

# **The Building (Amendment) Regulations (Northern Ireland) 2023**

## **‘Consultation Proposals’**

**July 2023**

**(closing date for the receipt of responses is 25 September 2023)**

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## **1. BACKGROUND**

- 1.1 The Department of Finance (“the Department”) has policy responsibility for maintaining the Building Regulations.
- 1.2 Building regulations apply to most building work and are made primarily to secure the health, safety, welfare and convenience of people in and around buildings and for the conservation of fuel and power. The current building regulations are The Building Regulations (Northern Ireland) 2012 (as amended) (the Building Regulations) and were made using powers provided in The Building Regulations (Northern Ireland) Order 1979 (as amended).
- 1.3 The Building Regulations set mainly functional requirements (i.e. they identify a reasonable standard that should be attained) and are supported by Technical Booklets giving guidance, including performance standards and design provisions, relating to compliance with specific aspects of the Building Regulations for the more common building situations.
- 1.4 It is acknowledged that the design provisions in Technical Booklets are generic and cover a limited range of circumstances and forms of construction. Situations may arise where it is not only appropriate but also necessary to demonstrate compliance with the building regulations with a form of construction or method outside those set out in the Technical Booklets.

## 2. INTRODUCTION TO CONSULTATION PROPOSALS

- 2.1 The Grenfell Tower fire occurred on 14 June 2017 and led to the greatest loss of life due to a residential fire in the UK since the Second World War. A full Public Inquiry has been established to examine the events that led to the tragedy. The Inquiry is being conducted in two phases. Phase 1, which has concluded, published a report with recommendations (some of which are to be implemented as part of the proposed changes in this consultation package). Phase 2 has recently concluded and is expected to report with recommendations in 2024.
- 2.2 The Department is committed to considering the Inquiry's recommendations. In the Phase 1 report, the Chair indicated that the Inquiry's recommendations needed to have broad support in order to have practical value on the ground. He stated, "*I also think it is important that they [recommendations] command the support of those who have experience of the matters to which they relate. Recommendations that are not grounded in the facts are of no value and recommendations that do not command the support of those who are experts in the field are likely to be ignored and, if not ignored, risk giving rise to adverse unintended consequences*".
- 2.3 Some of the changes proposed as part of this package focus on those recommendations where the Inquiry called for changes. The proposals in the main relate to fire safety changes in buildings containing flats (Purpose group 1a buildings) to provide assurance and additional safety measures to residents. Other measures are aimed specifically at assisting the Fire and Rescue Service to ensure they can provide an effective operational response. Where appropriate, the opportunity has been taken to extend some of the new requirements further beyond just buildings containing flats e.g. requiring automatic fire suppression in care homes, nursing homes, children's homes and student accommodation, where the evidence is clear they offer a substantial benefit to life safety in comparison to the costs involved. Through these proposals, we are seeking to implement some of the Inquiry's recommendations and meet its objectives in the most practical, proportionate and effective way.
- 2.4 An initial package of new fire safety requirements (Phase 1) was introduced into law here coming into operation from 1 April 2022. The changes involved a new regulation to require a minimum performance classification for materials to be used as part of the external walls of certain higher risk type buildings ('relevant buildings' as defined). In effect, combustible materials cannot achieve the minimum performance classifications specified in the new regulation and are thus banned from use, hence the use of the term by some of 'ban on combustible materials'. The Phase 1 changes also introduced new guidance in Technical Booklet E (Fire safety) (TBE) in relation to Assessments in lieu of tests and clarified provisions through amendments for external fire spread requirements for other non-relevant buildings.
- 2.5 The changes proposed in this consultation package (Phase 2) gives the detail of the Department's intention to amend Part E (Fire safety) of the Building

Regulations and the accompanying guidance set out in TBE. We recognise the need for extensive change to fire safety standards established throughout TBE but there is also recognition of the need for research to ensure that any changes represent expert consensus based on a robust evidence base. The Department is committed to producing a new revised TBE in the longer term as part of a Phase 3 package of changes. However, we recognise that there are issues that should be addressed more quickly, and we are committed to taking action where the case is clear. Particular influence on our priorities are on-going changes in fire safety standards in other regions (England, Scotland, Wales and Republic of Ireland); the Phase 1 report recommendations from the Grenfell Tower Inquiry and any further recommendations from Phase 2 of the Inquiry.

