. freeholders and managing agents). In this PAS, the term "dutyholder" is used to describe any person on whom the relevant fire safety legislation imposes a requirement to carry out an FRA in housing premises.

This part of PAS 79 is only concerned with housing premises. PAS 79-1 provides recommendations for FRAs in non-domestic premises. Therefore, in the case of mixed use premises (e.g. commercial and residential), it is necessary to refer to the recommendations of both PAS 79-1 and PAS 79-2.

At the time of publication of this PAS, there are, potentially, certain restrictions in the measures that can be taken by a fire risk assessor to comply with the recommendations of this PAS, arising from the COVID-19 pandemic. For example, in a block of flats, health and safety considerations might take precedence over fire risk assessment, such as to preclude the level of inspection of flat entrance doors recommended in this PAS.

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1 Scope

This part of PAS 79 gives recommendations and corresponding examples of documentation for undertaking, and recording the significant findings of, fire risk assessments in housing premises and parts of housing premises for which fire risk assessments are required by legislation. Recommendations are also provided for fire risk assessments that are outside the scope of fire safety legislation, but are designed to protect residents of blocks of flats, sheltered housing and extra care housing in the event of a fire in their own flat.

This part of PAS 79 is applicable to:

a) certain houses in multiple occupation [i.e. those falling within the scope of the relevant fire safety legislation (see **3.79**)];
b) the common parts of blocks of flats or maisonettes, sheltered housing and extra care housing; and
c) supported housing.

This part of PAS 79 is not applicable to a single-family private dwelling, or a shared house in England or Wales. Neither is it applicable to premises during the construction phase[3)], before the building is used as housing, but it is applicable to vacant premises, for which a fire risk assessment is required.

This part of PAS 79 is not applicable to premises used solely for short-term letting (e.g. of flats) (see **3.84**) or peer-to-peer rented accommodation (see **3.70**), nor to non-domestic premises or residential care homes.

NOTE *These types of premises are covered in PAS 79-1.*

The methodology in this PAS provides a structured approach to fire risk assessment for people with knowledge of the principles of fire safety; it is not a guide to fire safety.

The recommended approach to carrying out fire risk assessments is intended to determine the risk-proportionate fire precautions required to protect occupants of housing premises, particularly residents, but also employees, contractors and visitors to the premises, and to protect people in the immediate vicinity of the premises. The fire risk assessment is not necessarily sufficient to address the safety of firefighters in the event of a fire on the premises, as firefighters are not "relevant persons" within the meaning of the relevant fire safety legislation.

The recommended methodology is not intended to address protection of property (the premises and their contents) or the environment, or to address protection of a business against interruption.

[3)] Fire risk assessments are required for construction sites. Nevertheless, fire risk assessments for housing premises, during the construction phase, are outside the scope of this PAS.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document[4]. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4422, *Fire – Vocabulary*[5]

BS 5839-6:2019, *Fire detection and fire alarm systems for buildings – Part 6: Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises*

BS EN ISO 13943, *Fire safety – Vocabulary*

3 Terms and definitions

For the purposes of this PAS, the terms and definitions given in BS 4422, BS EN ISO 13943 and the following apply.

3.1 access room

room that forms the only escape route from an inner room (see **3.57**)

3.2 action plan

measures, including management procedures, identified in the course of a fire risk assessment that need to be implemented to ensure that the required level of fire safety is achieved or maintained

NOTE *The required level of fire safety is normally defined within the organization's fire safety policy, but is never of a lower standard than that required by legislation.*

3.3 alarm receiving centre

continuously manned premises, remote from those in which a fire alarm system is fitted, where the information concerning the state of the fire alarm system is displayed and/or recorded, so that the fire and rescue service can be summoned

3.4 alternative escape routes

escape routes sufficiently separated either by direction and space, or by fire-resisting construction, intended to ensure that if one is affected by fire the other will still be available

3.5 automatic door release mechanism

device that can be used for holding a door in the open position, against the action of a door closer, and automatically releasing under specified conditions

[4] Documents that are referred to solely in an informative manner are listed in the Bibliography.
[5] This PAS also gives informative references to BS 4422:2005.

3.6 available safe escape time (ASET)

time available between ignition of a fire and the time at which tenability criteria (for safety of life) are exceeded in a specific space in a building

NOTE *To ensure the safety of occupants, the required safe escape time (RSET) (see **3.80**) needs to be shorter than the ASET.*

3.7 class A fire

fire involving solid materials, usually of an organic nature, in which combustion normally takes place with the formation of glowing embers

NOTE *These are normally carbonaceous fires.*

3.8 class B fire

fire involving liquids or liquefiable solids

3.9 class C fire

fire involving gases

3.10 class D fire

fire involving metals

3.11 class F fire

fire involving fats and cooking oils

3.12 combustible

capable of burning in the presence of oxygen in a standard test condition

3.13 compartmentation

subdivision of a building by fire-resisting walls and/or floors for the purpose of limiting fire spread within the building

3.14 competent person

person, suitably trained and qualified by knowledge and practical experience, and provided with the necessary instructions, to enable the required task(s) to be carried out correctly

NOTE *The relevant fire safety legislation requires nomination of various competent persons to carry out a number of different defined tasks.*

3.15 dampers

3.15.1 fire damper

mobile closure or intumescent device within a duct, which is operated automatically and is designed to prevent the passage of fire and which, together with its frame, is capable of satisfying for a stated period of time the same fire resistance criterion for integrity as the element of the building construction through which the duct passes

3.15.2 fire/smoke damper

combined fire and smoke damper

NOTE *See fire damper (**3.15.1**) and smoke damper (**3.15.3**).*

3.15.3 smoke damper

mechanical device which, when closed, prevents smoke passing through an aperture within a duct or structure

NOTE *In any particular premises, smoke dampers might be automatically operated, or manually operated, or a combination of the two, and their normal position might be either open or closed.*

3.16 dead end

area from which escape from fire is possible in one direction only, or in directions less than 45° apart that are not separated by fire-resisting construction

NOTE *A dead end is not created solely by structural enclosure. It can, for example, be created by barriers such as steps, narrow escape routes, convoluted escape routes or heavy doors.*

3.17 dry fire main

water supply pipe installed in a building for firefighting purposes, fitted with inlet connections at the fire and rescue service access level, and with landing valves at specified points, which is normally dry but is capable of being charged with water, usually by pumping from fire and rescue service appliances

3.18 dutyholder

person on whom legislation imposes a requirement to carry out a fire risk assessment

NOTE 1 *The term "dutyholder" only has meaning within this PAS, and is used for convenience. It is not a term used in this context within fire safety legislation, in which the dutyholder could be a number of different parties according to circumstances, e.g. in England and Wales, the responsible person, to which the Fire Safety Order [5] makes reference, is one such dutyholder.*

NOTE 2 *The dutyholder can be determined from the relevant fire safety legislation.*

NOTE 3 *The dutyholder is normally an organization, such as an employer, rather than a specific named person.*

NOTE 4 *There might be more than one dutyholder within any premises. For example, in supported housing, dutyholders might comprise the service provider (as an employer), the landlord (as the person having control of the premises) and possibly even the local authority commissioners (as a result of their contract with the service provider). In the case of a purpose-built block of flats in England and Wales, dutyholders might comprise the freeholder and managing agents (as persons having control of the premises) and, possibly, even leaseholders (e.g. if, under their lease, they are responsible for maintenance and repair of their flat entrance doors).*

3.19 emergency escape lighting

part of the emergency lighting that provides illumination for the safety of people leaving a location or attempting to terminate a potentially dangerous process before doing so

3.20 emergency lighting

lighting provided for use when the supply to the normal lighting fails

3.21 escape route

route forming part of the means of escape from any point in a building to a final exit

3.22 evacuation alert system for use by the fire and rescue service

system intended for installation in a building containing flats or maisonettes to enable the fire and rescue service to initiate an evacuation alert signal by means of evacuation devices within the flats or maisonettes, using manual controls incorporated within control equipment

3.23 extra care housing

housing of a similar nature to sheltered housing (though sometimes including residents with disabilities that are not age-related), but with managed on-site care and support service, commonly on a 24 h basis

NOTE *This includes premises sometimes described as very sheltered housing, "housing with care", "assisted living" and "integrated care and housing (ICH)" or, where support is linked to a care home, "close care housing".*

3.24 false alarm

fire signal resulting from a cause(s) other than fire

3.25 final exit

termination of an escape route from a building, giving direct access to a street, passageway, walkway or open space, and sited to enable the rapid dispersal of persons from the vicinity of a building so that they are no longer in danger from fire and/or smoke

3.26 fire audit

systematic examination to determine whether standards of fire safety conform to those required in order to achieve the organization's fire safety policy and objectives

3.27 fire door

door or shutter provided for the passage of people, air or objects which, together with its frame and furniture as installed in a building, is intended (when closed) to resist the passage of fire and/or gaseous products of combustion, and is capable of meeting specified performance criteria to those ends

3.28 fire drill

periodic test of the evacuation procedure involving participation of the occupants of a building and, where relevant and practicable, any other actions required as part of the fire procedure

NOTE *This is sometimes known as an evacuation drill, e.g. in BS 4422:2005.*

3.29 fire equipment sign

safety sign that indicates the location or identification of fire equipment or how it is to be used

3.30 fire exposure

extent to which people, animals or items are subjected to the conditions created by fire

3.31 fire hazard

source, situation or act with potential to result in a fire

NOTE *Examples of fire hazards include ignition sources, accumulation of waste that could be subject to ignition, and disposal of a lit cigarette close to combustible materials.*

3.32 fire hazard identification

process of recognizing that a fire hazard exists and defining its characteristics

3.33 fire load

quantity of heat that could be released by the complete combustion of all the combustible materials in a volume, including the facings of all bounding surfaces

3.34 fire precautions

physical, procedural and managerial measures taken to reduce the likelihood of ignition occurring and/or to mitigate the consequences if ignition does occur

3.35 fire prevention measures

measures to prevent the outbreak of fire

3.36 fire procedure

predetermined actions to be taken in the event of fire

3.37 fire protection measures

design features, systems, equipment or structural measures to reduce danger to people and property if fire occurs

NOTE *Examples of such measures include means of detecting, extinguishing or containing fires.*

3.38 fire resistance

ability of an item to fulfil for a stated period of time the required load-bearing capacity and/or integrity and/or thermal insulation, and/or other expected duty specified in a standard fire resistance test

NOTE *This is not the time that the item can withstand exposure to any specific real fire without loss of its required performance.*

3.39 fire risk

combination of the likelihood of the occurrence of fire and consequence(s) likely to be caused by a fire

NOTE *In the context of this PAS, the relevant consequences of a fire are those involving injury to people (number and severity of injuries), as opposed to damage to property.*

3.40 fire risk assessment (FRA)

process of identifying fire hazards and evaluating the risks to people arising from them, taking into account the adequacy of existing fire precautions, and deciding whether or not the fire risk is acceptable without further fire precautions

NOTE 1 *A fire risk assessment is a legal requirement for certain multiple-occupancy dwellings and parts of such dwellings.*

NOTE 2 *Where the fire risk is not acceptable without further fire precautions, a fire risk assessment includes an action plan that sets out reasonably practicable measures to reduce the risk.*

3.41 fire risk assessor

person who carries out, and documents the significant findings of, a fire risk assessment

NOTE *The fire risk assessor is expected to be a competent person (see **3.14**), and the fire risk assessor has a duty of care to the dutyholder on which legislation imposes a requirement for the fire risk assessment. However, the ultimate responsibility for the adequacy of the fire risk assessment rests with the dutyholder (which could be an organization – see **3.18** and related notes) rather than with the fire risk assessor (see Clause **6**).*

3.42 fire safety engineer

person suitably qualified and experienced in fire safety engineering

3.43 fire safety engineering

application of scientific and engineering principles to the protection of people, property and the environment from fire

3.44 fire safety induction training

formal training, normally given verbally to new employees as soon as practicable after their employment, with the objective of imparting sufficient information on the relevant fire risks, fire prevention measures, fire protection measures and fire procedures in the building to ensure the safety of employees from fire

NOTE *Fire safety induction training also assists in preventing employees from inadvertently putting other occupants of the premises at risk from fire.*

3.45 fire safety management

task(s) carried out by a defined individual or individuals with appropriate powers and resources to ensure that the fire safety systems, passive, active and procedural, within the building are working properly at all times

3.46 fire safety manager

person nominated to monitor and control the management of fire safety

3.47 fire safety manual

record of all design, procedural and management issues and events that relate to the fire safety of a building

3.48 fire safety objective

specified (or specifiable) goal intended to be achieved by a fire protection measure(s)

3.49 fire safety policy

documented strategy that sets the standards of fire safety that an organization is committed to maintaining

NOTE *For example, the starting point of a fire safety policy is expected to be that the organization complies with all legislative requirements in respect of fire safety.*

3.50 fire safety refresher training

training given to employees periodically to ensure that they remain aware of the fire risks, fire prevention measures, fire protection measures and fire procedures in the building

3.51 fire scenario

detailed description of conditions, including environmental conditions, of one or more stages from prior to ignition to after completion of combustion in an actual fire at a specific location

3.52 fire stopping

sealing or closing an imperfection of fit between elements, components or constructions of a building, or any joint, so as to restrict penetration of smoke and flame through the imperfection or joint

3.53 fire strategy

set of fire safety objectives and the measures to be taken to meet those objectives

3.54 house in multiple occupation (HMO)

house that is occupied by persons who do not form a single household

NOTE *For the purposes of housing legislation, and requirements made thereunder, the term "HMO" is subject to specific definitions in England and Wales and the devolved regions.*

3.55 ignition

initiation of combustion

3.56 ignition source

source of energy that initiates combustion

3.57 inner room

room from which the only escape route is through another room

NOTE *The room that provides the escape route from an inner room is known as an access room (see **3.1**).*

3.58 integrity

ability of a separating element, when exposed to fire on one side, to prevent the passage of flames and hot gases or the occurrence of flames on the unexposed side, for a stated period of time in a standard fire resistance test

3.59 lifts

3.59.1 evacuation lift

lift used as part of the evacuation sequence for persons with disability and persons requiring assistance, which has appropriate structural, electrical and fire protection and is capable of being taken under control by a trained and authorized person

3.59.2 fire-fighting lift

lift which has protection, controls and signals which enable it to be used under the exclusive control of the firefighters, but that are less stringent than those of a firefighters lift

NOTE *Where the term "fire-fighting lift" is used in this PAS, it refers to a lift installed in accordance with BS 5588-5, which was first published in 1986. "Fire-fighting lifts" were superseded by "firefighters lifts" with the publication of BS EN 81-72.*

[SOURCE: BS 8899:2016, **3.6**]

3.59.3 firefighters lift

lift which has protection, controls and signals which enable it to be used under the exclusive control of the firefighters

NOTE *Where the term "firefighters lift" is used in this PAS, it refers to a lift installed in accordance with BS EN 81-72, which was first published in 2003.*

[SOURCE: BS EN 81-72:2020, **3.5**, modified – note added]

3.59.4 firemen's lift

lift installed before fire-fighting lift standards were made available, incorporating only simple means to recall the lift to a designated floor, with no complex lift controls or protection measures for fire and rescue service use

NOTE 1 *This is also known as a fire service lift.*

NOTE 2 *Where the term "firemen's lift" is used in this PAS, it refers to a lift installed in accordance with BS 2655 or BS 5655 for use by the fire and rescue service. "Firemen's lifts" were superseded by "fire-fighting lifts" with the publication of BS 5588-5.*

[SOURCE: BS 8899:2016, **3.8**]

3.60 maintained emergency lighting

lighting system in which all emergency lighting lamps are illuminated at all material times

3.61 mandatory sign

safety sign that indicates a specific course of action is to be taken

3.62 manual call point

component of a fire detection and fire alarm system that is used for the manual initiation of a fire alarm signal

3.63 material alteration

alteration that changes (usually lowering or with the potential to lower) the standard of fire protection originally provided

3.64 means of escape

structural means whereby a safe route for use in the event of fire is provided for persons to travel from any point in a building to a place of ultimate safety without external assistance

3.65 non-combustible

not capable of undergoing combustion under specified conditions

3.66 non-maintained emergency lighting

lighting system in which all emergency lighting lamps are illuminated only when the supply to the normal lighting fails

3.67 occupant(s) especially at risk

building occupant(s) who, as a result of their physical or mental state, age or location in the building, are at greater risk from fire than a non-disabled, fully alert adult afforded adequate means of escape and other fire precautions, whether on a short-term or long-term basis

3.68 panic bolt

mechanism, consisting of a minimum of two sliding bolt heads that engage with keepers in the surrounding door frame or floor for securing a door when closed, which can be released by hand or body pressure on a bar positioned horizontally across the inside face of the door

3.69 panic latch

mechanism for securing a door when closed, with a latch bolt that can be released by hand or body pressure on a bar positioned horizontally across the inside face of the door

3.70 peer-to-peer rented accommodation

accommodation rented by means of a decentralized platform whereby two individuals interact directly with each other, without intermediation by a third party

NOTE *For the purposes of this PAS, the term "peer-to-peer rented accommodation" includes letting arranged through an agent.*

3.71 person-centred fire risk assessment (FRA)

assessment of the risk from fire focused on a specific resident, carried out with the involvement of the resident, taking into account the physical and cognitive characteristics of the resident, their lifestyle, preferences and a contextualized consideration of relevant behavioural history, which results in a proportionate person-centred action plan that takes into account informed decision-making and dignity of the resident, while resulting in tolerable risk from fire

3.72 phased evacuation

system of evacuation in which different parts of the building are evacuated in a controlled sequence of phases, those parts of the building expected to be at greatest risk being evacuated first

3.73 place of relative safety

place in which there is no immediate danger, but in which there could be future danger, from fire or the effects of fire

3.74 place of ultimate safety

place in which there is no immediate or future danger from fire or the effects of fire

3.75 pre-occupation fire safety assessment

process of identifying fire precautions in a newly constructed or refurbished building, taking into account the approved fire strategy, and deciding whether or not the new or refurbished premises are likely to be fit for occupation

NOTE *A pre-occupation fire safety assessment is not to be confused with the fire risk assessment required by fire safety legislation and described in this PAS, which can only properly be carried out after a building has been handed over to the end user.*

3.76 products of combustion

solid, liquid and gaseous materials resulting from combustion

3.77 protected

enclosed in fire-resisting construction

3.78 refuge

area that is both separated from a fire by fire-resisting construction and provided with a safe route to a storey exit, thus constituting a temporarily safe space

NOTE *In Scotland, a refuge is generally known as a "temporary waiting space" (TWS).*

3.79 relevant fire safety legislation

legislation that sets out obligations relating to fire risk assessment

NOTE *The relevant legislation is:*

- *(in England and Wales) the Regulatory Reform (Fire Safety) Order 2005 (as amended) [5];*
- *(in Scotland) combination of the Fire (Scotland) Act 2005 (as amended) [8] and the Fire Safety (Scotland) Regulations 2006 [9];*
- *(in Northern Ireland) the Fire and Rescue Services (Northern Ireland) Order 2006 [13], together with the Fire Safety Regulations (Northern Ireland) 2010 [14].*

3.80 required safe escape time (RSET)

time from ignition until the time at which all the occupants of a building, or a specified part of a building, are able to reach a place of safety

3.81 safe condition sign

safety sign that indicates an evacuation route, the location of safety equipment or a safety facility, or a safety action

NOTE *A fire exit sign is an example of a safe condition sign.*

3.82 shared house

type of house in multiple occupation, normally let to an identifiable group, such as students, work colleagues or friends, in which there is a significant degree of social interaction

3.83 sheltered housing

housing in which each dwelling is designed and constructed for the purpose of providing self-contained residential accommodation for older people, and where some form of assistance is available at all times, though not necessarily from persons on the premises

NOTE *This includes premises sometimes described as retirement housing and similar blocks of flats, regardless of whether flats are rented or are leasehold.*

3.84 short-term letting

residential tenancy, of less than six months, of a fully furnished property, where utilities and, normally, television and internet are included in the rent

NOTE *For the purposes of this PAS, the term "short-term letting" includes peer-to-peer rented accommodation (**3.70**).The term of rental might be as short as one night.*

3.85 simultaneous evacuation

system of evacuation in which an entire building is evacuated immediately on receiving an evacuation signal (e.g. from a fire detection and fire alarm system) or an evacuation alert signal from an evacuation alert system for use by the fire and rescue service (see **3.22**), or an instruction to evacuate (e.g. given verbally to the residents of each dwelling by firefighters)

3.86 smoke alarm

device containing within one housing all the components, except possibly the energy source, necessary for detecting smoke and for giving an audible alarm

NOTE 1 *Smoke alarms can also give a visual alarm.*

NOTE 2 *The term "smoke alarm" is normally reserved for devices intended for domestic use.*

3.87 specialized housing

accommodation for occupants who live independently, or with an element of support, and who are wholly or mainly limited to a specific section of the population and are likely to require additional measures to secure their safety in the event of fire, including, but not limited to, accommodation provided for older people, physically disabled people, people with cognitive difficulties and people with mental health issues

3.88 sprinkler system

system comprising thermosensitive devices designed to react at a predetermined temperature by automatically releasing a stream of water and distributing it in a specified pattern and quantity over a designated area

3.89 stay put strategy

strategy normally adopted in blocks of flats and maisonettes whereby, when a fire occurs in a flat or maisonette, the occupants of that dwelling evacuate, but occupants of all other dwellings can safely remain in their dwellings unless directly affected by heat and smoke or directed to leave by the fire and rescue service

NOTE *In a building with a stay put strategy, all residents are always free to leave their flats if they wish to do so (e.g. if they feel unsafe), but to do so might, under some circumstances, place them at greater risk than remaining within their flats.*

3.90 structural fire protection

features in layout and/or construction that are intended to reduce the effects of a fire

3.91 supported housing

housing (excluding sheltered housing and extra care housing) designed for vulnerable people with common characteristics, living as part of a community with support that is normally, but not necessarily, provided on a 24 h basis

NOTE *This includes housing for groups of people with learning or physical disabilities and mental health issues, but not "hostel"-type accommodation for groups such as homeless people, victims of domestic violence or ex-offenders. Residents can live independently or as a single group.*

3.92 third-party fire risk assessor

independent fire risk assessor, who is not an employee of the dutyholder, but who is contracted to carry out a fire risk assessment on behalf of a dutyholder on whom legislation imposes a requirement for a fire risk assessment

NOTE *A fire safety consultant is an example of a third-party fire risk assessor.*

3.93 tolerable level

<of fire risk> level at, or close to, that acceptable to a dutyholder, taking into account the requirements of fire safety legislation, the nature of the premises, the fire hazards in the premises (see **3.31**), the nature of the occupants, the cost of additional fire precautions and any other relevant factors

3.94 travel distance

actual distance to be travelled by a person from any point within the floor area to the nearest storey exit, having regard to the layout of walls, partitions and fixings

3.95 Type 1 fire risk assessment

fire risk assessment for a block of flats, sheltered housing or extra care housing, in which the scope of the fire risk assessment is limited to common parts, plant rooms and other non-domestic areas of the building (if any), and in which the inspection of the building is non-intrusive

NOTE 1 *In England and Wales, a Type 1 fire risk assessment is the basic fire risk assessment required for the purpose of satisfying the Fire Safety Order [5].*

NOTE 2 *Although a Type 1 fire risk assessment is limited in scope primarily to common parts of blocks of flats, sheltered housing and extra care housing, inspection of the building includes examination of at least a sample of flat entrance doors and reasonably accessible service risers. Consideration also needs to be given to external wall construction, though this might require a fire risk appraisal and assessment by another specialist, unless, for example, the wall is of traditional masonry construction.*

NOTE 3 *The action plan of a Type 1 fire risk assessment (see **3.2**) might include a recommendation for a Type 2, Type 3 or Type 4 fire risk assessment to be carried out (e.g. if the Type 1 FRA identifies cause for concern that justifies intrusive inspection and/or consideration of fire safety within flats).*

3.96 Type 2 fire risk assessment

fire risk assessment that is generally similar, in scope and objectives, to a Type 1 fire risk assessment, except that there is a degree of intrusive inspection, involving opening up of construction on a sampling basis and making good after the inspection

NOTE 1 *A Type 2 fire risk assessment is usually a one-off exercise, which is carried out only if there is good reason to suspect serious structural deficiencies that could lead to spread of fire beyond the flat of fire origin.*

NOTE 2 *The work of opening up and making good is normally carried out by a contractor, rather than the fire risk assessor.*

3.97 Type 3 fire risk assessment

fire risk assessment that includes all work within the scope of a Type 1 fire risk assessment, and so is non-intrusive, but also takes into account the arrangements for means of escape and fire detection (usually by means of smoke alarms) within at least a sample of the flats; within the flats, the inspection is non-intrusive, but the fire resistance of doors to rooms is taken into account

NOTE 1 *A Type 3 fire risk assessment does not take into account measures to prevent fire unless the measures are within the control of the person on whose behalf the fire risk assessment is being carried out.*

NOTE 2 *A Type 3 fire risk assessment might be appropriate for rented flats if there is a reason to suspect serious risk to residents in the event of a fire in their own flats.*

NOTE 3 *A Type 3 fire risk assessment is commonly impossible to carry out in the case of long leasehold flats, as there is normally no right of access for freeholders or other parties for whom the Type 1 fire risk assessment is carried out.*

3.98 Type 4 fire risk assessment

fire risk assessment that involves the same scope of work as a Type 3 fire risk assessment, except that there is a degree of intrusive inspection, in both the common parts and the flats, carried out on a sampling basis

NOTE 1 *A Type 4 fire risk assessment is normally appropriate only in limited circumstances, such as when a new landlord takes over a block of flats in which the history of works carried out is unknown and there is reason to suspect serious risk to residents from both a fire in their own flats and a fire in neighbours' flats.*

NOTE 2 *The nature of the work involved in a Type 4 fire risk assessment is such that intrusive inspection within flats can often be carried out only in vacant flats.*

NOTE 3 *The work of opening up and making good is normally carried out by a contractor, rather than the fire risk assessor.*

3.99 water mist system

distribution system connected to a water supply, with atomizing media where required, that is fitted with one or more nozzles capable of delivering water mist intended to control, suppress or extinguish fire

NOTE *Water mist systems can discharge water or a mixture of water and some other agent or agents, e.g. inert gases or additives.*

3.100 wet fire main

water supply pipe installed in a building for firefighting purposes and permanently charged with water from a pressurized supply, fitted with landing valves at specific points

4 The concepts of fire risk and fire hazard

*COMMENTARY ON CLAUSE **4***

*It is important that, in the fire risk assessment (FRA), confusion does not result from loose, inexact or conflicting use of terminology. Particular care needs to be taken to avoid improper use of the terms "fire hazard" (see **3.31**) and "fire risk" (see **3.39**). BS 4422:2005 defines a fire hazard as potential for injury and/or damage from fire. In the field of health and safety, a hazard is often defined as a source, situation or act with a potential for harm in terms of human injury or ill health, or a combination of these. In this PAS, a fire hazard is defined as a source, situation or act with potential to result in a fire. Thus, the presence of uncontrolled fire hazards affects the likelihood of fire, rather than the consequences of fire. This is consistent with both BS 4422 and the concept of hazard in the field of health and safety.*

BS 4422:2005 defines fire risk as the product of the probability of occurrence of a fire to be expected in a given technical operation or state, and the consequence or extent of damage to be expected on the occurrence of fire. Accordingly, for the purpose of this PAS, fire risk is defined as the combination of the likelihood of the occurrence of fire and consequence(s) (number and severity of injuries) likely to be caused by a fire. This, again, is consistent with the broader concept of risk in the field of general health and safety.

This clear distinction between fire hazard and fire risk is of great value in any analytical approach to fire safety, but particularly in an FRA. As stated above, fire risk is the product of multiplying the probability of fire by a measure of the consequences of fire if it does occur. Thus, for example, even though the likelihood of fire occurring might be low, the fire risk could still be high as a result of potential for serious injury to occupants in the event of fire. For example, the potential for serious injury could result from inadequate provision of fire exits and/or inadequate means of giving warning to people in the event of fire. Such circumstances would be likely to be regarded intuitively, even by a lay person, as high risk, and accordingly this definition of fire risk is likely to be relatively intuitive even to non-fire specialists.

4.1 In the FRA, there should be a clear distinction between the concepts of fire hazard and fire risk.

4.2 In the FRA, the terms "fire hazard" and "fire risk" should be used only in a context consistent with definitions **3.31** and **3.39**.

4.3 In documenting the significant findings of the FRA (see Clause **10**), there should be distinct, and separate, consideration of fire hazards, situations and measures that affect the consequences of fire, such as fire protection measures (see **3.37)**, and the overall fire risk.

5 Principles and scope of fire risk assessments

*COMMENTARY ON CLAUSE **5***

*The FRA is a systematic and structured assessment of the fire risk (see Clause **4**) in the premises for the purpose of expressing its current level, determining the adequacy of existing fire precautions (see **3.34**) and determining the need for, and nature of, any additional fire precautions. Any such additional fire precautions required are set out in the action plan (see **3.2**), which forms part of the documented FRA (see Clause **10**). The objective of the action plan is to set out measures that will ensure that the fire risk is reduced to, or maintained at, a tolerable level (see **3.93**).*

The FRA is not any of the following:

a) a full audit of areas of the building that are not readily accessible or visually obvious (e.g. roof voids and service risers), though a sample inspection of such areas is normally appropriate;

***NOTE 1** A degree of sampling is particularly important if the evacuation strategy is predicated on a high standard of compartmentation (e.g. in the case of a "stay put" strategy in a block of flats).*

b) a means for verifying compliance with current building regulations;

c) a disabled access audit;

*d) a means for identifying latent defects in construction or compartmentation (see **3.13**);*

e) a means for verifying that the fire resistance of structural elements of the building is adequate;

f) an examination of the potential for structural collapse of the building in the event of fire;

g) a fire strategy report;

*h) a pre-occupation fire safety assessment (see **3.75**);*

i) a means for snagging of new construction;

j) a guide to legislation for the responsible person; or

k) a fire risk appraisal and assessment of external wall construction and cladding.

***NOTE 2** PAS 9980, which is in the course of preparation at the time of publication of this current PAS, will provide recommendations for a fire risk appraisal and assessment (an "FRAA") of external wall construction and cladding of blocks of flats.*

***NOTE 3** A standard scope of services, suitable for use in a contract between a responsible person and a fire risk assessor, is published by the Fire Industry Association [17].*

The FRA needs to involve a genuine and open-minded approach to the assessment of fire risk and fire precautions. It is not, for example, appropriate to use the FRA to justify a decision regarding fire precautions that has already been made without due consideration of risk, or to justify significant departures from universally recognized industry good practice (e.g. the frequency of testing and maintenance of fire protection systems recommended in relevant British Standards).

*It follows from the definition of fire risk that the FRA involves consideration of relevant fire hazards and the means for their elimination or control, i.e. fire prevention measures. This contrasts with the approach adopted in now repealed fire safety legislation, which tended to concentrate on fire protection measures (see **3.37**), rather than fire prevention measures (see **3.35**).*

This approach to fire risk assessment tends to parallel that adopted in health and safety risk assessments, whereby the objective of the risk assessment is not limited to merely preventing harm to people as a result of a hazard, but begins with endeavours to eliminate or reduce the hazard itself. Thus, the FRA begins with endeavours to reduce the likelihood of fire. In this sense alone, fire risk assessment is a more holistic approach to the control of fire risk than that adopted under 20th century fire safety legislation.

*The likelihood of fire is rarely reduced to zero. Accordingly, there is normally need for fire protection measures, such as means of escape (see **3.64**), measures that assist in the use of escape routes (see **3.21**), means of giving warning of fire (though in modern blocks of flats this is limited to smoke alarms within individual flats, as communal fire alarm systems are inappropriate) and means for fighting fire. However, these fire protection measures, by definition, only have a bearing on fire safety after fire has occurred and, therefore, fire prevention has failed.*

*Most of the visible fire precautions in premises are fire protection measures, and it is with these measures and structural fire precautions that the fire safety provisions within building regulations are primarily concerned. However, in modern premises, the risk to people (and property) from fire is often governed more by the quality of fire safety management (see **3.45**) than the level of fire protection. In housing, it is rare for any fire to result in deaths beyond a dwelling of fire origin. Nevertheless, where such deaths occur, experience shows that a significant factor is commonly a combination of a failure in fire safety management at an organizational level, including management of alterations to the building, and inadequate fire precautions.*

*Thus, in contrast with the approach to compliance with building regulations, it is absolutely essential that every FRA gives thorough attention to fire safety management and, therefore, to matters such as the fire strategy for the premises, fire procedures [including their dissemination to residents, regardless of whether the evacuation strategy is "stay put" (see **3.89**) or simultaneous evacuation (see **3.85**)], training of any staff in the premises, testing and maintenance of fire protection equipment, inspection of means of escape, control over alterations, control of work by contractors, etc. Good fire safety management also contributes to the prevention of fire by incorporating policies and measures that reduce the likelihood of fire.*

*It follows, therefore, that the FRA can only validly be carried out on premises that are in use, so that the actual working conditions, practices and procedures can be taken into account. The FRA required by the relevant fire safety legislation (see **3.79**), to which this PAS refers, cannot be carried out at the design stage of new premises, nor is it a means for snagging, or verifying the adequacy of, fire precautions in newly constructed premises prior to occupation. Parts of the FRA can be used for such a purpose, in order to review fire protection measures at the design stage, and to assist in ensuring that the premises, once constructed, are adequately safe from fire for occupation, but such an exercise would not constitute a suitable and sufficient FRA, as management issues and operational issues cannot be properly addressed.*

***NOTE 4** This does not imply that there is no need for an FRA for vacant premises. For example, when premises become vacant for any period during the life of the building, they are not excluded from the scope of fire safety legislation.*

*Notwithstanding the above, on completion of a new building, or of major refurbishments, major alterations, etc., there can be benefit in carrying out a "pre-occupation fire safety assessment" (see **3.75**). Pre-occupation fire safety assessments are carried out if the end user wants to establish that the construction stage of the building has been completed, the fire strategy has been implemented correctly, and the necessary fire safety design measures have been incorporated, prior to handover and subsequent occupation. This information is usually communicated in the findings of a pre-occupation fire safety assessment. It is important that a pre-occupation fire safety assessment is not confused with the FRA to which this PAS refers; the former is undertaken simply to ensure a smooth transition from the design and construction phase to the operational phase of new or refurbished premises. However, even a pre-occupation fire safety assessment does not necessarily identify latent defects in construction.*

The fire prevention measures, fire protection measures and components of fire safety management can be treated as variables, the standard of which can be reduced or increased, according to the fire risk, in order to provide an integrated package of measures that limits fire risk to a tolerable level. However, some factors that have a major impact on fire risk are not variable, but are "given" factors for the premises in question. Usually, basic information on such factors can be treated as significant findings of the FRA, and accordingly, such information needs to be recorded.

