



DPC: 24 / 30457968 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 25 January 2024

Origin: National

Latest date for receipt of comments: 25 March 2024

Project No. 2022/01434

Responsible committee: FSH/14 Fire precautions in buildings

Interested committees: B/559, CB/0, CPB/1/-/2, DS/1, EL/1, EL/1/1, FSB/1, FSB/1/-/1, FSH/0, FSH/2, FSH/9, FSH/12, FSH/12/1, FSH/14/-/5, FSH/14/-/10, FSH/16, FSH/17, FSH/18, FSH/18/2, FSH/18/5, FSH/18/6, FSH/21, FSH/21/-/18, FSH/21/-/19, FSH/21/-/20, FSH/24, FSH/25, FSS/0, HS/1, MHE/4, OC/CPI/SG, PH/8, PH/8/1

Title: BS 9792 Fire risk assessment. Housing. Code of practice

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 25 March 2024**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Editorial Project Manager: **Sophie Watson**Direct tel: **01473 684477**E-mail: sophie.watson@bsigroup.com

Introduction

Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international and European standards, comments will be reviewed by the relevant UK national committee before submitting the consensus UK vote and comments. If the draft standard is approved, it is usual for the resulting published standard to be adopted as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

Annotated drafts are not acceptable and will be rejected.

All comments should be submitted online at <http://standardsdevelopment.bsigroup.com>. You will need to register in order to comment.

Fire risk assessment – Housing – Code of practice

Contents

Foreword	4
Introduction	6
1	Scope 7
2	Normative references 7
3	Terms, definitions and abbreviated terms 7
3.1	Terms and definitions 7
3.2	Abbreviated terms 15
4	The concepts of fire hazard and fire risk 15
5	Principles and scope of fire risk assessments 16
<i>Figure 1 – Schematic of fire risk assessment process 18</i>	
<i>Figure 2 – Types of FRA 19</i>	
6	Adequacy of the fire risk assessment 21
7	Competence of fire risk assessors 22
8	Benchmark standards for assessment of fire precautions 24
9	Assessment of premises design and fire precautions that do not conform to current standards 24
<i>Figure 3 – Decision tree for action plan when existing premises do not conform to current standards 26</i>	
10	Documentation of fire risk assessments 27
11	Nine steps to fire risk assessment 28
12	Information about the premises and their occupants 30
13	Identification of fire hazards and means for their elimination or control 32
14	Assessment of the likelihood of fire 33
15	Assessment of fire protection measures 34
15.1	General 34
15.2	Fire detection and warning 35
15.3	Means of escape 37
15.4	Signs and notices 39
15.5	Emergency escape lighting 40
15.6	Manual firefighting equipment 40
15.7	Structural and other measures to limit fire spread and development 41
15.8	External wall assessment 43
15.9	Automatic water-based and other localized suppression systems 43
15.10	Smoke control systems 44
15.11	Systems, equipment and facilities for use by the fire and rescue service 45
16	Assessment of fire safety management 47
17	Assessment of likely consequences of fire 51
<i>Figure 4 – Example of timeline comparison between ASET and RSET 52</i>	
18	Assessment of fire risk 52
<i>Table 1 – An example of a simple risk level estimator 53</i>	
19	Formulation of an action plan 53
20	Periodic review of fire risk assessments 55
21	Person-centred fire risk assessments 57
Annex A (informative) Model pro forma for documentation of a fire risk assessment 58	
Annex B (informative) Fire hazard prompt-list 88	
Annex C (normative) Key factors and specific issues to address in assessment of means of escape 90	
<i>Table C.1 – Key factors and specific issues to address in assessment of means of escape 91</i>	
Annex D (informative) People with specific evacuation requirements 92	
<i>Table D.1 – Characteristics of occupants and impact on escape 93</i>	
Annex E (informative) Guidance and model pro forma for a person-centred fire risk assessment (PCFRA) 104	

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on **XX Month 202X**. It was prepared by Technical Committee FSH/14, *Fire precautions in buildings*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

This British Standard supersedes PAS 79-2:2020, which was withdrawn on 6 August 2021.

Relationship with other publications

BS 9792 gives recommendations for fire risk assessments (FRAs) in housing. FRAs in premises other than housing are covered in PAS 79-1.

Recommendations for fire risk appraisals of external wall construction and cladding of existing blocks of flats (FRAEWs) are given in PAS 9980.

Information about this document

This is a full revision of the document, and introduces the following principal changes:

- a) some restructuring of the document, introducing subdivisions into Clause 15 and bringing types of FRA under principles and scope;
- b) removal of all third-party copyrighted material;
- c) introduction of a new pro forma;
- d) streamlining of the commentary throughout;
- e) updating of guidance relating to people with specific evacuation requirements, including a new informative annex;
- f) general updates to take into account other British Standards and industry guidance published or in development since December 2020; and
- g) general updates to take into account changes in legislation since December 2020.

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 British Standard takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this British Standard with practices of equivalent or better outcome. Any user claiming compliance with this British Standard 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 British Standard that the execution of its provisions will be entrusted to appropriately qualified and competent people, for whose use it has been produced.

The copyright for Annex A and Annex E of this British Standard is owned by BSI. Purchasers of this British Standard are authorized to use the pro formas contained within Annex A and Annex E, and to make an unlimited number of copies for their own use, without infringement of copyright. However, following the recommendations given in this British Standard does not necessitate use of these pro formas.¹⁾

Presentational conventions

The provisions of this document 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 document. 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 document. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient’s own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

¹⁾ It is anticipated that an electronic version of the pro formas will be made available with the published standard.

Introduction

This British Standard provides a methodology and a structured approach to undertaking a fire risk assessment (FRA), for use by competent persons with knowledge of the principles of fire safety. The methodology can be applied to all housing premises falling within the scope of the standard, regardless of whether or not an FRA is required by legislation.