2.6 As we plan for the long term delivery of a new TBE, this Phase 2 consultation prioritises those issues primarily affecting medium to high-rise residential buildings. In regulatory terms, we propose two new regulations for Part E of the building regulations:

- i. A new Regulation 37A will require adequate fire safety information is made available to the person responsible for a building (owner/occupier), at the completion of the construction stage and handover of the building. Being able to identify and document what fire safety measures have been incorporated into the building and what fire safety design assumptions have been made, will be of benefit to those responsible for operating and maintaining the building for fire safety purposes when the building is occupied.
- ii. A new Regulation 37B will require the provision of suitable automatic fire suppression systems (e.g. sprinklers) to inhibit fire spread in certain types of buildings. Following the Grenfell Tower fire of June 2017 there have been many calls from various sources for a wider application of automatic fire suppression systems to various building types, predominantly residential. The proposed new regulation will acknowledge the role sprinkler system installations play in reducing the risk to life, particularly in residential type properties.

2.7 In terms of TBE guidance, the consultation also asks for views on proposals to change TBE in a number of areas:

- i. A new Section 7 is proposed to give guidance to the new regulatory requirement for 'Provision of fire safety information';
- ii. A new Section 8 is proposed to give guidance on sprinklers to the new regulatory requirement for 'Provision of automatic fire suppression systems';
- iii. Amendments to guidance in Section 2 'Means of Escape' to extend the coverage of smoke alarm provision to all habitable rooms in new dwellings. Also new guidance to clarify the expected fire detection and alarm system to be provided when an existing dwelling undergoes an extension and/or alteration work;

- iv. Amendments to Section 2 'Means of Escape' to provide updated guidance to ensure adequate smoke ventilation from the common escape routes (lobbies /corridors/ stairways) in blocks of flats with a storey more than 11m above ground level;
- v. It is proposed to amend Section 6 'Facilities and Access for the Fire and Rescue Service' to assist firefighters in their operational duties of search and rescue and firefighting. A number of these changes are to replicate equivalent changes that have occurred in other regions, which were based on evidence from commissioned research at the time of the change (i.e. Firefighting shaft provision, fire vehicle access distances and fire mains provisions). The other changes are to implement recommendations from the Phase 1 report of the Grenfell Tower Inquiry. These include provision of wayfinding signage, provision of evacuation alert systems and provision of secure information boxes. All three of these items are now mandated for in England and Scotland equivalent fire safety guidance provisions; and
- vi. Revision to a number of standards referenced in TBE under 'publications referred to'. Only some standards have been revised, mainly associated with the changes proposed in this package. A more detailed revision of all standards will occur in the production of a new TBE as part of Phase 3.

2.8 We would appreciate views on whether there is support for the proposal to provide for these new requirements and amendments in TBE technical guidance.

2.9 Article 4 of the Building Regulations NI Order 1979 (as amended) requires consultation for substantive changes to building regulations. It has been practice to consult on proposed changes to TBE also, as the implications of change can be complex so consultation adds value. Following consideration of views and further analysis, the Department intends to proceed with changes to Part E and TBE. The requirements will be kept under review to take account of changes in risk and emerging technologies.

2.10 The purpose of this consultation is to obtain comments and views of the public and all interested parties on proposed changes to Part E (Fire safety) and accompanying guidance in Technical Booklet E (Fire safety).

### **3. CONSULTATION PACKAGE – CONTENTS AND RESPONSE**

- 3.1 This consultation has been issued by the Department of Finance, which has responsibility for maintaining the Building Regulations for Northern Ireland. This document, together with the other consultation documents, is available online at: <https://www.finance-ni.gov.uk/consultations>
- 3.2 The consultation documents are:
- Consultation Proposals
  - Regulatory Impact Assessment (Draft for Consultation)
  - Technical Booklet E (Consultation version only): Fire safety
- 3.3 Draft Technical Booklet E is being issued as part of this package to demonstrate to the reader the proposed changes to that booklet, for consultation purposes only. Prior to the changes coming into operation at a later date, the intention is to publish 'An Amendments Booklet' which will need to be read in conjunction with the existing Technical Booklet E 2012 (as amended).

#### **Responding to this consultation**

- 3.4 We look forward to receiving your comments and views concerning any of the proposals contained in this consultation. We ask you to exercise care and refrain from the inclusion of any potentially defamatory material as it is our intention to publish responses on the Department's website. We will not publish the names or contact details of respondents, but will include the names of organisations responding.
- 3.5 We would encourage you to respond to the consultation using the online facility on the [Citizen Space](#) platform, where you can answer the questions and enter any supporting comments. It is not compulsory to answer all of the questions, so you can take part in the consultation even if you do not have views on all of the issues.
- 3.6 If you respond to the consultation in another format, you must structure your answers according to the questions set out in this document in order for your views to be taken into account.
- 3.7 If you use the consultation hub, Citizen Space, to respond, you will receive a copy of your response via email. Otherwise, individual responses will not be acknowledged unless specifically requested.
- 3.8 Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

- 3.9 If you require a hard copy of this consultation document or have any other enquiries, please email your request to [info.bru@finance-ni.gov.uk](mailto:info.bru@finance-ni.gov.uk) or you can write to us at:

Consultation Co-ordinator  
Department of Finance  
Building Standards Branch  
6<sup>th</sup> Floor  
Goodwood House  
44 - 58 May Street  
Belfast  
BT1 4NN

- 3.10 The Department will consider all the responses to this consultation received on or before the closing date, which is 25 Sept 2023.