Such factors include, but are not limited to:

1) *the height of the premises (e.g. single storey or multi-storey, low-rise or high-rise, the presence of basements);*
2) *the construction of the premises [e.g. largely non-combustible (see **3.65**) or mainly combustible (see **3.12**), timber-framed or modern methods of construction];*
3) *the complexity of the premises (e.g. simple, straightforward escape routes, with a single stairway for means of escape from upper floors, or complex, convoluted internal layout with multiple stairways);*
4) *the approximate floor area of the premises;*
5) *the maximum number of occupants of the premises;*
6) *the maximum number of residents likely to be present;*

***NOTE 5** It is acknowledged that, in general needs blocks of flats, it is difficult to ascertain these numbers with any degree of accuracy.*

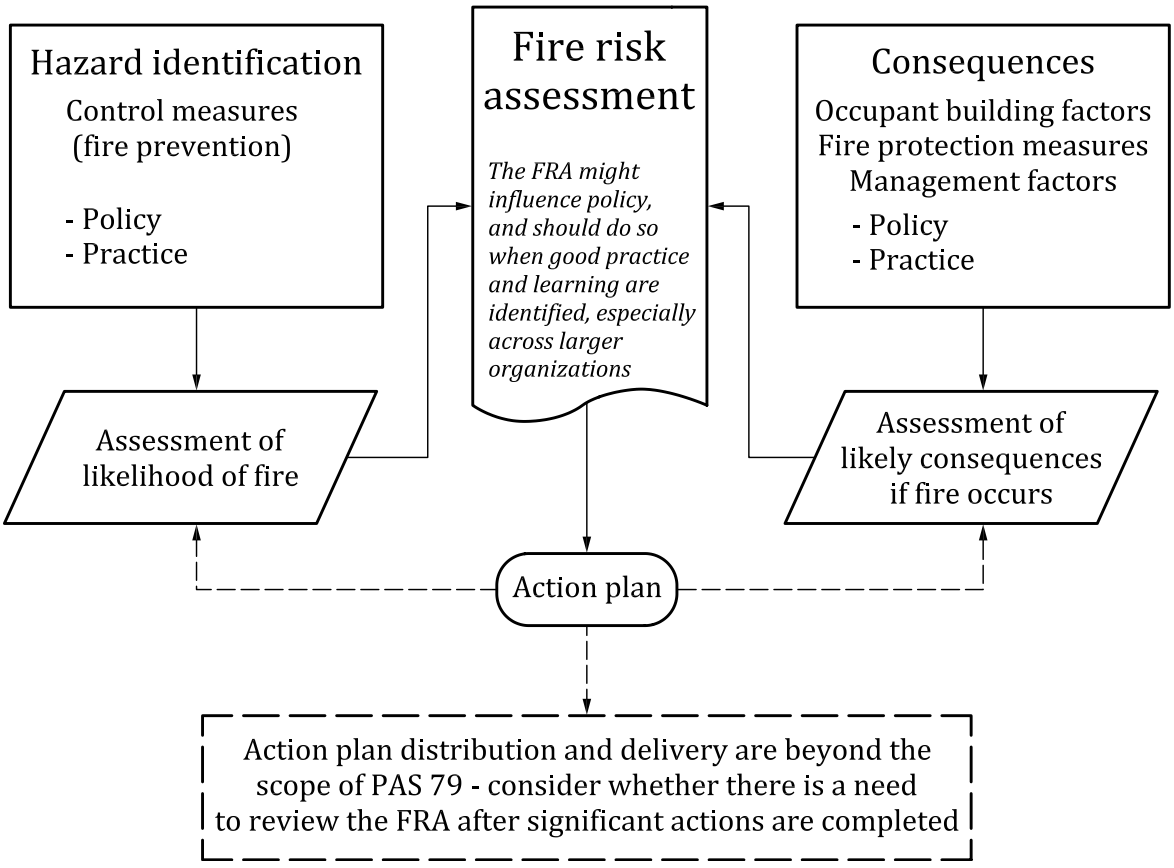
7) *the nature of the occupants for whom the premises are specifically designed (e.g. young or old, disabled or able-bodied);*
8) *the familiarity of the occupants with the premises (e.g. normally fully familiar, unless the premises are designed specifically for short-term residents);*
9) *the history of fires on the premises; and*
10) *the incidence of malicious fire raising and vandalism in the surrounding areas.*

Although the above factors cannot (or cannot readily) be changed, their effect on fire risk (primarily as a result of their effect on the consequences of a fire) needs to be taken into account in the FRA, so that they are reflected in the level of fire risk expressed in the FRA. The level of fire precautions then needs to be proportionate to the level of risk.

*Since the likelihood (i.e. probability) of fire and the consequences of fire, if it does occur, are largely independent factors (see Clause **4**), they need to be considered separately in the FRA (see Figure 1). For example, in properly designed, constructed and maintained single-storey premises with able-bodied residents and an abundance of readily available fire exits, a fire might have less serious consequences to occupants (in terms of injury) than in the case of multi-storey premises with a predominance of disabled people and poor compartmentation.*

On the other hand, in a high-rise block of flats with well-designed escape routes and a good standard of compartmentation, if there is a significant build-up of combustible materials in the common parts, the consequences to occupants in the event of fire in the common parts could be serious. Equally, in each of these examples, poor standards of fire safety management could affect both the probability of fire and the consequences of fire.

Figure 1 – Schematic of fire risk assessment process



Once the level of fire risk is determined, any need for improvements in fire precautions can be identified. The separate consideration of probability of fire and consequences of fire is then of value, since, if the fire risk is unacceptably high, the source(s) of the high fire risk can be identified by separating the fire risk into its two component factors. It can then be determined whether the problem is primarily one of high likelihood of fire, necessitating fire prevention measures in the action plan, or serious consequences in the event of fire, necessitating fire protection measures, or a combination of the two.

*The determination of the likelihood of fire, the consequences of fire, and hence the fire risk, can normally be subjective in nature, and is not normally quantified numerically. Numeric methods, including calculation of probabilities and use of fire scenarios (see **3.51**), are not necessary or appropriate in the case of an FRA for housing premises, other than in the formulation of designs based on complex fire safety engineering (see **3.43**). Moreover, care is necessary to ensure that simple points schemes, which purport to evaluate fire risk numerically, are not misleading (see Clause **18**). It is very difficult in such schemes to allocate appropriate and proportionate weightings to different factors, and it is difficult to take into account the synergistic relationship between various, at first sight independent fire precautions and effects thereof.*

*Equally, if significant capital expenditure on fire precautions is recommended in the action plan (see **3.2**), it needs to be possible to justify the expenditure by articulation of a realistic and credible scenario, in which unacceptable fire risk to occupants would occur. In such cases, it is not, for example, acceptable simply to justify significant capital expenditure on the basis of a departure from current guidance or practice, particularly in the case of premises designed and constructed prior to the introduction of such guidance or practice.*

Where, originally, the premises have been designed by a competent fire engineer on the basis of fire safety engineering, and have been approved under relevant building regulations, it is not generally necessary to check this design from first principles in the course of the FRA. It is, however, necessary to verify that features and facilities that form part of the design are being properly maintained and managed.

*The action plan (see Clause **19**) needs to contain measures that are reasonably practicable, risk-proportionate and normally prioritized, while resulting in compliance with legislation and the organization's fire safety policy (see **3.49**). The nature of the measures specified needs to be such that they are likely to receive acceptance by management and residents who might be affected by them.*

5.1 As a general rule, the FRA should be carried out only when the premises are in normal use. If, in the case of new or refurbished premises, there is a need to carry out an FRA before the premises are fully occupied and in normal use, a further FRA should be carried out soon after the premises are in normal use.

***NOTE** Where any premises stand unoccupied, the dutyholder still has a responsibility, under the relevant fire safety legislation, to ensure that an FRA is carried out.*

5.2 Every documented FRA should explicitly set out the significant findings of the assessment, including information on the scope and type of the FRA.

5.3 Within every documented FRA, it should be clear that appropriate consideration has been given to the following matters, regarding which there should be, at least, basic information and, where relevant, comment:

a) occupants and potential occupants;
b) fire hazards and means for their elimination or their control;
c) relevant fire protection measures (see 3.37) and the arrangements for relevant inspection, testing or maintenance of these measures;
d) relevant aspects of fire safety management; and
e) any fire strategy adopted within the premises as part of a fire engineering solution, or alternative to prescriptive codes of practice for compliance with building regulations, such as special managerial arrangements.

5.4 Every documented FRA should contain an expression of the level of fire risk, determined from the information recommended in **5.2** and **5.3**.

***NOTE** The level of fire risk may normally be expressed subjectively (e.g. trivial, tolerable, moderate, substantial, intolerable).*

5.5 Every documented FRA should contain an action plan (see Clause **19**), unless it is expressly confirmed within the FRA that no additional fire precautions are necessary.

6 Responsibility for adequacy of the fire risk assessment

*COMMENTARY ON CLAUSE **6***

*Regardless of whether the FRA is carried out by, for example, staff of an organization, or by a third-party fire risk assessor (see **3.92**), the ultimate responsibility for the adequacy of the FRA rests with a dutyholder (see **3.18**), namely the person defined by legislation as responsible for ensuring that the FRA is carried out and that the fire precautions are adequate.*

If persons are employed to work in the premises (e.g. a concierge in a block of flats, or care and support staff in supported housing), one dutyholder is their employer. However, in housing in which staff are not employed, the duty to carry out an FRA rests with the person who has control of the premises. For example, this can be (and typically is) the landlord, freeholder or the managing agents. Even if staff are employed to work in the premises, their employer might not be the sole dutyholder; other persons having control of the premises, such as a landlord or managing agents, might have duties under the relevant fire safety legislation if, under a contract or tenancy, they have responsibilities for maintenance of the premises, or certain of its fire precautions, or the safety of the premises. For example, in some supported housing, the service provider might need to carry out an FRA to address the safety of staff and residents, but a landlord might also need to carry out an FRA to verify the adequacy of fire precautions for which they are responsible under a lease. It is also necessary to ensure adequate cooperation amongst dutyholders to verify that, jointly, they coordinate the measures required to satisfy legislation.

*Where legislation imposes a requirement on any dutyholder for an FRA to be carried out, it needs to be clearly understood by the dutyholder that the responsibility for the adequacy and accuracy of the FRA, and of the information contained therein, rests with that dutyholder, rather than with the fire risk assessor (see **3.41**), regardless of whether the fire risk assessor is an employee of the organization or a third party (e.g. a consultant). However, there is also a legal responsibility on the part of the fire risk assessor in contract law; criminal responsibility can also arise on the part of the fire risk assessor under the relevant fire safety legislation if the FRA carried out by the fire risk assessor is inadequate to such an extent that one or more relevant persons are, consequently, exposed to the risk of death or serious injury in the event of fire.*

*It is important that any person on whom the duty to carry out an FRA is imposed understands and acknowledges their responsibility for the FRA. While they can use the services of a third party to carry out the FRA, the ultimate responsibility for the adequacy of the FRA cannot be delegated, making it important that dutyholders satisfy themselves regarding the competence of the fire risk assessors (see Clause **7**). Freeholders and managing agents in England and Wales have been prosecuted for failures to ensure that a suitable and sufficient FRA has been carried out, in some cases in conjunction with the third-party fire risk assessor with whom they contracted to carry out the FRA, and, in other cases, without any legal proceedings against the fire risk assessors.*

*Where, within an organization, there is a competent person (see **3.14** and Clause **7**) able to carry out the FRA, it is appropriate for that person to carry out, or oversee any third party that carries out, the organization's FRAs. If FRAs are carried out by a third party, such as a consultant, it is essential that the organization for whom the FRA is carried out understands the role of the third party and the resulting FRA; the role is to facilitate the FRA and to advise on fire precautions, but, as noted above, the responsibility for the adequacy of the FRA and the adequacy of fire precautions rests with the organization.*

Notwithstanding the above, if a third-party fire risk assessor (such as a consultant) carries out an FRA that is, subsequently, deemed (e.g. by a court) to have been inadequate at the time it was carried out, such as to, thereafter, place occupants of the premises at risk of serious injury or death in the event of fire, the fire risk assessor might then be exposed to civil or criminal liability. This is because, if, under a contract, a person has responsibility for the safety of premises, they can be regarded as "a person having control of the premises", on whom the relevant fire safety legislation imposes duties in respect of the FRA. This situation might, for example, arise if the fire risk assessor were seriously negligent in the scope of the matters considered in the FRA, their endeavour to obtain relevant information, or their examination of fire precautions (including managerial issues, such as dissemination of the evacuation strategy to residents, and the arrangements of testing and maintenance of fire protection measures). Equally, it is not expected that, in all FRAs to which this PAS applies,

*intrusive investigations of structural fire precautions (e.g. involving opening up of the structure or removal of a section of ceiling) are carried out, nor is it expected that any FRA will involve testing of active fire protection measures (see **3.37**) (see also Clause **15**). However, where doubt exists as to the adequacy of structural fire precautions, either through material changes to the building over time, or due to its age and historical nature, it might be necessary to make a recommendation for an in-depth assessment of compartmentation, which might be by other specialists.*

*Where the FRA is carried out for an organization by a third party, it is essential that the organization commits itself to the FRA from the outset. This means that the organization needs to provide information and support for whoever carries out the FRA, as much of the essential information required in order to carry out the FRA will reside within the organization and cannot be obtained by a third party without the organization's cooperation. The organization also needs to give practical support to the fire risk assessor (see **3.41**) by ensuring that the fire risk assessor has access to appropriate people from whom information is to be obtained and has sight of relevant documentation, and by facilitating access to all areas of the premises, including, for example, locked service risers and plant rooms. It is also necessary, for example, in the case of a block of flats, for the dutyholder to arrange access, so far as is practicable, to a sample of residents' flats to, at least, carry out a check of the flat entrance doors; it might also be necessary to check other matters, such as whether there is a common air extract system serving multiple flats.*

It is acknowledged that all relevant information is not always readily available (e.g. because of the history of old blocks of flats, ownership and management of which might have changed many times since the construction of the block). Also, access to all relevant areas might be difficult to facilitate at the time of the FRA. While by means of, for example, pre-survey questionnaires, information can be researched by dutyholders in advance of the FRA, the documented FRA might need to recommend further investigation of relevant information by the dutyholder, or recommend that the dutyholder carries out their own check of areas to which access was not available at the time of the FRA.

*Where practicable, to ensure acceptance of the action plan, the recommendations in the action plan need, in the course of the FRA, to be discussed with the management of the premises in question to ensure that the documented FRA is delivered to the appropriate person(s), namely the person(s) on whom the findings impact and who can arrange for implementation of the action plan. The "ownership" of the FRA by the dutyholder will then continue throughout the life of the premises, so that, for example, the FRA is subject to review at an appropriate frequency and when changes take place (see Clause **20**).*

The FRA constitutes an underpinning for an organization's compliance with fire safety legislation and its own fire safety policy. It is essential that the organization does not treat the FRA as a mere formality or "tick box" exercise, nor treat the documented FRA as a formal document that is an end in itself and is simply stored away until the fire and rescue authority request sight of it.

6.1 Where, within an organization, an employee of the organization is competent to carry out the FRA, where practicable that person should carry out, or oversee any third party that carries out, the organization's FRA.

6.2 The dutyholder should take all reasonable steps to ensure that every fire risk assessor who carries out FRAs on their behalf is competent to carry out this task, regardless of whether the fire risk assessor is an employee of the dutyholder or a third party, such as a consultant (see Clause **7**).

6.3 The dutyholder should ensure that, to the extent possible (see **6.5**), the fire risk assessor has access to appropriate people and relevant documentation, is provided with all relevant information and has access to all areas of the relevant premises, or part(s) of the premises, at the time of the FRA.

***NOTE** This includes access to certain locked areas, such as plant rooms and at least a sample of service risers.*

6.4 In the case of a block of flats, the dutyholder should arrange access to a suitably representative sample of flats to check certain matters, such as the adequacy of the flat entrance doorset, and to verify whether a common air extract system serves multiple flats. Where practicable, access should also be arranged to at least a sample of any roof voids. In the case of flat entrance doorsets, a representative sample of door archetypes should be checked.

6.5 If adequate information and access cannot be provided at the time of the FRA, the action plan should identify further investigation or checking of areas to be carried out subsequently by the dutyholder or a competent person instructed by the dutyholder.

6.6 The dutyholder should ensure that the documented FRA is studied carefully by appropriate people in the organization to verify the accuracy of documented information, to understand the contents, particularly the fire hazards, fire safety measures and any shortcomings in fire protection measures or fire safety management, and to implement the action plan.

6.7 After the FRA has been carried out, it should be subject to regular review, particularly when changes that could affect fire risk occur or when there is any other reason to suspect that the FRA is no longer valid (see Clause **20**).

7 Competence of fire risk assessors

*COMMENTARY ON CLAUSE **7***

*The FRA, and its periodic review (see Clause **20**), is a foundation for continued adequacy of fire precautions on an ongoing basis, after compliance with building regulations. It is, therefore, essential that FRAs are only carried out by competent persons (see **3.14**). Legal liability can arise on the part of the dutyholder and the fire risk assessor if an FRA is not suitable and sufficient. If the inadequacy of the FRA puts one or more relevant persons at risk of serious injury or death in the event of fire, an offence is committed by the dutyholder. The same offence could also be committed by the fire risk assessor.*

*At the time of publication of this PAS, the competence of fire risk assessors is under much scrutiny following the Hackitt Review of building regulations and fire safety [18]. The Review recommended that enhanced competence is necessary to carry out an FRA for high-risk residential buildings, though this assertion does not appear to be evidentially based. As a result of this, a new competence standard will be developed by the Fire Sector Federation during the expected life of this PAS. It is important that users of this PAS make themselves aware of developments in this respect. For fire risk assessors, this is necessary to avoid their FRAs being deemed inadequate, thereby leaving occupants of buildings exposed to risk, and consequent liability for the fire risk assessor in both civil and criminal law. For dutyholders, for the same reasons, there is, as discussed in Clause **6**, a need to ensure the competence of those engaged by them to carry out FRAs for which the dutyholder will, ultimately, be responsible.*

Competence does not necessarily depend on the possession of specific qualifications, although such qualifications might contribute to the demonstration of competence. In the case of small simple premises, where the fire risk assessor might, for example, be a non-specialist employee of the dutyholder, it is possible that, provided the fire risk is relatively low, the following attributes of the fire risk assessor might be sufficient in conjunction with a study of suitable guidance documents:

a) an understanding of relevant current best fire safety practices in premises of the type in question;

b) an awareness of the limitations of the fire risk assessor's own experience and knowledge; and

c) a willingness and ability to supplement existing experience and knowledge, when necessary, by obtaining external help and advice.

Higher risk or more complex premises require a higher level of knowledge and experience on the part of the fire risk assessor. For complex premises, there is a need for the specific applied knowledge and skills of an appropriately qualified specialist. In such cases, evidence of specialist training and experience, or membership of a professional body, can assist in demonstrating competence. In this connection, risk is not directly associated with, for example, the height of a building; a two-storey residential care home is likely to present a greater risk to occupants from fire than a 20-storey block of flats. The fire at Grenfell Tower in London in 2017 is extremely anomalous in this respect; indeed, the largest loss of life in a single fire between the fire at King's Cross underground station in 1987 and the Grenfell Tower fire occurred at a residential care home in Lanarkshire in 2004. In the context of housing within the scope of this PAS, because of residents' disabilities, a small supported living property can present a greater fire risk than a general needs tower block of flats.

Significant experience of inadequate FRAs, carried out by those who are not competent to do so, has, since the introduction of current fire safety legislation in Great Britain in 2006, caused increasing concern amongst regulators, enforcing authorities and the fire safety profession. As a result, a "Fire Risk Assessment Competency Council" was formed in 2010 with the objective of setting a competence standard for third-party fire risk assessors, who carry out FRAs for clients on a commercial basis. The Fire Risk Assessment Competency Council comprised representatives from central government, the then Chief Fire Officers' Association (CFOA) (now the National Fire Chiefs Council), the professional bodies within the fire safety profession, relevant trade associations and other relevant stakeholders. In 2011, the Fire Risk Assessment Competency Council published their competence standard for fire risk assessors[6]. The intention was that this standard would provide a basis for consistent evaluation of the competence of fire risk assessors

[6] Available at http://www.cfoa.org.uk/19532

by those professional bodies engaged in registration of competent fire risk assessors, and by third-party certification bodies that operate certification schemes for fire risk assessors. As noted above, a new competence standard will be published under the auspices of the Fire Sector Federation.

The competence of fire risk assessors arises from a sound underpinning combination of education, training, knowledge and experience in the principles of fire safety. In this connection, education is likely to involve formal education of a relatively academic nature, often culminating in a qualification (although not necessarily to degree level). Training involves training of a practical nature, often given on the job. Knowledge can be obtained by academic study, training, working alongside others, short courses, continuing professional development or any combination of two or more of these.

It is not implied that education, training and experience in the principles of fire safety need each be extensive, provided that the combination of each results in adequate knowledge. Moreover, a high level in respect of any one of these might compensate for a lower level in another.

A number of bodies maintain a register of persons who they consider competent to carry out FRAs. These include relevant professional bodies, and certification bodies accredited by UKAS to provide assessment and certification services. Registration of a fire risk assessor on such a register can give confidence in the education, training and experience of the fire risk assessor to those who wish to use the fire risk assessor's services.

7.1 All FRAs should be carried out by a competent person (see **3.14**).

7.2 The fire risk assessor need not possess any specific academic qualifications, but should:

a) understand the relevant fire safety legislation;
b) have a thorough knowledge and understanding of government, and other, guidance document(s) relevant to the premises in question;
c) have appropriate education, training, knowledge and experience in the principles of fire safety;
d) have an understanding of fire development, the response of building construction and materials to fire and the behaviour of people in fire;
e) have an understanding of occupants especially at risk from fire who are likely to be present in the premises for which the FRA is carried out;
f) understand the fire hazards, fire risks and relevant factors associated with occupants especially at risk within premises of the type in question;
g) understand the causes of fire and means for their prevention;
h) understand the design principles of fire protection measures relevant to the buildings being assessed;
i) have an understanding of critical management arrangements, emergency and evacuation planning, and any relevant staff requirements for all occupancy types;

   NOTE 1 *This is particularly critical for occupants with vulnerabilities or dependencies that generate a need for support, and the impact of that on evacuation plans and staffing levels.*

j) have an understanding of evacuation strategies and their application to buildings;
k) have a good appreciation of fire precautions in older existing buildings (e.g. such as early tower blocks of flats or large houses that were converted into flats many years ago), as opposed to an understanding of only current standards under building regulations;

   NOTE 2 *Fire safety specialists experienced only in the design of new buildings might not necessarily possess an appreciation of standards in buildings constructed before current building regulations came into force, nor of the extent to which such standards continue to be acceptable.*

l) have a good understanding of domestic fire safety, particularly in the case of Type 3 and Type 4 FRAs (see **3.97** and **3.98** respectively);
m) have appropriate training and/or experience in carrying out FRAs; and
n) have evidence of continuing professional development that includes assimilation of lessons learned from past multiple fatality fires in housing.

   NOTE 3 *At the time of publication of this PAS, there are plans by the Government in England and Wales to make changes to fire safety legislation. It is important that fire risk assessors monitor, and react to, changes in fire safety legislation as part of their continuing professional development.*

8 Benchmark standards for assessment of fire precautions

*COMMENTARY ON CLAUSE **8***

The assessment of fire precautions in the FRA does not merely involve rigid comparison of existing fire precautions with standards set out in prescriptive codes of practice. Similarly, the action plan is not based on rigid adherence to prescriptive norms found in codes of practice. To adopt such an approach would not necessarily result in risk-proportionate fire precautions.

*Nevertheless, in assessing or formulating measures to eliminate or control fire hazards (see **3.31**), it is often appropriate, in the case of certain fire hazards, such as potential electrical faults, to adopt guidance in recognized codes of practice. This is particularly the case where these codes of practice are well established, universally recognized, produced by authoritative bodies with specialist knowledge regarding the hazard in question, and based on sound scientific or engineering principles (as opposed to arbitrary judgements). The view of the Health and Safety Executive is that it is not appropriate to use risk assessment to justify departures from practices that are universally accepted as appropriate within an industry sector [19].*

Thus, for example, in considering the fire hazard created by defective electrical wiring, it is normally appropriate to control the hazard by inspection and testing of the fixed electrical installation in accordance with BS 7671 and with guidance produced on this subject by the Institution of Engineering and Technology [20]. It is normally inappropriate for the fire risk assessor to advocate control measures that conflict with such guidance.

However, in the case of other fire hazards, such as restrictions in combustible materials in common parts of flats and sheltered housing, or use of portable heaters by residents in supported housing, the knowledge, experience and judgement of the fire risk assessor is much more important. Although there is ample guidance on such matters in various publications, the guidance is less universally recognized, more general in nature and not exactly applicable in every situation.

In the case of fire protection measures, a plethora of standards exist. For some specific fire protection systems, a single, universally accepted standard exists and is based on sound engineering principles. This is the case in respect of, for example, fire detection and fire alarm installations (BS 5839-6) and automatic sprinkler installations (BS 9251). These standards are invariably adopted in the design of new installations within housing.

However, in many codes of practice, certain parameters, such as the illuminance levels of emergency escape lighting, the fire resistance of flat entrance doors in blocks of flats and sheltered housing, and the trigger heights above which more onerous fire precautions are specified, are acknowledged to be relatively arbitrary in nature. Thus, minor variations from numerically expressed limitations or performance levels need not necessarily have any significant effect on fire risk. Nevertheless, where the action plan includes recommendations for upgrading any aspect of fire precautions (e.g. improvement in the illuminance levels of an emergency escape lighting installation or replacement of a flat entrance door), it is appropriate to adopt the relevant recommendations of the appropriate current code of practice within the action plan.

*Traditionally, the design of various other fire protection measures recommended within the relevant code of practice is often based more on custom and practice, and on arbitrary recommendations, than on scientific and engineering principles. Moreover, various conflicting recommendations often occur within different codes of practice on the same subject, such as those relating to structural fire protection (see **3.90**). In addition, sometimes different recommendations apply to new and existing premises. For example, recommendations within guidance that supports building regulations often differ from recommendations within guidance that supports legislation applicable to existing premises. Typically, guidance on fire protection measures for new premises (e.g. guidance that supports building regulations) is more onerous than guidance on fire precautions in existing premises (e.g. guidance that supports the relevant fire safety legislation). This makes rigid adherence to any particular code of practice even less appropriate.*

It also follows that use of guidance that supports building regulations for the purposes of an FRA for existing premises, constructed before the introduction of the current building regulations, is inappropriate and would often result in an unduly harsh assessment of risk in conjunction with an action plan that is not risk-proportionate. This is an error sometimes found in FRAs and ought to be challenged by dutyholders if encountered.

*A classic example of this concerns means of escape (see **3.64**). Different maximum travel distances (see **3.94**) are recommended in different codes of practice dealing with different premises, and even in different codes of practice that can be applied to the same premises. Yet, travel distance is a fundamental component in the design of means of escape.*

Nevertheless, for example, different maximum travel distances are given in different relevant codes of practice and guidance documents, such as BS 9991 and government guidance throughout the UK on compliance with building regulations. Similarly, within government guidance, for example, on blocks of flats, the recommended fire resistance of flat entrance doors in high-rise blocks of flats in Scotland is 60 min, but is 30 min elsewhere in the UK. Many similar variations exist in the more detailed recommendations of various codes of practice; in some cases, these variations are arbitrary in nature rather than based on fire safety engineering principles.

This has led to a school of thought amongst some experts that the application of prescriptive codes of practice within the FRA is inappropriate. However, while there is a need for risk-proportionate fire precautions, rather than rigid application of prescriptive norms, prescriptive codes of practice have achieved their objective; for example, it is rare for a death from fire to occur beyond the dwelling unit in which fire occurs in buildings that conform to the relevant code of practice.

This might be as a result of the continual development of the well-established codes of practice over many years, and of the fact that, when codes of practice have been found to be deficient following a serious multiple fatality fire, the codes have been amended, or new codes have been developed, to address the deficiency. Such developments in prescriptive codes of practice arguably result in a level of fire precautions that is sufficient to reduce fire risk to a tolerable level, and in fire protection measures that are relatively forgiving in the event of inadequate fire prevention measures and shortcomings in fire safety management.

However, although it has always been intended that codes of practice are simple benchmarks, in respect of which there is flexibility in application, there is a perception (sometimes, but not always, correctly) that there has been inflexible application of codes of practice. This has arguably tended to result in unnecessary restrictions on the design and use of premises, and in over-extensive fire precautions.

The "one size fits all" nature of prescriptive codes can also result in lower standards of fire protection measures than warranted by the fire risk. An example of this is the assumption within some codes of practice that fire precautions in certain forms of specialized housing need be no different from fire precautions in general needs housing. However, the FRA might well determine that there is a need for fire precautions in such premises that would not be required in general needs housing. Additionally, prescriptive standards can become outdated, and fire protection measures designed in accordance with such standards might not be sufficient. For example, in blocks of maisonettes, early design standards permitted link balconies, shared by two maisonettes, as an alternative means of escape from the upper storey of each maisonette; this would not now be acceptable, even in an existing block.

*At the design stage of premises, the alternative to application of all recommendations within a prescriptive code of practice is the application of fire safety engineering (see **3.43**), usually in conjunction with many, but not all, of the recommendations from the codes of practice. However, formulation of fire protection measures from a first principles approach to fire safety, for example using fire safety engineering, is complex, time consuming and demands the expertise of specialists, such as a fire safety engineer (see **3.42**). It is not usually an appropriate approach to the FRAs required by legislation, albeit that the principles of fire safety engineering, applied subjectively, can be relevant.*

*For example, when fire occurs, a key factor in the safety of occupants is the required safe escape time (RSET) (see **3.80**). Control of maximum travel distance and minimum exit widths, using the same figures for all premises of the same purpose group, is an imprecise way of ensuring that RSET is suitably limited, and only addresses the time between response of occupants to an alarm signal and the point at which they reach a place of relative safety (often described as "evacuation time"). This approach ignores time for detection of fire, the subsequent time interval before an alarm signal is given to occupants and the time for occupants to recognize the alarm signal. Moreover, it takes no account of the time for occupants to respond to the*

fire alarm signal (which can sometimes be longer than the combination of all other time intervals and the evacuation time).

*However, calculation or prediction of these time intervals is extremely difficult. Furthermore, a knowledge of RSET in isolation is of little value. It is more appropriate to compare RSET with the available safe escape time (ASET) (see **3.6**).*

This PAS is intended to be suitable for use by, for example, fire risk assessors with a background in application or enforcement of traditional prescriptive fire protection codes of practice. Accordingly, it is assumed that published guidance will be a starting point or benchmark for assessment of the adequacy of fire precautions in the premises. It is, however, further assumed that the fire risk assessor is capable of exercising judgement to determine whether the recommendations of such guidance ought to be relaxed, or added to, in order to determine the appropriate level of fire precautions and to formulate a risk-proportionate action plan.

Nevertheless, it is also expected that a competent fire risk assessor will not simply apply guidance and codes of practice "blindly", without proper consideration of the risk. Guidance on the relevant fire safety legislation makes it clear that the guidance is not intended to be applied prescriptively.

In Scotland, a Determination by the Chief Inspector of Fire and Rescue Authorities, in respect of a dispute between a dutyholder and the enforcing authority, has reinforced this point. Although such a Determination only applies to the specific case, the Determination in question makes the following general points:

> *"While it is totally appropriate to compare existing fire safety measures against suitable benchmarks, using these benchmarks as prescriptive standards is inappropriate. The benchmarks in the Scottish Government's guides are not meant to be prescriptive or minimum standards to be applied. This is stated in each guide and was specifically reinforced in Scottish Fire and Rescue Service Circular 17/2007 which says 'the benchmarks in the sector specific guides are not designed to be used as prescriptive standards'."*

A subsequent Determination by the Secretary of State in England noted that:

> *"There is no requirement under the Fire Safety Order for a Responsible Person to comply with provisions relating to new buildings and alterations under the Building Regulations."*

8.1 Assessment of fire precautions should take into account guidance within relevant, recognized codes of practice, particularly those produced by the relevant government departments in support of the relevant fire safety legislation, albeit that rigid, prescriptive application of these is not appropriate. While fire precautions recommended in the action plan should also take account of such codes of practice, the recommendations in the action plan should be risk-proportionate, which might necessitate measures of a standard above or below that recommended in the relevant code of practice.

***NOTE** Different guidance documents apply to England and Wales, Scotland and Northern Ireland.*

8.2 Departures from the recommendations of recognized codes of practice should be based on the judgement of the fire risk assessor, and should take into account relevant fire safety, or fire safety engineering, principles, while adopting a pragmatic approach that is based on assessment of risk.

***NOTE 1** It is of benefit, particularly to those who subsequently audit the FRA, such as enforcing authorities, if significant departures from recognized codes of practice, deemed acceptable by the fire risk assessor, are recorded and justified in the documented FRA (see Clause **10**). It is then clear that there has been appropriate consideration of the matter and that it has not simply been overlooked.*

***NOTE 2** Departures from the recommendations of recognized codes of practice might arise from a fire engineering solution described in the fire strategy for the building. An understanding of the fire strategy, if available, is likely to be valuable in any FRA.*

9 Assessment of premises design and fire precautions that do not conform to current standards

*COMMENTARY ON CLAUSE **9***

***NOTE** This clause does not apply to new, or very recently constructed, buildings in which there are defects in construction; the clause is limited to older buildings that were designed in accordance with previous standards, and so might not conform to current standards.*

Often, the design of a building for which an FRA is to be carried out, and the design, or extent, of the fire precautions for the building, does not conform to current standards as set out in either guidance for new premises (e.g. in England and Wales, Approved Document B [21]) or government guidance on compliance with the relevant fire safety legislation.