For some of the housing premises to which this British Standard applies, the persons having control of those premises are required by legislation to carry out an assessment of the fire risks (other than fire risks within private dwellings). This is so that relevant persons (as defined within the legislation) can be protected 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).

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, 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 British Standard, 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 British Standard 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 BS 9792.

The objectives of this British Standard are:

- a) to present to housing providers and their advisers a methodology that can assist them in meeting their legislative responsibilities to undertake FRAs;
- b) to provide a framework for the assessment of fire risk;
- c) to promote better understanding of fire risks and fire safety in housing by housing providers and non-fire specialists;
- d) to enable common relevant terminology to be adopted by those who carry out FRAs;
- e) to provide an understanding of the principles and scope of FRAs;
- f) 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;
- g) to establish a satisfactory basis for documentation of FRAs;
- h) to provide a benchmark for a suitable and sufficient FRA;
- i) to promote a consistent approach to carrying out and documenting an FRA;
- j) to dispel misconceptions as to the nature and scope of an FRA (see Clause 5); and
- k) to promote building safety for all occupants.

1 Scope

This British Standard gives recommendations and corresponding examples of documentation for undertaking, and recording the findings of, fire risk assessments (FRAs) in housing premises and parts of housing premises.

This British Standard is applicable to:

- a) houses in multiple occupation;
- b) blocks of flats or maisonettes (both purpose-built blocks and houses converted to flats); and
- c) specialized housing.

This British Standard is not applicable to a private dwelling. Neither is it applicable to premises during the construction phase²⁾, before the building is used as housing, but it is applicable to vacant premises.

This British Standard is not applicable to premises used solely for short-term letting (e.g. of flats) (see **3.1.71**) or peer-to-peer rented accommodation (see **3.1.59**), nor to non-domestic premises or residential care homes.

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

The methodology in this British Standard is intended to determine the risk-proportionate fire precautions required to protect occupants of housing premises and people in the immediate vicinity of the premises. It is not necessarily sufficient to address the safety of firefighters in the event of a fire on the premises. It is not intended to address protection of property (the premises and their contents) or the environment, or protection of a business against interruption.

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, or limits the application, of this document³⁾. 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*⁴⁾

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

BS 5839-6, *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, definitions and abbreviated terms

3.1 Terms and definitions

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

²⁾ 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 British Standard.

³⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

⁴⁾ This British Standard also gives informative references to BS 4422:2005.

3.1.1 access room

room that forms the only escape route from an inner room (see **3.1.50**)

3.1.2 action plan

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

3.1.3 alarm receiving centre

continuously staffed 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

3.1.4 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

3.1.5 ancillary area

part of a building that is ancillary to the dwelling(s)

NOTE Examples of ancillary areas include rooms associated with engineering services, common amenity areas (3.1.8), refuse rooms and covered car parks.

3.1.6 automatic door release mechanism

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

NOTE An automatic door release mechanism could be, for example, electro-mechanical or electro-magnetic.

3.1.7 available safe escape time (ASET)

calculated time available between ignition of a fire and the estimated time at which tenability criteria are exceeded in a specified space in a building

3.1.8 common amenity area

area containing residents' communal facilities that are external to the individual dwellings

NOTE Examples of common amenity areas include residents' communal kitchens, laundries, drying areas, occupiers' stores, private gyms, dining areas and residents' lounges.

3.1.9 common part

part of a building serving more than one flat or occupancy

NOTE This typically includes stairways, corridors, lobbies and other areas to which all occupants have access. It also includes plant rooms and service areas.

3.1.10 compartmentation

division of a building into fire compartments for the purpose of containing a fire within the compartment of fire origin

3.1.11 competent person

person with the skills, knowledge, experience and appropriate behaviours to achieve a defined outcome

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

3.1.12 dampers

3.1.12.1 fire damper

device affording fire resistance in respect of integrity, intended to seal automatically a penetration in fire-resisting construction in the event of fire

NOTE These are typically used within heating, ventilation and air-conditioning (HVAC) systems to maintain the compartmentation afforded by a compartment wall or floor.

3.1.12.2 fire damper, reduced leakage

fire damper (**3.1.12.1**) designed to restrict the passage of smoke

NOTE These are typically used within heating, ventilation and air-conditioning (HVAC) systems to maintain the fire resistance, and protect against passage of smoke, in construction that separates a means of escape from adjacent accommodation.

3.1.12.3 smoke control damper

component of a smoke control system that can be opened or closed to control the flow of smoke and hot gases into, from or within a shaft or duct, whilst maintaining compartmentation where necessary

3.1.13 dead end

area from which escape is possible in one direction only

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.

3.1.14 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 outlet connections at specified points, which is normally dry but is capable of being charged with water, usually by pumping from fire and rescue service appliances

NOTE Also known as dry riser and dry rising main.

3.1.15 dutyholder

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

NOTE 1 The term “dutyholder” is used as a general term within this document and is not used in this context within fire safety legislation.

NOTE 2 The dutyholder is normally an organization, such as an employer, rather than a specific named person. There might be more than one dutyholder within any premises.

3.1.16 escape route

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

3.1.17 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

3.1.18 extra care housing

type of specialized housing that:

- a) is designed as self-contained residential accommodation;
- b) is predominantly available to and occupied by people with greater care/support needs;
- c) has some form of care or assistance, including in an emergency, available 24/7 from staff on the premises; and
- d) sometimes has communal facilities available

NOTE Extra care housing typically comprises blocks of flats, but can also include schemes with individual houses or houses converted to flats.

3.1.19 false alarm

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

3.1.20 final exit

end 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

3.1.21 fire drill

periodic test of the evacuation procedure and any other relevant actions

3.1.22 fire equipment sign

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

3.1.23 fire exposure

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

3.1.24 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.