***Submissions made after this date cannot be considered.***

### **Next steps in the consultation process**

- 3.11 Where respondents have given permission for their response to be made public, and after we have checked that they do not contain personal information or product names, responses will be made available to the public at <https://www.finance-ni.gov.uk/publications>. We may also make responses to this consultation available to the Northern Ireland Assembly and for public inspection at the Building Standards Branch office.
- 3.12 Following the closing date, all responses will be analysed and the Department will publish a summary of responses to the consultation.
- 3.13 All information will be handled in accordance with the General Data Protection Regulations.

### **Confidentiality and data management**

- 3.14 If you ask for your response to be regarded as confidential and not to be published, you will be asked to explain to us why you regard the information you have provided to be confidential.
- 3.15 Information provided in response to this consultation, including personal data (see Annex A), will be published or disclosed in accordance with the access to information regimes (These are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 (DPA), the UK General Data Protection Regulation, and the Environmental Information Regulations 2004. If we receive a request for disclosure of confidential information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances.



3.16 The Department of Finance will process your personal data in accordance with the law and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties. A full privacy notice is included at Annex A.

3.17 Are you satisfied that this consultation has followed the Consultation Principles? If not or you have any other observations about how we can improve the process please contact us at [info.bru@finance-ni.gov.uk](mailto:info.bru@finance-ni.gov.uk) or write to the following address:

Building Standards Branch

Department of Finance

6<sup>th</sup> Floor

Goodwood House

44-58 May Street

Belfast

BT1 4NN

# PROPOSALS FOR AMENDMENT OF THE BUILDING REGULATIONS

## 4. PART A (Interpretation and general)

4.1 Part A of the Building Regulations has two main purposes:

- To establish processes and procedures relating to the application of the regulations; and
- To define the main terms used in the regulations.

4.2 The new requirement to provide fire safety information at the handover stage of a building lifecycle will be required when a 'relevant premises' as defined under the Fire and Rescue Services (NI) Order 2006, is erected, altered or extended, or created as a result of a material change of use (a relevant change of use). It will also apply when a building containing flats with a storey more than 11m above ground level is created. For regulation 37A to apply under a material change of use circumstance, a change to Part A of the building regulations is necessary. Where a building becomes a 'relevant premises' or a building containing flats with a storey more than 11m above ground level, regulation 37A will apply through regulation 8 of Part A.

4.3 Similarly the new requirement to provide suitable automatic fire suppression systems in certain residential type buildings will be applicable on erection and as a result of being created through a material change of use. For regulation 37B to apply after a material change of use, a change to regulation 8 of Part A is necessary.

4.4 The Department proposes to amend regulation 8 'Application to material change of use' of Part A and in particular the Table to Regulation 8 (Application to material change of use) and the 'Notes to Table to Regulation 8'. The amended Table and Notes will demonstrate when new regulations 37A and 37B will apply to whichever 'Cases' after a material change of use.

### Proposed Amended Regulation 8 and Table to Regulation 8 and Notes to Table 8 of Part A (Interpretation and general)

(Red text is new, black text is existing)

#### **“Application to material change of use**

**8.—(1)** For the purposes of these regulations a change in the purposes for which or the circumstances in which a building, or part of a building, is used shall only be regarded as a material change of use if after that change any one of the following cases applies—

- |          |  |
|----------|--|
| Case I   | the building is used as a dwelling house, where immediately prior to the change it was not;          |
| Case II  | the building contains a flat, where immediately prior to the change it did not;                      |
| Case III | the building is used as a hotel or boarding house, where immediately prior to the change it was not; |
| Case IV  | the building is used as an institution, where immediately prior to the change it was not;            |

- Case V the building is used as a place of assembly or recreation, where immediately prior to the change it was not;
- Case VI the building is used as a shop, where immediately prior to the change it was not;
- Case VII the building is used as an office, where immediately prior to the change it was not;
- Case VIII the building is used as a store, where immediately prior to the change it was not;
- Case IX the building, which contains at least one dwelling, contains a greater or lesser number of dwellings than it did immediately prior to the change;
- Case X the building contains a room for residential purposes, where immediately prior to the change it did not;
- Case XI the building, which contains at least one room for residential purposes, contains a greater or lesser number of such rooms than it did immediately prior to the change;
- Case XII the building, by virtue of its change of use, is not an exempted building where immediately prior to the change it was;

(2) Where there is a material change of use to the whole or part of a building the provisions of the regulations set out in the Table to this regulation shall apply.