For example, there might have been significant changes to guidance on means of escape since the building was constructed; a common example of this is high-rise blocks of flats constructed during the 1960s or 1970s. Alternatively, there might have been major changes in guidance on fire precautions in certain existing types of premises; for example, current guidance on fire precautions in supported housing recommends fire precautions that greatly exceed those previously regarded as acceptable.

Guidance on the extent to which a fire protection measure is provided might also have changed. Indeed, it might even be the case that a fire protection system that is now required by legislation was not required at the time that the building was constructed. For example, in Wales, for compliance with building regulations, it is recommended in government guidance that all new dwellings (flats and houses) are sprinklered; this is also advocated in government guidance for flats in blocks of flats over specified heights in Scotland and England. This would previously have been very uncommon.

It is not necessarily (and is often not) the case that failure to comply with current guidance necessitates upgrading of fire precautions to meet current standards, particularly those imposed in the design of new premises under building regulations. It is almost a truism that standards, in their development over a period of time, improve levels of safety, but this does not necessarily imply that older standards are unsafe.

*In some cases, upgrading to current standards would, in any case, not just fail to meet the test of reasonable practicability (see Clause **19**); upgrading might be architecturally impossible. For example, in England and Wales, Approved Document B [21] advocates that, in the design of a new block of flats with a single staircase, the maximum travel distance between a flat entrance door and a stairway ought not to exceed 7.5 m; in many older blocks of flats, the travel distance is several times this figure and cannot normally be reduced. In rare cases (such as cross-ventilation within the common parts of blocks of flats), a previously required measure that has been compromised by occupants is not now, in any case, regarded as necessary, because a different design approach is now adopted.*

It is an inherent part of the FRA process in such cases to determine whether departures from current guidance, including guidance that supports the relevant fire safety legislation, create sufficient risk to warrant upgrading of fire precautions to current standards. Obviously, this involves subjective judgements, but a departure from prescriptive guidance is not, alone, sufficient justification for upgrading work.

Figure 2 is intended to assist in a logical approach in the case of older premises, constructed before recognized current guidance was published. The first step is to determine whether the fire precautions satisfy the standards that were applicable at the time of construction. This might bring to light original building defects. More likely, it might identify aspects in which, perhaps over many years, the originally required fire precautions have been compromised.

In such cases, the first measures that need to be specified in the action plan are measures to restore the conditions stipulated by the original standard. An exception to this is where the original standard is no longer applicable. For example, if, in a block of flats in England or Wales, self-closing devices have been removed from internal doors within the flats, it might not be necessary to restore these, as Approved Document B [21] no longer advocates these as necessary for compliance with current building regulations.

The next step, having confirmed that the building met the provisions of the original standard (or having recommended measures to restore those provisions), is to confirm whether the building would meet the current standards. Sometimes, even when the building was constructed before these standards were introduced, fortuitously, the building does actually conform to current standards.

*The crux of the FRA process is often to determine whether departures from current standards create unacceptable risk (i.e. whether the departure from current standards really matters to any degree). Obviously, extremes exist in this respect. For example, as noted in the commentary on Clause **8**, link balconies as an alternative means of escape from the upper storey of a maisonette would not be acceptable today, even though this was acceptable in earlier standards for fire safety in blocks of maisonettes.*

On the other hand, in 1999, the level of illuminance of emergency escape lighting on defined escape routes, specified in the relevant British Standard, was increased by a factor of five in the process of European harmonization. The original level of illuminance of a system installed prior to 1999 might remain acceptable until a new system is installed, in which case the current standard would be adopted.

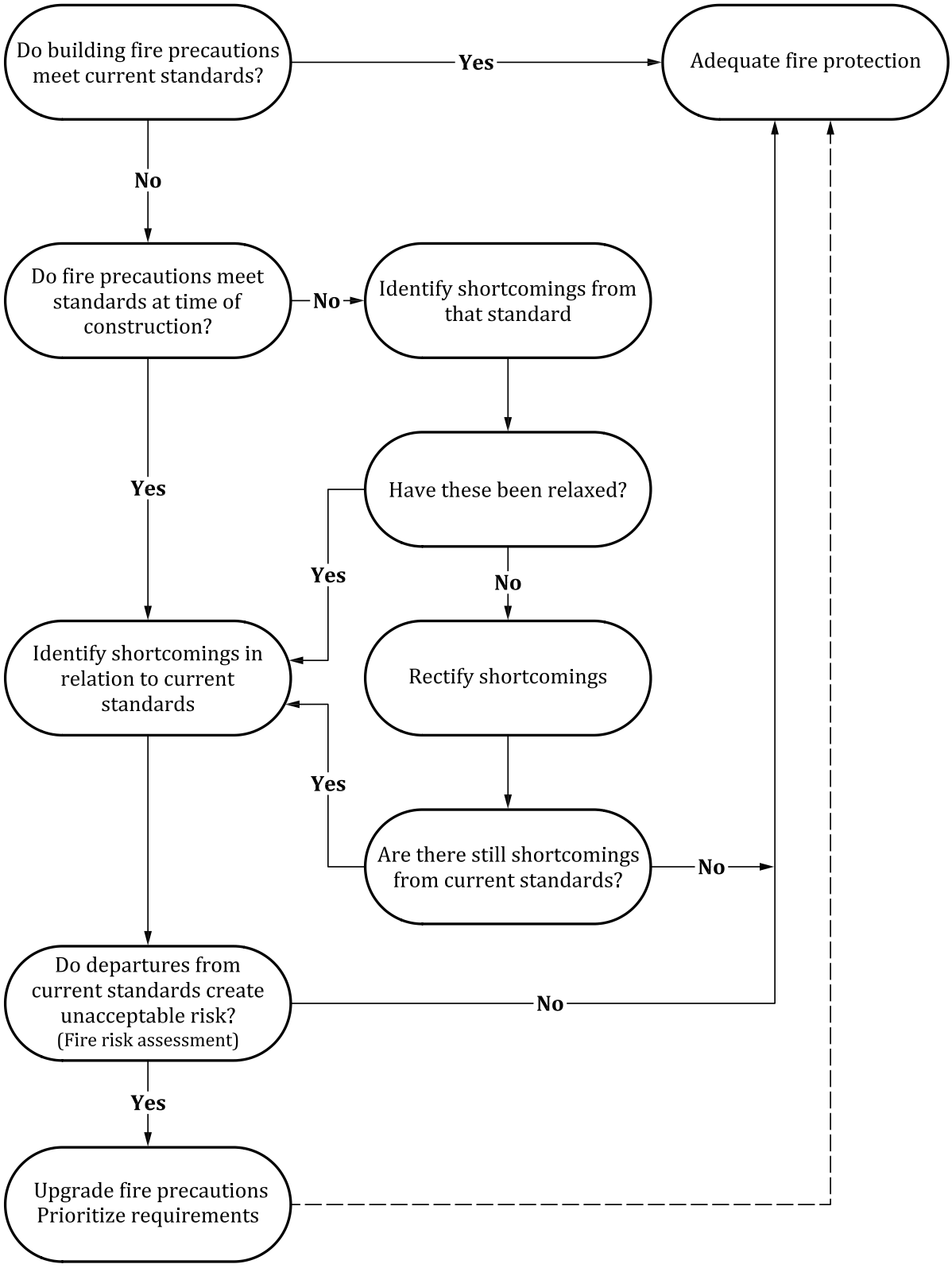
Between these two extremes there are many "shades of grey". In making judgements, all the circumstances of the case need to be taken into account. For example, in the case of sheltered housing, where a significant proportion of residents might be partially sighted, it might be appropriate to upgrade an old emergency escape lighting system to meet the current standards of illuminance.

A common perplexity relates to the fitting of intumescent strips and smoke seals to fire-resisting doorsets that were manufactured or installed before the strips and seals were considered necessary. Again, extremes exist, requiring careful judgement on reasonable practicability for all cases between these extremes. In a block of flats in which all other fire precautions are adequate, it is not normally necessary to replace or upgrade original, well-fitting flat entrance doors that satisfied the standards of fire resistance applicable at the time the block of flats was constructed. On the other hand, if the maximum distance of travel from a flat entrance door to a stairway is greatly excessive in the context of current standards, it might be appropriate to upgrade, or even replace, flat entrance doors, so that the doors afford a fire resistance of 30 min and are fitted with smoke seals. Sometimes, where upgrading is not reasonably practicable, it is appropriate to acknowledge the departure from current standards, so that, at some future time (e.g. when refurbishment takes place), the current standard can be adopted.

9.1 In carrying out an FRA of premises constructed before the introduction of current standards, the fire risk assessor should have at least a basic understanding of the standards that were applicable to the premises at the time of construction.

9.2 In formulating an action plan for the premises described in **9.1**, the fire risk assessor should follow the logic set out in Figure 2. It should not be assumed that prescriptive application of current standards is necessary, but, where the continued adoption of the original standard is considered to create significant risk, measures that are reasonably practicable should be recommended in the action plan (see Clause **19**). These should accord with either prescriptive or performance-based standards and ultimately the functional requirement.

Figure 2 – Decision tree for action plan when existing premises do not conform to current standards



10 Documentation of fire risk assessments

*COMMENTARY ON CLAUSE **10***

There is no single correct means of documenting an FRA, nor are there specific, definitive requirements within legislation for the content of a documented FRA, only that the "significant findings" and any group of occupants especially at risk be recorded. The fire risk assessor therefore needs to make a judgement as to what constitutes "significant findings" and "occupants especially at risk".

*Clause **12** gives details of the information that needs to be taken into account in the FRA and the matters on which judgements need to be made. Such information needs to be documented, along with other relevant factual information (e.g. managerial responsibility for fire safety). In the case of certain matters, particularly the "given" factors taken into account in assessment of the fire risk (see Commentary on Clause **5**), information about the factors (e.g. number of storeys of the premises) needs to be recorded.*

*In the case of other matters, such as certain fire protection measures (e.g. emergency escape lighting), it might be sufficient to acknowledge that appropriate consideration has been given to the matter (see **5.3**), without necessarily recording, where relevant, more than a brief summary about its provision and location. Indeed, unnecessary detail might not be conducive to ensuring that the appropriate person(s) studies the document properly or takes note of significant findings. However, if, for example, the design of a fire precaution (e.g. means of escape) departs significantly from a recognized norm, but the departure is considered acceptable by the fire risk assessor, it is of value to document the justification for this. It is also relevant to record measures that need to remain in place to address specific risks or to compensate for shortcomings in other fire protection measures.*

Since the purpose of an FRA is to lead to the safety of occupants of the premises from fire, the important issues are the scope of the FRA, the competence with which relevant matters have been considered and the content of the documented significant findings. The format of the record is then very much a secondary consideration, although there needs to be evidence for those who audit the FRA (e.g. an enforcing authority) that the requirements of the relevant fire safety legislation have been addressed when the FRA was carried out. In this connection, objections to any specific format are not legitimate.

One suitable format for documentation is given in Annex A to this PAS. However, as there is evidence to suggest that PAS 79 is becoming, to some extent, an industry standard, it needs to be noted that Annex A is informative, not normative. Accordingly, provided that the recommendations in the PAS, including those within the normative annex, are followed, there will be compliance with this PAS even if Annex A is not used.

For blocks of flats, sheltered housing and extra care housing, this PAS recognizes four different types of FRA. For compliance with the relevant fire safety legislation, a Type 1 FRA is nearly always sufficient; only in unusual cases would a Type 2 FRA be necessary to satisfy legislation (e.g. where there is a basis for serious concerns regarding compartmentation). In the documented FRA, there is a need for distinction between matters that are related to compliance with the relevant fire safety legislation and matters that are outside the scope of the relevant fire safety legislation. It is particularly important for dutyholders to understand whether recommendations in the action plan are, in effect, legal requirements or whether they go beyond the minimum requirements of legislation.

10.1 A documented FRA should meet the recommendations given in **5.2** to **5.5**.

***NOTE** Annex A contains a pro forma that is considered to be a suitable and sufficient means for documenting the FRA. The pro forma contained in Annex A is only a model, in that, if completed by a competent person (see Clause **7**), the scope of the documented FRA will normally conform to the recommendations of this PAS. Equally, the format of a documented FRA may vary from that shown in Annex A, provided that all recommendations of this PAS are satisfied.*

10.2 For persons known to be especially at risk, sufficient information should be recorded about the nature of that risk to enable verification as to whether measures to address the risk are in place [e.g. PEEPs (see Commentary on Clause **15**) and GEEPs or other fire protection measures].

***NOTE 1** For example, it is not sufficient to record the presence of disabled people without some reference to the nature of their disabilities; Deaf and hard of hearing people, for example, need different provisions for their safety to persons with impaired mobility. This principle is particularly important in the case of premises in which the majority of occupants are disabled people (e.g. extra care housing).*

[redacted]

10.3 In the case of a Type 3 or Type 4 FRA, there should be a clear distinction between matters that have been considered for the purpose of compliance with the relevant fire safety legislation and matters that are outside the scope of legislation. Within the action plan, there should be a clear distinction between recommendations that are considered necessary for compliance with the relevant fire safety legislation and recommendations that exceed the requirements of relevant fire safety legislation.

10.4 If any fire protection measure obviously and significantly departs from the standard recommended in a relevant guidance document or prescriptive code of practice, but no upgrading of the measure is recommended in the action plan, the acceptance of the existing standard should be justified within the documented FRA.

NOTE *The departures to which* ***10.4*** *refers are primarily those affecting provisions for means of escape and functional aspects of fire protection systems; it is not, for example, intended that justification of the continued use of a fire alarm system or emergency escape lighting system designed in accordance with a superseded standard would normally be necessary.*

10.5 The FRA should record:

a) the name of the fire risk assessor(s) and any relevant qualifications or certification that they hold;
b) the date(s) on which the FRA was carried out and the date that the FRA was published;
c) the name(s) of the principal person(s) who was consulted (e.g. for supply of relevant information) at the time of the FRA; and
d) the name of the person (if any) who checked the FRA report and any relevant qualifications or certification that they hold.

NOTE *This might be the same person who carried out the FRA and who wrote the report, but it needs to be made clear.*

10.6 The FRA should record any significant areas of the premises to which access was not possible at the time of the FRA.

10.7 The FRA should record the date by which it is to be subject to review (see Clause **20**).

11 Nine steps to fire risk assessment

*COMMENTARY ON CLAUSE **11***

*To promote a structured approach to fire risk assessment (see Clause **5**), this clause sets out nine steps in the FRA process, somewhat akin to the five steps to risk assessment often adopted in a health and safety risk assessment. Some guidance documents suggest five steps in an FRA; this PAS is consistent with such guidance, but breaks down the process into more detail. The number of steps defined is irrelevant; the important matter is that an appropriately structured approach is adopted and that all relevant issues are addressed.*

a) *The first step is to obtain relevant information about the premises and the occupants of the premises. Where persons present in the premises include staff who provide assistance or care for vulnerable persons, the number, roles and availability of staff over the course of any 24 h period (particularly during the night) needs to be determined. Information about previous fires is also of value, particularly where the organization has multiple sites with common operations. This information is described in Clause **12** as the "given" factors in the FRA. Much of the relevant information can usually be obtained by interviewing a relevant representative(s) of the management, prior to carrying out a physical inspection of the premises. At that stage, it is important that relevant information is obtained about the occupants of the premises, particularly those especially at risk in the event of fire. For example, in supported housing, it would be necessary to obtain information about the residents' disabilities, and about the availability of staff to assist residents, if necessary, in the event of fire. Other than in the case of small, simple premises, the fire strategy for the building (if a documented fire strategy exists) is likely to be of value to the fire risk assessor. The term "fire strategy", in this context, includes the fire safety information that, for a modern building, is included in the package of information that, in England and Wales, is handed over to the dutyholder as part of compliance with Regulation 38 of the Building Regulations 2010 [22]. In Scotland, similar information is contained within the* Fire safety design summary *[23] that is necessary for compliance with Regulation 41(bd) of the Building (Procedure) (Scotland) Regulations 2004 (as amended) [24].*

b) *The second step is fire hazard identification (see **3.32**) and the determination of existing measures for the elimination or control of the identified fire hazards. This normally involves a combination of interviewing the management and inspection of the premises.*

c) *The third step is to make a (subjective) assessment of the likelihood of fire. This is based primarily on the findings of step two (see Figure 1). However, the assessment of the likelihood of fire also takes into account any relevant information obtained in step one.*

d) *The fourth step is to determine the physical fire protection measures (see **3.37**) relevant to the protection of people in the event of fire. The relevant information can, again, be obtained partly from the initial discussion with management, but is primarily obtained by inspection of the premises, so that the level of fire protection can be determined.*

e) *The fifth step is to determine relevant information about fire safety management (see **3.45**). This primarily involves discussion with management, but might also involve examination of documentation, such as records of testing, maintenance and training of staff (where present).*

f) *The sixth step is to make a (subjective) assessment of the likely consequences to occupants in the event of fire (see Figure 1). This assessment needs to take account of the fire risk assessor's opinion of the likelihood of various fire scenarios (see **3.51**), the extent of injury that could occur to occupants in these scenarios, and the number of people who are likely to be affected. This assessment is principally based on the fire risk assessor's findings in steps four and five, but takes account of information obtained in step one.*

g) *The seventh step is to make an assessment of the fire risk and to decide if the fire risk is tolerable (see Figure 1). The fire risk is assessed by combining the likelihood of fire and the consequences of fire (see Clause **18**).*

h) *The eighth step is to formulate an action plan (see **3.2**), if this is necessary to address shortcomings in fire precautions in order to reduce the fire risk. Even if fire risk is assessed as tolerable, there is often a need for minor improvements in fire precautions. (See Clause **19** for formulation of an action plan.)*

*i) Thereafter, in the ninth step, a period of time after which the FRA is to be reviewed needs to be determined (assuming that earlier review is not necessitated by changes to the premises and that there is no reason to suspect that the FRA is no longer valid) (see Clause **20**).*

The nine steps set out above, while in a logical, structured order, are not necessarily set out in the chronological order in which the steps are carried out on site. For example, some information relevant to control of fire hazards, the determination of fire protection measures and the management of fire safety is normally most appropriately obtained in a single meeting that is held prior to inspection of the premises.

11.1 In all FRAs carried out in accordance with this PAS, the fire risk assessor should explicitly take the following nine steps:

***NOTE 1** Explicitly, in this context, means that, in the documented FRA, it needs to be clear that each of the nine steps has been taken by the fire risk assessor.*

a) obtain information on the building, the fire strategy for the building (where a documented fire strategy exists), the premises and the people present, or likely to be present, on the premises, and any recent history of fires (see Clause **12**);

   ***NOTE 2** The relevant fire safety legislation requires that consideration be given to the risk to people in the immediate vicinity of the premises from fire, as well as risk to people within the premises.*

b) identify the fire hazards and means for their elimination or control (see Clause **13**);

c) assess the likelihood of fire, at least in subjective terms (see Clause **14**);

d) determine the fire protection measures currently in the premises (see Clause **15**);

e) obtain relevant information about fire safety management (see Clause **16**);

f) make an assessment of the likely consequences to people in the event of fire, at least in subjective terms (see Clause **17**);

g) make an assessment of the fire risk (see Clause **18**);

h) formulate and document an action plan, in which recommended actions are prioritized (other than in the case of an action plan comprising only minor matters that can be actioned without delay) (see Clause **19**); and

i) define the date by which the FRA is to be reviewed (see Clause **20**).

11.2 The FRA should be reviewed after a period of time defined in the FRA, or such earlier time as significant changes take place or there are other reasons to suspect that the FRA is no longer valid (see Clause **20**).

12 Information about the premises and their occupants

*COMMENTARY ON CLAUSE **12***

This clause sets out various "given" factors that have a major impact on fire risk. It is relevant to document information about these factors in the FRA. The manner in which the factors are to be taken into account in the FRA process is described.

Firstly, the number of floors below ground and the number of floors above ground need to be determined. In assessing the fire risk, it needs to be borne in mind that basements can present particular difficulties for firefighting and, hence, rescue. Mitigating factors would be, for example, low population within basement floors and the presence of fire protection measures, such as automatic sprinkler protection, automatic fire detection and means for removal of smoke.

Tall buildings, such as tower blocks, can result in somewhat prolonged evacuation times for occupants. External rescue by the fire and rescue service, though only rarely necessary, is more difficult from floors above the height of normal fire and rescue service ladders and even more difficult in the case of very tall buildings with floors beyond the reach of a turntable ladder or hydraulic platform. The time for occupants to descend staircases in tall buildings can be significant. Again, robust protection of staircases, smoke control and automatic sprinkler protection mitigate the risk.

The area of each floor can also be a relevant factor. Complex escape routes might take longer to negotiate than simple routes. The construction of the premises also needs to be taken into account. This can have an effect on fire development, particularly if combustible building construction is likely to be involved in the fire prior to evacuation of occupants.

The general use to which the premises are put (the occupancy) is also relevant. From a knowledge of the occupancy, conclusions can normally be drawn regarding the nature and state of occupants, the extent to which disabled people are resident in the building, etc. These are relevant factors in the assessment of fire risk.

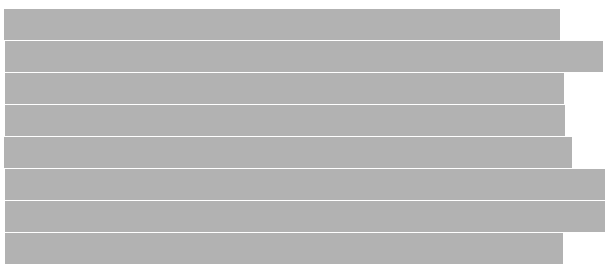
*A further important consideration is the maximum number of occupants that can reasonably be expected at any one time. It is important that the number recorded in the FRA is a reasonably foreseeable maximum, so that it forms a basis for any calculations of required exit capacity, etc. (see Clause **15**).*
In practice, in housing, it is very unusual for the capacity of escape routes to be inadequate for the number of persons who will use them.

*Where staff are present and, within the building fire strategy, they have a role to play in assistance of vulnerable residents in the event of fire, information on the ratio of staff to residents can be a relevant factor to consider, though less so in buildings with a stay put strategy (see **3.89**).*

***NOTE** The relevant fire safety legislation requires that, other than in the case of certain very small businesses, FRAs record any group of persons especially at risk.*

The most important purpose of considering and recording occupants especially at risk in the event of fire, where appropriate, is to ensure that adequate provisions are in place to protect such occupants from fire. Having recorded such occupants within the FRA, it needs to be clear within the documented significant findings that there are provisions to ensure the safety of these occupants.

In supported housing, particular care needs to be taken to ensure that due account is taken of disabled occupants, who are often especially at risk in the event of fire in view of the possible need for assistance with evacuation or special warning of fire. All forms of disability need to be considered, including mobility impairment, deafness, blindness, learning difficulties and mental illness. In sheltered and extra care housing, more generic consideration of residents' disabilities is appropriate, and it is not usually practicable to consider each resident individually. However, it needs to be ensured that there are arrangements for identification of people who are vulnerable in the event of fire, so that, at least, the fire and rescue service can be made aware of their presence on attendance at a fire.



[redacted]

In sheltered and extra care housing, it is much more feasible for the dutyholder to obtain, and maintain the currency of, information on residents who would need assistance with evacuation if they are required to do so by the fire and rescue service; it is normal practice for this information to be made readily available to the fire and rescue service in the event of fire (e.g. by keeping the information within a premises information box, accessible only by the fire and rescue service, in the entrance area of the premises, often close to the fire alarm control and indicating equipment).

It is relevant to take account of any fire, however small, that is known to have occurred within recent years. Factors to consider include the circumstances of the fire, including the cause, and any remedial action taken to prevent a reoccurrence. Information of this type can be of use in identifying fire hazards that would not otherwise be obvious from an inspection of the premises. Where FRAs are carried out throughout the estate of one organization, review of the fire loss experience throughout the estate can sometimes reveal significant trends or identify remedial action that might be appropriate throughout all premises to rectify a latent hazard.

Occurrence of vandalism, malicious fire-raising and general antisocial behaviour in the area of the building, or within a block of flats, can sometimes be relevant in an FRA, as it might imply an increased likelihood of malicious ignition of, for example, waste and other combustible materials in the immediate vicinity of the premises, such as to necessitate enhanced security measures or control over combustible materials external to the premises, as well as within the premises.

12.1 In carrying out the FRA, the fire risk assessor should take account of the following information:

a) brief details or brief description of the principal dutyholder;

b) the height of the uppermost storey of the premises, or part of the premises, that is the subject of the FRA, or the number of storeys above and below ground;

c) brief details of construction, with information about any aspects that make a significant contribution to risk;

NOTE 1 *Where it is obvious that the external walls of the building have any form of cladding (i.e. are not of conventional masonry construction), or have been overclad (e.g. with rainscreen cladding), or new spandrel panels have been provided below windows, since the time of original construction, it is appropriate to note this in the documented FRA. It might be necessary to make a recommendation in the action plan that external wall construction and any cladding be subject to a fire risk appraisal and assessment by others to determine whether it represents a fire hazard.*

NOTE 2 *PAS 9980, which is in the course of preparation at the time of publication of this current PAS, will set out a code of practice for fire risk appraisal and assessment of external wall construction and cladding in blocks of flats.*

NOTE 3 *Certain modern methods of construction, such as timber frame construction, are worthy of note (though often impossible to identify by visual inspection), as the risk arising from defects in compartmentation can often be exacerbated by this form of construction. However, there is normally a need for reliance on information from the dutyholder to establish that this form of construction exists; it is the responsibility of the dutyholder to provide such information to the fire risk assessor.*

d) any significant non-domestic areas of the premises, other than plant and similar rooms that would be expected in the premises in question (e.g. communal lounges, tenant halls and commercial premises);

e) approximate number of occupants;

f) in supported housing, the number of staff available to assist residents with evacuation;

g) whether the premises will be occupied by a significant number of persons other than residents of dwelling units (or a significant number of persons unfamiliar with the design and layout of the premises, other than residents' visitors), and, if so, the approximate number of such persons;

h) approximate gross floor area of the premises, or a typical floor of the premises, or part of the premises, that are the subject of the FRA;

NOTE 4 *It is not usually necessary to record more than one measure of the size of a building (e.g. if the largest floor area of the premises or demise under assessment is recorded, there is usually no need to record the dimensions of any other floors). Where whole buildings are being assessed, it is often sufficient to record the dimensions of the building footprint.*

i) the number of escape stairs and the floors that they serve;

j) the number of lifts serving the upper floors, including specific reference to lifts intended for use by the fire and rescue service;

k) occupants especially at risk (see **3.67**) for whom the premises are specifically designed (e.g. a proportion of disabled residents that is significantly in excess of that expected in the general population);

l) any fires that have occurred in recent years (if known);

m) any further relevant information that has a bearing on fire risk (other than the information described in **5.3**) or on the validity of the FRA;

n) information on any enforcement, alterations, or prohibition notices that apply to the premises; and

NOTE 5 *An alterations notice can be issued by an enforcing authority under the relevant fire safety legislation, requiring the enforcing authority to be notified of proposals to carry out material alterations to or a change in use of the premises.*

o) any other matters that are considered relevant by the fire risk assessor and that were taken into account in the FRA [e.g. presence of staff, hours of work or relevant working practices, tenure of flats (if known) and arrangements for management]; these may be set out in a section recording other relevant information that is not readily addressed under other headings.

12.2 While it is not normally necessary to document the manner in which every factor referred to in **12.1**a) to **12.1**o) affects the FRA, there should normally be explicit information within the assessment, where relevant, regarding appropriate measures to protect occupants who are especially at risk in the event of fire, particularly in the case of supported housing with staff.

13 Identification of fire hazards and means for their elimination or control

*COMMENTARY ON CLAUSE **13***

*In this step of the FRA, the fire risk assessor identifies all reasonably foreseeable and significant fire hazards and examines the measures in place for their elimination or control. By definition, this means considering potential ignition sources (see **3.56**), as well as situations and unsafe acts that have the potential to result in a fire. It is necessary, therefore, for the fire risk assessor to be aware of the common causes of fire in the type of premises under assessment, and to have an understanding of any effect that resident characteristics might have on the likelihood of fire and the nature of fires that might occur. There is also a need for the fire risk assessor to have an understanding of the policies and procedures that contribute to prevention of fire. At the conclusion of this step of the FRA, the fire risk assessor is normally in a position to assess the likelihood of fire (see Clause **14**).*

*It is assumed that the fire risk assessor is already familiar with the common causes of fire and is either aware of recognized good practice in the elimination or control of fire hazards [i.e. is aware of recognized fire prevention measures (see **3.35**)], or has access to appropriate codes of practice. Normally, the documented FRA comprises a pro forma, which incorporates a prompt-list of fire hazards that need to be considered in the FRA. A suitable prompt-list of fire hazards typically found in housing premises, and relevant codes of practice that give further guidance, are set out in Annex B.*

The list of fire hazards in the prompt-list in Annex B is not necessarily exhaustive, and other fire hazards might need to be taken into account, particularly those specific to the type of housing, or the particular premises in question. For example, the presence of mobility scooters and electric vehicles in common parts is a fire hazard, and a decision needs to be made as to whether, in the circumstances, the hazard is acceptable, taking into account the needs of the user. On the other hand, fire hazards with negligible potential for harm need not be documented or given further consideration.

***NOTE** The fire hazard of mobility scooters is not always recognized because fires in mobility scooters are uncommon (but might increase as mobility scooter usage increases). In 2015–2020, only five fires in blocks of flats in England involved mobility scooters (0.013% of all fires in blocks of flats in England). Two of these fires were started deliberately, two were caused by electrical faults, while the cause of the fifth fire is unknown.*

*It is inherent in the definition of fire hazard (see **3.31**) that fire hazards are not limited to ignition sources per se. Various situations and unsafe acts can constitute fire hazards. For example, combustible storage or rubbish does not, in itself, constitute a source of ignition. However, if, for example, the storage or rubbish is positioned close to the windows of premises, it might be ignited maliciously, or accidentally by discarded cigarettes or matches (e.g. if a designated smoking area were located in close proximity), and the resultant fire could then spread into the premises via the windows. Such a situation would, therefore, constitute a fire hazard, as would bags of refuse placed in common parts of blocks of flats.*

Poor housekeeping does not only result in potential for a fire to start; inappropriate quantities of poorly located combustible materials can contribute to fire development and, hence, the consequences of a fire as well as the likelihood of fire occurring. In particular, combustible materials in the common parts of a block of flats, contrary to the policy on management of the common parts, can result in a fire that undermines the stay put evacuation strategy, which is founded on the premise that fire is unlikely to occur in the common parts, and that any such fire will be very limited in extent.

It is often appropriate to consider the means for control or elimination of fire hazards in two distinct phases, which can be regarded as policy and practice (see Figure 1). For example, in the case of a fire hazard created by faulty electrical installations, one control measure would be a policy that the installation is subject to periodic inspection and testing.
The "practice" stage comes when the premises are inspected and observations can be made as to whether there is adherence to the policy (e.g. by examination of the last certificate of inspection and test if it is held on the premises, or by checking the date of the last inspection and test recorded at the main electrical intake). It might then be found that, for example, the inspection and test is overdue. It might also be helpful to the dutyholder if the date of the last inspection and test is recorded in the FRA, regardless of whether or not it is overdue.

The relevant fire safety legislation requires that, in carrying out the FRA, consideration be given to any effects on the risk from fire of dangerous substances, such as flammable or highly flammable materials, oxidizing agents or materials that promote very rapid fire development. In particular, such substances need to be considered in relation to the effect that their storage or use has on the appropriate general fire precautions required by the relevant fire safety legislation, such as means of escape, fire warning systems (if any), fire extinguishing appliances and emergency procedures. In practice, such substances are unlikely to be found in most housing premises. However, diesel fuel (as might be found in a storage tank for a diesel generator in a block of flats) is classified as a dangerous substance for the purpose of the relevant fire safety legislation, though the fire hazard is such that, in practice, few special fire precautions are necessary.

Moreover, the use and storage of dangerous substances is controlled under other legislation (the Dangerous Substances and Explosive Atmospheres Regulations or "DSEAR" [25]), which requires that a risk assessment is carried out. It is not expected that the fire risk assessor is competent to carry out this risk assessment, but, in carrying out the FRA, if materials classified as dangerous substances for the purpose of the relevant fire safety legislation are noted, it needs to be confirmed that a DSEAR risk assessment has been carried out. Equally, for small quantities of dangerous substances, such as cans of thinners in a caretaker's room, it is expected that the FRA will take into account simple "housekeeping" issues, such as arrangements for storage and arrangements for disposal of thinner-soaked rags.

Electric vehicle charging points are provided within car parks in some developments. These can result in an additional fire hazard, and in a risk to both members of the public and firefighters, if they are the source of a fire or are involved in a fire. Accordingly, these and similar facilities, such as battery storage banks, need to be noted in the FRA.

13.1 The FRA should address means for elimination or control of, at least, the common causes of fire, and shortcomings in such measures should be addressed within the action plan (see Clause **19**).

13.2 Every FRA should include the following potential sources of fire:

a) malicious ignition;
b) electrical faults;
c) smoking;
d) cooking (if any is carried out other than in individual dwellings);
e) inadequate control over the use of portable heaters;
f) contractors' activities and "hot work";
g) inadequate maintenance of heating installations; and
h) lightning.

***NOTE** It is possible that there will be a need for consideration of other fire hazards, including those associated with storage and use of dangerous substances. However, it is uncommon to find these in housing premises. Moreover, the relevant fire safety legislation excludes from the definition of general fire precautions (in England and Wales), and the definition of fire safety measures (in Scotland and Northern Ireland), special, technical and organizational measures required in relation to the use or storage of dangerous substances (as defined in the relevant fire safety legislation). Nevertheless, the effects of use or storage on the general fire precautions (fire safety measures) that are within the scope of the relevant fire safety legislation still need to be taken into account.*

13.3 Assessment of fire hazards should not be limited to those comprising specific sources of ignition. Situations that could lead to a fire (and development of a fire), such as poor housekeeping, the presence of mobility scooters and electric vehicles in common parts and unsafe acts, should also be taken into account. Any other hazards drawn to the attention of the fire risk assessor by the dutyholder, such as hoarding, should also be taken into account.