3.1.25 fire hazard identification

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

3.1.26 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

3.1.27 fire policy

intentions and direction of an organization, in respect of fire safety, as formally expressed by its top management

3.1.28 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

3.1.29 fire prevention measure

measure to prevent the outbreak of fire

3.1.30 fire procedure

predetermined actions to be taken in the event of fire

3.1.31 fire protection measure

design feature, system, equipment, structural measure or management activity to reduce danger to people and property if fire occurs

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

3.1.32 fire resistance

ability of a component or construction of a building to meet for a stated period of time some or all of the appropriate criteria specified in a standard fire resistance test

NOTE 1 These criteria include one or more of the following: load-bearing capacity (R); integrity (E); and insulation (I).

NOTE 2 The fire resistance classification periods are not a measure of the actual time for which an element will function in a real fire.

3.1.33 fire-resisting door

door 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

3.1.34 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 document, the relevant consequences of a fire are those involving injury to people (number and severity of injuries), as opposed to damage to property.

3.1.35 fire risk assessment (FRA)

process of identification and evaluation of fire risk to people, property or the environment

3.1.36 fire risk assessor

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

3.1.37 fire safety engineer

person competent in fire safety engineering

3.1.38 fire safety engineering

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

3.1.39 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.

3.1.40 fire safety management

task(s) carried out by a defined individual or individuals, with appropriate powers and resources to facilitate the correct operation, at all times, of all passive, active and procedural fire safety systems within a building

3.1.41 fire safety manager

person nominated to monitor and control fire safety management

3.1.42 fire safety manual

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

3.1.43 fire safety objective

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

3.1.44 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

3.1.45 fire safety strategy

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

3.1.46 fire scenario

set of circumstances (taking account of the building, its contents and occupants), chosen as an example, that defines the development of fire and the spread of combustion products throughout a building or part of a building

3.1.47 fire stopping

seal provided to close an imperfection of fit or design tolerance between elements or components to restrict the spread of fire and smoke

3.1.48 ignition

initiation of combustion

3.1.49 ignition source

source of energy that initiates combustion

3.1.50 inner room

room from which escape is possible only by passing through another room

3.1.51 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

3.1.52 lifts

3.1.52.1 evacuation lift

lift designed to be used for the evacuation of disabled people which has appropriate structural, electrical and fire protection

3.1.52.2 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 document, 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**]

3.1.52.3 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 document, 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]

3.1.52.4 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 document, 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**]

3.1.53 mandatory sign

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

3.1.54 manual call point

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

3.1.55 means of escape

means whereby a safe route or routes in the event of fire is or are provided for persons to travel from any point in a building to a place of ultimate safety

3.1.56 occupant

resident, worker, visitor or other person in and around a building

3.1.57 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

3.1.58 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

3.1.59 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 document, the term “peer-to-peer rented accommodation” includes letting arranged through an agent.

3.1.60 people with specific evacuation requirements

people with characteristics that might require specific arrangements to support them to respond to a fire or to a fire alarm, and to evacuate when necessary

3.1.61 person-centred emergency plan

plan that captures the actions to be taken in the event of a fire, tailored to the specific requirements and characteristics of an individual resident

NOTE This could be, for example, a personal emergency evacuation plan (PEEP) or a personal emergency action plan.

3.1.62 person-centred fire risk assessment (PCFRA)

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

3.1.63 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

3.1.64 place of ultimate safety

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

3.1.65 products of combustion

solid, liquid and gaseous materials resulting from combustion

3.1.66 protected

<active fire protection> provided with an active fire protection system

<passive fire protection> separated by fire-resisting construction from adjacent internal spaces

3.1.67 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) (Fire Safety Order) [1];
- in Scotland, a combination of the Fire (Scotland) Act 2005 (as amended) [2] and the Fire Safety (Scotland) Regulations 2006 [3];
- in Northern Ireland, the Fire and Rescue Services (Northern Ireland) Order 2006 [4], together with the Fire Safety Regulations (Northern Ireland) 2010 [5].

3.1.68 required safe escape time (RSET)

calculated time available between ignition of a fire and the estimated time at which occupants in a specified space in a building are able to reach a place of relative safety

3.1.69 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.

3.1.70 sheltered housing

type of specialized housing (that:

- a) is designed as self-contained residential accommodation;
- b) is predominantly available to and occupied by independent older people;
- c) has some form of assistance available at certain times, although not necessarily from persons on the premises; and
- d) sometimes has communal facilities available

NOTE Sheltered housing typically comprises blocks of flats, but can also include schemes with individual houses or houses converted to flats.

3.1.71 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 British Standard, the term “short-term letting” includes peer-to-peer rented accommodation (3.1.59). The term of rental might be as short as one night.

3.1.72 simultaneous evacuation

system of evacuation in which all parts of a building are evacuated following a common alarm of fire

3.1.73 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.

3.1.74 specialized housing

housing designed for occupants who live independently, or with an element of support, and with characteristics that might require specific additional arrangements to support them to prevent or suppress fire, to respond to a fire or fire alarm operating, and/or to evacuate when necessary

NOTE The primary typologies for specialized housing are sheltered housing (3.1.71), extra care housing (3.1.18) and supported housing (3.1.78). They are also sometimes referred to by different terms such as retirement villages, close care, very sheltered, independent living, and assisted living. However, a range of housing types can be present on the same site or in the same building.

3.1.75 sprinkler system

entire means of providing sprinkler protection in the premises, comprising one or more sprinkler installations, the pipework to the installations and the water supply/supplies, intended to control, suppress or extinguish fire

3.1.76 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 otherwise directed to leave by the fire and rescue service

NOTE 1 In a building with a stay put strategy, residents are not prohibited from leaving their flats or common areas at any time if they wish.

NOTE 2 “Stay put” is sometimes referred to as “defend in place”, “safe to stay” or “stay safe”.

3.1.77 structural fire protection

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

3.1.78 supported housing

type of specialized housing that:

- a) is designed for people to live either independently or as part of a small community with shared facilities such as kitchens and lounges; and
- b) has some form of support available either occasionally or on a 24 h basis

NOTE Supported housing is typically similar to an HMO with bedsits or suites, but can comprise purpose-built flatlets. It can also include “hostel”-type accommodation where this is a primary residence.