(3) Where a material change of use neither involves nor is accompanied by an alteration or extension, the provisions referred to in the Table to this regulation shall apply to the building or part of the building in which the change of use occurs as if it were a new building identical to the building as it exists and to be used for the same purpose or purposes as the building will have after the change of use.

(4) Where a material change of use involves or is accompanied by an alteration or extension—

(a) the provisions referred to in the Table to this regulation (other than regulation 6) shall apply to the building or part of the building in which the change of use occurs as if it were part of a new building identical to the building as altered or extended and to be used for the same purpose or purposes as that building will have after the change of use; and

(b) the application of regulation 7 by paragraph (2) shall apply any requirements of that regulation which are additional to those directly applied by the Table to this regulation.

(5) Where a change of use will result in an exempted building being put to a use as described in Cases I to XI, the provisions of those regulations applicable to Case XII shall apply in precedence to those of Cases I to XI.

**Table to Regulation 8 (Application to material change of use)**

Part		Cases											
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
A	Interpretation and general	*	*	*	*	*	*	*	*	*	*	*	*
B	Materials and workmanship	*1	*1	—	*1	—	—	—	—	*1	*1	*1	*
C	Site preparation and resistance to contaminants and moisture	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
D	Structure	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*
E	Fire safety	*3A	*	*3B	*	*3B	*3B	*3B	*3B	*	*3B	*3B	*
F	Conservation of fuel and power	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
G	Resistance to the passage of sound	*5	*6	*6	—	*7	—	—	—	*6	*6	*6	*
H	Stairs, ramps, guarding and protection from impact	—	—	—	—	—	—	—	—	—	—	—	*
J	Solid waste in buildings	*	*	*	*	*	—	—	—	*	*	*	*
K	Ventilation	*	*	*	*	*	—	—	—	*	*	*	*
L	Combustion appliances and fuel storage systems	*8	*8	*8	*8	*8	—	—	—	*8	—	—	*8
M	Physical infrastructure for high speed communications networks	—	—	—	—	—	—	—	—	—	—	—	—
N	Drainage	—	—	—	—	—	—	—	—	—	—	—	—
P	Sanitary appliances, unvented hot water storage systems and reducing the risk of scalding	*9	*9	*9	*9	*9	—	—	—	*9	*9	*9	*9
R	Access to and use of buildings	—	—	*10	*10	*10	*10	—	—	—	—	—	*
V	Glazing	*	*	—	—	—	—	—	—	*	—	—	—

## Notes to Table to Regulation 8 (Application to material change of use)

\* Denotes Parts which apply.

– Denotes Parts which do not apply.

<sup>1</sup> Regulation 23(2) only in Part B. In Cases X and XI where the building created is a hostel, hotel or boarding house, all of Part B shall not apply.

<sup>2</sup> All regulations except regulation 27 in Part C.

<sup>3</sup> Part D shall apply to those parts of the building affected by any increase in imposed loading resulting from the change of use.

<sup>3A</sup> Regulations 33, 34, 35, 36, 37 only in Part E.

<sup>3B</sup> Regulations 33, 34, 35, 36, 37 and 37A only in Part E.

<sup>4</sup> Regulation 39 only in Part F.

<sup>5</sup> Regulations 49 and 50 only in Part G.

<sup>6</sup> Regulations 49, 50 and 51 only in Part G.

<sup>7</sup> Regulation 52 in Part G in relation to school buildings only.

<sup>8</sup> Regulations 70, 71, and 73 only in Part L.

<sup>9</sup> All regulations except regulation 88 in Part P.

<sup>10</sup> In the application of Part R—

(a) when satisfying the reasonable provision requirements for access and that access is by means of stairs and/or ramps, such stairs and/or ramps shall also satisfy the relevant requirements of Part H;

(b) where the change of use is only to part of a building—

(i) Part R shall apply to that part and any sanitary accommodation provided in or in connection with that part; and

(ii) access to that part shall be provided by making reasonable provision for either independent access or suitable access through the building.”