***NOTE** Inadequate security of access to a block of flats, particularly in an area of known crime and antisocial behaviour, might also constitute a fire hazard.*

14 Assessment of the likelihood of fire

*COMMENTARY ON CLAUSE **14***

Once all relevant fire hazards have been identified, and measures for their control or elimination have been determined, the fire risk assessor is in a position to make an assessment of the likelihood of fire. It would be possible, in theory, to associate a likelihood of fire with each of the identified fire hazards. However, this would make the FRA process unnecessarily complex and unduly lengthy. Usually, it is sufficient to assess the overall likelihood of fire on the premises; this can be regarded as the summation of likelihoods of fire associated with each and every one of the fire hazards identified.

The likelihood of fire need not, and usually cannot, be expressed in a meaningful numeric manner, such as in terms of a statistical probability of fire. All that is required is a subjective judgement that classifies likelihood of fire into one of several predetermined categories. Since the assessment of these factors is subjective, the use of numbers to express likelihood of fire does not confer any greater accuracy to the assessment of fire risk.

The predetermined categories of likelihood of fire may be described in the form of words, such as "low", "medium" and "high", or in the form of numbers (e.g. 1, 2 and 3), but there is a need for at least three categories. However, if likelihood is expressed in the form of numbers, care is necessary to ensure that it is not implied, for instance, that a likelihood of "2" indicates that fire is twice as likely to occur compared to a likelihood of "1".

There is no upper limit to the number of categories of likelihood that can be adopted in the FRA process. However, if too many categories are adopted, the distinctions between categories are meaningless. Moreover, if the same FRA process is then applied to numerous different buildings (e.g. within the estate of a single organization), particularly by different fire risk assessors, assessments of likelihood of fire are likely to be inconsistent, and the benefits of comparing the fire risk in different buildings (e.g. for the purpose of prioritizing improvements on a building-by-building basis) are then lost.

*If likelihood of fire is judged to be typical for premises of the type in question, it is normally appropriate to ascribe to the premises the middle category of the predetermined categories of likelihood of fire. Higher categories can then be used to indicate serious shortcomings in elimination or control of fire hazards (i.e. fire prevention), while lower categories can be used in cases where the likelihood of fire is abnormally low (e.g. because the extent of common parts within the scope of the relevant fire safety legislation is minimal). Minor shortcomings in fire prevention measures need not be regarded as changing the category ascribed to the premises, but need to be addressed in the action plan (see Clause **19**).*

14.1 In the process of every FRA, an assessment should be made of the likelihood of fire.

***NOTE** It is usual and acceptable for the likelihood of fire to be expressed subjectively (e.g. "low", "normal" or "high").*

14.2 If, in the FRA methodology adopted, likelihood of fire is expressed in terms of one of several predetermined categories, the number of predetermined categories should be an odd number, so that the middle category can be adopted for premises that are typical for premises of the type and occupancy in question. There should be at least three predetermined categories.

15 Assessment of fire protection measures

*COMMENTARY ON CLAUSE **15***

The following considerations are relevant to this clause.

a) General

*In this step of the FRA, consideration is given to those physical measures incorporated within the premises that are intended to mitigate the consequences of fire (and, hence, limit fire risk) in terms of harm to residents and others in the event of fire. These measures are, by definition, fire protection measures, and their effect is to limit fire exposure (see **3.30**). Particular care needs to be taken where dangerous substances, as defined in the relevant fire safety legislation (e.g. oxygen cylinders) are present; their presence might influence the need for, and nature of, fire protection measures.*

*When fire occurs, the first requirement is to warn those people who need to be alerted, so that they can then use suitably designed means of escape (see **3.64**). This might comprise all occupants of the building, but, in blocks of flats, sheltered housing and extra care housing, only the occupants of the flat of fire origin normally need to be alerted to the fire. (In the case of sheltered and extra care housing, the remote monitoring centre also needs to be alerted.) To enable people to use means of escape safely and efficiently, there is often a need for appropriate signs and for emergency escape lighting (see **3.19**). However, in simple straightforward housing premises, care is necessary to ensure that unnecessary signage does not create the environment of an institutional building. For example, in supported housing that takes the form of a traditional dwelling, many HMOs, small sheltered housing schemes and blocks of flats with a single stairway, fire exit signs are commonly unnecessary.*

Harm to occupants might also be mitigated, and safe escape facilitated, by appropriate measures to control or extinguish the fire by use of portable fire extinguishers or by activation of an automatic fire suppression system, such as an automatic sprinkler system. However, again, in housing premises, residents, who are unlikely to have been trained in the use of fire extinguishers, are not expected to attempt to tackle a fire; they might put themselves and any family members at risk in so doing. It is for this reason that fire extinguishers are not normally provided in the common parts of housing premises, other than those suitably located for use by trained staff if any are present (e.g. in a sheltered housing scheme manager's office, in plant rooms and in supported housing with a staff presence); for example, fire extinguishers need not be provided in the common areas of blocks of flats or sheltered housing.

In some large premises, there is a need for access for, assistance to, or protection of, firefighters in the event of fire. Such measures can assist the firefighters in effecting rescues if required.

*It follows, therefore, that the fire risk assessor needs to take account of, and assess the adequacy of, the fire protection measures recommended in **15.1**.*

Adequacy of the engineering design, installation and commissioning of fire protection systems and products can often be certified by organizations that are themselves third-party certificated as competent in their specialist field by an appropriate third-party certification body. More generally, there is a need for all fire protection systems to be designed, installed, commissioned and maintained by engineers competent in this specialist field.

*Fire development and spread can be passively limited by fire protection measures (see **3.37**), such as fire-resisting walls and floors (over and above any required to protect means of escape), which can be used to subdivide the premises into a number of separate fire compartments [e.g. to satisfy the requirements of building regulations for compartmentation (see **3.13**)]. This is particularly important in blocks of flats, sheltered housing and extra care housing with a stay put strategy (see **3.89**); in these blocks, each flat is a fire compartment bounded by fire-resisting walls and floors (other than walls forming part of the external envelope of the building). It is normally relevant, therefore, for the fire risk assessor to take account of such fire-resisting construction and to address its maintenance [e.g the adequacy of fire stopping (see **3.52**)], often by inspecting sample areas of construction. The spread of fire can also be actively limited by automatic fire suppression systems.*

On the other hand, fire development can be assisted by, for example, flammable linings on walls or ceilings, or by readily flammable furniture and furnishings, and

by the accumulation of combustible material, including waste material. The fire risk assessor needs to take into account the presence and location of these features and, sometimes, their physical state. For example, damage to upholstered furniture (e.g. in a communal lounge within sheltered housing) can result in exposure of foam fillings, which might be easily ignited and result in rapid development of fire.

*Since the earliest effect of fire on occupants is often loss of visibility on escape routes as a result of smoke, there is also a need to take account of measures to limit spread or build-up of smoke. These can range from fire doors (see **3.27**) to active smoke control systems, such as those designed to ventilate or extract smoke, or to maintain a positive pressure within escape routes to prevent the ingress of smoke.*

*In the sections of commentary that follow, the key fire protection measures that affect the consequences of fire are discussed separately. The measures are not, however, independent. In assessing the likely consequences of fire (see Clause **17**), a judgement needs to be made regarding the overall effect of each of the fire protection measures discussed below in combination, and of a number of the management issues discussed in Clause **16**, on the RSET (see **3.80**) or on the ASET (see **3.6**).*

For England and Wales, guidance on fire protection measures for purpose-built blocks of flats is published in a Local Government Association publication [1], while guidance on fire protection measures for HMOs is given in a publication originally produced by Local Authority Coordinators of Regulatory Services (LACoRS) [7] and in more general guidance produced by the then Department of Communities and Local Government on measures required by the Fire Safety Order [5] in premises in which people sleep. For specialized housing in England and Wales, guidance on fire protection measures is given in the National Fire Chiefs Council publication Fire safety in specialised housing *[3].*

In Scotland, the relevant fire safety legislation does not require an FRA to be carried out for the common parts of blocks of flats, sheltered housing or extra care housing. However, guidance on fire safety in high-rise blocks of flats (over 18 m in height), and on carrying out an FRA for these buildings, is published by Scottish Government [2]. Scottish Government also publish guidance on fire safety in HMOs [12] and on fire safety in specialized housing [3]. In Scotland and Northern Ireland, FRAs are required by the Fire (Scotland) Act 2005 [8] and the Fire and Rescue Services (Northern Ireland) Order 2006 [13] in licensed HMOs and in supported housing.

In Northern Ireland, the relevant fire safety legislation does not require an FRA to be carried out for the common parts of blocks of flats, sheltered housing or extra care housing. Guidance on fire safety in HMOs and supported housing has been produced by the Northern Ireland Fire & Rescue Service in conjunction with the Housing Executive [26].

b) Fire detection and warning

The arrangements for any necessary measures for detection of fire, and the means for then warning those occupants who need to be alerted to the fire, ought to be taken into account. Fire can be detected by people or by automatic fire detectors. If people are present in the area of fire origin, they normally detect fire before it is detected automatically by, for example, smoke or heat detectors.

Fire detection and fire alarm systems are not appropriate in the common parts of general needs blocks of flats with a stay put strategy (though fire detection might be necessary as part of smoke control arrangements or in certain ancillary areas, such as car parks). In carrying out the FRA in such buildings, care needs to be taken to ensure that an appropriate stay put strategy is not contradicted by inappropriate fire alarm systems; to do so can place residents at risk and result in liability on the part of the fire risk assessor for consequent injuries, particularly if the fire risk assessor makes recommendations for an inappropriate or unnecessary system. However, fire detection and fire alarm systems are normally necessary in:

1) *the communal areas of many sheltered housing schemes, unless there are no communal facilities and the common parts are reasonably devoid of combustible furniture, etc.;*
2) *HMOs;*
3) *some houses converted into blocks of flats, in which the fire safety design or constructional features cannot support a stay put strategy;*
4) *supported housing, unless it is purpose-built and designed on the basis of a block of flats with a stay put strategy; or*
5) *some old purpose-built blocks of flats that have inadequate compartmentation (or possibly inadequate design of means of escape) to support a stay put strategy.*

***NOTE 1** Advice on fire detection and fire alarm systems for these buildings is given in the guidance to which item a) of the Commentary on Clause **15** refers. More detailed recommendations on fire detection and fire alarm systems for all types of domestic premises, including all those within the scope of this PAS, are given in BS 5839-6.*

Fire detection is necessary within all dwellings, including general needs flats, and flats in sheltered and extra care housing. In a Type 3 or Type 4 FRA for purpose-built blocks of flats and specialized housing, the adequacy of this fire detection (which, particularly in general needs blocks of flats, normally comprises domestic smoke and heat alarms) needs to be checked.

In England and Wales, for new dwellings, compliance with Approved Document B [21] requires only smoke detection in the circulation areas of a dwelling. The equivalent guidance in Scotland [27] and Northern Ireland [28] specifies additional fire detectors in the principal habitable room and kitchen.

For existing private rented dwellings in England, legislation requires that a smoke alarm is provided within the circulation space on each level. Guidance on this requirement is published by MHCLG [29]. For existing private rented dwellings in Scotland, in addition to these smoke alarms, a smoke alarm needs to be provided in the principal habitable room, in conjunction with a heat alarm in the kitchen. Guidance on the requirements for private rented dwellings in Scotland is published by Scottish Government [30]. This standard of protection will be required in all existing dwellings in Scotland during the life of this PAS.

***NOTE 2** Guidance on fire detection within dwellings is given in BS 5839-6.*

In specialized housing, there is a need for a higher standard of coverage by automatic fire detection within flats than is necessary in flats within general needs housing. Guidance on fire detection for specialized housing is given in BS 5839-6. Guidance, for England and Wales, is also given in the National Fire Chiefs Council guide, Fire safety in specialised housing *[3]; in Scotland, equivalent guidance is published by Scottish Government [4].*

Older fire detection and fire alarm systems might not conform in full to current standards, particularly in respect of certain aspects of engineering design. In many cases, this is perfectly acceptable, but it is expected that new systems and new work associated with the modification of existing systems, recommended in the action plan, will conform to current standards.

***NOTE 3** Guidance on types of fire detectors, their application and limitation of false alarms is given in BS 5839-1.*

***NOTE 4** Domestic smoke alarms are unsuitable for installation in the common parts of purpose-built blocks of flats (though, in any case, the provision of a fire detection and fire alarm system in the common areas is normally unnecessary and inappropriate). Domestic smoke alarms are suitable for small HMOs, but, for large HMOs, fire detection alarm equipment of the type specified in the BS EN 54 series is necessary.*

Most premises in which automatic fire detection is required within common parts (e.g.an HMO) also need manual call points. In small properties, it might not be necessary for these to be installed on every level. It is also unnecessary to install manual call points in HMOs in which automatic fire detection comprises the provision of Grade D fire detection and fire alarm systems. The judgement of the fire risk assessor is necessary in this respect, having regard to the appropriate guidance for the type and size of property in question. In some premises, the provision of manual call points might be undesirable because of the likelihood of malicious operation.

If it has been identified in an FRA that Deaf or hard of hearing occupants are, or are likely to be, present in any of the dwellings (e.g. in supported housing), consideration needs to be given to means for warning them in the event of fire. This might simply comprise suitable assistance from the occupants' family, but could necessitate flashing beacons or even special means of warning, such as vibrating pagers or digital messaging systems.

*Although a facility can be provided for fire alarm signals to be transmitted automatically to an alarm receiving centre (see **3.3**) from where the fire and rescue service is summoned, in most housing premises, this is not normally necessary for the purpose of life safety. However, in sheltered and extra care housing, the early summoning of the fire and rescue service is critical, and so signals from fire detection in dwellings need to be relayed to an alarm receiving centre that can establish two-way speech communication with a flat of fire origin, normally via a social alarm system. Automatic transmission of fire alarm signals to an alarm receiving centre might also be necessary in certain supported housing in which staff levels at certain times might be low.*

*Normally, in an FRA, the functionality of a fire detection and fire alarm system is checked [i.e. by a simple visual check of the control and indicating equipment (CIE) display], but it does not involve any detailed engineering evaluation of the system. It needs, however, to be confirmed that the fire detection and fire alarm system is subject to routine testing and maintenance, so that faults and major shortcomings are identified by this means (see Clause **16**). Moreover, it is normally appropriate for the fire risk assessor to*

consider whether the fire alarm signal is likely to be audible in all relevant areas of the premises, based on a visual inspection of the locations of sounders, even though shortcomings are normally identified by routine testing. The FRA might then recommend, within the action plan, that an engineering evaluation, including measurement of sound pressure levels in "suspect" areas, be carried out. Where visual alarms are necessary, some consideration of their visibility is appropriate.

c) Means of escape

*In considering the likely consequences of fire, the fire risk assessor needs to determine the likely effects of fire on escape routes (see **3.21**) during evacuation of the building or evacuation of a flat(s) affected by a fire. This requires a thorough evaluation of means of escape.*

If the means of escape conform to the requirements of modern building regulations, it is unlikely that a need for major improvements will be identified in the FRA. Suitable benchmark standards for means of escape include guidance that supports legislative requirements for fire safety in existing buildings.

*However, means of escape are just one of the fire protection measures that affect the consequences of fire and, hence, the fire risk. Therefore, a departure from one or more recommendations given in the relevant codes of practice regarding means of escape might be acceptable when all other fire precautions are taken into account. Such other fire precautions include early warning of fire, rapid response to the warning by occupants and measures to increase the ASET (see **3.6**). Departures from traditionally quoted travel distances could also have arisen when the premises were designed if the designer used the approach given in BS 9991, which, for example, permits extended travel distance within the common parts of blocks of flats if the flats themselves are sprinklered. Where the premises are complex and departures from conventional design principles are significant, there might have been a need for a fire engineering solution of the type to which BS 7974 is relevant; the fire risk assessor will need to be given information regarding such a solution, as it is difficult to "reverse engineer" the principles of, and assumptions made within, a fire engineering solution simply from an inspection of the premises.*

*The first effect of a fire on the safety of occupants is often the presence of smoke in escape routes. This results in loss of, or reduction in, visibility. Thus, in general, adequate means of escape are provided if people can immediately, or within a short distance of travel, turn their back on any fire and move towards a place of relative safety (see **3.73**) and ultimately a final exit (see **3.25**) along smoke-free escape routes.*

Five critical factors in the assessment of means of escape are therefore:

1) *the maximum distance occupants need to travel to reach a place of relative or ultimate safety (see **3.73** and **3.74** respectively), such as an exit to a protected stairway (see **3.77**), or to a final exit (see **3.25**);*
2) *the avoidance of long dead ends (see **3.16**) in which escape is possible in only one direction;*
3) *the number, distribution and, occasionally, widths of storey exits and final exits;*
4) *the means of protecting escape routes from ingress or build-up of smoke that prevent occupants' escape; and*
5) *the ability of occupants to use the escape routes.*

*In some types of housing, it can normally be expected that disabled residents, or residents who are otherwise vulnerable in the event of fire, are likely to be present on the premises. Examples are sheltered housing, extra care housing and supported housing. In those buildings with a stay put strategy, the level of compartmentation is favourable to these residents, as, in the event of fire, unless the fire occurs within their own dwelling, they can normally remain within the safety of their own dwelling; there is, therefore, no expectation that staff will be present to assist with evacuation. If a fire occurs within their own dwelling, rescue by the fire and rescue service might be necessary. Advice on evacuation can be found in the guidance to which item a) of the Commentary on Clause **15** refers.*

*Many supported housing premises are not constructed in this manner (simply comprising various forms of typical single-family dwelling houses converted for use as supported housing); in these properties, consideration needs to be given to any need for assistance with the simultaneous evacuation of all residents, which cannot rely on the assistance of the fire and rescue service. (A system of phased evacuation is unlikely to be acceptable.) As in any premises with simultaneous evacuation, there is a need for the FRA to consider the evacuation of disabled people and how this can, if necessary, be facilitated (i.e. by staff). In some supported housing, an automatic fire suppression system might be necessary to support evacuation. Again, advice can be found in the guidance to which item a) of the Commentary on Clause **15** refers.*

The safety of a disabled resident can be enhanced by extensive provision of smoke alarms within their flat in conjunction with telecare monitoring of the smoke alarms, enabling two-way speech communications between the resident and a social alarm receiving centre. Additional protection of the resident against a fire in their own flat can be provided by an automatic fire suppression system. However, these matters are outside the scope of the Fire Safety Order [5] and are, hence, outside the scope of a Type 1 FRA.

In sheltered and extra care housing, there is normally greater engagement between residents and staff of the housing provider or care provider. In these premises, it is normally possible to maintain, and update, relevant records in relation to residents' disabilities, including PEEPs. The PEEPs are normally located within a secure premises information box, to which the fire and rescue service have access (e.g. by means of a key that is protected from copying through patent and/or three-dimensional trademark and that is carried on fire and rescue service appliances, or by use of a code known to the fire and rescue service, or by remote electronic release). In sheltered and extra care housing, the FRA needs to verify that, where appropriate, relevant up-to-date information, which can include those flats in which residents use oxygen cylinders, is held in a premises information box.

The subject of design of, and arrangements for, means of escape is outside of the scope of this PAS. It is assumed that the fire risk assessor has sufficient knowledge of the principles of means of escape to assess the adequacy of the means of escape in the premises in question. Moreover, the number of component factors that need to be taken into account

is greater than in the case of other fire protection measures. Accordingly, Annex C sets out the key factors to consider when assessing means of escape. However, in the case of specialized housing, care needs to be taken to ensure that any special considerations that are appropriate are properly addressed.

In all forms of housing, one of the most important issues to consider in an FRA is the fire performance of doors that separate residents' accommodation from communal escape routes. It is essential that these doors are self-closing and that they afford adequate fire resistance. This is particularly important in blocks of general needs flats, sheltered housing and extra care housing, but might be of equal importance in some supported housing. For flats, sheltered housing and extra care housing, it is normally impracticable, in the course of an FRA, to gain access to all flats to check the flat entrance doors; the dutyholder needs to have arrangements in place for periodic, routine checks to confirm that flat entrance doors remain self-closing and free from damage (to an extent that would impair their fire resistance). Common custom and practice is for fire risk assessors to endeavour to check around 10% of flat entrance doors (with a minimum of two doors), though this is not always possible.

It is also important that fire doors in protected lobbies and stairways are self-closing and adequately fire-resisting. Normally, there is no impediment to access in respect of these doors, all of which, therefore, need to be checked by the fire risk assessor. It is also important that these doors are subject to routine, periodic inspection by the dutyholder.

*A common issue to arise in an FRA is the fire resistance of all of the above doors (see also Clause **9**). Older doors are not fitted with intumescent strips (and so do not achieve 30 min fire resistance), nor are they fitted with smoke seals (see also Clause **9**). Whether this materially impacts on fire risk is a matter for judgement by the fire risk assessor, taking all relevant factors into account. It is inappropriate to make generic recommendations for upgrading, or replacement, of doors to satisfy current standards, without proper consideration of risk and cost benefit. In many cases, doors that satisfied requirements for fire resistance at the time the building was constructed, or the doors were manufactured, will continue to afford adequate fire resistance to protect escape routes. Recommendations for generic upgrading or replacement of doors without proper justification of the risk associated with existing doors ought to be challenged by dutyholders. Further guidance in relation to fire doors in purpose-built blocks of flats can be found in the LGA guide [1] and equivalent guidance produced by Scottish Government for high-rise blocks of flats [2].*

***NOTE 5** Attention is drawn to the guidance on existing flat entrance doors in England and Wales, set out in Annex A of the MHCLG* Advice for building owners of multi-storey, multi-occupied residential buildings *[31] [see also item g) of the Commentary on Clause **15**]. This guidance refers the building owner to the LGA guide, noting that the LGA guidance is supported by the National Fire Chiefs Council. The MHCLG advice is that building owners aim to replace existing timber flat entrance doorsets if they suspect that the doorsets do not meet the fire or smoke resistance performance contained in the LGA guide, using risk assessment to determine the urgency for such replacement. It is relevant to note that, in many circumstances, the LGA guide recommends that "notional FD 30 doors", namely door assemblies that satisfied the current specification, or fire resistance test, for 30 min at the time of construction of a block of flats or manufacture of the door, remain acceptable; in older blocks, these doors are not fitted with intumescent strips and/or smoke seals.*

***NOTE 6** At the time of publication of this PAS, in England and Wales, there is a proposal by the government to clarify, by means of a new Fire Safety Bill, that flat entrance doors in blocks of flats fall within the scope of the Fire Safety Order [5].*

In some specialized housing, there is often a need for fire doors to be held in the open position, but to self-close automatically on operation of the fire alarm system. Similarly, in both blocks of flats and specialized housing, there is often a perceived need for electronic locking of final exit doors, which are unlocked automatically on operation of any fire alarm system that is present (e.g. in many sheltered housing premises). The reliability of the arrangements for automatic operation of door release mechanisms and electronic locks in the event of fire needs to be taken into account in the FRA; for example, it needs to be confirmed that, unless there is a mechanical means of releasing the lock (e.g. a lever handle) to facilitate escape, electronic locks release on failure of the power supply to them. Electronic locks, particularly those of an electromechanical nature, can potentially introduce an additional risk, and the potentially conflicting requirements of security and fire safety need to be carefully balanced; unless the access control system incorporates suitable design features, electronic locks might also delay access for the fire and rescue service. Recommendations on the interface between a fire detection and fire alarm system and these types of door release mechanism are given in BS 7273-4.

d) Signs and notices

In housing premises, there is commonly no need to provide fire exit signs to direct people towards means of escape, particularly where there is only a single stairway. To provide these unnecessarily simply creates an undesirable ambience of an institutional building. However, in large or complex buildings, it might be necessary to indicate alternative means of escape that are not in use as the normal means of access and egress. It is, therefore, important, in the FRA, to determine whether fire escape signage is necessary.

***NOTE 7** In the cases of premises that are workplaces, it is a requirement of the Health and Safety (Safety Signs and Signals) Regulations 1996 [32] that these signs incorporate the appropriate pictogram. Recommendations on escape route signs are given in BS 5499-4.*

In the course of the FRA, there is also a need to determine whether other forms of fire safety signs and notices are necessary, and whether those provided are adequate. Examples include:

1) *other safe condition signs (see **3.81**) (e.g. indicating use of escape hardware);*
2) *signs on fire doors, indicating the need for the doors to be kept shut, kept locked shut or kept clear (in the case of automatically closing fire doors), as appropriate;*
3) *other mandatory signs (see **3.61**), such as those indicating the need to keep a fire exit clear;*
4) *fire equipment signs (see **3.29**), primarily where, for example, fire extinguishers or fire alarm call points are hidden from direct view;*
5) *"no smoking" signs;*
6) *fire procedure/fire action notices;*
7) *storey identification signs and dwelling indicator signs in blocks of flats; and*
8) *warning signs (e.g. photovoltaic cells, electric vehicle charging points).*

***NOTE 8** Attention is drawn to the Domestic Technical Handbook [27] that supports building regulations in Scotland, which, since October 2018, has specified that, to assist the fire and rescue service, storey identification signs and dwelling indicator signs be provided in blocks of flats with a storey height over 18 m. In England, the same measure has applied to new blocks of flats over 11 m in height from November 2020.*

Guidance on the selection and use of safety signs (including various fire safety signs) and fire safety notices (but excluding escape route signing) is given in BS 5499-10. Registered safety signs are given in BS EN ISO 7010.

***NOTE 9** In buildings with complex escape routes, an escape plan might be displayed to indicate escape routes. Design principles for escape and evacuation plan signs are given in BS ISO 23601.*

e) Emergency escape lighting

*If escape routes require artificial illumination, there is a need to determine whether emergency escape lighting is necessary. Normally, emergency escape lighting is necessary on all escape routes in housing premises, except, for example, a small, two-storey block of flats with good borrowed lighting or a small supported housing bungalow with automatic plug-in night lights. Normally, this comprises non-maintained emergency lighting (**3.66**), but maintained emergency lighting (**3.60**) is equally acceptable.*

***NOTE 10** Attention is drawn to guidance documents that support building regulations (e.g. in England and Wales, Approved Document B [21]) for guidance on the need for emergency escape lighting in new buildings.*

*If a judgement is made that emergency escape lighting is not necessary, it is appropriate for this to be justified in the documented FRA (see Clause **10**).*

*Normally, the FRA does not involve any detailed engineering evaluation of an emergency escape lighting system. However, it is important to confirm that the system is subject to routine testing and maintenance, so that faults and major shortcomings are identified by this means (see Clause **16**).*

Moreover, it is normally appropriate for the fire risk assessor to determine whether the extent of an existing system is sufficient, based on a visual inspection of the areas of coverage and the provision of luminaires, and whether the duration for which emergency escape lighting can be provided is adequate; this is normally 3 h. The FRA might, nevertheless, recommend within the action plan that an engineering evaluation be carried out, including verification of the adequacy of levels of illuminance. It is also normally appropriate to confirm that there are suitable facilities for routine testing of the installation.

In some cases, an existing emergency escape lighting system does not conform in full to current recommendations (e.g. in respect of illuminance levels). This might be acceptable, but it is appropriate for new systems, and new work associated with upgrading of existing systems, recommended in the action plan, to conform to the current recommendations.

***NOTE 11** Attention is drawn to the recommendations in BS 5266-1 and to the requirements of BS EN 1838 and BS EN 50172.*

f) Manual firefighting equipment

It is not normally appropriate for housing premises to be provided with means for residents to extinguish a fire, particularly within common parts of blocks of flats, sheltered housing or extra care housing. Extinguishers are normally provided only in areas such as plant rooms, communal kitchens (in which fire blankets are also appropriate) and lounges (e.g. in sheltered housing), workplaces (such as offices) and suitable locations for staff to use in supported housing; such locations might be within the hallway of a supported housing property. If, very unusually, a fire risk assessor were to decide that there was a need for portable fire extinguishers in areas other than these examples, there would need to be full and clear justification for this conclusion in the FRA.

*If appropriate fire extinguishers are necessary, consideration might be given to the use of multi-purpose extinguishers, which can be used on more than one class of fire (see **3.7** to **3.11**). However, where the risk is predominantly associated with electrical equipment, carbon dioxide extinguishers are likely to be the most appropriate type.*

Hose reels are not normally appropriate for housing premises, and dry powder fire extinguishers are not recommended for use indoors.

g) Structural and similar passive measures to limit fire spread and development

*In the course of the FRA, consideration needs to be given to structural and similar passive measures that are intended to limit the spread and development of fire within the premises (in addition to consideration already given to similar measures that are specifically intended to protect means of escape). In some simple premises in which compartmentation (see **3.13**) was not necessary at the time of construction for compliance with the relevant building regulations, there might be no such measures (e.g. a bungalow used for supported housing).*

*However, where compartment walls or floors are provided, some consideration needs to be given to the likely integrity of these. Usually, in the course of the FRA, a detailed examination of the construction of the premises is not practicable. For example, a Type 1 FRA would not normally involve opening up work, such as cutting holes in, or removal, of walls, ceilings, partitions, etc. Normally, there can only be visual inspection of a sample of reasonably accessible areas [e.g. to check visually for any obvious inadequacies in fire stopping (see **3.52**)]. Sometimes transmission of noise or cooking odours between flats can be an indication of a weakness in compartmentation.*

*As many areas where service penetrations could lead to breaches of compartmentation might be hidden, such sampling might need to include areas above false ceilings where many services often run. More generally, since any structural barrier will resist the passage of smoke or fire for at least some time, obvious shortcomings in fire stopping of service penetrations need to be addressed in the action plan (see Clause **19**). Clause **21** provides guidance and recommendations on the intrusive inspection and opening up that are appropriate in Type 3 and Type 4 FRAs.*

Roof voids are a potential area through which fire can spread if a fire either starts in the roof void or spreads into it from a flat below (e.g. directly, via ventilation ductwork or via the eaves). In old blocks of flats, it is not uncommon to find that compartment walls between flats do not extend through the roof void, as would now be necessary for compliance with building regulations, thereby enabling unlimited fire spread across multiple flats. However, issues can also arise in the design and maintenance of low-rise pitched roof buildings, such as are commonly found in modern sheltered housing. Fire spread within roof voids over a modern sheltered scheme has led to at least one fatal fire, in which a resident died in her own flat, two flats away from the flat of fire origin. For these reasons, it is important that the fire risk assessor endeavours to include roof voids in even a Type 1 FRA, albeit that an element of sampling is acceptable. Access to roof voids can be difficult, and, if access is not considered practicable, this needs to be made clear in the documented FRA.

It cannot be assumed that simply because a building has been recently constructed, and that a completion/final certificate has been issued by a building control body, there is a reduced need for consideration of compartmentation and fire stopping. In the few years prior to publication of the current version of PAS 79, numerous cases of poor construction work in newly, or recently, constructed buildings have come to light, including inadequate fire stopping of junctions between fire-resisting barriers, and of service penetrations, etc., and incomplete construction within risers and above fire doors. Some cases have been so serious that it has been necessary for enforcing authorities to consider prohibiting the use of the building under the Fire Safety Order [5].

*Consideration of compartmentation in the FRA is particularly important in all premises in which, in the event of fire, there is no simultaneous evacuation, such as blocks of flats with a stay put strategy (see **3.89**). In these premises, there is reliance on compartmentation (e.g. of each flat) for protection*

of occupants who remain within the building in the event of a fire within one dwelling. In all of these buildings, it is of value for the fire risk assessor to ensure that the dutyholder is aware of the importance of compartmentation.

Traditionally, it has been regarded as good practice to enclose areas of high fire hazard and plant rooms in construction of appropriate fire resistance (see ***3.38****). The need for this is, therefore, normally considered in the FRA.*

In new building work, the flammability of wall and ceiling linings is controlled under building regulations. If the linings continue to conform to the original requirements in this respect, they are likely to be satisfactory. However, consideration needs to be given to the issue of linings, as unsatisfactory linings can promote the spread and development of fire.
In unusual circumstances, it might be appropriate to consider whether multiple layers of paint in common parts can affect the potential for spread of flame over walls, although this is normally very difficult to determine. In some premises, such as sheltered housing, the flammability of any furniture and furnishings that is permitted within common parts needs to be taken into account.

Ventilation systems can provide a path for spread of fire and smoke. Particularly in older blocks of flats, bathroom or kitchen extract systems from flats sometimes share a common extract duct, sometimes with no effective measures to prevent spread of fire or smoke between flats; this could undermine a stay put strategy. In an FRA, it is not normally possible to carry out an examination of the extract arrangement to determine whether suitable measures, such as shunt ducts (or dampers; see ***3.15.1*** *to* ***3.15.3****), were taken at the time of construction to prevent this. However, endeavours need to be made to determine whether common extract systems are present, so that, if necessary, further investigation can be recommended. Guidance is given in the Local Government Association publication* Fire safety in purpose-built blocks of flats *[1].*

More generally, in an FRA, it can be difficult to determine whether the measures incorporated within the design of ventilation and air conditioning systems are adequate. Access to false ceilings within which ductwork runs can be difficult; frequently there is difficulty in determining whether dampers are fitted at appropriate locations. In general, the appropriate measures are likely to have been required for compliance with building regulations when the premises were constructed.

However, particularly where the age of the premises, or the likely extent of modifications to the premises, might suggest that ductwork could act as a route for spread of smoke into, or within, escape routes, some investigation might be needed, or it might be necessary to recommend further investigation in the action plan, if the siting of visible air extract or supply points suggests that dampers are essential.

It was traditionally accepted that the external walls of the building were outside the scope of the relevant fire safety legislation (even if the common parts fall within the scope). However, a fire hazard can result from inappropriate construction of external walls and the combustibility of any cladding, including rainscreen cladding, attached to the external walls of the building. This can cause an external fire (whether started externally by, for example, a burning car or refuse, or by flames from an internal fire emanating from, for example, windows) to bypass compartment floors and walls, so undermining the stay put strategy in a block of flats.

In 2017, the fire at Grenfell Tower (a high-rise block of flats in London), in which 72 deaths occurred, as well as some other previous, overseas fires, brought to the fore the hazard of rapid vertical (and, to some extent, horizontal) fire spread that can occur as a result of highly combustible external cladding. For the purpose of the consideration of this matter in an FRA, spandrel panels need to be regarded as equivalent to cladding, as, if their fire performance is inadequate, they too have been shown in fires to promote rapid vertical fire spread. In consequence of the fire at Grenfell Tower, in England and Wales, by amendment of the Fire Safety Order [5], the external walls of a building that contains two or more domestic premises will expressly fall within the scope of the Order.