3.1.79 temporary waiting space

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 Also known as a refuge.

3.1.80 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.

3.1.81 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 type and use of the premises, the fire hazards (see **3.1.24**) in the premises, the cost of additional fire precautions and any other relevant factors

3.1.82 travel distance

distance a person needs to travel between two points within a building, having regard to the layout of walls, partitions and fixings

3.1.83 water mist system

distribution system connected to a water supply, fitted with one or more water mist nozzles and 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.

3.1.84 wet fire main

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

NOTE Also known as wet riser and wet rising main.

3.2 Abbreviated terms

For the purposes of this document, the following abbreviated terms apply.

ASET	available safe escape time
FRA	fire risk assessment
FRAEW	fire risk appraisal of external walls
HMO	house in multiple occupation
PCFRA	person-centred fire risk assessment
RSET	required safe escape time

4 The concepts of fire hazard and fire risk

COMMENTARY ON CLAUSE 4

There is a clear distinction between fire hazard and fire risk that is of great value in any analytical approach to fire safety, but particularly in an FRA. It is therefore essential that the terms be used appropriately.

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.

Fire risk, by contrast, 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. The terms “fire hazard” and “fire risk” should be used only in a context consistent with definitions **3.1.24** and **3.1.34**.

4.2 In documenting the 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 **3.1.31**), 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 premises for the purpose of expressing its current level, determining the adequacy of existing fire precautions (see **3.1.28**) 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 **3.1.2**), which forms part of the documented FRA (see Clause **10**). The objective of the action plan is to set out measures that will reduce the fire risk to, or maintain it at, a tolerable level (see **3.1.81**).*

This clause describes the general principles of FRAs, and sets out some specific matters for consideration when determining the scope of an FRA.

a) General principles

The FRA does not provide any of the following:

- 1) *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).

- 2) *a means for verifying compliance with current regulations;*
- 3) *an access audit relating to access for disabled people;*
- 4) *a means for identifying latent defects in construction or compartmentation (see **3.1.10**);*
- 5) *a means for verifying that the fire resistance of structural elements of the building is adequate;*
- 6) *an examination of the potential for structural collapse of the building in the event of fire;*
- 7) *a fire safety strategy report;*
- 8) *a means for snagging of new construction;*
- 9) *a guide to fire safety;*
- 10) *a guide to legislation for the responsible person; or*
- 11) *a fire risk appraisal of external wall construction and cladding (FRAEW).*

NOTE 2 PAS 9980 gives recommendations for undertaking an FRAEW on existing blocks of flats.

NOTE 3 A standard scope of services is published by the Fire Industry Association [6].

It is not appropriate for an 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 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.

*The likelihood of fire is rarely reduced to zero. Accordingly, there is normally need for fire protection measures, such as means of escape (see **3.1.55**), measures that assist in the use of escape routes (see **3.1.16**), means of giving warning of fire, means for fighting fire and structural fire precautions. However, these fire protection measures, by definition, only have a bearing on fire safety after fire has occurred and, therefore, fire prevention has failed.*

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.

It is not expected that, in all FRAs to which this British Standard applies [see item c) below], 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 3.1.31) (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.

Every FRA needs to give thorough attention to fire safety management, including the fire safety strategy for the premises, fire procedures (including their dissemination to residents), training of any staff in the premises, testing and maintenance of fire protection equipment, inspection of means of escape, control over alterations and control of work by contractors. Good fire safety management can also contribute to the prevention of fire by incorporating policies and measures that reduce the likelihood of fire.

It follows, therefore, that for an FRA to be fully effective, it needs to be carried out on premises that are in use, so that the actual working conditions, practices and procedures can be taken into account. However, there might also be circumstances when an FRA needs to be carried out at other times, e.g. when premises become vacant for any period during the life of the building.

The fire prevention measures, fire protection measures and components of fire safety management can be treated as variables, according to the fire risk, in order to provide an integrated package of measures that limits fire risk to a tolerable level.

b) Factors impacting on fire risk

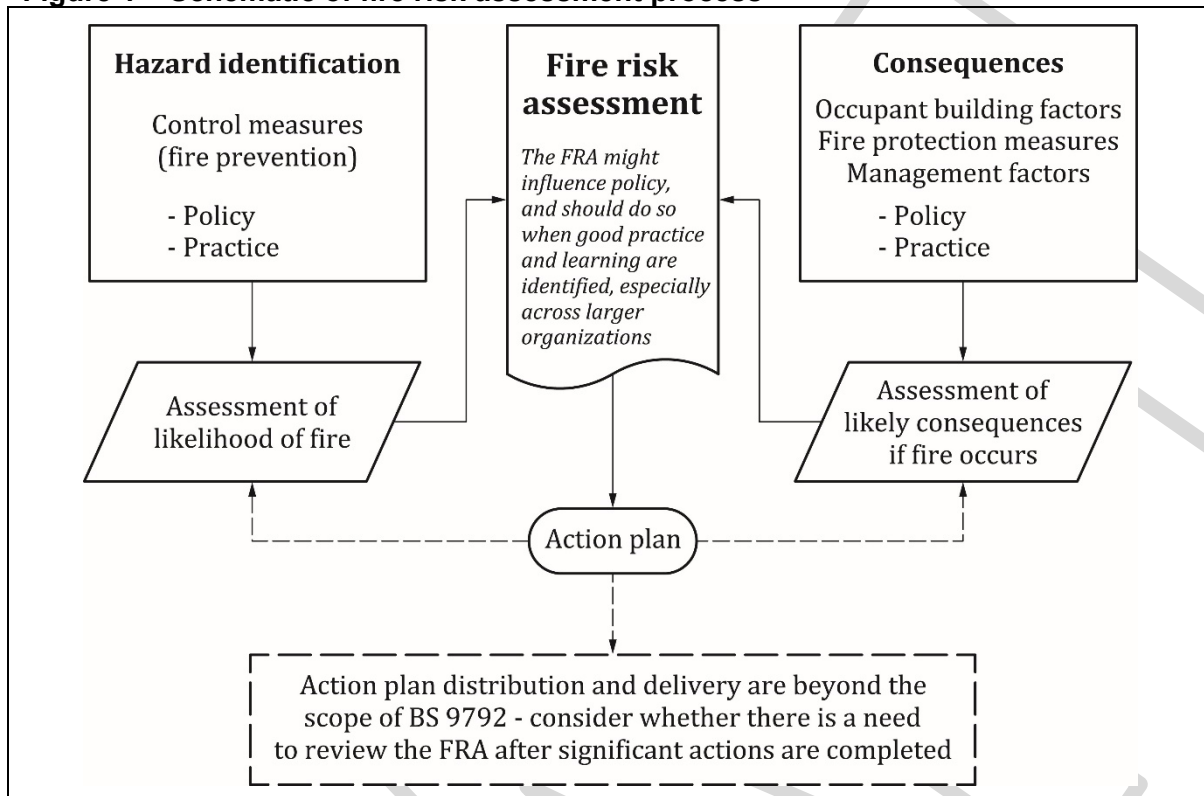
Factors that impact on fire risk, but which are not variable and are “given” factors for the premises in question, include, but are not limited to:

- 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. traditional masonry construction, 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 type and use of the premises (including mixed-use buildings);*
- 7) the demographic of occupants if the premises have been designed for a particular characteristic group e.g. older people, or disabled people, particularly where this might impact on evacuation strategies and any staffing levels;*
- 8) the familiarity of the occupants with the premises (e.g. assumption would be fully familiar, unless the premises are designed specifically for short-term residents);*
- 9) the fire safety management arrangements, such as fire safety strategy, fire procedures, staffing levels, training, drills, testing and maintenance, control of processes and alterations;*
- 10) the history of fires on the premises; and*
- 11) 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 can be reflected in the level of fire risk expressed. 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).

Figure 1 – Schematic of fire risk assessment process



For example, in properly designed, constructed and maintained single-storey premises with sufficient fire exits and occupants who do not require assistance to escape, a fire might have less serious consequences to occupants (in terms of injury) than in the case of multi-storey premises with poor compartmentation and more people who require assistance to escape. Conversely, 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. In each of these examples, poor standards of fire safety management could affect both the probability of fire and the consequences of fire.

Once the level of fire risk is determined, any need for improvements in fire precautions can be identified. It can 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 fire risk, are typically subjective in nature, and not quantified numerically. Numeric methods, including calculation of probabilities and use of fire scenarios (see 3.1.46), are not typically appropriate for housing premises.

c) Types of FRA

The scope of an FRA needs to take account of the nature of the premises and the existing information available in respect of the structural and other fire protection measures.

There are, in principle, four different types of FRA that can be carried out in any multi-occupied housing premises. These are illustrated in Figure 2. They differ in the extent to which the building is inspected, and in the use of intrusive techniques for opening up and sampling construction materials or elements that are not visible.

Figure 2 – Types of FRA

Type 1 Common areas Non-intrusive	Type 2 Common and flats Non-intrusive
Type 3 Common areas Intrusive	Type 4 Common and flats Intrusive

The fire risk assessor needs to have a clear understanding of the type and scope of FRA that is required so that they can conduct it accordingly. It is expected that this information will be given by the dutyholder.

The four types of FRA are described below.

1) Type 1: Common parts only (non-intrusive)

A Type 1 FRA is the basic FRA required for the purpose of satisfying the Fire Safety Order [1]. This is generally sufficient for most buildings where the dutyholder has a comprehensive understanding of the fabric of their building through either previous intrusive inspections or information on its design and construction standards.

The Type 1 FRA inspection is therefore non-intrusive, but, as well as considering the arrangements for means of escape, etc., the FRA includes examination of, at least, a sample of entrance doors and door sets to the dwellings (e.g. flats or bedsits). Common custom and practice is for fire risk assessors to check a minimum of 10% of dwelling entrance doors (see 15.3).

Where the building has a pitched roof, the inspection extends to the roof voids, unless access to the voids is impractical, in which case this needs to be recorded in the FRA (see 15.7).

The inspection also covers, so far as reasonably practicable, the separating construction between the dwellings and the common parts, without any opening up of construction. This includes, for example, inspection of fire stopping within sample locations within service risers.

Where there are demountable false ceilings in the common parts, it is appropriate to lift a sample of readily accessible false ceiling tiles. In addition, it is normally appropriate to open a sample of service risers, provided that access is practicable at the time of inspection (see 15.7).

In a Type 1 FRA, consideration needs to be given to external wall construction, including any cladding or attachments such as balconies (see 15.8).

In the case of external wall construction that is of traditional masonry construction, without attachments that are likely to result in serious risk of external fire spread, it will be reasonable to assume that the fire risk is acceptable without further investigation, in which case this can be recorded in the FRA. (This does not imply that the fire risk assessor is verifying that external walls conform to the requirements of building regulations that are current at the time of the FRA or were current at the time of construction of the building.) For other types of external wall construction, an FRAEW might be appropriate (see 15.8).

2) Type 2: Common parts only (intrusive)

The scope and objectives of a Type 2 FRA are generally similar to those of a Type 1 FRA, except that there is additional 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 intrusive inspection is carried out might sometimes include a sample of dwellings.

A Type 2 FRA 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 dwelling of fire origin. The need for a Type 2 FRA is sometimes identified in a Type 1 FRA, but ought not to be recommended as a matter of course.