**Question A1:** Do you agree with the proposal to require a building which becomes a ‘relevant premises’ (as defined in the Fire and Rescue Services (NI) Order 2006) or a building containing one or more flats with a storey more than 11m above ground level, due to a material change of use, to be subject to the requirements of new regulation 37A?

**Question A2:** Do you agree with the proposal to require a building which becomes a building on the prescribed list of buildings in regulation 37B due to a material change of use, to be subject to the requirement of new regulation 37B?

# PROPOSALS FOR AMENDMENT OF THE BUILDING REGULATIONS

## 5. PART E (Fire safety)

### A. Fire safety Information

- 5.1 The Department is proposing a new regulation to Part E of the building regulations. Regulation 37A will be introduced entitled 'Provision of fire safety information'.
- 5.2 The new regulation 37A will ensure adequate fire safety information is given by the person carrying out the work to the person who has fire safety duties under the Fire and Rescue Services (Northern Ireland) Order 2006 (the Order) in any 'relevant premises' as defined under the Order. It will also apply to a building containing one or more flats with a storey more than 11m above ground level.
- 5.3 Once a building is complete and occupied it can be difficult to establish fully what fire safety measures have been incorporated into the building or what assumptions have been made by designers in respect of the fire safety strategy of the building. The information could be described as hidden that cannot easily be established by an examination of the completed premises.
- 5.4 The new requirement will be for fire safety information to be made available to the owner/occupier at the handover stage in the lifecycle of a building when construction stage is completed. This information will help identify and document what fire safety measures have been incorporated into the building and what fire safety design assumptions have been made. This will not only be of benefit to those responsible for operating and maintaining the building for fire safety purposes when the building is occupied but also for subsequent fire risk assessors and relevant enforcing authorities. This information is particularly valuable where the design of the building does not follow the set guidance in Technical Booklet E.
- 5.5 The new requirement will benefit occupiers/owners of buildings which are 'relevant premises' and buildings containing one or more flats with a storey more than 11m above ground level, assisting them in operating and maintaining the building with reasonable safety and also providing assistance to those carrying out a fire risk assessment in accordance with the requirements of the Order. Such an approach seeks to ensure there will be no disconnect between fire safety standards in design, construction, occupation and enforcement over the lifetime of a building.
- 5.6 The information will be required when a 'relevant premises' as defined in the Order or a building containing one or more flats with a storey more than 11m above ground level is erected, altered, extended or subject to a relevant change of use resulting in a relevant premises or a building containing one or more flats with a storey more than 11m after the change of use takes place.

- 5.7 Information on an existing building will only be required insofar as it relates to or is affected by the works involved in any extension or alteration of the existing building. The specified information will only need to be provided where the work involved in the extension/alteration will have an impact on the fire safety strategy of the building.
- 5.8 Under Royal Institute of British Architects (RIBA) Plan of work for fire safety design, a 'fire safety strategy' is suggested to be incorporated from stage 2 'concept design' or stage 3 'spatial considerations' in the design phase of a building. The contents of this fire safety strategy is mainly to do with compliance with the requirements of the fire safety regulations in the building regulations i.e. adequate means of escape, adequate resistance to internal fire spread in linings and structure, adequate resistance to external fire spread and adequate provision for access and facilities for the fire and rescue service. This fire safety strategy ordinarily develops/modifies through the different stages of the RIBA plan of work including stage 4 'technical design' and stage 5 'construction', through to the final stage of 'occupation'.
- 5.9 The fire safety strategy which forms part of the RIBA process is not a legal requirement. The proposed new regulation 37A will make it a legal requirement to produce adequate 'as built' fire safety information for the building owner/occupier for the first time. The aim of the Regulation will be achieved when the person with fire safety duties in a relevant premises or building containing one or more flats with a storey more than 11m above ground level has all the information to enable them to:
- (i) understand and implement the fire safety strategy of the building;
  - (ii) maintain any fire safety system provided in the building; and
  - (iii) carry out an effective fire risk assessment of the building.