There is a requirement under building regulations throughout the UK that external wall construction be such that spread of fire over external walls is adequately restricted or inhibited. However, for new buildings, material alterations of existing buildings and material change of use of existing buildings, more specific requirements of the building regulations on this matter, as well as the associated current government guidance on compliance, differ between Scotland, Northern Ireland, England and Wales. Accordingly, it is essential that the fire risk assessor is familiar with current regulations and guidance for new building work as a starting point in consideration of the matter (see Figure 2).

In Scotland and in England and Wales, in consequence of the fire at Grenfell Tower, both the building regulations and the guidance that supports the regulations were amended in relation to external wall construction and cladding, resulting in even greater differences between requirements and guidance in Scotland and those in England and Wales than already existed. New building regulations and associated guidance are not intended to apply retrospectively, but that does not preclude the need for rectification of defects that resulted in non-compliance with the regulations at the time of construction.

In England and Wales, compliance with the guidance in Approved Document B [21] at the time of construction of the building is likely to satisfy the Fire Safety Order [5]. However, since the fire at Grenfell Tower, it has been found that, in respect of the fire performance of cladding and the provision of cavity barriers, a significant number of buildings failed, at the time of construction, to meet the intent of Approved Document B [21] and, hence, the requirements of building regulations in England and Wales.

In addition, in December 2018, by an amendment to Regulation 7 of the Building Regulations 2010 [22], in England, a new requirement was introduced within the Regulations. Under the amended Regulations, in the case of buildings with a storey greater than 18 m above ground level, comprising, inter alia, a block of flats, external walls and specified attachments (such as balconies and solar panels) are required to meet the criteria given in BS EN 13501-1:2007+A1 for classification as A2-s1, d0 or A1. This new requirement has applied to Wales from January 2020. At the time of publication of this PAS, there are proposals to make a similar change to the building regulations in Northern Ireland. This is a prescriptive requirement, and does not allow for alternative solutions, such as full-scale fire testing, desktop assessments or fire engineering solutions. At the time of publication of this PAS, there are no plans to make a similar amendment to the building regulations in Scotland.

In Scotland, in 2019, for domestic buildings, the guidance in the Domestic Technical Handbook [27] that supports building regulations was made considerably more stringent in respect of the reaction to fire of cladding and insulation materials exposed within any cavity behind the outer cladding. However, as the Handbook comprises guidance, rather than prescriptive requirements, alternative solutions, such as suitable evidence from the large-scale fire test of BS 8414-1 or BS 8414-2, are acceptable means of demonstrating compliance with the relevant mandatory building standard in the Building (Scotland) Regulations 2004 (as amended) [33].

In the FRA, it is appropriate, in the case of blocks of flats, to consider whether, in the light of current knowledge, the fire performance of cladding is likely to result in a fire hazard. This is extremely difficult to assess within the scope of the FRA that can reasonably be expected to be carried out in accordance with this PAS. This is because, without intrusive inspection (e.g. cutting out a section of the wall or cladding construction), the wall build-up, insulation and provision of cavity barriers are usually unknown; "as built" drawings, etc., are not always sufficiently accurate to be relied upon solely for this. Such destructive exposure is beyond the scope of the FRA, and advice on the detailed design of the wall construction is beyond the capability of most competent fire risk assessors. Even the nature of visible cladding might not be possible to determine without cutting out a sample for laboratory examination or test. Accordingly, it is common for the FRA to exclude any detailed consideration of external wall construction from its scope and to recommend, where appropriate, that the design of external wall construction, and the hazard that might arise from it, is subject to fire risk appraisal and assessment by suitably qualified specialists.

The Fire Industry Association (FIA) strongly recommends to fire risk assessors [34] that, unless they feel confident to give definitive advice on the nature and fire hazard of external wall construction, and have the appropriate qualifications, skills, knowledge and experience, they exclude assessment of the fire hazard of external wall construction and cladding from the scope of the FRAs that they carry out under the Fire Safety Order. The FIA advises that it is important that this is made clear to the responsible person in the tender process and documents, the contract and the fire risk assessment.

The FIA considers that, in most cases, a fire risk assessor will wish to exclude assessment of the fire performance of external wall construction and cladding from the scope of the FRA carried out under the Fire Safety Order. In such cases, it will then be necessary for the FRA to include a recommendation that this matter be subject to consideration by other suitably qualified and competent specialists. It is anticipated that this further work will comprise a fire risk appraisal and assessment in accordance with the recommendations of PAS 9980, which is in preparation at the time of publication of this current PAS.

Accordingly, the fire risk assessor needs to make a judgement as to whether it is appropriate to recommend further investigation of wall construction and cladding (usually by others) in the action plan. This is the prerogative of the fire risk assessor, taking into account factors such as:

1) *the height of the building;*
2) *the use of the building;*
3) *information on approval of the building under relevant building regulations (if any);*
4) *appearance of external wall or cladding;*
5) *information on external wall construction or cladding (e.g. in operation and maintenance manuals, or information handed over for compliance with Regulation 38 of the Building Regulations 2010 [22] in England and Wales or the* Fire safety design summary *in Scotland [23]);*
6) *exposure of external walls or cladding to an external fire;*
7) *fire protection measures (e.g. compartmentation, automatic fire suppression, automatic fire detection);*
8) *apparent quality of construction, or presence of building defects; and*
9) *anticipated evacuation time (if evacuation is necessary).*

Only a few of these factors would, alone, enable a fire risk assessor to determine whether further investigation is necessary. For example, a low-rise building, or a building with what is obviously a traditional masonry wall, is unlikely to warrant any further consideration. At the other extreme, a tower block that is obviously clad in an unknown form of metal cladding would warrant a recommendation for further investigation, either by consideration of the other factors above, or by a further, more specialist investigation (which might be intrusive) by others. For many other situations, the need for comment, advice, or recommendations in the FRA is a matter for the judgement of the fire risk assessor, based on training, experience and a knowledge of current thinking, taking into account guidance produced after the fire at Grenfell Tower in 2017.

It is, therefore, expected that fire risk assessors will be judicious in their recommendations for a fire risk appraisal and assessment of external wall construction by a specialist within the action plan of an FRA. Unnecessary recommendations by fire risk assessors for such appraisals and assessments, contrary to the guidance in this PAS, would make significant demand on the scarce resources available for these appraisals and assessments, thereby diverting attention from buildings in which the public might be at serious risk and that actually do warrant them.

For avoidance of doubt, it is not suggested that, even in the case of a building of a type that would, generically, normally be regarded as low risk (e.g. a four-storey block of flats of traditional masonry construction), the fire risk assessor will ignore unusual, but visually obvious, material defects that place occupants at undue risk. On the other hand, it is acknowledged that, in determining that the risk to life from fire spread over external walls is not such as to warrant an appraisal and assessment by a specialist, the fire risk assessor is not deemed to be confirming conformity of external wall construction to building regulations (past or present) or the Fire Safety Order [5].

In these circumstances, therefore, latent defects in construction might well continue to be unrevealed. Consultations with the National Fire Chiefs Council at the time of drafting this PAS have confirmed that this principle is accepted. It is simply the case that, in the low-risk circumstances described above, experience has shown, over many years and in some millions of buildings, that the risk to loss of life from defects in external wall construction is so negligible as to be insignificant. It is, therefore, not unreasonable in these cases for the fire risk assessor to assume conformity to the building regulations that were current at the time of construction, unless there is significant, visually obvious, evidence to the contrary.

It is expected that the dutyholder will take responsibility for making the fire risk assessor aware of any known concerns regarding the fire performance of external wall construction, or any alterations since the time of construction that might be detrimental to the fire performance of external wall construction, including the installation of any new cladding, fenestrations or attachments to the building.

In the case of cladding that is known to pose a major hazard in the event of fire, there is likely to be a need for the fire risk assessor to consider the recommendation of interim measures.

Following the fire at Grenfell Tower, the Government set up the Independent Expert Advisory Panel (commonly known as "the Expert Panel") to advise on the risks of cladding materials in relation to external fire spread over walls of high-rise residential buildings. The advice of the Expert Panel to building owners of multi-storey, multi-occupied residential buildings in relation to external wall systems, spandrel panels, balconies, smoke control systems and fire doors has been published as a single document by MHCLG [31].

h) Automatic water-based suppression systems

Automatic sprinkler installations are very effective in the control of fire. The presence of an automatic water-based suppression system, such as an automatic sprinkler installation, might therefore enhance life safety, reduce risk and limit the spread of fire from

its point of origin. Provision of sprinklers can allow a reduction in the performance requirements of elements of construction and compartmentation. In the case of blocks of flats designed and managed in accordance with BS 9991, the provision of sprinkler protection within flats can permit increased travel distances within common parts. Sprinklers also provide an additional layer of protection in the event of weaknesses in other measures, such as compartmentation.

*Where suppression systems are part of the life safety measures in any premises, or are taken into account as compensatory features for a reduction in other fire safety measures [see **5.3**e)], this needs to be noted in the FRA, and procedures are necessary to manage the resulting increase in risk that would occur if the suppression system were to be taken out of service, or become defective, for any reason.*

In Wales, sprinkler protection is required in all new housing for compliance with the Building Regulations 2010 (as amended for Wales) [22]. In Scotland, sprinkler protection of flats in all new sheltered housing, and in new blocks of flats greater than 18 m in height, is necessary for compliance with the Building (Scotland) Regulations 2004 (as amended) [33]. From 2021, in Scotland, the requirements for sprinkler protection will apply to a wider range of housing at the time of construction, including all blocks of flats, regardless of height, all new social housing, large HMOs and large supported housing properties. In England, government guidance (Approved Document B) [21] stipulates sprinkler protection for flats in blocks of flats greater than 11 m in height for compliance with the Building Regulations 2010 [22]. In some cases, water mist can be an acceptable alternative to a sprinkler system.

Sprinkler protection is particularly beneficial in specialized housing. In sheltered and extra care housing, in the event of fire, a properly designed, installed and maintained system makes a death beyond the flat of fire origin extremely unlikely, while also reducing the likelihood of a death in that flat, unless a person is directly involved in the fire (e.g. their clothes or bedding are ignited).

*While an engineering evaluation of an automatic sprinkler system is not normally appropriate in the course of the FRA, it is normally appropriate to confirm that there are no obvious shortcomings, such as obstructions to sprinkler heads. It is also appropriate to confirm that there are adequate arrangements for testing and maintenance of the system so that faults and major shortcomings can be identified (see Clause **16**).*

As noted above, other forms of water-based suppression system include water mist systems, which can be appropriate in specific circumstances.

i) Other fire protection systems

Other fire protection facilities and systems that, if present or required, need to be taken into account in the FRA include:

1) *smoke control systems and facilities;*
2) *other localized fire suppression systems;*
3) *measures to assist the fire and rescue service, such as dry or wet fire mains (see **3.17** and **3.99** respectively), firefighters, fire-fighting or firemen's lifts (see **3.59.3**, **3.59.2** and **3.59.4** respectively) and firefighters' switches for high voltage illuminated signs; it is unusual for an FRA to recommend that firemen's lifts be upgraded to the more modern standards of firefighters or fire-fighting lifts, but consideration might be given to an element of upgrading at the time of lift refurbishment or replacement; further guidance can be found in BS 8899; and*
4) *evacuation alert systems for use by the fire and rescue service in blocks of flats.*

While such systems are not present in all premises, they can play an important role in the safety of occupants in certain large or complex premises. Even if the objective of such a system is property protection or assistance to the fire and rescue service, it is still appropriate to note, and take account of, the system in the FRA.

*In some housing premises, smoke control systems can be essential for protection of means of escape and/or assistance to the fire and rescue service. For example, this is normally the case in all blocks of flats, sheltered housing and extra care housing. Again, although an engineering evaluation of a smoke control system is usually outside the scope of the FRA, the fire risk assessor needs to understand the manner in which the smoke control is intended to function, and it is vital to ensure that there are adequate arrangements for ongoing control, testing and maintenance of such systems (see Clause **16**).*

*Localized fire suppression systems are not commonly installed in housing premises, although they can feature in some circumstances, such as in certain flats with open plan layouts. However, if present, it is appropriate to record their presence in the FRA and to take account of them, as they might contribute to life safety. It is also appropriate to confirm that there are arrangements for their testing and maintenance (see Clause **16**).*

*In most premises that require dry or wet fire mains, fire-fighting lifts or firefighters lifts, these are already present. It is unusual for a need for such facilities first to be identified in the FRA, or for an FRA to recommend retrofitting of such facilities in premises that were not provided with them at the time of construction. These facilities are provided primarily to assist the fire and rescue service. However, since safety of firefighters might depend on the correct operation of these facilities, it needs to be verified that there are adequate arrangements for their testing and maintenance (see Clause **16**); accordingly, the relevant fire safety legislation throughout the UK requires that these facilities are regularly maintained and are kept in an efficient state, efficient working order and good repair. Also, where a stay put strategy applies, extinguishment of any fire by the fire and rescue service can be essential to the safety of the strategy, so, for example, in blocks of flats, measures that assist the fire and rescue service can be essential for the safety of residents.*

j) Evacuation alert systems for use by the fire and rescue service

These systems can be installed in (normally high-rise) blocks of flats with a stay put strategy to enable the fire and rescue service to initiate, via control equipment at the fire and rescue service entry level, an audible evacuation alert signal in flats on a selected storey(s) of the building (or a part of a storey or the entire building). The concept is not entirely new. (Such a system was recommended for a high-rise block of flats in the North of England as long ago as 2005.) However, use of such systems was, until 2019, extremely rare and specific to a particular fire engineering solution.

In the Grenfell Tower fire in 2017, as Grenfell Tower was designed on the basis of a stay put strategy, there were no facilities whereby the fire and rescue service could effectively initiate a simultaneous evacuation of all residents. In response to this fire, by amendment of the Domestic Technical Handbook [27] that supports the Building (Scotland) Regulations 2004 (as amended) [33], Scottish Government have, from 1 October 2019, specified that, for compliance with these Regulations, such systems ought to be installed in all new blocks of flats with a storey greater than 18 m in height as a facility to assist the Scottish Fire and Rescue Service.

It is important that these systems are not confused with fire alarm systems. In Scotland, for the purpose of the Building (Scotland) Regulations 2004 (as amended) [33], these systems are not part of the requirements for fire alarm systems, but are part of the measures necessary to assist the Scottish Fire and Rescue Service (in the same way that a rising main is such a facility). BS 8629 recommends that evacuation alert systems for use by the fire and rescue service are not to be integrated with any other systems, such as fire detection and fire alarm systems and smoke control systems.

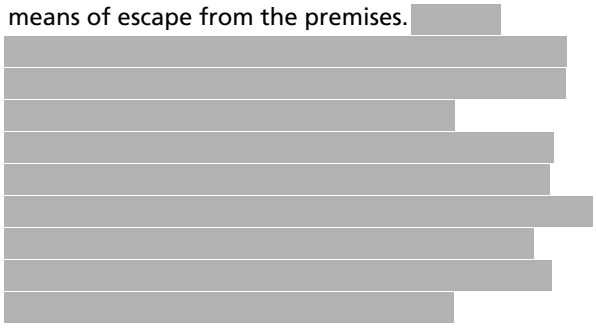
It is likely that use of these systems will expand to other parts of the UK and, possibly, even some existing blocks of flats. However, as in the case of other facilities for use by the fire and rescue service, it is unlikely that an FRA will identify a need for retrospective installation of such a system. In particular, as advised in BS 8629, it is not appropriate to provide a system as a means of mitigating shortcomings in other fire protection measures, such as compartmentation; deficiencies in compartmentation need either to be rectified or to result in a simultaneous evacuation strategy, supported by a suitable fire detection and fire alarm system.

15.1 The FRA should include, as a minimum, details, or a description, of:

a) means for detecting fire and giving warning to occupants;

***NOTE 1** In a purpose-built block of flats, there is normally no fire detection and fire alarm system in the common parts, nor is such a system normally recommended. (In some modern, complex or larger developments, there might be public or ancillary areas which are served by a fire detection and fire alarm system, in which case PAS 79-1 might apply.) Care is necessary not to confuse fire detection provided as part of a smoke control system, which does not normally incorporate fire alarm sounders, with a fire alarm system. Fire detection within the flats is only considered in a Type 3 or Type 4 FRA for purpose-built blocks of flats, and in FRAs for other forms of housing, comprising most sheltered housing, extra care housing, supported housing and HMOs.*

b) means of escape from the premises.



***NOTE 2** A short description of the means of escape is of value in subsequent FRAs, in that it can enable changes since the time of the previous FRA to be identified.*

c) fire safety signs and notices;

NOTE 3 *In many housing premises, no signs might be necessary, but there might be a need for fire procedure/fire action notices.*

d) emergency escape lighting;

e) means to limit spread and development of fire;

f) any obvious concerns regarding the hazard of fire spread over external walls;

g) means for fighting fire;

h) other relevant fire protection systems and equipment; and

i) facilities to assist firefighters.

15.2 The extent to which fire protection measures are necessary, and the adequacy of existing measures, should be determined, and shortcomings in such measures should be addressed within the action plan (see Clause **19**).

NOTE 1 *It is always necessary for there to be adequate means of escape in the event of fire.*

NOTE 2 *The FRA does not normally involve a detailed engineering evaluation of fire protection systems and equipment, but a recommendation for such an evaluation might be included in the action plan if there are doubts about the adequacy of the system.*

NOTE 3 *A Type 1 or Type 3 FRA, the former of which is the default FRA for compliance with the relevant fire safety legislation (in premises that fall within the scope of the legislation), does not involve opening up the structure of the premises, such as cutting holes in, or removal of, sections of walls, ceilings partitions, etc. If a dutyholder requires such an "intrusive" inspection, this would involve a Type 2 or Type 4 FRA, and a requirement for this type of FRA would need to be made clear to the fire risk assessor. However, such an inspection can be recommended in the action plan of the FRA, subject to justification based on evidence of probable shortcomings in the compartmentation.*

15.3 The purpose of assessing the fire protection measures described in **15.1** is to determine their contribution to safety of occupants in the event of fire. However, none of these measures should be assessed in total isolation of the other measures; account should be taken of the effect of the entire package of measures (including relevant managerial arrangements) on the consequences of fire to life safety.

15.4 The role, appropriate extent, and the cause and effect strategy, for automatic fire detection and fire alarm systems, and their adequacy, should be addressed.

15.5 In a Type 3 and Type 4 FRA, the means for warning any identified Deaf or hard of hearing occupants in the event of a fire in their own accommodation should be addressed.

15.6 Means of escape should be assessed taking into account the factors discussed in Annex C.

15.7 In sheltered and extra care housing, it should be confirmed in the FRA that there is a secure premises information box that contains relevant information in relation to disabled residents, including PEEPs for each disabled resident (unless this information is held by staff who are permanently on the premises).

NOTE *Further guidance is given in the LGA guide [1] and equivalent guidance produced by Scottish Government [2]. Consideration of this matter is likely to be appropriate in the case of certain types of specialized housing, such as supported housing. Further guidance is given in the NFCC guide [3] and the Northern Ireland HMO fire safety guide [26].*

15.8 In every FRA, a judgement should be made as to whether there is a need for emergency escape lighting. If emergency escape lighting is considered necessary, subjective judgement should be made to the adequacy of any existing emergency escape lighting.

15.9 It should be determined whether there is a need for fire safety signs, particularly those associated with assistance in use of escape routes. The adequacy of existing signs should be determined.

15.10 The need for, and the adequacy of the type, number and siting of, manual firefighting appliances should be determined.

NOTE *Normally, fire extinguishers are unnecessary in the common parts of blocks of flats, sheltered housing and extra care housing, but extinguishers are normally necessary in certain other areas of these premises (e.g. plant rooms).*

15.11 The adequacy of fire stopping, the flammability of linings and, where appropriate, the flammability of furniture and furnishings should be addressed so far as is reasonably practicable.

NOTE *It is not normally practicable to carry out a complete review of fire stopping in premises. In a Type 1 and Type 3 FRA, reliance on a visual inspection of a sample of readily accessible areas is normally adequate. More intrusive inspection is limited to Type 2 and Type 4 FRAs.*

15.12 The FRA should take account of the potential for means of escape to be compromised by ventilation and air conditioning systems.

NOTE *Although a detailed evaluation of the fire protection measures incorporated in such systems might not be practicable in the course of an FRA, where the risk to life from fire is high it might be necessary to recommend further investigation within the action plan (see Clause **19**) into the fire strategy and the cause and effect of the fire detection and fire alarm system.*

15.13 The FRA should take account of all other fire protection systems that might be present, including automatic suppression systems, smoke control systems, localized fire suppression systems, dry or wet fire mains, lifts for use by the fire and rescue service, firefighters' switches and evacuation alert systems for use by the fire and rescue service. In the case of smoke control systems, fire risk assessors should ensure that they understand the objective of the system and verify, so far as practicable, that the original design concept has not been undermined (e.g. by alterations to the premises).

NOTE *This does not imply that fire risk assessors need verify the design calculations for smoke control systems, as this would not be expected to be within the scope of their expertise. However, where there is reason to suspect that the design of the system is not adequate, further, separate evaluation could be recommended in the FRA.*

15.14 Consideration should be given to the external wall construction and, in particular, cladding. Although it might be acceptable to assume that the wall and any cladding satisfied the relevant building regulations at the time of construction of the building, the fire risk assessor should be alert to any situation in which there is good reason to suspect that the original construction, or subsequent overcladding, failed to conform to the building regulations that were current at the time of construction. In such cases, there should be further investigation, which might necessitate a recommendation for this in the action plan.

NOTE *Other than in the case of construction that is likely to pose minimal risk, such as traditional masonry construction, any fire risk appraisal and assessment of external wall construction or cladding is likely to need the skills of a specialist as it is beyond the competence of a typical fire risk assessor.*

16 Assessment of fire safety management

*COMMENTARY ON CLAUSE **16***

At the time of publication of this PAS, the government in England and Wales plan to make changes to fire safety legislation, particularly in the light of the recommendations of Phase 1 of the Public Inquiry into the Grenfell Tower fire. It is likely that many such changes will relate to management of fire safety in blocks of flats. It is important that fire risk assessors monitor, and react to, any such changes as part of their continued professional development.

The following considerations are relevant to this clause.

a) General

*In the FRA, fire safety management (see **3.45**) needs to be regarded as of equal importance to fire protection measures. In its broadest sense, fire safety management includes certain policies and procedures designed to prevent the occurrence of fire by eliminating or controlling fire hazards. However, most of these aspects of fire safety management have already been considered in Clause **13**.*

Fire safety management also includes:

1) *designated responsibility for fire safety in the premises;*
2) *access to suitable advice on the requirements of fire safety legislation;*
3) *procedures for people to follow in the event of fire, including any people with special responsibilities;*
4) *in certain housing premises, nomination of people to respond to fire and, where appropriate, to assist with evacuation;*

   ***NOTE 1** In most housing premises, there are no staff to assist residents with evacuation, nor is this required for compliance with the relevant fire safety legislation; the main exception is certain supported housing premises with a simultaneous evacuation strategy, in which residents might depend on staff to assist them with evacuation.*
5) *arrangements for liaison with the fire and rescue service, both in respect of planning for fire and, in premises with 24 h staffing, at the time of any fire;*
6) *arrangements for routine inspections of the premises and their fire precautions or for more formal fire audits (see **3.26**);*
7) *cooperation and coordination between different dutyholders;*
8) *training of staff (if any) and fire drills (see **3.28**);*

   ***NOTE 2** In most housing premises, fire drills are unnecessary and inappropriate.*
9) *provision of information to third parties;*
10) *testing and maintenance of fire protection systems and equipment;*
11) *documentation of fire safety arrangements and keeping appropriate records;*
12) *implementation of the action plan's recommendations; and*
13) *review of the FRA at appropriate intervals.*

*Points 1) to 11) are discussed in the sections of commentary that follow. Point 12) is discussed in Clause **19**, and point 13) is discussed in Clause **20**. It is important that matters in the paragraphs that follow are properly considered in the FRA and that fire safety management is taken into account in the subjective judgement of overall fire risk (see Clause **18**). Recommendations for fire safety management of residential premises can be found in BS 9991:2015, Section **9**. More detailed guidance can be found in references [1], [2], [3], [4], [6], [12], [16] and [26] (as appropriate) in the Bibliography within this PAS. BS 9997 provides requirements for an organizational fire risk management system, and can be used to audit fire risk management within an organization.*

b) Responsibility for fire safety

Although legislation does not demand that a specific, named person be responsible for fire safety within particular housing premises, it is of advantage to confirm, in the FRA, that within the organization there is someone who, in at least an administrative sense, is responsible for fire safety within the premises. The intention is not to provide a legal interpretation of responsibility, but to reflect the managerial arrangements in place at the time of the FRA. The person in question might, or might not, have a legal responsibility for breaches of legislation, etc.

*According to the manner in which the organization is structured, the person named in this section of the FRA might be a director, building manager, facilities manager, health and safety manager, fire safety manager (see **3.46**), estates manager, etc. The person might or might not work within the premises, and the responsibility could even be shared by two or more people. It is, however, important in the management of any organization that someone is, and accepts that they are, responsible for fire safety, particularly in the case of premises in which there are multiple dutyholders.*

c) Access to advice

***NOTE 3** Attention is drawn to the requirements of the relevant fire safety legislation for the appointment or nomination of one or more "competent persons" to assist in compliance with that legislation, and to the definition of "competent person" given in the relevant fire safety legislation.*

*The "competent person" required by the relevant fire safety legislation might, or might not, be the person responsible for fire safety, to which reference is made in item b) of the Commentary on Clause **16**. However, the two are often different, since the person having responsibility for fire safety might be a premises manager or scheme manager, while the "competent person" might be a trained professional in the field of fire safety or health and safety, often based in a remote location, such as a group head office.*

*The fire safety policy needs to set out the organizational structure and indicate the sources of competent assistance available to the dutyholder. Often, organizations are able to appoint one or more of their own employees for this purpose, while large organizations might appoint whole departments with specific health and safety responsibilities, including specialists in various matters, such as fire safety. Equally, if consultants are used for advice, it is necessary for their activities to be coordinated by the organization, since external consultants are usually appointed in an advisory capacity only, and their appointment does not absolve the organization from its responsibilities (see Clause **6**).*

d) Fire procedures

In the course of the FRA, there is a need to ensure that there are formal, documented procedures for people to follow in the event of fire, and that these procedures are adequate. Adequate procedures normally address:

1) *actions to follow on discovery of fire;*
2) *in properties with a fire alarm system, actions to follow on hearing the fire alarm signal;*
3) *in properties with a fire alarm system, the importance of operating the system immediately on discovery of fire;*
4) *in properties with a fire alarm system or an evacuation alert system for use by the fire and rescue service, the importance of evacuating the premises immediately when an alarm signal is given;*
5) *any special arrangements for evacuation of disabled occupants;*
6) *in premises with staff, the policy on firefighting by employees;*
7) *the summoning of the fire and rescue service;*
8) *in premises with a simultaneous evacuation strategy, the location of the evacuation assembly point(s); and*
9) *the importance of not attempting to re-enter the premises after evacuation until instructed to do so by the fire and rescue service.*

***NOTE 4** In cases of false alarms that the fire and rescue service do not attend, the decision to re-enter the premises needs to be taken by the person in charge.*

In housing premises with staff, there might be a need for dedicated procedures for any staff with special duties in the event of fire. These could include, for example, staff in supported housing, a scheme manager (when present) in sheltered housing, or care staff in extra care housing.

e) Nomination of people with special duties in the event of fire

*In carrying out the FRA, there is a need to ensure that any staff (as well as all residents) are aware of the means for summoning the fire and rescue service in the event of fire. The arrangements are expected to form part of the fire procedures for the premises [see item d) of the Commentary on Clause **16**], but it might be the case that summoning the fire and rescue service is the responsibility of a nominated post-holder, such as care staff in supported and extra care housing. Even if there are means for automatic transmission of fire alarm signals to an alarm receiving centre, defined procedures are still needed (particularly where staff are present) for summoning the fire and rescue service by means of the public emergency call system.*

In premises with 24 h staffing and a simultaneous evacuation strategy, the fire risk assessor also needs to investigate the adequacy of any defined arrangements for ensuring that the premises are evacuated, and to ensure there is suitable control, coordination and monitoring of evacuation procedures. Information on the status of the evacuation is of importance to the fire and rescue service when they arrive at the premises.

***NOTE 5** Attention is drawn to the requirements of the relevant fire safety legislation regarding the nomination of people to assist in evacuation.*

In supported housing with a simultaneous evacuation strategy, if residents need assistance to evacuate, it is appropriate to consider, within the FRA, whether sufficient levels of staff are present to ensure the safety of residents during both day and night. This normally necessitates discussions with the care provider.

***NOTE 6** Arrangements whereby staff are required to evacuate one or more residents from the property and then re-enter to assist further residents are unlikely to be adequate.*

f) Liaison with the fire and rescue service

In large and complex premises, it is important that there are arrangements for local fire and rescue service crews to familiarize themselves with the premises and with, for example, the facilities for firefighting and smoke control. While there are legislative requirements imposed on fire and rescue services in this respect, it can be beneficial for dutyholders to be proactive in inviting the fire and rescue service to carry out familiarization visits. In some such premises, there might be a need for predetermining emergency procedures with the fire and rescue service. In addition, it is important that the fire procedures for the premises include arrangements for summoning of the fire and rescue service in the event of fire and meeting the fire and rescue service on arrival.

g) Routine inspections

The FRA is somewhat similar to the MOT inspection of a car, in that it reflects the conditions found by an assessor at a particular point in time. There is, however, a need to ensure that, on a more routine basis, there are means for detecting deficiencies in fire precautions. Accordingly, it is appropriate for the fire risk assessor to investigate arrangements for routine inspections of the fire precautions.

Such inspections need little or no specialist knowledge, but can make a major contribution towards the maintenance of adequate fire precautions by checking that, for example, means of escape remain unobstructed, self-closing fire doors operate correctly, fire exit doors that are not in normal use open easily and there is no storage in escape routes that need to remain relatively sterile. Sometimes these matters are addressed in the course of health and safety inspections or more specific fire audits. Often, more frequent day-to-day inspections, of a basic nature, can be carried out by, for example, a scheme manager in sheltered housing or the caretaker of a block of flats (subject to very simple instruction or training). It is important that adequate procedures are in place to enable any deficiencies identified in the course of routine inspections to be reported and subsequently addressed (e.g. within the scope of a maintenance schedule).

h) Staff training and fire drills

Most housing premises do not have 24 h staff, but it is necessary to provide fire safety training to any staff (even if working part time in the premises) who are present. This would particularly apply to scheme managers in sheltered housing, care staff in extra care housing, and care and support staff in sheltered housing.

However, fire drills are not normally carried out in housing premises, even if there is a simultaneous evacuation strategy. Nevertheless, drills might be of assistance in some supported housing, if they would assist in imparting an understanding of fire procedures to residents who might have difficulty in this respect because of cognitive difficulties.

***NOTE 7** Attention is drawn to the requirements of the relevant fire safety legislation for adequate training for employees.*

*If fire safety induction training (see **3.44**) of any staff is appropriate, fire safety refresher training (see **3.50**) needs to be given periodically. The frequency of refresher training needs to take into account the turnover of staff, the complexity of the premises and their fire procedures, and the fire risk. There might be a need to provide additional, or dedicated, training for people who have special responsibilities in the event of fire.*

i) Provision of information for third parties

Where the employees of third parties work in the premises of a dutyholder, the dutyholder needs to ensure that adequate information on fire procedures and relevant fire precautions is passed on to their employer, and that the employees have been given the relevant information. Such third parties include contractors working on the premises and contract cleaners.

***NOTE 8** Attention is drawn to the requirements of the relevant fire safety legislation for the provision of information to third parties who work, or employ people to work, on the premises.*

j) Testing and maintenance of fire protection measures

The fire risk assessor needs to ensure that there are adequate arrangements for testing and maintenance of all fire protection measures. There is also a need to ensure that the workplace itself is adequately maintained in order to avoid certain fire hazards.

***NOTE 9** Attention is drawn to the requirements of the relevant fire safety legislation for testing and maintenance of fire precautions required by that legislation, and for testing and maintenance of facilities, systems and equipment required under other legislation (e.g. building regulations) for the use by, or safety of, firefighters. Examples of the latter facilities include rising mains, fire-fighting lifts and evacuation alert systems for use by the fire and rescue service. Requirements and recommendations for testing and maintenance of systems are given in the relevant British Standards for the particular systems and equipment.*

k) Record keeping

*The relevant fire safety legislation requires appropriate arrangements to be put in place for the effective planning, organization, control, monitoring and review of the measures that the FRA identifies as being necessary for compliance with that legislation. Other than in the case of certain small businesses, it is a legal requirement for these arrangements to be recorded. Therefore, there is a need for a fire safety manual for the premises (see **3.47**).*

It is not necessarily specifically required that records of training, inspection, testing, maintenance, etc., are kept. Nevertheless, such records are an important means of demonstrating, if required, that all legislative obligations have been satisfied. It is, therefore, relevant for the fire risk assessor to consider any records that exist and to make recommendations, where appropriate, for keeping of suitable records. These records can also be important in demonstrating that there have been no breaches of good practice that could result in litigation in the event of injury to an occupant of the premises in the event of fire.

Where there is a fire detection and fire alarm system, it is also good practice (though not required by the relevant fire safety legislation) to maintain records of false alarms. Dutyholders might be unaware of the value of keeping these records. It is therefore beneficial for fire risk assessors to remind dutyholders of the importance of such records, particularly in buildings with a large number of smoke detectors. This can enable unacceptable rates of false alarms, and the need for action in respect of these, to be identified.

l) Cooperation and coordination between dutyholders

*Where two or more organizations share responsibility for fire safety, the safety of all occupants can be achieved only if the organizations cooperate with one another and coordinate their fire safety measures. It is not uncommon for there to be multiple dutyholders in, for example, supported housing. For example, these might comprise a landlord, a housing association, which leases the property, and a care provider; the local authority that places persons in the property might, arguably, be a further dutyholder. In such cases, it is essential that there is a record of the agreed responsibilities of each dutyholder and that this is checked for adequacy and accuracy in the FRA [see also item l) of the Commentary on Clause **16**]. For further information, see references [6], [12] and [16] in the Bibliography within this PAS.*

*Annex F contains a model matrix for recording the responsibilities for fire safety measures in those specialized housing premises in which there are multiple dutyholders under the relevant fire safety legislation. The purpose of the matrix is to ensure that the responsibilities of each dutyholder are clear to all dutyholders and that none of these responsibilities are overlooked. The matrix can form part of the fire safety manual (see **3.47**) and can be regarded as part of the record of the fire safety arrangements that is required by the relevant fire safety legislation [see item k) of the Commentary on Clause **16**].*

In England and Wales, dutyholders in a block of flats can include those occupying domestic premises to which the relevant fire safety legislation does not generally apply (i.e. the flats); the safety of all persons in the block might rely on fire protection measures in the individual flats. This is particularly true of the flat entrance doors, which need to be fire-resisting and self-closing. Commonly, under a lease, the doors are demised to leaseholders, making them dutyholders under the relevant fire safety legislation. Where, uncommonly, there is a simultaneous evacuation strategy, fire detectors in the dwellings are likely to be part of the measures required under the Fire Safety Order [5].