3) *Type 3: Common parts and dwellings (non-intrusive)*

A Type 3 FRA includes the work involved in a Type 1 FRA, but also considers precautions within the dwellings themselves. This type of FRA considers the provision, arrangements, and maintenance of fire precautionary measures within the control of landlords, leaseholders, other dutyholders or occupiers, such as means of escape, fire detection systems and sprinkler or water mist systems, within at least a sample of the dwellings. It also considers any alterations or actions by residents that could compromise the effectiveness of the fire precautions.

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, a dutyholder.

A Type 3 FRA can also provide an opportunity for dutyholders, leaseholders and occupiers to be given advice on best practice in the provision of fire precautions, over and above the minimum requirements of legislation (e.g. advice on additional smoke and heat alarms beyond the minimum required by the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 [7]).

Matters to be considered in a Type 3 FRA could include:

- integrity of fire-resisting elements (walls, floors, ceilings) between the dwelling and other dwellings;
- maximum travel distance from any point within a flat to the flat entrance door;
- protection of hallways (where relevant);
- ease of opening of the dwelling entrance door;
- fire safety of inner rooms (if any);
- means of escape from upper levels of any maisonettes;
- electrical and heating installations provided by dutyholders;
- provision of smoke and heat alarms; and
- provision of sprinkler or water mist systems.

4) *Type 4: Common parts only (intrusive)*

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 dwellings, 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.

This is the most comprehensive FRA, but is only appropriate in unusual circumstances, such as when a new landlord takes over a building 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 dwellings or a fire in a neighbour's dwelling.

As well as considering the safety of residents in the event of a fire in their own dwelling, consideration is given to the potential for fire to spread internally from that dwelling to others. Routes to assess include riser shafts running within the dwellings, bathroom and kitchen extract ducts, drainage pipework and penetrations for other services, such as gas or electricity.

NOTE 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 [8], that there will be no undue risk of exposure of occupants, including the contractor carrying out the work, to asbestos.

5.1 The fire risk assessor should ascertain from the dutyholder the type and scope of the FRA to be carried out.

5.2 The FRA should take into account at least the following matters:

- a) occupants and potential occupants, including the content of any PCFRAs undertaken (see also Clause 22);
- b) fire hazards and means for their elimination or their control;
- c) relevant fire protection measures (see 3.1.31 and Clause 15) and the arrangements for relevant inspection, testing or maintenance of these measures;
- d) relevant aspects of fire safety management (e.g. staffed or unstaffed buildings);

- e) any fire safety 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 managerial arrangements;
- f) the content of any previous FRA(s), if available.

5.3 The following matters should be agreed with the dutyholder:

- a) the arrangements and building representatives that will be needed to facilitate safe access to all parts of the building necessary to undertake the FRA;
- b) the number and location of sample areas for intrusive inspection;
- c) the sample number of dwellings and doors to be inspected, and arrangements for accessing these; and
- d) any specific items and matters, additional to those listed in **5.2**, to be inspected and addressed within the FRA.

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

NOTE 2 It might be appropriate to sample each dwelling archetype if there are variations.

5.4 As a general principle, 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.

5.5 If, during the course of an FRA, the fire risk assessor identifies the need for a different type of FRA or an increased scope, they should draw this to the attention of the dutyholder and document it in the action plan (see Clause 19).

6 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 3.1.80), the ultimate responsibility for the adequacy of the FRA rests with a dutyholder (see 3.1.15).

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 3.1.36).

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 regardless of whether the fire risk assessor is an employee of the dutyholder or a third party, such as a consultant (see Clause 7).

If FRAs are carried out by a third party, 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.

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 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, the recommendations in the action plan need, in the course of the FRA, to be discussed with the management of the premises in question so that the documented FRA can be 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).

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 fire risk assessor should satisfy themselves that they have access to appropriate people and relevant documentation, are provided with all relevant information and have access to all areas of the relevant premises, or part(s) of the premises, at the time of the FRA. 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.

NOTE 1 This includes access to certain locked areas, such as plant rooms and at least a sample of service risers.

NOTE 2 It is the responsibility of the dutyholder to provide such access and information, to the extent practicable.

6.3 In the case of a block of flats, the fire risk assessor should satisfy themselves that they have 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, they should also request access 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.

6.4 The fire risk assessor should advise the dutyholder to 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.

6.5 The fire risk assessor should advise the dutyholder that after the FRA has been carried out, it be subject to regular review, particularly when changes occur that could affect fire risk, 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 3.1.11).

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.

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.

The Fire Sector Federation has published guidance on competence of fire risk assessors [9].

7.1 All FRAs should be carried out by a competent person (see **3.1.11**).

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 people with specific evacuation requirements 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 people with specific evacuation requirements 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 or fire safety 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.

NOTE 3 Fire risk assessors might encounter differing fire safety measures across the UK as a result of variations in building or fire safety regulations in the devolved nations.

- l) have a good understanding of domestic fire safety, particularly in the case of Type 3 and Type 4 FRAs (see commentary on Clause **5**);
- 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.

8 Benchmark standards for assessment of fire precautions

COMMENTARY ON CLAUSE 8

When assessing or formulating measures to eliminate or control fire hazards (see 3.1.24), it is often appropriate 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 [10].

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 and the fire resistance of flat entrance doors in blocks of flats and sheltered housing, 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. Notwithstanding, the use of guidance for existing premises, constructed before the introduction of a relevant code of practice, might be inappropriate and could result in an action plan that is not risk-proportionate.

Codes of practice are simple benchmarks, in respect of which there is flexibility in application. Published guidance will be a starting point or benchmark for assessment of the adequacy of fire precautions in the premises. A fire risk assessor can exercise 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.

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 might not be 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 safety strategy for the building. An understanding of the fire safety 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

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.

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 [11]) or government guidance on compliance with the relevant fire safety legislation.

It is not necessarily the case that failure to comply with current guidance necessitates upgrading of fire precautions to meet current standards. 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.

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. The risk assessor might need to make subjective judgements, but a departure from prescriptive guidance is not, alone, sufficient justification for upgrading work.