#### Proposed New Regulation 37A in Part E (Fire safety)

(Red text is new)

*“Regulation 32(3)*

*“Above ground level” has the same meaning as defined in Regulation 23(4);*

*“Fire safety duties” has the meaning given by Article 52 of the Fire and Rescue Services (Northern Ireland) Order 2006 or duties associated with the fire safety measures in a building containing one or more flats with a storey more than 11m above ground level;*

*“Fire safety information” means as built information relating to the design and construction of a building, or extension, and the services, fittings and equipment provided in or in connection with a building, or extension which will assist the person with fire safety duties to operate and maintain the building, or extension with reasonable safety;*

*“Relevant change of use” is a material change of use where, after the change of use takes place, the Fire and Rescue Services (Northern Ireland) Order 2006 will apply, or continue to apply to the building or a building containing one or more flats with a storey more than 11m above ground level is created; and*

*“Relevant premises” has the meaning given by Article 50 of the Fire and Rescue Services (Northern Ireland) Order 2006.”*

***“Provision of fire safety information***

*37A – (1) This regulation only applies when building work or a relevant change of use creates -*

- (a) a building as defined as a relevant premises under the Fire and Rescue Services (NI) Order 2006; or*
- (b) a building containing one or more flats with a storey more than 11m above ground level.*

*(2) The person carrying out the work shall –*

*(a) provide adequate fire safety information to the person with fire safety duties in a building not later than the date of completion of the work, or the date of occupation of the building or extension, whichever is the earlier; and*

*(b) give a notice in writing to the district council stating that the requirements of sub-paragraph (a) have been met.”*

**Question E1:** Do you agree that as built ‘fire safety information’ should be required to be given under Building Regulations to those responsible for fire safety duties in a building not later than the date of completion of the work, or the date of occupation of the building or extension whichever is the earlier?

**Question E2:** Do you agree with the scope of buildings (‘relevant premises’ as defined under the FRSNIO and buildings containing one or more flats with a storey more than 11m above ground level) for the new regulation to apply to?

**Question E3:** Do you agree with the use of the term ‘person carrying out the work’ in the regulation or do you think a more specific individual should be cited in the regulation and hence responsible for providing this information?



## **B. Automatic fire suppression systems**

- 5.10 New regulation 37B will require the provision of suitable automatic fire suppression systems (e.g. sprinklers) within certain types of higher risk residential buildings.
- 5.11 New developments in sprinkler technology for residential use have occurred in recent years. Sprinkler provision can have multiple benefits in providing personal protection of individuals, limiting fire spread, providing protection for property and fittings and protecting means of escape. Sprinkler systems installed in dwellings can reduce the risk to life and significantly reduce the degree of property damage caused by fire. Following the Grenfell Tower fire of June 2017, there have been many calls from various sources for a wider application of automatic fire suppression systems to various building types, predominantly residential.
- 5.12 Research in sprinkler effectiveness has been extensive in the last 20 years and has resulted in other jurisdictions (England, Scotland, Wales, Republic of Ireland) requiring sprinklers in a number of building types to varying degrees. The provisions vary from jurisdiction to jurisdiction but it would be fair to say the provisions here are some way behind that which is required in those other regions.
- 5.13 The proposed regulation will:
- (a) highlight and recognise recent developments in construction standards and sprinkler technology for residential use – in particular BS 9251 '*Sprinkler systems for residential and domestic occupancies: Code of practice*';
  - (b) acknowledge research that has been carried out in England, Scotland, Wales and by the Chief Fire Officer's Association on the effectiveness of sprinklers in various types of premises and associated cost/benefit analyses;
  - (c) bring here closer to the position in other jurisdictions, in relation to requiring automatic fire suppression systems through building regulations.
- 5.14 Regulation 37B will only apply when a building on the prescribed list is newly erected or created as a result of a material change of use.

### **i. Buildings containing flats**

- 5.15 We are proposing a storey trigger height of more than 11m for automatic fire suppression provision in buildings containing one or more flats. This is consistent with the joint call in March 2019 from the Royal Institute of Chartered Surveyors (RICS), Royal Institute of British Architects (RIBA) and the Chartered Institute of Building (CIOB) on government to require the installation of sprinklers in all new and converted residential buildings, hotels, hospitals,

student accommodation, schools and care home buildings more than 11m in height.

*“As leading chartered professional bodies in the built environment, we believe further action is required to improve the fire safety of buildings in the UK. Lives, stock and property are saved by the use of Automatic Fire Suppression Systems (AFSS), which includes sprinklers. At present, England, Wales, Scotland and Northern Ireland differ in their requirements on sprinklers yet the science of fire knows no political or geographical boundaries. Harmonising building regulations across the nation states of the UK regarding the installation of sprinklers would provide clarity to the industry and help protect the public.*

*We support the installation of sprinklers in all new & converted residential buildings, hotels, hospitals, student accommodation, schools and care home buildings 11m or above in height and retrofitting to existing buildings when refurbishment occurs as ‘consequential improvements’ where a building is subject to ‘material alterations’.*

*We also support the installation of AFSS including sprinklers below this height on a case-by-case basis of risk.”*