In all housing, it is important that housing providers and other relevant dutyholders engage and communicate with residents in relation to fire safety; this is particularly important in blocks of flats, sheltered housing and extra care housing. In these buildings, it is important that residents are provided with the following information:

1) measures to prevent fire in their own flat and in the common parts;

2) the importance of maintaining their block secure and being vigilant for deliberate fire setting;

3) the need to avoid the storage of petrol, bottled gas and other dangerous substances in their flats, on their balcony or in shared areas;

4) action in the event of fire;

5) the means of escape from their flats and the building;

6) in buildings with a stay put strategy, a clear explanation of what this strategy entails;

7) the responsibility of residents to safeguard communal escape routes;

8) the policy regarding housekeeping in the common parts;

9) the importance of not carrying out alterations that could be detrimental to fire safety;

10) the importance of routine testing of smoke alarms;

11) the importance of avoiding obstruction of fire and rescue service access to the block and to fire main inlets and landing valves (where provided); and

12) means for reporting defects in fire safety measures within their flat and the common parts.

Residents' handbooks are one means of communicating this information, which can also be included on any website of the housing provider. Notices within the building and leafleting of residents can also assist in keeping the relevant information fresh in the minds of residents. It is important that, for those residents for whom English is not their first language, written advice is presented in alternative languages.

Other means of communicating information to residents include periodic meetings. At any meeting with residents, there is an opportunity to remind them of fire procedures, fire prevention measures, the importance of provision, and testing, of smoke alarms, etc. Engagement with residents needs to facilitate residents' voices to enable expression of any concerns in respect of fire safety. This also provides an opportunity to identify the need for support to residents from other agencies. Such engagement needs the cooperation of occupants, who need to contribute to a dialogue with dutyholders.

16.1 The FRA should record the name(s) or post(s) of the person(s) responsible for fire safety in the premises.

16.2 It should be verified that there are arrangements for obtaining competent advice on the requirements of fire safety legislation. The source of such advice should be recorded in the documented FRA (see Clause **10**).

16.3 In the course of the FRA, the following matters should be taken into account. Any shortcomings in these matters should be identified in the documented FRA and should be addressed in the action plan (see Clause **19**):

a) the fire procedures, including procedures for any people with special responsibilities in the event of fire;

b) any arrangements for summoning the fire and rescue service in the event of fire;

c) information on any staff who respond to a fire in the premises;

d) information on any people who assist with evacuation (e.g. of disabled people);

e) any arrangements for liaison with the fire and rescue service;

f) arrangements for routine inspections of the premises and their fire precautions;

g) in the case of premises with multiple dutyholders under the relevant fire safety legislation, arrangements for cooperation and coordination between different dutyholders;

h) training of any staff;

i) fire drills (though these are not normally necessary or appropriate);

j) arrangements for engagement with residents to provide relevant fire safety information;

k) provision of information to third parties;

l) testing and maintenance of fire protection systems and equipment by a competent person (including systems and equipment installed for use by, or for the safety of, firefighters);

m) maintenance of the premises;

n) records of false alarm information as described in BS 5839-6:2019, **27.2**; and

o) other appropriate records, including, normally, a fire safety manual.

16.4 Where, in specialized housing, there are multiple dutyholders under the relevant fire safety legislation, the fire risk assessor should check that a matrix of responsibilities (see Annex F) has been completed, remains accurate and is working effectively.

17 Assessment of likely consequences of fire

*COMMENTARY ON CLAUSE **17***

*After all fire protection measures and all aspects of fire safety management have been assessed, the fire risk assessor is in a position to make an assessment of the likely consequences of fire, taking account of the factors concerning the premises and their occupants (see Clause **12**). As well as consideration of fire protection measures and matters such as fire procedures, account needs to be taken of human behaviour. It is not, for example, appropriate for the FRA to assume perfection in the response of people to fire alarm signals, particularly in the case of specialized housing. Account needs to be taken of the manner in which the known occupants of the premises are likely to behave in the event of fire.*

*It would be possible, in theory, to associate different consequences of fire with different fire scenarios arising from each of the fire hazards identified in the fire hazard identification step of the FRA (see Clause **13**). However, this would make the FRA process unnecessarily complex and unduly lengthy. Usually, it is sufficient to assess the most likely consequences of a fire in the premises, taking into account the range of fire scenarios that can reasonably be anticipated, and assuming that normally only one fire occurs at any one time (i.e. generally discounting multiple seats of fire).*

The assessment of likely consequences needs to take into account the extent of injury that would occur to occupants in anticipated scenarios, and the number of occupants likely to be affected. Consequences are more serious if a greater number of occupants are affected. Equally, serious consequences include, for example, a situation in which there is a high likelihood that a small number of occupants will be subject to serious injury in the event of fire.

The likely consequences of fire need not, and usually cannot, be expressed in a statistical manner (e.g. probability of death or serious injury). All that is required is a subjective judgement that classifies likely consequences of fire into one of several predetermined categories. Since the assessment of these factors is subjective, the use of numbers to express the likely consequences of fire does not confer any greater accuracy to the assessment of fire risk.

The predetermined categories of likely consequences of fire may be described in the form of words, such as "slight harm", "moderate harm" and "extreme harm", provided these terms are defined, or in the form of numbers (e.g. 1, 2 and 3), but there is a need for at least three categories. However, if likely consequences are expressed in the form of numbers, care is necessary to ensure that it is not implied, for instance, that a score for likely consequences of "2" indicates that fire is twice as likely to result in casualties compared to a score of "1".

There is no upper limit to the number of categories of likely consequences that can be adopted in the FRA process. However, if too many categories are adopted, the distinctions between categories are meaningless. Moreover, if the same FRA process is then applied to numerous different premises (e.g. within the estate of a single housing provider), particularly by different fire risk assessors, assessments of the likely consequences of fire are likely to be inconsistent, and the benefits of comparing fire risk in different premises (e.g. for the purpose of prioritizing improvements on a building-by-building basis) are then lost.

*One common practice for the assessment of fire risk (see Clause **18**) is for fire risk to be determined by means of combining the assessment of the likelihood of fire and the assessment of the likely consequences of fire, using a matrix. It is this method that is suggested in this PAS. Where such an approach is adopted, it is helpful to use the same number of categories for both likelihood of fire and likely consequences of fire.*

*In assessing the likely consequences of fire, for the purpose of carrying out the FRA to which this PAS relates, it is not normally necessary, or appropriate, to carry out calculations of the type used in the practice of fire safety engineering (see **3.43**). However, the principles of fire safety engineering may be used, in a subjective manner, to assess the likely consequences of fire, using the principle of "timelines" that forms the basis of fire safety engineering (see Figure 3).*

*In Figure 3, which is a simplified version of a similar figure in BS 7974:2019, for premises with simultaneous evacuation, the RSET (see **3.80**) is broken down into a number of components, namely:*

a) the time between ignition of a fire and detection of the fire (whether by occupants or by an automatic fire detection system);

b) the time between detection and the giving of the alarm warning to relevant occupants;

c) the time between the giving of the alarm warning to relevant occupants and the recognition by these occupants that the alarm warning is a warning of fire;

d) the time between this recognition and the response by occupants (i.e. the time to begin evacuation); and

e) the time between response and completion of evacuation of occupants to a place of ultimate safety.

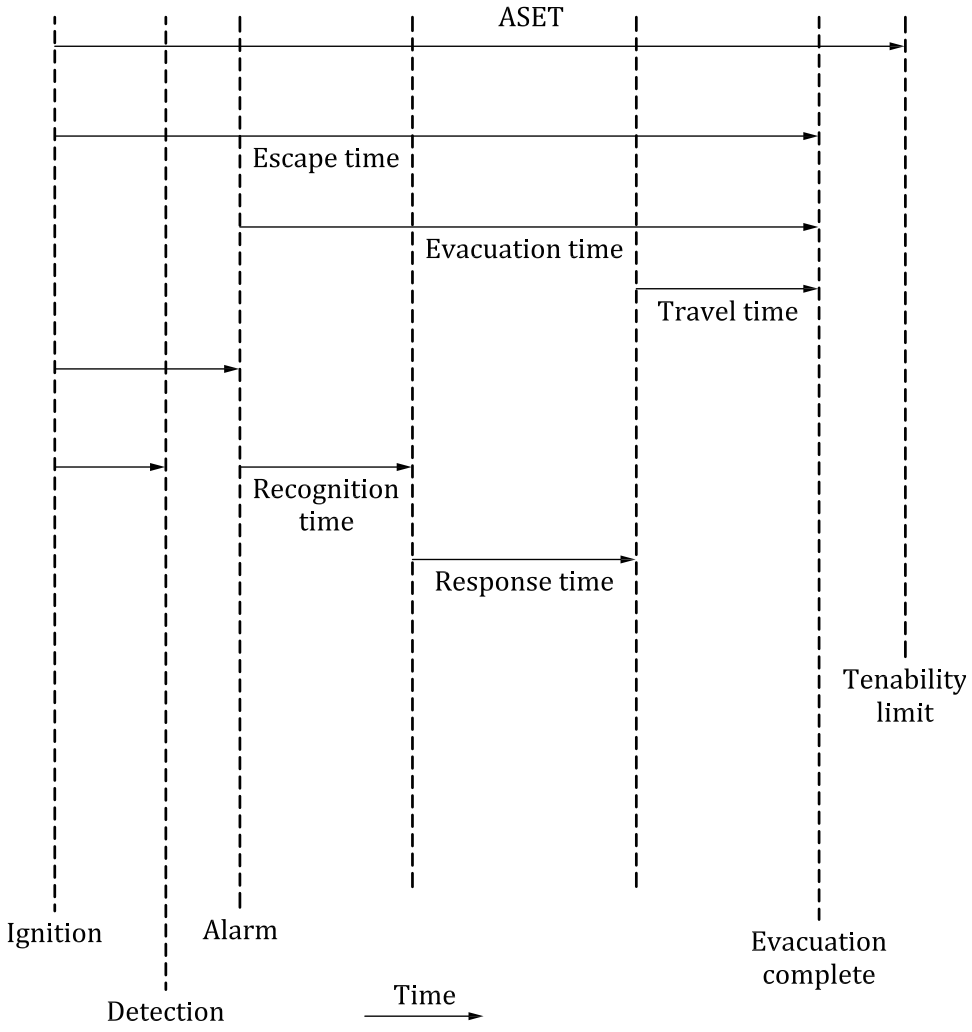
*The RSET, so derived, is then compared with the ASET (see **3.6**). For safe evacuation of occupants, the ASET needs to be significantly longer than the RSET. In the FRA, Figure 3 is particularly useful in forming the basis for an analytical approach to situations in which evacuation, when required, might be prolonged as a result of the characteristics of residents. Account can then be taken of fire precautions (whether existing or proposed in the action plan) that extend the ASET (e.g. measures to extinguish or suppress the fire or to control smoke).*

17.1 In the process of every FRA, an assessment should be made of the likely consequences of fire.

***NOTE** It is usual and acceptable for the likely consequences of fire to be expressed subjectively (e.g. "slight harm", "moderate harm" or "extreme harm").*

17.2 If, in the FRA methodology adopted, a matrix is used to combine the likelihood of fire and the likely consequences of fire in order to determine the fire risk, the number of predetermined categories of likely consequences of fire should be the same as the number of predetermined categories of likelihood of fire (see Clause **14**).

Figure 3 – Example of timeline comparison between ASET and RSET



18 Assessment of fire risk

*COMMENTARY ON CLAUSE **18***

It is innate to the process of carrying out an FRA that there be an assessment of fire risk, which it is then appropriate to document. The assessment of fire risk enables the (usually subjectively based) fire risk in one premises to be compared with the fire risk in other premises (e.g. within the single estate of one organization), so identifying those premises in greatest need of attention. Even applied to single premises in isolation, the assessment of fire risk can provide a useful descriptor that imparts a sense of the magnitude of fire risk.

*The categories for classification of fire risk are derived from those used to determine the likelihood and likely consequences of fire (see Clause **14** and Clause **17**). Whereas it is normally sufficient to classify likelihood of fire, or likely consequences of fire, into one of three predetermined categories, a greater number of categories of fire risk is normally appropriate in order to cater for the range of levels of fire risk that can occur. Thus, a minimum of five predetermined categories of fire risk is normally appropriate.*

The category of fire risk for any premises can be determined by combination of the likelihood of fire and the likely consequences of fire, using a matrix; this is a method of risk assessment commonly adopted in the field of health and safety.

The advantage of this approach is that it tends to result in relatively consistent assessments of risk (and, hence, fire risk) by different risk assessors; the risk assessor need select from the matrix only one of three levels of likelihood and one of three levels of likely consequences, but can derive thereby any one of five levels of fire risk.

18.1 In the process of every FRA, an assessment should be made of the fire risk in the premises.

***NOTE** It is usual and acceptable for the fire risk to be expressed in terms of one of a number of predetermined categories of risk (e.g. "trivial", "tolerable", "moderate", "substantial" or "intolerable").*

18.2 If, in the FRA methodology adopted, fire risk is expressed in terms of one of several predetermined categories, there should be at least five predetermined categories.

18.3 The FRA methodology adopted should be such that there is a transparent means for combining the likelihood of fire and the likely consequences of fire to derive the fire risk.

***NOTE** Table 1 shows an example matrix of categories of likelihood and consequences that can be adopted in assessment of fire risk.*

Table 1 – An example of a simple risk level estimator

Likelihood of fire	Classification of fire risk		
	Likely consequences of fire		
	Slight harm	Moderate harm	Extreme harm
Low	Trivial risk	Tolerable risk	Moderate risk
Medium	Tolerable risk	Moderate risk	Substantial risk
High	Moderate risk	Substantial risk	**Intolerable risk**

19 Formulation of an action plan

*COMMENTARY ON CLAUSE **19***

*The outcome, and indeed the principal raison d'être, of the FRA is the action plan. The action plan comprises recommendations that are intended to ensure that the fire risk is reduced to, or maintained at, a tolerable level (see **3.93**). Even if the fire risk is already tolerable, there is often a need to make recommendations in the action plan, often involving low cost or changes in managerial arrangements, to address minor deficiencies in fire precautions.*

In formulating an action plan for premises in which the fire risk has been assessed as unacceptably high, the subjective but analytical approach to fire risk assessment permits backtracking to determine whether, in effect, the problem arises from inadequate fire prevention (i.e. inadequate means for control or elimination of fire hazards), inadequate fire protection (e.g. unsatisfactory means of escape or fire warning systems), shortcomings in fire safety management, or a combination of these.

The action plan is an inventory of actions, normally prioritized and time-constrained, to devise, maintain or improve controls. Where appropriate, the inventory includes measures to eliminate or control hazards (e.g. better separation of combustible materials from ignition sources). A blend of physical and procedural controls is often necessary.

The adequacy of the action plan needs to be tested, at least in the mind of the fire risk assessor, before it is finalized. At that stage, it is appropriate to ask the following questions.

a) Will the revised controls lead to tolerable fire risk levels?

b) Could any of the recommended actions create new hazards to health and safety?

c) Have the most cost-effective solutions been chosen?

d) What will residents affected think about the need for, and practicality of, the revised fire precautions?

e) Will the revised fire precautions be adopted and maintained in practice and not ignored in the face of, for example, normal use of the premises?

All of these questions have a relevance to any action plan, the objective of which is to achieve tolerable risk, but without the creation of new hazards.

*The fire precautions proposed ought to be the most cost-effective available; often a single fire safety objective (see **3.48**) can be satisfied by a variety of measures.*

The practicality of fire precautions, and their acceptability to residents, are also essential. There is no point in installing self-closing fire doors in the corridors of sheltered housing if discussion with those who best know the residents would have revealed that they would be such an impediment to older or disabled residents that they would always be wedged in the open position. Equally, if this is clear from discussion with those who manage the premises, the problem can be pre-empted by installing fire doors that are held open by automatic door release mechanisms, which release the self-closing doors on operation of smoke detectors in the corridor.

It is normally appropriate to allocate priorities to each measure recommended in the action plan, to reflect the urgency of the measure, as determined in the FRA. (This might be unnecessary if, for example, most of the recommended measures are minor in nature and will be implemented in the short term in any case.)

If prioritization is appropriate, it is often helpful to have a scheme of prioritization that is suitable for the way in which the organization operates and projects are planned. There is no right or wrong scheme of prioritization, but, whatever scheme is adopted, it needs to be simple to understand, facilitate consistent application and be relatively unambiguous as far as allocation of priorities is concerned. This suggests that it is appropriate for there to be no more than three or four priorities.

A simple scheme might have only four priorities, such as:

1) immediate (to be implemented as soon as possible), including, where relevant, interim measures necessary to ensure the safety of occupants until permanent measures can be implemented;

2) short term (to be implemented within, perhaps, three months);

3) medium term (to be implemented within, perhaps, three to six months); and

4) long term (to be implemented as and when the opportunity arises, such as at the time of replacement of a fire door or refurbishment of premises).

Many other systems of prioritization are possible. For example, priorities might distinguish between matters that constitute breaches of legislation and those that do not.

***NOTE** Under the relevant fire safety legislation, breach of the requirements of the legislation in respect of fire precautions constitutes a criminal offence only if the breach results in the risk of serious injury or death of one or more persons who are lawfully on the premises, or in the immediate vicinity of the premises, in the event of fire.*

Therefore, for example, a possible scheme of prioritization could be:

i) serious breach of legislation, having the potential for serious injury to occupants;

ii) matters that breach legislation but are not considered to constitute a serious threat to life safety; and

iii) matters that need to be addressed as good practice, but that do not constitute a significant threat to occupants.

The implications, in terms of timescales, etc., would naturally flow from this.

Yet another possible scheme could take into account both the cost benefit and the practicality of implementation. For example, minor housekeeping items could be regarded as suitable for immediate implementation, simply because there is no reason to delay doing so, regardless of whether there is a major benefit to the safety of occupants. However, matters that might address a greater threat to residents might be impossible to implement immediately, in the literal sense of the term, simply because specifications need to be drawn up, tenders obtained, etc.

In some circumstances, the risk to persons might be so serious that the risk assessor needs to ensure that a suitable representative of the dutyholder is informed immediately, before the assessor leaves the premises. A record of the circumstances needs to be recorded in the FRA, with, where relevant, a suitable recommendation to preclude the recurrence of these circumstances.

Where FRAs are carried out for a large number of premises of similar type, on behalf of a single dutyholder, there can be advantage in an analysis of all the action plans produced, to give an overview to the dutyholder regarding the state of their portfolio of properties, common problems and prioritization of the premises in which capital work might be necessary. In this situation, there is a need for procedures to be in place to ensure the consistency of the FRAs, particularly if they are carried out by more than one fire risk assessor.

19.1 Every documented FRA should incorporate an action plan. If the fire risk and existing fire precautions are such that no recommendations for improvements are necessary, it should be explicit within the FRA that, in the opinion of the fire risk assessor, the only actions necessary are those to maintain the existing standard of fire precautions.

***NOTE** The action plan is sometimes, more simply, described as "recommendations", particularly when the FRA is carried out by a third-party fire risk assessor (see **3.92**).*

19.2 The action plan should be such that, if implemented, it will reduce fire risk to, or maintain fire risk at, a tolerable level.

19.3 Where appropriate, the action plan should address both physical fire precautions and managerial issues.

19.4 The action plan should be both practicable to implement and possible to maintain, taking into account the nature of the premises and the residents.

19.5 The measures recommended in the action plan should be cost-effective in reducing fire risk. They should be "reasonably practicable", meaning that the cost, time and trouble involved in implementing any measure are not grossly disproportionate to the risk if the measure is not implemented.

19.6 No new significant hazards to health and safety should result from implementation of the action plan.

19.7 The action plan should contain information regarding the appropriate effort and urgency associated with the measures recommended. Effort and urgency should be proportionate to fire risk, but financial considerations should also be taken into account, though only in relation to the fire risk, and not in relation to the ability of the dutyholder to pay for the recommended actions; this avoids a situation in which persons in one premises are placed at greater risk than persons in another premises, simply because the first dutyholder is less able to afford fire precautions than the second dutyholder.

19.8 Where relevant, the action plan should recommend matters for further investigation by the dutyholder, and areas that need to be checked by the dutyholder (e.g. where relevant information and access to certain areas were not available at the time of the FRA).

19.9 Where FRAs are carried out for a number of properties on behalf of a single dutyholder, there should be arrangements in place to ensure the consistency of the FRAs in terms of the assessment of risk and the actions specified in the action plan to address the risk.

NOTE *Such quality assurance procedures are normally required under third-party certification schemes for fire risk assessment companies; other than in the case of sole traders, this involves independent validation of each FRA by someone other than the person who carried out the FRA.*

19.10 When the FRA is provided to the dutyholder, the attention of the dutyholder should be drawn to the presence of the action plan and the need to implement any recommendations therein.

20 Periodic review of fire risk assessments

*COMMENTARY ON CLAUSE **20***

*The documented FRA is not intended to be a fire safety manual (see **3.47**), albeit that such a manual is a valuable asset in the management of fire safety, particularly in large or complex premises. However, the FRA is a living document, in that it cannot remain valid for an unlimited length of time.*

The FRA is likely to cease to be valid when, for example:

*a) a material alteration (see **3.63**) takes place;*

*b) a significant change occurs in the "given" factors that were taken into account when the FRA was carried out (see Commentary on Clause **5**);*

c) a significant change in fire precautions occurs.

Significant changes in the "given" factors could, for example, comprise occupation of supported housing by significantly more disabled residents or a change in the level of staffing of premises in which staff are employed. Significant changes in fire precautions include major changes in the provision or design of fire protection measures and major changes in the measures for control or elimination of fire hazards, but also include changes resulting from more gradual deterioration of fire precautions as a result of constant use or lack of maintenance (e.g. wear and tear on fire doors). Gradual changes can also occur as a result of changes in management, turnover of employees and minor changes in layout that, after a prolonged period and numerous changes, have a significant effect on means of escape. It is also relevant to review the FRA after any fire.

It follows, therefore, that, when any of the acute step changes described in items a) to c) above occur, the FRA needs to be reviewed. There might also be a need for approval of such changes under building regulations. Approval of changes by the authority that enforces the relevant fire safety legislation is not necessary, unless an "alterations notice" under the legislation requires that proposed alterations to the premises be notified to the enforcing authority. However, as gradual changes over a long period of time can also affect the validity of the FRA, there is a need for regular review of the FRA, even if there are no obvious changes that affect its validity. In FRAs carried out in accordance with this PAS, judgement of the maximum period after which the FRA needs to be reviewed on a routine basis is actually part of the FRA process.

When the FRA is reviewed, consideration needs to be given to the extent to which the original action plan has been implemented. Work that has not been completed needs to be identified.

*There is no correct or incorrect frequency for the regular review of the FRA. This is a matter for the judgement of the fire risk assessor and, to some extent, the organization's own fire safety policy (see **3.49**). It is, however, appropriate to take account of the likely frequency of significant changes.*

A best practice default is commonly annual review of FRAs. However, as a general guide, for a low risk, modern, low-rise block of general needs flats (e.g. a block of no more than three storeys above ground, built within the last 20 years), a review every two years might be sufficient, with a new FRA completed every four years. For blocks with higher risk (arising from social factors, the age of the building, etc.) and blocks over four storeys in height, an annual review might be more appropriate, with a new FRA every three years. In extreme cases, for the highest risk premises, an annual FRA might be appropriate. However, it is not intended that these suggested frequencies are applied prescriptively, as they are not intended to be rigid "rules".

More frequent reviews might be appropriate where risk to residents is high as the result of impairments. As a general guide, for a low risk, modern, low-rise sheltered housing block (e.g. a block of no more than three storeys above ground, built within the last 20 years), a review every year might be sufficient, with a new FRA completed every three years. For specialized housing with higher risk (arising from residents' disabilities, the age of the building, etc.), and premises of over four storeys in height, an annual review, with a new FRA every two years, might be more appropriate. For the highest risk premises, an annual full FRA might be appropriate. Again, these suggested frequencies are not intended to be applied prescriptively.

Review of the FRA is not synonymous with a new assessment. Equally, however, in a regular review, all aspects of the original FRA might need to be revisited to check that they have not been subject to change; this emphasizes the importance of adequate recording of the significant findings of the original FRA, so that the basis for its conclusions can be readily re-examined. On the other hand, if the review has arisen purely as the result of a specific material alteration, it might be the case that a limited review is sufficient.

The original FRA, in conjunction with one or more documented reviews, constitutes a form of audit trail that demonstrates ongoing control of fire safety. After a period of time in which there have, for example, been several reviews in which significant changes and the need for new risk control measures have been identified, the audit trail is likely to become unwieldy. At that stage, the documentation of a new and complete FRA might be appropriate. Typically, not more than two reviews will be carried out before the next new and complete FRA.

20.1 The FRA should be subject to review when:

a) material alterations to the premises take place;
b) a significant change occurs in the matters taken into account when the FRA was carried out;
c) a significant change in fire precautions occurs;
d) there is any other reason to suspect that the original FRA might no longer be valid (this might include the occurrence of a fire); and
e) a defined period of time, which is expected to have been recorded in the original FRA [see **11.1**i)], has elapsed.

NOTE *Annex D contains a pro forma that is considered a suitable and sufficient means for documenting a review of an existing FRA. The pro forma contained in Annex D is only a model, in that, if completed by a competent person (see Clause **7**), the scope of the documented review of the FRA will normally conform to the recommendations of this PAS. Equally, the format of a documented FRA may vary from that shown in Annex D, provided that all recommendations of this PAS are satisfied.*

20.2 When the FRA is reviewed, it should be confirmed whether any work recommended in the original action plan has been carried out.

20.3 When determining the frequency of the FRA review, account should be taken of:

a) the likely frequency of significant alterations to the premises, or to the nature of the residents;
b) the period after which major changes in fire precautions are likely to have taken place as a result of the measures recommended in the action plan; and
c) the level of fire risk.

20.4 The FRA review should explicitly address the issues included in the original FRA, albeit that less detail in the record of the significant findings is necessary, particularly in respect of fire precautions that have not changed since the original FRA.

20.5 The FRA review should record the name of the fire risk assessor(s) performing the review, the date(s) on which the review was carried out and the name(s) of the principal person(s) with whom there was consultation (e.g. for supply of relevant information) at the time of the review. It should also be clear as to the number of reviews that have been carried out since the previous FRA.

20.6 The FRA review should record the date by which the next periodic review is to be carried out.

21 Type 2, Type 3 and Type 4 fire risk assessments

*COMMENTARY ON CLAUSE **21***

The following considerations are relevant to this clause.

a) General

*Clause **4** to Clause **20** are (other than as explicitly indicated) concerned solely with a Type 1 FRA (see **3.95**); this is the default FRA necessary for compliance with the relevant fire safety legislation. This current clause is concerned with Type 2, Type 3 and Type 4 FRAs (see **3.96**, **3.97** and **3.98** respectively). These FRAs are relevant only for buildings in which there are a number of independent, self-contained units of living accommodation, usually with a stay put strategy (see **3.89**), such as blocks of flats, sheltered housing and extra care housing, but not most supported housing.*

***NOTE 1** The terms "Type 1", "Type 2", "Type 3" and "Type 4" are used in guidance that supports fire safety legislation in England and Wales, in which FRAs are required for the common parts of blocks of flats. These terms are not used in the equivalent guidance in Scotland, as the common parts of blocks of flats in Scotland (and Northern Ireland) do not require an FRA under the fire safety legislation in these devolved regions.*

When, in the course of a visual inspection as part of a Type 1 FRA, there is a basis for doubt in relation to the adequacy of structural fire protection (such as inadequate compartmentation, poor fire stopping or inadequate fire protection in flats), the action plan of that FRA might recommend that one of the other types of FRA be carried out (or that further investigation be carried out by specialists). These other types of FRA are normally "one-off" exercises, subsequent to which further FRA reviews follow the principles of a Type 1 FRA.

Since a Type 1 FRA is necessary for compliance with the relevant fire safety legislation, the scope of Type 2, Type 3 and Type 4 FRAs always includes the scope of a Type 1 FRA, but involves additional inspection work. The nature and extent of this additional inspection work depends on many factors, particularly the reason for conducting the type of FRA in question. Therefore, relevant factors include:

1) *known or suspected deficiencies in compartmentation, or concern regarding the layout of means of escape within flats;*
2) *the findings of the inspection carried out for the purpose of the Type 1 FRA (e.g. evidence of poor compartmentation that warrants further investigation, or identification of inadequate means of escape within individual flats);*
3) *any requirements of an enforcing authority in relation to the building (e.g. a requirement that, because of the enforcing authority's concerns regarding compartmentation, a Type 2 or Type 4 FRA be carried out);*
4) *concern on the part of the dutyholder regarding an absence of any records of the history of alterations and other work carried out in the building [e.g. by a previous dutyholder(s)];*
5) *in the case of Type 2 and Type 4 FRAs, the practicality of intrusive inspection work, taking into account the acceptability of the resulting damage and disruption, as well as the need to avoid disturbance of asbestos;*

   ***NOTE 2** In the case of buildings constructed before 2000, before cutting into walls or ceilings, etc., there is a need to confirm, by reference to the asbestos register required by the Control of Asbestos Regulations 2012 [35], that there will be no undue risk of exposure of occupants, including the contractor carrying out the work, to asbestos.*

   ***NOTE 3** It is commonly the case, in a Type 4 FRA, that opening up of construction in flats is only practicable in vacant flats.*
6) *in the case of a Type 3 FRA, concern on the part of a dutyholder (such as a landlord or freeholder) that the fire protection measures within flats might not be adequate to ensure the safety of residents within their own flat, even though this is beyond the scope of the relevant fire safety legislation;*
7) *the power of entry to flats; in the case of long leasehold flats, there might be no power under the lease to carry out Type 3 or Type 4 FRAs, though it is normally feasible and necessary for freeholders to arrange entry to a sample of flats for the purpose of a Type 1 FRA; and*
8) *the findings of the inspections (e.g. if, in an initial sample of intrusive inspections or examination of layouts of flats, significant issues are identified, further inspection work might be carried out).*

It is the responsibility of the dutyholder, not the fire risk assessor, to determine whether a Type 2, Type 3 or Type 4 FRA needs to be carried out, in which case this needs to be made explicit in instructions to the fire risk assessor (e.g. a specification for the FRA).

FRAs of the type now described as Type 1 have been carried out for blocks of flats under the relevant fire safety legislation since 2006 (and also for workplaces generally since 1997). In contrast, the concept of Type 2, Type 3 and Type 4 FRAs was first developed in 2011. Moreover, the vast majority of FRAs for housing premises comprise Type 1 FRAs. Accordingly, it is difficult, at the time of publication of this PAS, to codify any recognized custom and practice in relation to Type 2, Type 3 and Type 4 FRAs.

Every Type 2, Type 3 and Type 4 FRA needs to be "tailor made" for the premises in question, thereby necessitating agreement between the person for whom the FRA is carried out and the fire risk assessor. The agreement needs to address the exact scope of inspection work over and above that required for a Type 1 FRA, so, in Type 2 and Type 4 FRAs, the agreement needs to include the number and locations of areas in which there is to be opening up of construction; for Type 3 FRAs, the number of flats to be inspected needs to be specified.

b) Type 2 FRAs (involving intrusive inspection in the common parts)

The scope and objectives of a Type 2 FRA are generally similar to those of a Type 1 FRA, except that there is a degree of intrusive inspection, carried out on a sampling basis. This usually necessitates the presence of a contractor for the purpose of opening up construction and making good after the inspection.

In order to check the integrity of separating construction, the areas in which destructive inspection is carried out might sometimes include a sample of flats. However, because of the nature of the work, this can often only be carried out in vacant flats.

A Type 2 FRA is usually carried out only if there is good reason to suspect serious structural deficiencies that could lead to spread of fire beyond the flat of fire origin. The age of the block alone is not generally sufficient to warrant a Type 2 inspection. The need for a Type 2 FRA is sometimes identified in a Type 1 FRA, but is not simply recommended as a matter of course in all Type 1 FRAs.

c) Type 3 FRAs (involving non-intrusive inspection of the common parts and a sample of flats)

A Type 3 FRA includes the work involved in a Type 1 FRA, but goes beyond the scope of the relevant fire safety legislation (though not the scope of housing legislation). Type 3 FRAs consider the arrangements for means of escape and fire detection (normally smoke alarms) within at least a sample of the flats. Within the flats, the inspection is non-destructive, but the fire resistance of doors to rooms is considered.

Measures to prevent fire are not considered unless (e.g. in the case of maintenance of the electrical and heating installations) the measures are within the control of, for example, the landlord.

A Type 3 FRA might sometimes be appropriate for rented flats if there is reason to suspect serious risk to residents in the event of a fire in their flats. (This might be, for example, because of the age of the block or reason for suspicion of widespread, unauthorized material alterations). This type of FRA is not possible in long leasehold flats, as there is normally no right of access for freeholders.

Considerations within flats include matters such as travel distance, protection of hallways (where relevant), ease of opening of the flat entrance door, inner rooms (if any), means of escape from upper levels of maisonettes, and provision of smoke alarms (and heat alarms, if present or necessary). Care needs to be taken to identify and address bedrooms that are inner rooms and that have no suitable escape window, as can sometimes be found in old blocks of flats, or where unauthorized alterations have taken place to make a flat more open plan.

d) Type 4 FRAs (involving intrusive inspection of the common parts and a sample of flats)

A Type 4 FRA has the same scope of work as a Type 3 FRA, except that there is a degree of intrusive inspection, in both the common parts and the flats, carried out on a sampling basis. This usually necessitates the presence of a contractor for the purpose of opening up construction and making good after the inspection. However, the nature of the work is such that, often, destructive inspection within flats can only be carried out in those that are vacant.