Figure 3 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. It might also identify aspects where the originally required fire precautions have been compromised.

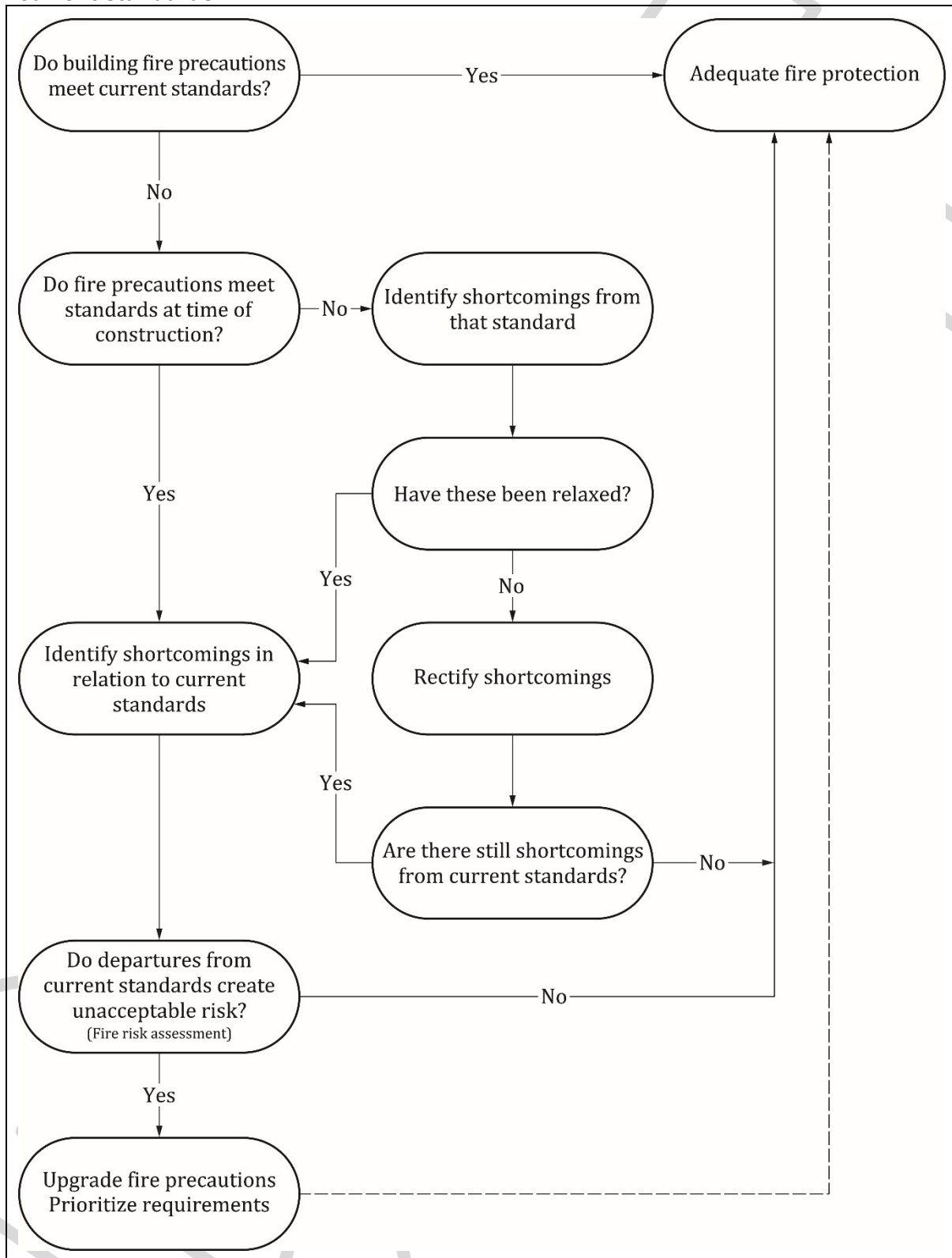
In such cases, the first measures that need to be specified in the action plan are measures to restore the conditions stipulated by the original standard. An exception to this is where the original standard is no longer applicable. The next step, having confirmed that the building met the provisions 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 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). In making judgements, all the circumstances of the case need to be taken into account.

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 3. 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 3 – 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, and the fire risk assessor needs to make a judgement as to what is significant. There are, however, some matters that always need to be included in any documented FRA.

This clause gives recommendations for the minimum information that needs to be recorded to satisfy this British Standard; further details might be required by legislation. It is important for dutyholders to be able to understand whether the matters considered in the FRA are, in effect, legal requirements or whether they go beyond the minimum requirements of legislation. 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.

Details of the information that needs to be taken into account in the FRA, and the matters on which judgements need to be made, are given in Clause 12. 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.

The report needs to speak to two divergent audiences: those that know the premises but have little understanding of fire safety, and those that are unfamiliar with the premises and have a good understanding of fire safety. Consequently, the report needs to be comprehensible to residents, dutyholders and enforcers. Where the report is to be peer reviewed, having a high level of detail allows the reviewer to develop a clear picture of the premises and the preventive and protective measures.

One suitable format for documentation is given in Annex A. 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 can be expected to meet the recommendations of this British Standard. Equally, the format of a documented FRA may vary from that shown in Annex A, provided that all recommendations of this British Standard are satisfied.

10.1 The documented FRA should record, as a minimum:

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

NOTE 1 This might be the same person who carried out the FRA and who wrote the report, but it needs to be made clear.

- f) information and, where relevant, comment on the matters addressed in 5.2.

NOTE 2 Annex A contains a pro forma that is considered to be a suitable and sufficient means for documenting the FRA.

10.2 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 10.2 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.

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

10.4 For people known to have specific evacuation requirements, sufficient information should be recorded about the nature of their requirements to enable verification as to whether sufficient measures are in place (e.g. evacuation plans or other fire protection measures).