- 5.16 Lower trigger heights apply elsewhere in Scotland and Wales but also capture a much wider number of building types. We would welcome views and evidence on what height threshold would be appropriate, noting that the provision of sprinklers will contribute to a reduction in deaths and serious injuries alongside considerable benefits in terms of property protection.
- 5.17 This consultation does not cover retrofitting sprinklers in existing buildings. There is a separate debate and a more complex case on retrofitting fire protection in existing buildings, which will not form part of this consultation. It may not be a simple case for installing sprinklers in some existing buildings, and therefore a more bespoke approach is necessary.
- 5.18 It is proposed to refer to the appropriate sections of guidance in BS 9251 ‘*Fire sprinkler systems for domestic and residential occupancies. Code of practice*’ for sprinkler system design in TBE. It is also proposed to leave the provision of sprinklers in stairs, corridors or landings of buildings containing flats to the recommendations in BS 9251. The intention of the guidance is for protection to be provided by fire suppression systems in areas where those fires are likely to occur. Sprinklers should be provided in the individual flats themselves, they may also need to be provided in the common areas such as stairs, corridors and landings where these areas are not fire sterile.

## **ii. Care homes/ Nursing homes/ Children’s homes/ Family resident centres**

- 5.19 Sprinklers in care homes/nursing homes/children’s homes and family resident centres can provide an enhanced protection from fire and give those caring for people with mobility difficulties a chance to evacuate a building in the case of a

fire. They can also limit the damage that a fire can inflict on a property through limiting fire spread.

5.20 It is proposed to require sprinkler provision in all care homes/nursing homes/children's homes and family resident centres under regulation 37B. Supporting evidence from research carried out by the Building Research Establishment (BRE) for various regions and the Chief Fire Officers Association (CFOA) demonstrates the clear benefits to be gained from sprinkler installation in these premises against the relatively low costs involved.

### **iii. Purpose-built Student accommodation**

5.21 First time away from the family home can present hazards for students attending further education at a purpose-built student accommodation building. An immature approach combined with a lifestyle of partying, smoking, alcohol consumption and cooking at late hours under the influence can lead to fires occurring which can lead to fatalities and life changing injuries.

5.22 In a similar way to residential care facilities, due to the nature of the occupancy and supporting evidence from research, it is felt purpose-built student accommodation with a storey more than 11m above ground level should be fitted with automatic fire suppression systems as the most effective and efficient way of protecting both lives and property in the student sector. The obvious benefits in life safety not to mention property protection benefits outweigh the costs involved.

5.23 The provision of sprinkler systems in medium to high-rise buildings containing flats and purpose built student accommodation and all residential care premises will require industry to be ready to provide them. We propose a transitional period of six months before the requirements would apply.

### **Proposed New Regulation 37B**

(Red text is new)

*“32(2) Regulation 37B applies when a building is-*

*(a) erected; or*

*(b) formed by a material change of use.”*

*“32(3)*

*“Purpose built student accommodation (PBSA)” means housing built specifically for students to live in;*

*“Residential care premises” includes residential care homes, nursing homes, children’s homes and resident family centres, each having the same meaning as in the Health & Personal Social Services (Quality, Improvement & Regulation) (Northern Ireland) Order 2003;”*

**“Automatic fire suppression systems**

**37B.**-(1) *A building shall be designed and constructed with a suitable automatic fire suppression system.*

(2) *This regulation applies only to-*

*(a) a building containing one or more flats with a storey more than 11m above ground level;*

*(b) a building containing purpose-built student accommodation with a storey more than 11m above ground level; and*

*(c) a residential care premises.”*

**Question E4:** Do you agree that a new prescriptive regulation requiring the provision of suitable automatic fire suppression systems in certain types of buildings should be introduced under regulation 37B?

**Question E5:** Do you agree with the scope of buildings as proposed for now under new regulation 37B?

**Question E6:** Do you agree with the height threshold of 11m for buildings containing one or more flats and purpose-built student accommodation as proposed under new regulation 37B?

**Question E7:** Do you agree with the definition of residential care premises being adopted in building regulations for the application of new regulation 37B?

**Question E8:** Do you agree with a transitional period of 6 months?

## 6. PROPOSALS FOR AMENDMENT OF TECHNICAL BOOKLET E

### Technical Booklet E (Fire safety)

6.1 The Department is issuing a 'consultation version only' of a Technical Booklet E (TBE) alongside this consultation paper (see paragraph 3.1). The guidance in TBE is aimed at giving advice on demonstrating compliance with regulatory requirements for fire safety in Part E.

### New guidance to Regulation 37A – Fire safety Information

6.2 Under a new Section 7 'Fire safety information' of TBE, new guidance is proposed in relation to the new requirement of regulation 37A. The new paragraphs of guidance are broken down into 'Essential Information' and 'Additional Information for Complex Buildings'.