This is the most comprehensive FRA, but is appropriate only in limited circumstances, such as when a new landlord takes over a block of flats in which the history of works carried out is unknown and there is reason to suspect serious risk to residents from both a fire in their own flats and a fire in neighbours' flats.

*Within the flats, as well as considering the safety of residents in the event of a fire in their own flat, consideration is given to the potential for fire to spread internally from that flat to other flats. Routes to consider are riser shafts running within the flats, bathroom and kitchen extract ducts (though these might also be regarded as falling within the scope of a Type 1 FRA [see item g) of the Commentary on Clause **15**], drainage pipework and other penetrations for other services, such as gas and electricity.*

21.1 If a dutyholder requires a Type 2, Type 3 or Type 4 FRA to be carried out, this should be made explicit and clear in the instructions to the fire risk assessor.

21.2 The scope of the FRA should be appropriate for the type of FRA in question, and it should be agreed between the person who requires the FRA and the fire risk assessor. In particular, the number and location of sample areas for intrusive inspection, and the sample number of flats that are to be inspected, should be subject to agreement.

***NOTE 1** It might be appropriate to extend the number of samples if the findings of the initial sample suggest that significant widespread deficiencies exist.*

***NOTE 2** Typically, in a Type 2 FRA, intrusive inspections are carried out in a minimum of around four areas.*

***NOTE 3** In a Type 3 FRA, it is appropriate to inspect at least one sample of each flat archetype.*

***NOTE 4** Access to flats for the purpose of a Type 4 FRA might be restricted to those that are vacant. However, it is appropriate, if practicable, to carry out intrusive inspections within at least one sample of each flat archetype.*

21.3 The matters that should be addressed in each type of FRA should be appropriate to the type of FRA (see Commentary on this clause).

21.4 The findings of the Type 2, Type 3 or Type 4 FRA should be set out in one of the following ways, subject to the distinction in the action plan between actions required for compliance with the relevant fire safety legislation and actions recommended beyond those necessary for compliance with the legislation:

a) a completely separate document from the documented Type 1 FRA; or

b) an appendix to the Type 1 FRA; or

c) incorporated in a single composite FRA, setting out the findings of the various types of FRA in a single document, subject to clear identification of matters that are not relevant to compliance with the relevant fire safety legislation.

***NOTE** The findings of a Type 2 and Type 4 FRA (e.g. in respect of compartmentation) might be relevant to compliance with the relevant fire safety legislation.*

22 Person-centred fire risk assessments

*COMMENTARY ON CLAUSE **22***

*A person-centred FRA (see **3.71**) is an assessment of the risk from fire focused on a specific resident, carried out with the involvement of the resident, taking into account the physical and cognitive characteristics of the resident, their lifestyle preferences and a contextualized consideration of relevant behavioural history. The outcome is a proportionate person-centred action plan that takes into account informed decision-making and dignity of the resident, while resulting in tolerable risk from fire.*

Person-centred FRAs are outside the scope of the relevant fire safety legislation and are separate from the four types of FRA to which this PAS principally relates. As such, this PAS does not give detailed recommendations for person-centred FRAs. However, reference to person-centred FRAs is included within this clause, as they are relevant in the case of specialized housing, and to make clear the distinction between a person-centred FRA and the four types of FRA to which this PAS principally relates. Where a vulnerable person in a general needs block of flats comes to the attention of a dutyholder, a person-centred FRA can be carried out to identify additional measures to mitigate the risk arising from their vulnerability.

The vast majority of fires in specialized housing occur within residents' own accommodation. Consequently, the vast majority of deaths and serious injuries to residents from fires in specialized housing result from fires that start within a person's own accommodation (and often the room in which the fire starts). The fires, and the deaths or serious injuries that occur from them, are not normally the result of inadequate design of the residents' private accommodation or deficiencies in fire safety measures therein. The likelihood of fire and the consequential risk to residents normally arises from the characteristics of the residents themselves.

The person-centred FRA focuses on the characteristics of each individual vulnerable resident, in particular the likelihood that they might start a fire, the potential for the fire to develop (e.g. as a result of hoarding behaviour), their capability and mental capacity to respond to a warning of fire (or sight of a fire) and their ability to then escape from the fire.

Residents of specialized housing range from active older people to those who require 24 h care. In some cases, residents of specialized housing can be almost indistinguishable from residents of general needs housing. For these residents, a person-centred approach to fire precautions is unnecessary; it will be obvious that no additional fire precautions are necessary.

At the other extreme, the distinction between a care home and a form of specialized housing might largely be an administrative matter of funding, organizational structure and the source of care provision.

While specialized housing, by definition, does not constitute a residential care home, where residents of specialized housing have the same levels of need and are at the same potential risk from fire as residents of a residential care home, it is generally appropriate to provide measures to ensure a similar level of fire safety, based on a person-centred FRA.

Detailed guidance on the steps involved in carrying out a person-centred FRA is given in Part D of Fire safety in specialised housing *[3], published by the National Fire Chiefs Council. Annex E of this PAS contains a model pro forma for a person-centred FRA, which is reproduced from* Fire safety in specialised housing *with the permission of the National Fire Chiefs Council.*

22.1 Where relevant, fire risk assessors should draw the attention of dutyholders to the potential need to carry out a person-centred FRA for vulnerable residents in specialized housing.

22.2 Where, as the outcome of a person-centred FRA, dutyholders identify undue risk to vulnerable persons, they should seek the advice of specialists as appropriate.

Annex A (informative) Model pro forma for documentation of a fire risk assessment

A.1 This annex contains a model pro forma for documentation of an FRA in England and Wales. (Electronic versions, including modified pro formas for use in Scotland and Northern Ireland, are available online at https://documentportal.bsigroup.com using access code PAS 79:2020.) If the pro forma is properly completed by a competent person, the format and scope of the FRA will be suitable and sufficient to satisfy the recommendations of this PAS.

NOTE *Enforcement of fire safety legislation is the prerogative of the enforcing authority charged by legislation with the responsibility to do so. Each enforcing authority is autonomous. There is sometimes debate as to the legal interpretation of what constitutes the significant findings of an FRA. However, the format of the pro forma contained in this annex, being part of a BSI PAS, is considered by the National Fire Chiefs Council to be one suitable format for recording the significant findings of a suitable and sufficient FRA, although many other formats would also be acceptable.*

A.2 The format of a documented FRA may vary from that shown in this annex, provided that the recommendations of each clause of this PAS are satisfied. For example, in the case of means of escape, compliance with Annex C necessitates that the key factors in Table C.1 are explicitly addressed in the documented FRA, but not all the specific issues shown in Table C.1 and in the pro forma contained in this annex need necessarily be included in all documented FRAs conforming to the recommendations of this PAS, as they might not all constitute "significant findings". It is, however, necessary for compliance with this PAS, that the specific issues have, at least, been considered by the fire risk assessor while carrying out the FRA.

A.3 Similarly, the prompt-list of fire hazards shown in the pro forma may be expanded. This might be appropriate, for example, if there are significant fire hazards for which no headings are included in the pro forma.

A.4 Where description of any fire hazards or fire precautions is considered appropriate, this can be recorded under the appropriate "Relevant information (including description of arrangements and deficiencies observed)" heading in the pro forma. These sections can also be used to set out justification for acceptance of standards of any fire protection measures that depart significantly from a prescriptive norm (see **10.4**). Information recorded can include positive findings as well as deficiencies, as this helps to contextualize the assessment of risk.

A.5 While it might not be essential to record further information in every section of the pro forma, care needs to be taken to ensure that the pro forma does not become purely a tick-list with inadequate supporting information. Such an FRA is unlikely to satisfy fire safety legislation, nor would it meet the recommendations of this PAS.

A.6 For many types of housing, obtaining relevant information for completion of the pro forma in this annex can prove challenging (e.g. because there is no one who can provide the information available on the premises). Under these circumstances, the "No" box should be ticked and an explanation recorded under "Relevant information (including description of arrangements and deficiencies observed)".

A.7 Within the pro forma in this annex, for each main topic, the clause within this PAS that provides guidance on that topic is shown in parentheses alongside the topic heading. This is for the guidance of the user of this PAS, and the clause references need not be shown in the documented fire assessment provided to the dutyholder.

A.8 For further guidance on the use of the pro forma, an exemplar of a completed FRA is contained in Annex G.

REGULATORY REFORM (FIRE SAFETY) ORDER 2005
FIRE RISK ASSESSMENT

Responsible person (e.g. employer) or person having control of the premises:	
Address of premises:	
Person(s) consulted:	
Assessor:	
Report validated by:	
Date of fire risk assessment:	
Date of previous fire risk assessment:	
Suggested date for review:	

This report is intended to assist you in compliance with Article 9 of the Regulatory Reform (Fire Safety) Order 2005 (the 'Fire Safety Order'), which requires that a risk assessment be carried out.

[Date]

GENERAL INFORMATION

1. THE PREMISES (*Clause 12)*

1.1	Number of floors at ground level and above:	
	Number of floors entirely below ground level:	
	Floors on which car parking is provided:	
1.2	Number of flats:	

1.3 Brief details of construction and approximate age of building:

1.4 Occupancy:

2. THE OCCUPANTS *(Clause 12)*

2.1	Approximate maximum number of employees at any one time:	
2.2	Approximate maximum number of residents and visitors at any one time:	

3. OCCUPANTS ESPECIALLY AT RISK FROM FIRE *(Clause 12)*

3.1	Sleeping occupants:	
3.2	Occupants in remote areas and lone workers:	
3.3	Others:	

4. FIRE LOSS EXPERIENCE

5. OTHER RELEVANT INFORMATION

6. RELEVANT FIRE SAFETY LEGISLATION

6.1 The following fire safety legislation applies to these premises:

6.2 The above legislation is enforced by:

6.3 Other legislation that makes significant requirements for fire precautions in these premises [other than the Building Regulations 2010 (as amended)]:

6.4 The other legislation referred to above is enforced by:

6.5 Is there an alterations notice in force? Yes ☐ No ☐

Relevant information and deficiencies observed:

FIRE HAZARDS AND THEIR ELIMINATION OR CONTROL

7. ELECTRICAL SOURCES OF IGNITION *(Clause 13 and Annex B)*

7.1 Are reasonable measures taken to prevent fires of electrical origin? Yes ☐ No ☐

7.2 More specifically:

a) Are fixed installations periodically inspected and tested? N/A ☐ Yes ☐ No ☐

b) Is portable appliance testing carried out? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

8. SMOKING *(Clause 13 and Annex B)*

8.1 Are reasonable measures taken to prevent fires as a result of smoking? Yes ☐ No ☐

8.2 More specifically:

a) Is smoking prohibited in appropriate areas? N/A ☐ Yes ☐ No ☐

b) Are there suitable arrangements for those who wish to smoke? N/A ☐ Yes ☐ No ☐

c) Did the smoking policy appear to be observed at time of inspection? N/A ☐ Yes ☐ No ☐

d) Are "No smoking" signs provided in the common areas? Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

9. ARSON *(Clause 13 and Annex B)*

9.1 Does basic security against arson by outsiders appear reasonable[1)]? Yes ☐ No ☐

9.2 Is there an absence of unnecessary fire load in close proximity to the premises or available for ignition by outsiders? Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

[1)] Reasonable only in the context of this fire risk assessment. If specific advice on security (including security against arson) is required, this should be obtained from a security specialist.

10. PORTABLE HEATERS AND HEATING AND VENTILATION INSTALLATIONS *(Clause 13 and Annex B)*

10.1 Is there satisfactory control over the use of portable heaters? N/A ☐ Yes ☐ No ☐

10.2 Are fixed heating and ventilation installations subject to regular maintenance? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

11. COOKING *(Clause 13 and Annex B)*

11.1 Are reasonable measures taken to prevent fires as a result of cooking? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

12. LIGHTNING *(Clause 13 and Annex B)*

12.1 Does the building have a lightning protection system? Yes ☐ No ☐

Relevant information and deficiencies observed:

13. HOUSEKEEPING *(Clause 13 and Annex B)*

13.1 Is the overall standard of housekeeping adequate? Yes ☐ No ☐

13.2 More specifically:

a) Do combustible materials appear to be separated from ignition sources? Yes ☐ No ☐

b) Is unnecessary accumulation or inappropriate storage of combustible materials or waste avoided? Yes ☐ No ☐

c) Are gas and electricity intake/meter cupboards adequately secured and kept clear of combustible materials? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

14. HAZARDS INTRODUCED BY OUTSIDE CONTRACTORS AND BUILDING WORKS
(Clause 13 and Annex B)

14.1 Is there satisfactory control over works carried out in the building by contractors? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

15. DANGEROUS SUBSTANCES[2] *(Clause 13)*

15.1 Are the general fire precautions adequate to address the hazards associated with dangerous substances used or stored within the premises[3]? N/A ☐ Yes ☐ No ☐

Relevant information and deficiencies observed:

[2] For the purpose of this risk assessment and the Fire Safety Order, dangerous substances are primarily explosive, highly flammable or flammable substances and oxidizing agents.

[3] Small quantities with negligible impact on the appropriate fire precautions need not be taken into account.

16. OTHER SIGNIFICANT FIRE HAZARDS THAT WARRANT CONSIDERATION

16.1 Hazards:

Relevant information and deficiencies observed:

FIRE PROTECTION MEASURES

17. MEANS OF ESCAPE *[Clause 15c) and Annex C]*

17.1	Is the design and maintenance of the means of escape considered adequate?		Yes ☐	No ☐
17.2	More specifically			
	a) Are there reasonable distances of travel:			
	– where there is escape in a single direction?	N/A ☐	Yes ☐	No ☐
	– where there are alternative means of escape?	N/A ☐	Yes ☐	No ☐
	b) Is there adequate provision of exits?	N/A ☐	Yes ☐	No ☐
	c) Do fire exits open in the direction of escape, where necessary?	N/A ☐	Yes ☐	No ☐
	d) Are the arrangements provided for securing exits satisfactory?	N/A ☐	Yes ☐	No ☐
	e) Is the fire-resisting construction (including any glazing) protecting escape routes and staircases of a suitable standard and maintained in sound condition?	N/A ☐	Yes ☐	No ☐
	f) Is the fire resistance of doors to staircases and the common areas considered adequate, and are the doors maintained in sound condition?	N/A ☐	Yes ☐	No ☐
	g) Are suitable self-closing devices fitted to doors in the common areas?	N/A ☐	Yes ☐	No ☐
	h) Is the fire resistance of doors to meter cupboards/store rooms/plant rooms in the common areas considered adequate, and are they adequately secured and/or fitted with suitable self-closing devices?	N/A ☐	Yes ☐	No ☐
	i) Is the fire resistance of flat entrance doors considered adequate, and are doors maintained in sound condition?	N/A ☐	Yes ☐	No ☐
	j) Are suitable self-closing devices fitted to flat entrance doors and, where fitted, maintained in good working order?	N/A ☐	Yes ☐	No ☐
	k) Are there adequate smoke control provisions to protect the common escape routes, where necessary?	N/A ☐	Yes ☐	No ☐
	l) Are all escape routes clear of obstructions?	N/A ☐	Yes ☐	No ☐
	m) Are all fire exits easily and immediately openable?	N/A ☐	Yes ☐	No ☐

n) Is it considered that the premises are provided with reasonable arrangements for means of escape for disabled people? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

18. MEASURES TO LIMIT FIRE SPREAD AND DEVELOPMENT *[Clause 15g)]*

18.1 Is it considered that there is/are:

a) adequate levels of compartmentation between floors and between flats and the common escape routes? Yes ☐ No ☐

b) reasonable limitation of linings to escape routes that might promote fire spread? Yes ☐ No ☐

c) as far as can reasonably be ascertained, reasonable fire separation within any roof space? N/A ☐ Yes ☐ No ☐

d) adequately fire protected service risers and/or ducts in common areas, that will restrict the spread of fire and smoke? N/A ☐ Yes ☐ No ☐

18.2 As far as can reasonably be ascertained, are fire dampers provided as necessary to protect critical means of escape against passage of fire, smoke and products of combustion in the early stages of a fire[4), 5)]? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

[4)] This fire risk assessment will not necessarily identify all minor fire stopping issues that might exist within the building. If you become aware of other fire stopping issues, or are concerned about the adequacy of fire stopping, you may wish to consider arranging for an invasive survey by a competent specialist.

[5)] A full investigation of the design of heating, ventilation and air conditioning systems is outside the scope of this fire risk assessment.

19. EMERGENCY ESCAPE LIGHTING *[Clause 15e)]*

19.1 Has a reasonable standard of emergency escape lighting been provided[6)]? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

[6] Based on visual inspection, but no test of illuminance levels or verification of full compliance with relevant British Standards carried out.

20. FIRE SAFETY SIGNS AND NOTICES *[Clause 15d)]*

20.1 Is there a reasonable standard of fire safety signs and notices? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

21. MEANS OF GIVING WARNING IN CASE OF FIRE *[Clause 15b)]*

21.1 Is a reasonable fire detection and fire alarm system provided in the common areas, where necessary[7]? N/A ☐ Yes ☐ No ☐

21.2 If there is a communal fire detection and fire alarm system, does it extend into the dwellings? N/A ☐ Yes ☐ No ☐

21.3 Where appropriate, has a fire alarm zone plan been provided? N/A ☐ Yes ☐ No ☐

21.4 Where appropriate, are there adequate arrangements for silencing and resetting an alarm condition? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

Relevant information on false alarm experience (if known):

[7] Based on visual inspection, but no audibility tests or verification of full compliance with relevant British Standard carried out.

22. MANUAL FIRE EXTINGUISHING APPLIANCES *[Clause 15f)]*

22.1 Is there reasonable provision of manual fire extinguishing appliances? N/A ☐ Yes ☐ No ☐

22.2 Are all fire extinguishing appliances readily accessible? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

23. RELEVANT AUTOMATIC FIRE EXTINGUISHING SYSTEMS[8)] *[Clause 15h)]*

23.1 Type of fixed system:

Relevant information and deficiencies observed:

[8)] Relevant to life safety and this risk assessment (as opposed to property protection).

24. OTHER RELEVANT FIXED SYSTEMS AND EQUIPMENT[9)] *[Clause 15i)]*

24.1 Type of fixed system:

Relevant information and deficiencies observed:

24.2 Are there appropriately sited facilities for electrical isolation of any photovoltaic (PV) cells, with appropriate signage, to assist the fire and rescue service? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

9) Relevant to life safety and this risk assessment (as opposed to property protection).

MANAGEMENT OF FIRE SAFETY

25. PROCEDURES AND ARRANGEMENTS *(Clause 16)*

25.1 Safety assistance:

The competent person(s) appointed under Article 18 of the Fire Safety Order to assist the responsible person in undertaking the preventive and protective measures (i.e. relevant general fire precautions) is:

25.2 Fire safety at the premises is managed by[10]:

25.3 Is there a suitable record of the fire safety arrangements? Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

25.4 Evacuation strategy

- ☐ Stay put
- ☐ Simultaneous evacuation
- ☐ Other (please specify below)

Comment:

25.5 Are procedures in the event of fire appropriate and properly documented, where appropriate[11)]? Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

25.6 Are routine in-house inspections of fire precautions undertaken (e.g. in the course of health and safety inspections)? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

[10)] This is not intended to represent a legal interpretation of responsibility, but merely reflects the managerial arrangement in place at the time of this risk assessment.

[11)] Based on brief review of procedures at the time of this fire risk assessment. In-depth review of documentation is outside the scope of this fire risk assessment, unless otherwise stated.

26. TRAINING AND DRILLS *[Clause 16h)]*

26.1 Are all staff given adequate fire safety instruction and training? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

26.2 When the employees of another employer work in the premises, is appropriate information on fire risks and fire safety measures provided? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27. TESTING AND MAINTENANCE *[Clause 16j)]*

27.1 Is there adequate maintenance of the premises? Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.2 Is weekly testing and periodic servicing of the fire detection and fire alarm system undertaken? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.3 Are monthly and annual testing routines in place for the emergency escape lighting? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.4 Is annual maintenance of fire extinguishing appliances undertaken? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.5 Are six-monthly inspection and annual testing of rising mains undertaken? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.6 Are weekly and monthly testing, six-monthly inspection, and annual inspection and testing undertaken of lift(s) provided for use by firefighters or evacuation of disabled people (evacuation lifts)? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

27.7 Other relevant inspections or tests:

Relevant information (including description of arrangements and deficiencies observed):

28. RECORDS *[Clause 16k)]*

28.1 Are there appropriate records of:

a) Fire alarm tests (where relevant)? N/A ☐ Yes ☐ No ☐

b) Emergency escape lighting tests? N/A ☐ Yes ☐ No ☐

c) Maintenance and testing of other fire protection systems and equipment? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

29. PREMISES INFORMATION BOX *[Clause 15c)]*

29.1 Is there a suitably located premises information box for the fire and rescue service? [12)] N/A ☐ Yes ☐ No ☐

29.2 Are there arrangements to keep the premises information box up to date? [12)] N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

[12)] Normally applicable only to sheltered and extra care housing.

30. ENGAGEMENT WITH RESIDENTS *[Clause 16l)]*

30.1 Has information on fire procedures been disseminated to residents? N/A ☐ Yes ☐ No ☐

30.2 Is fire safety information disseminated to residents? N/A ☐ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

FIRE RISK ASSESSMENT

The following simple risk level estimator is based on a commonly used risk level estimator:

Potential consequences of fire ➔ **Likelihood of fire ⬇**	**Slight harm**	**Moderate harm**	**Extreme harm**
Low	Trivial risk	Tolerable risk	Moderate risk
Medium	Tolerable risk	Moderate risk	Substantial risk
High	Moderate risk	Substantial risk	Intolerable risk

Taking into account the fire prevention measures observed at the time of this risk assessment, it is considered that the hazard from fire (likelihood of fire) at these premises is:

Low ☐ **Medium** ☐ **High** ☐

In this context, a definition of the above terms is as follows:

Low: Unusually low likelihood of fire as a result of negligible potential sources of ignition.

Medium: Normal fire hazards (e.g. potential ignition sources) for this type of occupancy, with fire hazards generally subject to appropriate controls (other than minor shortcomings).

High: Lack of adequate controls applied to one or more significant fire hazards, such as to result in significant increase in likelihood of fire.

Taking into account the nature of the premises and the occupants, as well as the fire protection and procedural arrangements observed at the time of this fire risk assessment, it is considered that the consequences for life safety in the event of fire would be:

Slight harm ☐ **Moderate harm** ☐ **Extreme harm** ☐

In this context, a definition of the above terms is as follows:

Slight harm: Outbreak of fire unlikely to result in serious injury or death of any occupant.

Moderate harm: Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants, but is unlikely to result in multiple fatalities.

Extreme harm: Significant potential for serious injury or death of one or more occupants.

Accordingly, it is considered that the risk to life from fire at these premises is:

Trivial ☐ **Tolerable** ☐ **Moderate** ☐ **Substantial** ☐ **Intolerable** ☐

Comments:

A suitable risk-based control plan should involve effort and urgency that are proportional to risk. The following risk-based control plan is based on one advocated for general health and safety risks:

Risk level	Action and timescale
Trivial	No action is required, and no detailed records need be kept.
Tolerable	No major additional controls required. However, there might be a need for improvements that involve minor or limited cost.
Moderate	It is essential that efforts are made to reduce the risk. Risk reduction measures should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures.
Substantial	Considerable resources might have to be allocated to reduce the risk. If the building is unoccupied, it should not be occupied until the risk has been reduced. If the building is occupied, urgent action should be taken.
Intolerable	Building (or relevant area) should not be occupied until the risk is reduced.

NOTE THAT, ALTHOUGH THE PURPOSE OF THIS SECTION IS TO PLACE THE FIRE RISK IN CONTEXT, THE ABOVE APPROACH TO RISK ASSESSMENT IS SUBJECTIVE AND FOR GUIDANCE ONLY. ALL HAZARDS AND DEFICIENCIES IDENTIFIED IN THIS REPORT SHOULD BE ADDRESSED BY IMPLEMENTING ALL RECOMMENDATIONS CONTAINED IN THE FOLLOWING ACTION PLAN. THE FIRE RISK ASSESSMENT SHOULD BE REPEATED REGULARLY.

ACTION PLAN

It is considered that the following actions should be implemented in order to reduce fire risk to, or maintain it at, the following level:

Trivial ☐ **Tolerable** ☐

Definition of priorities (where applicable):

Item	**Recommendation**	**Priority**	**Timescale**
1.			
2.			
Interim measures (where appropriate)			
3.			

REFERENCES

[It is normal practice for the FRA to include a list of relevant references.]

Annex B (informative) Fire hazard prompt-list

B.1 The following fire hazards are normally considered in the FRA:

a) electrical faults, the fire hazard of which needs to be addressed by periodic inspection and testing of fixed electrical installations, portable appliance testing (e.g. of any portable electrical equipment supplied to tenants or in offices);

b) smoking, which, other than within residents' own dwellings, is controlled under legislation, assisted by suitable signage;

c) malicious ignition, the hazard of which can be addressed by suitable security of the building to prevent malicious ignition by outsiders (e.g. electronic access control in blocks of flats) and avoidance of unnecessary fire load in close proximity to the building;

d) improper use of portable heaters, which, other than in residents' own dwellings, ought to be avoided as far as possible, and ought to be limited to appliances that are the least hazardous;

e) faults in fixed heating installations, which ought to be subject to regular maintenance;

f) use of cooking appliances (e.g. in communal lounges and kitchens in sheltered housing), giving rise to the need for the availability of suitable fire extinguishing appliances, cleaning of any filters and ductwork in ventilation extract facilities that might be found in larger kitchens, etc;

g) lightning, the hazard of which is addressed by lightning protection in taller buildings;

NOTE *Compared with the other fire hazards described above, lightning is not a significant cause of fire. For example, in 2019–2020, lightning is known to have caused only nine fires in dwellings (0.03% of all fires in dwellings in England). None of these fires occurred in blocks of flats, and none resulted in a fatality.*

h) contractors' operations, in respect of which there is a need for suitable contract conditions and site control, particularly in relation to "hot work", involving cutting, welding, use of blowlamps, etc; and

i) poor housekeeping, necessitating control over combustible materials in common parts and suitable policies in relation to storage of mobility scooters and electric vehicles.

B.2 Comprehensive guidance on the typical fire hazards found in housing premises, and means for their control or elimination, is given in the following publications, which contain comprehensive bibliographies relating to specific fire hazards:

- *Fire safety in purpose-built blocks of flats*, published by the Local Government Association [1];
- *Practical fire safety guidance for existing high rise domestic buildings*, published by Scottish Government [2];
- *Fire safety in specialised housing – Guidance*, published by the National Fire Chiefs Council [3];
- *Practical fire safety for existing specialised housing and similar premises*, published by Scottish Government [4];
- *Mobility scooter guidance for residential buildings*, published by NFCC [36].

Annex C (normative)
Key factors to consider in assessment of means of escape

C.1 The key factors shown in Table C.1 should always be explicitly considered in assessment of means of escape. Most of the factors are quite broad and encompass a number of more specific issues. These key factors can be used as a form of prompt-list and should, therefore, normally be shown in the documented FRA (see Clause **10**), as proof that they have been considered.

C.2 The more specific issues should always be considered in the FRA process, but might or might not be explicitly shown in the documented FRA.

NOTE *Where the experience of the fire risk assessor is limited, it might be of value for at least some of the specific issues to be included in the pro forma used, so that they act as prompts or reminders to the fire risk assessor.*

C.3 Where it is determined that there are significant departures in compliance of any key factor or specific issue with recognized guidance or codes of practice, but it is considered that the departures are acceptable (and, hence, no relevant recommendation needs to be made in the action plan), the reasoning behind the acceptance of each departure should be documented in the FRA (see **10.4**).

NOTE *Guidance on means of escape is contained in government guidance documents that support the relevant fire safety legislation.*

Table C.1 – Key factors and specific issues to consider in means of escape

Key factor	Specific issues to consider	Notes
Design of escape routes	• Do escape routes lead to final exits? • Do doors on means of escape open in the direction of escape where necessary? • Are doors on means of escape fitted with appropriate panic bolts or latches? • Will occupants of inner rooms (see **3.57**) be aware of a fire in the access rooms? • Do revolving doors or sliding doors have suitable bypass doors where necessary? • Are there (and is there a need for) alternative escape routes (see **3.4**)?	—
Distances of travel	• Are travel distances (see **3.94**) reasonable? • Are travel distances in dead ends (see **3.16**) suitably limited?	Recommended maximum travel distances are given in all guidance documents and codes of practice on means of escape, but these figures should not be considered in isolation of other fire protection measures (see Commentary on Clause **15**). The likely rate of fire development, and the consequent time available for escape, need to be taken into account.
Protection of escape routes	• Are escape routes, such as staircases, dead end corridors, bedroom corridors, etc., protected (see **3.77**) where necessary? • Are all fire doors properly selfclosing, kept locked shut or only held open by suitable, correctly functioning automatic door release mechanisms (see **3.5**)?	Where automatic door release mechanisms are used, it is important to ensure that there is adequate provision of suitably sited smoke detectors and that the interface with the fire alarm system is appropriate. Recommendations are given in BS 7273-4.
Adequate provision of exits and escape routes	• Is there a sufficient number of fire exits and escape routes? • Are the number and widths of fire exits and escape routes sufficient for the number of occupants?	Methods of calculating exit capacity are given in all codes of practice that cover means of escape.

Table C.1 – Fire hazards, elimination or control measures and relevant codes of practice *(continued)*

Fire hazard	Typical key measures for control or elimination of the fire hazard	Relevant code of practice or guidance document
Exits easily and immediately openable	• Are fire exits easily openable without, for example, the use of a key? • Is there only a single means of securing each fire exit? • Where necessary, do the means of securing fire exits comprise panic bolts (see **3.68**) or panic latches (see **3.69**)? • Where electronic locking is used, is its use acceptable, and are the means of releasing the locks suitable?	Recommendations on the interface between fire detection and fire alarm systems and electronically secured doors are given in BS 7273-4.
Escape routes unobstructed	• Are escape routes kept unobstructed? • Are adequate widths of corridors and other escape routes maintained at all times?	Escape route widths should be sufficient for the number of people who need to use the escape route.

Annex D (informative) Model pro forma for documentation of a review of an existing fire risk assessment

D.1 This annex contains a pro forma for documentation of a review of an existing FRA in England and Wales. (Electronic versions, including modified pro formas for use in Scotland and Northern Ireland, are available online at https://documentportal.bsigroup.com using access code PAS 79:2020.) If the pro forma is properly completed by a competent person, the format and scope of the review will be suitable and sufficient to satisfy the recommendations in Clause **20**.

D.2 The format of the documented review may vary from that shown in this annex, provided the recommendations in Clause **20** are satisfied. For example, the level to which principal issues are broken down into their component factors may vary, provided it is clear that the principal issues addressed in the original FRA have been addressed, or that the scope of the review is limited to, for example, a material alteration that has resulted in the review (see Clause **20**).

NOTE *A review of an FRA does not necessarily involve completion of a pro forma, but this annex offers a record of the review that may be made.*

REGULATORY REFORM (FIRE SAFETY) ORDER 2005
PERIODIC REVIEW OF FIRE RISK ASSESSMENT

Responsible person (e.g. employer) or person having control of the premises:	
Address of premises:	
Person(s) consulted:	
Assessor:	
Date of this fire risk assessment review:	
Date of full fire risk assessment that is under review:	
Date(s) of full fire risk assessment review(s):	
Review number (e.g. 1 or 2):	
Suggested date for next review[1)]: OR	
Suggested date for next full fire risk assessment:	

The purpose of this report is to provide an assessment of the risk to life from fire in these premises and, where appropriate, to make recommendations to ensure compliance with fire safety legislation. The report does not address the risk to property or business continuity from fire.

[Date]

1) The original fire risk assessment should be reviewed again, or a full fire risk assessment undertaken, by a competent person by the date indicated above or at such earlier time as there is reason to suspect that it is no longer valid or if there has been a significant change in the matters to which it relates, or if a fire occurs.

GENERAL INFORMATION

1. Significant changes identified since the time of the previous fire risk assessment in respect

1.1 The premises:

1.2 The occupancy:

1.3 The occupants (including occupants especially at risk from fire):

1.4 Fire loss experience:

1.5 Application of fire safety legislation:

1.6 Other relevant information:

FIRE HAZARDS AND THEIR ELIMINATION OR CONTROL

2. Significant changes in measures to prevent fire since the time of the fire risk assessment:

3.1 Are there adequate measures to prevent fire? Yes ☐ No ☐

3.2 Comments and hazards observed:

4.1 Are housekeeping and maintenance adequate? Yes ☐ No ☐

4.2 Comments and deficiencies observed:

FIRE PROTECTION MEASURES

5.1 Significant changes in fire protection measures since the time of the fire risk assessment:

6.1 Are the means of escape from fire adequate? Yes ☐ No ☐

6.2 Comments and deficiencies observed:

7.1 Are compartmentation and linings satisfactory?[2)] Yes ☐ No ☐

7.2 Comments and deficiencies observed:

8.1 Is there reasonable emergency escape lighting?[3)] Yes ☐ No ☐

8.2 Comments and deficiencies observed:

9.1 Are there adequate fire safety signs and notices? Yes ☐ No ☐

9.2 Comments and deficiencies observed:

2) Based on a sample inspection of readily accessible areas.

3) Based on visual inspection only.

10.1 Are the means of giving warning of fire adequate?[4)] Yes ☐ No ☐

10.2 Comments and deficiencies observed:

11.1 Is the provision of fire extinguishing appliances adequate? Yes ☐ No ☐

11.2 Comments and deficiencies observed:

12.1 Comments on other fixed fire protection systems:

4) Based on visual inspection only.

MANAGEMENT OF FIRE SAFETY

13.1 Significant changes in management of fire safety since the time of the fire risk assessment:

14.1 Are arrangements for management of fire safety adequate? Yes ☐ No ☐

14.2 Comments and deficiencies observed:

15.1 Are fire procedures adequate? Yes ☐ No ☐

15.2 Comments and deficiencies observed:

16.1 Are the arrangements for staff training and fire drills adequate? Yes ☐ No ☐

16.2 Comments and deficiencies observed:

17.1 Are the arrangements for testing and maintenance of fire protection systems and equipment adequate? Yes ☐ No ☐

17.2 Comments and deficiencies observed:

18.1 Are there adequate records of testing, maintenance, training and drills? Yes ☐ No ☐

18.2 Comments and deficiencies observed:

19 Are there continuing arrangements for the premises information box to be kept up to date? N/A ☐ Yes ☐ No ☐

20.1 Are there continuing arrangements for engagement with residents? N/A ☐ Yes ☐ No ☐

20.2 Comments and deficiencies observed:

FIRE RISK ASSESSMENT

On the basis of the criteria set out in the original fire risk assessment, it is considered that the current risk to life from fire at these premises is:

Trivial ☐ **Tolerable** ☐ **Moderate** ☐ **Substantial** ☐ **Intolerable** ☐

ACTION ON PREVIOUS ACTION PLAN

Have all previous recommendations been satisfactorily addressed?