NOTE For example, it is not sufficient to record the presence of disabled people without some reference to the nature of their requirements; people who are Deaf or have a hearing impairment, for example, require different provisions for their safety to people with mobility impairments. This principle is particularly important in the case of premises in which there might be more people with specific requirements (e.g. extra care housing).

10.5 Every documented FRA should make 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.

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

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

10.7 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.

10.8 The documented FRA, including the action plan (see Clause **19**) should be comprehensible to all interested parties.

10.9 Where the documented FRA refers to external documents or other information resources, it should include details of the source(s), to enable the dutyholder, or others employed to assist them, to locate the information.

NOTE Such resources may include, but are not limited to, statutory guidance, standards, books, other publications and web sites. The referencing could take the form of footnotes, endnotes or a separate section within the documented FRA.

10.10 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 British Standard 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 thereof. Where there are staff on the premises who provide assistance or care for people with specific evacuation requirements, 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 people with specific evacuation requirements. Other than in the case of small, simple premises, the fire safety strategy for the building (if a documented fire safety strategy exists) is likely to be of value to the fire risk assessor.
- b) The second step is fire hazard identification (see **3.1.25**) 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 3.1.31) 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 3.1.40). 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 3.1.46), 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 3.1.2 and Clause 19), 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.*
- 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 British Standard, 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 safety strategy for the building (where a documented fire safety 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 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. The factors can be divided into three broad categories: general information about the premises, information about the occupants, and the history of fires on the premises.

a) Information about the premises

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 smoke control. Tall buildings, such as tower blocks, can result in extended evacuation times for occupants and more occupants requiring assistance due to the number of storeys they would have to negotiate to evacuate. External rescue by the fire and rescue service 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. 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 and extended escape routes might take longer to negotiate than simple routes.

The construction of the premises, including the external wall materials, 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. 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, with reference to any FRAEW that has been completed). 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. It is the responsibility of the dutyholder to provide such information to the fire risk assessor.

b) Information about the occupants

The general use to which the premises are put (the occupancy) is also relevant. An 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). Where staff are present and it has been identified (e.g. within the building fire safety strategy or emergency evacuation plan) that they have a role to play in providing assistance for people with specific evacuation requirements, information on the ratio of staff to residents can be a relevant factor to consider.

Due account needs to be taken of any procedures that are in place to identify residents who might be at higher risk from fire, or who have specific evacuation requirements. This could include the findings of a PCFRA (see Clause 21).

The FRA and/or PCFRA could be used as the basis for any person-centred emergency plans that might be required to support residents with specific evacuation requirements to take any particular actions, including evacuating the building if necessary. It can also be used to provide guidance on evacuation for family members, other occupants or staff if present, or for the fire and rescue service on arrival. Basic information on individual residents who might require support from the fire and rescue service to evacuate can be kept in the secure information box (see Clause 15). Occupants' requirements for assistance will change over time so there cannot be an expectation that this information will always be correct. Some occupants might also be unwilling to share information on their assistance requirements and their rights to privacy need to be respected.

c) History of fires and arson

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. This might imply an increased likelihood of malicious ignition of waste and other combustible materials, so 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, including a reference to any FRAEW that has been completed;
- NOTE 1 PAS 9980 gives recommendations for carrying out an FRAEW.*
- 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, residents' halls and commercial premises);
 - e) approximate number of occupants;
 - f) type and use of the premises (e.g. staffed/unstaffed, purpose-built/converted, general/specialized housing);
 - 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;
 - i) the number of escape stairs and the floors that they serve;
 - j) the number of lifts serving the upper floors and basements, including specific reference to lifts intended for use by the fire and rescue service and/or evacuation lifts;
 - k) any arrangements that have been established, or adaptations provided, to support people who have been identified as having specific requirements in preventing fire, responding to a fire or fire alarm, and evacuating the building when necessary;

NOTE 2 This could include arrangements identified through a PCFRA (see Clause 21) or a person-centred emergency plan.

- 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 5.2) or on the validity of the FRA;
- n) information on any enforcement, alterations, or prohibition notices that apply to the premises; and

NOTE 3 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].

NOTE 4 Any such additional matters 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 affects the FRA, there should normally be explicit information within the assessment, where relevant, regarding appropriate measures to protect people with specific evacuation requirements. To this end, the fire risk assessor should request information from the dutyholder as to whether any PCFRAs or person-centred emergency plans are in place.

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 3.1.49), 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).

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 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.

It is inherent in the definition of fire hazard (see 3.1.24) that fire hazards are not limited to ignition sources. Various situations and unsafe acts, such as poor housekeeping, can constitute fire hazards.

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). 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 presence of lithium ion battery-powered personal vehicles, cars and devices is now very common. Examples include mobility scooters, e-scooters, e-bikes, vehicles, uninterruptible power supply (UPS) systems, and energy storage systems. These present a particular hazard due to their potential for very rapid and extreme fire development, production of extensive toxic fumes, and explosion if they are damaged or faulty. These factors increase the likelihood of means of escape routes becoming compromised very quickly and risk to people being significantly increased. The FRA needs to note the presence of any such items, assess their potential risk and address this within the action plan.

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 1 Further information on each of these hazards is given in Annex B.

NOTE 2 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. It is uncommon to find these in housing premises, but 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) should also be taken into account, including poor housekeeping and the presence in common areas or escape routes of items such as battery-powered mobility scooters, e-scooters and e-bikes, electric vehicles, UPS systems and energy storage systems. 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 is not usually necessary to associate a likelihood of fire with each of the identified fire hazards. Instead, it is typically 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.

14.2 The FRA should express the likelihood of fire using clearly defined 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.

NOTE The categories could be, for example, “low”, “normal” or “high”.

14.3 If the fire risk is to be determined by combining the likelihood of fire with the likely consequences of fire (see Clause 17) (e.g. by using a matrix; see Clause 18), the number of predetermined categories for likelihood and consequences should be the same.