Yes ☐ **No** ☐

Brief details of recommendations not yet implemented.

1.

NEW ACTION PLAN

It is considered that the following recommendations should be implemented, along with any outstanding actions in the original fire risk assessment/previous review, in order to reduce fire risk to, or maintain it at, the following level:

Trivial ☐ **Tolerable** ☐

Definition of priorities (where applicable):

Item	**Recommendation**	**Priority**	**Timescale**
1.			

Annex E (informative) Model pro forma for a person-centred fire risk assessment

E.1 This annex contains a model pro forma on which a person-centred FRA can be recorded. The pro forma is reproduced from *Fire safety in specialised housing [3], with the permission of the National Fire Chiefs Council.*

E.2 A person-centred FRA is quite separate from the FRA required under the relevant fire safety legislation. Its purpose is to address the risk of vulnerable residents in specialized housing from fire. In sheltered and extra care housing, a person-centred FRA is often only appropriate for high-risk residents. In supported housing, where the number of residents in any property is usually small, a person-centred FRA can easily be carried out for every resident.

E.3 The pro forma leads the user to consider the propensity of the resident to contribute to the likelihood of fire or fire development, the mental capacity of the resident to recognize and respond appropriately to fire alarm signals or signs of fire, and the ability of the resident to escape in the event of fire. The outcome of the person-centred FRA comprises a person-centred approach to fire safety for the most vulnerable residents, which can comprise measures to prevent fire, measures to protect residents if fire occurs and enhanced engagement with residents, often with input from the fire and rescue service.

E.4 Guidance on carrying out a person-centred FRA and use of the pro forma in this annex is given in Part D of *Fire safety in specialised housing [3].*

Full Address		**Resident Name**	
Date		**Name of Assessor**	
Date for review			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
Smoking	Non-smoker	No further consideration required.			
	Smokes but no signs of careless handling				
	Smokes and signs of careless handling	☐ Does not use reduced ignition propensity cigarettes. ☐ Discarded cigarettes and matches. ☐ A few burn marks found on carpets. ☐ Multiple burn marks found on carpet. ☐ Cigarette burns to clothes or furnishings. ☐ Other (please specify):			
Cooking	No cooking facilities.	No further consideration required.			
	Cooking, but no evidence or suggestion of careless behaviour.				
	Cooking and evidence or suggestion of careless behaviour.	☐ Inappropriate use of cooking equipment (e.g. microwave ovens). ☐ May occasionally leave cooking unattended. ☐ Likely to leave cooking unattended. ☐ History of alarm signals or small fires from cooking. ☐ Other (please specify):			
Electrical	Equipment safely used and maintained.	No further consideration required.			
	Extensive use of extension leads and adapters and/or electric blankets, but adequately maintained.				
	Use of extension leads and adapters and/or electric blankets, but lack of maintenance or signs of wear and tear.	☐ Cube adapters. ☐ Potential overloading of circuits. ☐ Worn equipment or cables. ☐ Electric blankets not maintained regularly. ☐ Other (please specify):			

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
Portable heaters	No use of portable heaters.	No further consideration required.			
	Portable heaters limited to oil-filled radiators or convector heaters compliant with modern standards.				
	Higher hazard portable heaters, such as fan heaters, radiant bar fires or paraffin heaters.	☐ Evidence of heaters sited too close to combustible materials. ☐ Likelihood of heaters sited too close to combustible materials. ☐ Potential for other careless use (e.g. drying clothes, warming meals, etc.). ☐ Other (please specify):			
Use of candles	No candle use.	No further consideration required.			
	Candles used, but with appropriate precautions				
	Candle use without appropriate precautions.	☐ Please specify:			
Deliberate ignition	No history of, or likely potential for, deliberate ignition.	No further consideration required.			
	No history of deliberate ignition, but some potential.	Please specify:			
	History or likelihood of deliberate ignition.	☐ Previous history of deliberate ignition. ☐ History of malicious false alarms to the fire and rescue service. ☐ Other (please specify):			
Alcohol or drug use	None.	No further consideration required.			
	Alcohol or drug use, with no other high fire risk behaviour.				
	Significant alcohol or drug use, combined with high fire risk behaviour.	☐ Evidence or likelihood of careless handling of smoking materials. ☐ Evidence or likelihood of leaving cooking unattended. ☐ Other (please specify):			
Hoarding (access)	No hoarding, or hoarding of generally non-combustible materials that do not obstruct escape routes.	No further consideration required.			
	Hoarding between clutter levels 1 and 4[7)]	☐ Hoarding confined to a single room. ☐ Hoarding in more than one room. ☐ Hoarding within escape route. Types of materials hoarded:			
	Hoarding between clutter levels 5 and 9[7)]	☐ Hoarding confined to a single room. ☐ Hoarding in more than one room. ☐ Hoarding within escape route. Types of materials hoarded:			

[7)] Visual images of clutter ratings are set out in Appendix 4 of *Fire safety in specialised housing* [3].

Hazard and risk factors	Circumstances (circle as appropriate)	Further details of current circumstances	Details of any existing control measures	Outstanding risk (Yes or No)	Additional actions required
Oxygen	No oxygen used.	No further consideration required.			
	Use of oxygen combined with high fire risk behaviour.	☐ Oxygen use combined with smoking. ☐ Other (please specify):			
Sensory impairment	None.	No further consideration required.			
	Hard of hearing, or partially sighted.	Please specify:			
	Deaf or blind.	Please specify:			
Capacity of resident to respond appropriately to fire alarm signals or signs of fire.	Fully able to respond appropriately.	No further consideration required.			
	May be slow to respond.	☐ Limited decision-making ability. ☐ Learning difficulties. ☐ Dementia. ☐ Please specify:			
	Unable to respond; would need staff assistance.	☐ Inability to make appropriate decisions. ☐ Severe learning difficulties. ☐ Dementia. ☐ Please specify:			
Ability of resident to make their way to safety.	Fully able.	No further consideration required.			
	Limited mobility, so slow to evacuate.	☐ Ability to evacuate the building. ☐ Ability to move from the room of fire origin, but not the building. ☐ Ability to move away from the fire, but not the room of fire origin.			
	No mobility without assistance.	Please specify:			
Other factors.		Please specify:			

Risk Level	Low		Medium		High	

Annex F (informative)
Model matrix of responsibilities for fire safety measures in specialized housing

F.1 This annex contains a matrix within which responsibilities for various fire safety matters can be recorded in the case of those specialized housing premises in which there are multiple dutyholders under the relevant fire safety legislation. It is reproduced from *Fire safety in specialised housing* [3], with the permission of the National Fire Chiefs Council. It serves the purpose of ensuring that each dutyholder has a clear understanding of the relevant responsibilities of that dutyholder and every other dutyholder, thereby ensuring that no responsibilities are overlooked (e.g. on the incorrect assumption that duties agreed amongst the dutyholders fall upon other dutyholders, rather than the dutyholder in question).

F.2 Use of the matrix is particularly relevant in the case of many supported housing premises, in which there is a landlord, who owns the property, a housing provider, who leases the property from the landlord, a care provider, based on the premises, who provides the care to residents, and, possibly, a managing agent; the local authority commissioner of services might also have responsibilities.

F.3 The publication *Fire safety in specialised housing* [3] recommends that, other than in specialized housing with a single dutyholder, no specialized housing be operated without completion of a matrix of this type, which then forms part of the record of fire safety arrangements required by the relevant fire safety legislation [see item k) of the Commentary on Clause **16**].

Aspect of fire safety management	Agreed responsibilities				
	Owner/ landlord	Housing provider	Managing agent or facilities managers (if different from housing provider)	Care provider	Commissioner of services
Lead dutyholder[8)]					
Building fire risk assessment					
Person-centred fire risk assessment (where appropriate)					
Testing of fire alarm system					
Maintenance of fire alarm system					
Testing of emergency lighting					
Maintenance of emergency lighting					
Testing of sprinkler system					
Maintenance of sprinkler system					
Testing of smoke vents					
Maintenance of smoke vents					
Testing of door release mechanisms					
Maintenance of door release mechanisms					
Testing of social alarm system					
Maintenance of social alarm system					
Routine housekeeping inspections, including checking fire doors, fire exit doors and condition of fire extinguishers, etc.					
Maintenance of fire doors					
Maintenance of fire extinguishers					
Maintenance of rising mains					
Maintenance of lightning protection system					
Provision of fire safety information to new residents					
Ongoing engagement with residents regarding fire prevention					
Ongoing engagement with residents to remind them of fire procedures					
Fire drills (if applicable)					
Maintaining a record of the fire safety arrangements					
Ensuring that fire procedures are up to date					
Liaison with local fire and rescue service crews					
Training of staff					
Inspections during contractors' works					
Provision of information to outside contractors					
Recording false alarms					
Holding of relevant records re testing maintenance, training, drills, etc.					

[8)] This is not intended to represent a legal interpretation of responsibility, but merely reflects the agreement amongst dutyholders in place for overseeing fire safety.

Annex G (informative)
Exemplar of a completed fire risk assessment

G.1 This annex contains an exemplar of the significant findings of an FRA, documented using the pro forma in Annex A. Its purpose is to aid clarity in the use of the pro forma in Annex A.

G.2 For ease of study, the exemplar relates to a fictional, quite simple, high-rise block of flats. The exemplar is not intended to constitute a model FRA or a counsel of perfection in relation to the level of detail recorded, which, again, for ease of study, has been kept to a relative minimum. Many FRAs, particularly for more complex premises and those with a greater number of deficiencies in fire safety, will warrant recording of more extensive detail.

G.3 Similarly, it is not intended that wording and phraseology comprise samples that are to be copied in FRAs carried out by users of this PAS.

REGULATORY REFORM (FIRE SAFETY) ORDER 2005
FIRE RISK ASSESSMENT

Responsible person (e.g. employer) or person having control of the premises:	A&B Management Ltd
Address of premises:	Derrick House, King William Estate, Anytown AN2 3BC
Person(s) consulted:	C. Humphries, Caretaker
Assessor:	Mr J. Jones MIFireE
Report validated by:	Mr B. Black BSc (Hons) FIFireE
Date of fire risk assessment:	24 February 2020
Date of previous fire risk assessment:	February 2019, by others
Suggested date for review:	February 2021

This report is intended to assist you in compliance with Article 9 of the Regulatory Reform (Fire Safety) Order 2005 (the 'Fire Safety Order'), which requires that a risk assessment be carried out.

March 2020

GENERAL INFORMATION

1. THE PREMISES

1.1	Number of floors at ground level and above:	16
	Number of floors entirely below ground level:	None
	Floors on which car parking is provided:	N/A
1.2	Number of flats:	96

1.3 Brief details of construction and approximate age of building:

A reinforced, concrete framed building, with concrete floors, external rendered brick and tiled walls, internal blockwork walls and a flat roof. Constructed around 1990.

1.4 Occupancy:

Purpose-built, multi-storey block of flats.

2. THE OCCUPANTS

2.1	Approximate maximum number of employees at any one time:	1
2.2	Approximate maximum number of residents and visitors at any one time:	240 occupants of residential flats (see Section 5 below).

3. OCCUPANTS ESPECIALLY AT RISK FROM FIRE

3.1	Sleeping occupants:	240 occupants of residential flats (see Section 5 below).
3.2	Occupants in remote areas and lone workers:	Caretaker, cleaners and occasional visiting contractors.
3.3	Others:	Occasional contractors.

4. FIRE LOSS EXPERIENCE

None known.

5. OTHER RELEVANT INFORMATION

- The premises comprise a 16 storey, purpose-built block, providing 'general needs' accommodation in self-contained flats. There are 96 flats, each of which is accessed from a ventilated lobby to the single staircase.
- The maximum numbers detailed in 2.2 and 3.1 have been estimated based on the size of the flats.
- The common parts comprise the ground floor entrance lobby, staircase, common service lobbies, plant rooms and storeroom.
- This risk assessment relates to:
  - Precautions required to protect the client's employees from fire.
  - Fire precautions within the common parts and other areas controlled by the client.
  - Fire protection systems that are the client's responsibility.
- One employee, the caretaker, is normally based in the premises. Cleaning operatives are also on site at various times and the premises are subject to periodic visits by the client's staff.
- While the occupants of the flats are 'relevant persons', the flats, as domestic dwellings, are outside the scope of the Regulatory Reform (Fire Safety) Order 2005.
- The inspection was confined to the common parts, i.e. this is a Type 1 fire risk assessment as defined in the Local Government Group's guide*, Fire Safety in Purpose-Built Blocks of Flats*.
- However, efforts were made to enter a number of flats to confirm the suitability of the fire safety measures within flats that fall within the scope of the Fire Safety Order. Flats entered were numbers 214, 212, 303, 405, 611, 755, 1201, 1610 and 1609.
- This is a 'general needs' block. Residents are likely to include some with various physical disabilities.

6. RELEVANT FIRE SAFETY LEGISLATION

6.1 The following fire safety legislation applies to these premises:

Regulatory Reform (Fire Safety) Order 2005.

6.2 The above legislation is enforced by:

Surrey Fire and Rescue Authority.

6.3 Other legislation that makes significant requirements for fire precautions in these premises [other than the Building Regulations 2010 (as amended)]:

Housing Act 2004.

6.4 The other legislation referred to above is enforced by:

Local authority.

6.5 Is there an alterations notice in force? Yes ☐ No ☑

Relevant information and deficiencies observed:

None.

FIRE HAZARDS AND THEIR ELIMINATION OR CONTROL

7. ELECTRICAL SOURCES OF IGNITION

7.1 Are reasonable measures taken to prevent fires of electrical origin? Yes ☑ No ☐

7.2 More specifically:

a) Are fixed installations periodically inspected and tested? N/A ☐ Yes ☑ No ☐

b) Is portable appliance testing carried out? N/A ☑ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- The client's policy is to subject the installations serving the common parts of the premises to periodic inspection and test every five years, and those within tenanted flats to inspection and test every 10 years.
- There are no portable electrical appliances within the common parts.
- Inspection and testing of all electrical installations was carried out in December 2018.

8. SMOKING

8.1 Are reasonable measures taken to prevent fires as a result of smoking? Yes ✓ No

8.2 More specifically:

a) Is smoking prohibited in appropriate areas? N/A Yes ✓ No

b) Are there suitable arrangements for those who wish to smoke? N/A Yes ✓ No

c) Did the smoking policy appear to be observed at time of inspection? N/A Yes ✓ No

d) Are "No smoking" signs provided in the common areas? Yes ✓ No

Relevant information (including description of arrangements and deficiencies observed):

- Smoking is not permitted in the common areas.
- Not considered in relation to flats.
- A 'No Smoking' sign is displayed in the entrance lobby.

9. ARSON

9.1 Does basic security against arson by outsiders appear reasonable[1)]? Yes ✓ No

9.2 Is there an absence of unnecessary fire load in close proximity to the premises or available for ignition by outsiders? Yes ✓ No

9.3 Relevant information (including description of arrangements and deficiencies observed):

- The main entrance door to the premises is fitted with an electronic door entry system, the lock of which fails safe in the event of failure of the normal power supply, and the standby supply, to the lock.
- CCTV is installed in the entrance, in the lift and around the external areas of the building.
- The main refuse bins are located in a secure ground-floor bin chute room. Waste is removed from site on a weekly basis.
- Instances of antisocial behaviour are monitored by the client.

1) Reasonable only in the context of this fire risk assessment. If specific advice on security (including security against arson) is required, this should be obtained from a security specialist.

10. PORTABLE HEATERS AND HEATING AND VENTILATION INSTALLATIONS

10.1 Is there satisfactory control over the use of portable heaters? N/A ✓ Yes ☐ No ☐

10.2 Are fixed heating and ventilation installations subject to regular maintenance? N/A ✓ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- No heating is provided in the common parts.
- The flats are fitted with individual heating systems.

11. COOKING

11.1 Are reasonable measures taken to prevent fires as a result of cooking? N/A ✓ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- No cooking facilities are provided in the common parts.
- Cooking appliances in flats have not been considered.

12. LIGHTNING

12.1 Does the building have a lightning protection system? Yes ✓ No ☐

Relevant information and deficiencies observed:

None.

13. HOUSEKEEPING

13.1 Is the overall standard of housekeeping adequate? Yes ✓ No ☐

13.2 More specifically:

a) Do combustible materials appear to be separated from ignition sources? Yes ✓ No ☐

b) Is unnecessary accumulation or inappropriate storage of combustible materials or waste avoided? Yes ✓ No ☐

c) Are gas and electricity intake/meter cupboards adequately secured and kept clear of combustible materials? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

The Client has adopted a 'zero tolerance' approach, and seeks to communicate this to the residents. The situation is monitored by Client staff and, where applicable, by cleaners during periodic visits to the premises.

14. HAZARDS INTRODUCED BY OUTSIDE CONTRACTORS AND BUILDING WORKS

14.1 Is there satisfactory control over works carried out in the building by contractors? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- External contractors are approved by the Client and are required to submit method statements, risk assessments and, where necessary, arrangements for 'hot work'.
- The ongoing monitoring of the work of external contractors and internal maintenance staff on site is subject to the Client's procedures and inspections.

15. DANGEROUS SUBSTANCES[2)]

15.1 Are the general fire precautions adequate to address the hazards associated with dangerous substances used or stored within the premises[3)]? N/A ☑ Yes ☐ No ☐

Relevant information and deficiencies observed:

None.

[2)] For the purpose of this risk assessment and the Fire Safety Order, dangerous substances are primarily explosive, highly flammable or flammable substances and oxidizing agents.

[3)] Small quantities with negligible impact on the appropriate fire precautions need not be taken into account.

16. OTHER SIGNIFICANT FIRE HAZARDS THAT WARRANT CONSIDERATION

16.1 Hazards:

None.

Relevant information and deficiencies observed:

—

FIRE PROTECTION MEASURES

17. MEANS OF ESCAPE

17.1	Is the design and maintenance of the means of escape considered adequate?		Yes		No	✓
17.2	More specifically:					
a)	Are there reasonable distances of travel:					
–	where there is escape in a single direction?	N/A	Yes	✓	No	
–	where there are alternative means of escape?	N/A	Yes	✓	No	
b)	Is there adequate provision of exits?	N/A	Yes	✓	No	
c)	Do fire exits open in the direction of escape, where necessary?	N/A	Yes	✓	No	
d)	Are the arrangements provided for securing exits satisfactory?	N/A	Yes	✓	No	
e)	Is the fire-resisting construction (including any glazing) protecting escape routes and staircases of a suitable standard and maintained in sound condition?	N/A	Yes	✓	No	
f)	Is the fire resistance of doors to staircases and the common areas considered adequate, and are the doors maintained in sound condition?	N/A	Yes	✓	No	
g)	Are suitable self-closing devices fitted to doors in the common areas?	N/A	Yes	✓	No	
h)	Is the fire resistance of doors to meter cupboards/store rooms/plant rooms in the common areas considered adequate, and are they adequately secured and/or fitted with suitable self-closing devices?	N/A	Yes	✓	No	
i)	Is the fire resistance of flat entrance doors considered adequate, and are doors maintained in sound condition?	N/A	Yes	✓	No	

j)	Are suitable self-closing devices fitted to flat entrance doors and, where fitted, maintained in good working order?	N/A		Yes		No	✓
k)	Are there adequate smoke control provisions to protect the common escape routes, where necessary?	N/A		Yes	✓	No	
l)	Are all escape routes clear of obstructions?	N/A		Yes	✓	No	
m)	Are all fire exits easily and immediately openable?	N/A		Yes	✓	No	
n)	Is it considered that the premises are provided with reasonable arrangements for means of escape for disabled people?	N/A		Yes	✓	No	

Relevant information (including description of arrangements and deficiencies observed):

- This is a purpose-built block of flats, the design of which has been based on the principle of 'stay put', such that the occupants of the flats, other than those in which a fire occurs, should be able to remain in their flats in relative safety unless their flat is affected by fire or smoke or they are directed to evacuate by the fire and rescue service.
- The premises are provided with a single protected escape staircase, which is accessed on all floors from a common protected hall/lobby.
- The staircase discharges direct to open air at ground level from the base of the staircase enclosure.
- Smoke ventilation is provided in the form of openable windows and automatically opening vents controlled by smoke detectors in the common parts.
- The main entrance door is fitted with an electronic lock and door release button. The lock will revert to the unlocked state in the event of a power failure.
- Flat entrance doors and doors to staircases and refuse/bin chute rooms are self-closing, timber FD30S doors, which were installed in 2011.
- Letter boxes are present in the doors to flats, and have additional fire protection.
- Some self-closing doors were found that were not closing effectively.

18. RECORDS

18.1 Is it considered that there is/are:

a)	adequate levels of compartmentation between floors and between flats and the common escape routes?			Yes	✓	No	
b)	reasonable limitation of linings to escape routes that might promote fire spread?			Yes	✓	No	
c)	as far as can reasonably be ascertained, reasonable fire separation within any roof space?	N/A		Yes	✓	No	
d)	adequately fire protected service risers and/or ducts in common areas, that will restrict the spread of fire and smoke?	N/A		Yes	✓	No	

18.2	As far as can reasonably be ascertained, are fire dampers provided as necessary to protect critical means of escape against passage of fire, smoke and products of combustion in the early stages of a fire[4), 5)]?	N/A	✓	Yes		No	

Relevant information (including description of arrangements and deficiencies observed):

- Efforts were made to sample the standard of compartmentation, but, as this was a Type 1 fire risk assessment, no intrusive inspection was involved.
- Risers were opened and any hatches in ceilings were opened where accessible.
- There is no roof void.
- All visible service penetrations were suitably fire-stopped.

[4] This fire risk assessment will not necessarily identify all minor fire stopping issues that might exist within the building. If you become aware of other fire stopping issues, or are concerned about the adequacy of fire stopping, you may wish to consider arranging for an invasive survey by a competent specialist.

[5] A full investigation of the design of heating, ventilation and air conditioning systems is outside the scope of this fire risk assessment.

19. EMERGENCY ESCAPE LIGHTING

19.1 Has a reasonable standard of emergency escape lighting been provided[6]? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

Non-maintained emergency escape lighting units have been provided throughout the common parts.

[6] Based on visual inspection, but no test of illuminance levels or verification of full compliance with relevant British Standards carried out.

20. FIRE SAFETY SIGNS AND NOTICES

20.1 Is there a reasonable standard of fire safety signs and notices? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- These are single staircase premises and the means of escape are via the normal access and egress route. Therefore, 'Fire Exit' signs are not considered necessary.
- Fire action notices have been provided in the staircase at each level.

21. MEANS OF GIVING WARNING IN CASE OF FIRE

21.1	Is a reasonable fire detection and fire alarm system provided in the common areas, where necessary[7)]?	N/A		Yes		No	✓
21.2	If there is a communal fire detection and fire alarm system, does it extend into the dwellings?	N/A	✓	Yes		No	
21.3	Where appropriate, has a fire alarm zone plan been provided?	N/A	✓	Yes		No	
21.4	Where appropriate, are there adequate arrangements for silencing and resetting an alarm condition?	N/A	✓	Yes		No	

Relevant information (including description of arrangements and deficiencies observed):

- As this is a purpose-built block of flats with a stay put strategy, no communal fire alarm system is appropriate.
- Smoke detection is provided in the common parts to operate the automatic opening vents fitted to the lobby windows.
- The smoke detection is monitored by security staff at HQ for property protection purposes.
- It is the Client's policy to install domestic smoke alarms, as part of the void works' specification, in tenanted flats to provide a warning to the occupants of the flat of a fire in their own flat.

Relevant information on false alarm experience (if known):

None.

7) Based on visual inspection, but no audibility tests or verification of full compliance with relevant British Standard carried out.

22. MANUAL FIRE EXTINGUISHING APPLIANCES

22.1	Is there reasonable provision of manual fire extinguishing appliances?	N/A		Yes	✓	No	
22.2	Are all fire extinguishing appliances readily accessible?	N/A		Yes	✓	No	

Relevant information (including description of arrangements and deficiencies observed):

It is not appropriate to install fire extinguishers in the common parts of blocks of flats. There are no fire extinguishers provided other than in plant rooms, electricity supply cupboards and the waste bin room.

23. RELEVANT AUTOMATIC FIRE EXTINGUISHING SYSTEMS[8)]

23.1 Type of fixed system:

None.

Relevant information and deficiencies observed:

—

[8)] Relevant to life safety and this risk assessment (as opposed to property protection).

24. OTHER RELEVANT FIXED SYSTEMS AND EQUIPMENT[9)]

24.1 Type of fixed system:

- Dry rising main.
- Automatic smoke vents.
- Firefighting lift.

Relevant information and deficiencies observed:

—

24.2 Are there appropriately sited facilities for electrical isolation of any photovoltaic (PV) cells, with appropriate signage, to assist the fire and rescue service?

N/A ✓ Yes ☐ No ☐

Relevant information (including description of arrangements and deficiencies observed):

—

[9)] Relevant to life safety and this risk assessment (as opposed to property protection).

MANAGEMENT OF FIRE SAFETY

25. PROCEDURES AND ARRANGEMENTS

25.1 Safety assistance:

The competent person(s) appointed under Article 18 of the Fire Safety Order to assist the responsible person in undertaking the preventive and protective measures (i.e. relevant general fire precautions) is:

Health and Safety Manager.

25.2 Fire safety at the premises is managed by[10]:

Area Building Officer.

25.3 Is there a suitable record of the fire safety arrangements? Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

- A fire safety management plan for all premises is in place and is held at HQ.
- In addition to the fire safety management plan, a site-specific fire strategy document is held by the caretaker.
- The Tenant's Handbook contains basic fire safety advice.

25.4 Evacuation strategy

☑ Stay put
☐ Simultaneous evacuation
☐ Other (please specify below)

Comment: This is the appropriate strategy.

25.5 Are procedures in the event of fire appropriate and properly documented, where appropriate[11)]? Yes ✓ No

Relevant information (including description of arrangements and deficiencies observed):

Fire plan held and key points are on fire action notices in the common parts.

25.6 Are routine in-house inspections of fire precautions undertaken (e.g. in the course of health and safety inspections)? N/A Yes ✓ No

Relevant information (including description of arrangements and deficiencies observed):

Housing Officers undertake regular inspections, which include checks of fire precautions.

[10)] This is not intended to represent a legal interpretation of responsibility, but merely reflects the managerial arrangement in place at the time of this risk assessment.

[11)] Based on brief review of procedures at the time of this fire risk assessment. In-depth review of documentation is outside the scope of this fire risk assessment, unless otherwise stated.

26. TRAINING AND DRILLS

26.1 Are all staff given adequate fire safety instruction and training? N/A Yes ✓ No

Relevant information (including description of arrangements and deficiencies observed):

The caretaker has carried out on-line fire training in the last six months.

26.2 When the employees of another employer work in the premises, is appropriate information on fire risks and fire safety measures provided? N/A Yes ✓ No

Relevant information (including description of arrangements and deficiencies observed):

All contractors are given a fire safety briefing by the caretaker.

27. TESTING AND MAINTENANCE

27.1 Is there adequate maintenance of the premises? Yes [✓] No [ ]

Relevant information (including description of arrangements and deficiencies observed):

None.

27.2 Is weekly testing and periodic servicing of the fire detection and fire alarm system undertaken? N/A [ ] Yes [✓] No [ ]

Relevant information (including description of arrangements and deficiencies observed):

Tenants are responsible for testing their own smoke alarms on a regular basis.

27.3 Are monthly and annual testing routines in place for the emergency escape lighting? N/A [ ] Yes [ ] No [✓]

Relevant information (including description of arrangements and deficiencies observed):

Monthly tests of the emergency escape lighting are not being carried out.

27.4 Is annual maintenance of fire extinguishing appliances undertaken? N/A [ ] Yes [ ] No [✓]

Relevant information (including description of arrangements and deficiencies observed):

Extinguishers were found to be overdue for maintenance.

27.5 Are six-monthly inspection and annual testing of rising mains undertaken? N/A [ ] Yes [✓] No [ ]

Relevant information (including description of arrangements and deficiencies observed):

It is understood that the six-monthly inspection and annual testing of the dry rising main is carried out as part of the planned preventive maintenance programme.

27.6 Are weekly and monthly testing, six-monthly inspection, and annual inspection and testing undertaken of lift(s) provided for use by firefighters or evacuation of disabled people (evacuation lifts)? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

It is understood that the firefighters switch for the fire-fighting lift is tested by the caretaker every week. The lift is inspected every six months and maintained annually by contractors.

27.7 Other relevant inspections or tests:

- Automatic and manual smoke vents.
- Lightning protection.

Relevant information (including description of arrangements and deficiencies observed):

- It is understood that the interface with the AOVs is subject to monthly testing. Smoke detection and the AOVs are maintained every six months.
- It is understood that the annual inspection and testing of lightning protection system is carried out as part of the planned preventive maintenance programme.

28. RECORDS

28.1 Are there appropriate records of:

a) Fire alarm tests (where relevant)? N/A ☐ Yes ☑ No ☐

b) Emergency escape lighting tests? N/A ☐ Yes ☑ No ☐

c) Maintenance and testing of other fire protection systems and equipment? N/A ☐ Yes ☑ No ☐

Relevant information (including description of arrangements and deficiencies observed):

It is understood that the records are held centrally by HQ.

29. PREMISES INFORMATION BOX

29.1	Is there a suitably located premises information box for the fire and rescue service?[12)]	N/A	✓	Yes		No	
29.2	Are there arrangements to keep the premises information box up to date?[12)]	N/A	✓	Yes		No	

Relevant information (including description of arrangements and deficiencies observed):

—

[12)] Normally applicable only to sheltered and extra care housing.

30. ENGAGEMENT WITH RESIDENTS

30.1	Has information on fire procedures been disseminated to residents?	N/A		Yes	✓	No	
30.2	Is fire safety information disseminated to residents?	N/A		Yes	✓	No	

Relevant information (including description of arrangements and deficiencies observed):

- Relevant information is contained in a Residents' Handbook, which is issued to all new tenants.
- The section on fire procedures and fire safety is issued to all residents, including leaseholders, annually.
- Fire procedure notices are prominently displayed on the ground floor.

FIRE RISK ASSESSMENT

The following simple risk level estimator is based on a commonly used risk level estimator:

Potential consequences of fire ➔ Likelihood of fire ➔	Slight harm	Moderate harm	Extreme harm
Low	Trivial risk	Tolerable risk	Moderate risk
Medium	Tolerable risk	Moderate risk	Substantial risk
High	Moderate risk	Substantial risk	Intolerable risk

Taking into account the fire prevention measures observed at the time of this risk assessment, it is considered that the hazard from fire (likelihood of fire) at these premises is:

Low ☐ **Medium** ☑ **High** ☐

In this context, a definition of the above terms is as follows:

Low: Unusually low likelihood of fire as a result of negligible potential sources of ignition.

Medium: Normal fire hazards (e.g. potential ignition sources) for this type of occupancy, with fire hazards generally subject to appropriate controls (other than minor shortcomings).

High: Lack of adequate controls applied to one or more significant fire hazards, such as to result in significant increase in likelihood of fire.

Taking into account the nature of the premises and the occupants, as well as the fire protection and procedural arrangements observed at the time of this fire risk assessment, it is considered that the consequences for life safety in the event of fire would be:

Slight harm ☑ **Moderate harm** ☐ **Extreme harm** ☐

In this context, a definition of the above terms is as follows:

Slight harm: Outbreak of fire unlikely to result in serious injury or death of any occupant.

Moderate harm: Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants, but is unlikely to result in multiple fatalities.

Extreme harm: Significant potential for serious injury or death of one or more occupants.

Accordingly, it is considered that the risk to life from fire at these premises is:

Trivial ☐ **Tolerable** ☑ **Moderate** ☐ **Substantial** ☐ **Intolerable** ☐

Comments:

None.

A suitable risk-based control plan should involve effort and urgency that is proportional to risk. The following risk-based control plan is based on one advocated for general health and safety risks:

Risk level	Action and timescale
Trivial	No action is required, and no detailed records need be kept.
Tolerable	No major additional controls required. However, there might be a need for improvements that involve minor or limited cost.
Moderate	It is essential that efforts are made to reduce the risk. Risk reduction measures should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures.
Substantial	Considerable resources might have to be allocated to reduce the risk. If the building is unoccupied, it should not be occupied until the risk has been reduced. If the building is occupied, urgent action should be taken.
Intolerable	Building (or relevant area) should not be occupied until the risk is reduced.

Note that, although the purpose of this section is to place the fire risk in context, the above approach to risk assessment is subjective and for guidance only. All hazards and deficiencies identified in this report should be addressed by implementing all recommendations contained in the following action plan. The fire risk assessment should be repeated regularly.

ACTION PLAN

It is considered that the following actions should be implemented in order to reduce fire risk to, or maintain it at, the following level:

Trivial ☐ **Tolerable** ☑

Definition of priorities (where applicable):

Priorities:

1. **High.**
2. **Medium.**
3. **Low.**

Suggested timescale:

A. **Immediately.**
B. **Short term.**
C. **Medium term.**
D. **Long term.**

Item	Recommendation	Priority	Timescale
1.	The emergency escape lighting should be subject to a monthly test, and annual servicing and test, in accordance with the requirements of BS 5266-8.	2	A
2.	The door onto the staircase on the 9th floor was not closing fully into its frame. The self-closing device should receive attention to ensure that it operates effectively and closes the door fully into its frame.	2	B
3.	The door onto the 6th floor lobby was not closing fully into its frame. The self-closing device should receive attention to ensure that it operates effectively and closes the door fully into its frame.	2	B
4.	The servicing of the portable fire extinguishers located in the electrical intake room was found to be overdue. It should be ensured that all portable firefighting equipment is serviced and maintained annually in accordance with the recommendations BS 5306-3.	2	B
Interim measures (where appropriate)			
5.	None		

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[It is normal practice for the FRA to include a list of relevant references.]

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