## **“Section 7 - Fire safety information**

### **INTRODUCTION**

#### 7.1

*Regulation 37A requires that when a building in scope is erected or created as a result of a relevant change of use, the person carrying out the work must provide sufficient fire safety information for persons to operate and maintain the building in reasonable safety. This information should be given at the completion of the work or when the building is first occupied (whichever is earlier).*

#### 7.2

*For existing buildings which are relevant premises or buildings containing one or more flats with a storey more than 11m above ground level, subject to alteration and/or extension work, the information required should only relate to the work involved where it has an impact on the fire safety strategy of the building.*

#### 7.3

*This Section is only intended as a guide as to the kind of information that should be provided. For clarity the guidance is given in terms of essential information and additional information for complex buildings, however the level of detail required will vary and should be considered on a case-by-case basis.”*

### **ESSENTIAL INFORMATION**

#### 7.4

*For most buildings, basic information on the location of fire protection measures may be sufficient. An as-built plan of the building should be provided showing –*

- a) escape routes – this should include exit capacity (i.e. the maximum allowable number of people for each storey and for the building);*

- b) location of fire-separating elements (including cavity barriers in walk-in spaces);*
- c) fire doorsets, fire doorsets fitted with a self-closing device and other doors equipped with relevant hardware;*
- d) locations of fire and/or smoke detector heads, alarm call-points, detection/alarm control boxes, alarm sounders, fire safety signage, emergency lighting, fire extinguishers, dry or wet fire mains and other firefighting equipment and hydrants outside the building;*
- e) any sprinkler system(s) provided (whether as a compensatory feature or otherwise), including isolating valves and control equipment;*
- f) any smoke control system(s) or ventilation system with a smoke control function, including mode of operation and control systems; and*
- g) any high risk areas (e.g. heating machinery).*

## 7.5

*Details should be provided of all of the following –*

- a) specifications of any fire safety equipment provided, including routine maintenance schedules;*
- b) any assumptions regarding the management of the building in the design of the fire safety arrangements; and*
- c) any provision enabling the evacuation of disabled people, which can be used when designing suitable personal emergency evacuation plans.*

## **ADDITIONAL INFORMATION FOR COMPLEX BUILDINGS**

### 7.6

*For more complex buildings, a detailed record should be provided of both of the following -*

- a) the fire safety strategy; and*
- b) procedures for operating and maintaining any fire protection measures. This should include an outline cause and effect matrix/strategy for the building.*

*Further guidance is available in clause 9 and Annex H of BS 9999.*

### 7.7

*The records should include details of all of the following -*

- a) the fire safety strategy, including all assumptions in the design of the fire safety systems (such as fire load). Any risk assessments or risk analysis;*
- b) all assumptions in the design of the fire safety arrangements for the management of the building;*
- c) all of the following -*
  - i. escape routes (including occupant load and capacity of escape routes);*
  - ii. any provision to enable the evacuation of disabled people;*

- iii. *escape strategy (e.g. simultaneous or phased) and*
- iv. *muster points*
- d) *all passive fire safety measures, including all of the following -*
  - i. *compartmentation (i.e. location of fire-separating elements);*
  - ii. *cavity barriers*
  - iii. *fire doorsets, including fire doorsets fitted with a self-closing device and other doors equipped with relevant hardware (e.g. electronic security locks)*
  - iv. *duct dampers; and*
  - v. *fire shutters;*
- e) *all of the following -*
  - i. *fire detector heads;*
  - ii. *smoke detector heads;*
  - iii. *alarm call points;*
  - iv. *detection/alarm control boxes;*
  - v. *alarm sounders;*
  - vi. *emergency communications systems;*
  - vii. *cctv;*
  - viii. *fire safety signage;*
  - ix. *emergency lighting;*
  - x. *fire extinguishers;*
  - xi. *dry or wet fire mains and other firefighting equipment;*
  - xii. *other interior facilities for the fire and rescue service;*
  - xiii. *emergency control rooms;*
  - xiv. *location of hydrants outside the building;*
  - xv. *other exterior facilities for the fire and rescue service; and*
  - xvi. *any evacuation alert sounder system.*
- f) *All active fire safety measures, including both of the following*
  - i. *Sprinkler system(s) design (whether provided as a compensatory measure or otherwise), including isolating valves and control equipment; and*
  - ii. *Smoke control system(s) (or heating, ventilation and air conditioning system with a smoke control function) design, including mode of operation and control systems.*
- g) *Any high risk areas (e.g. heating machinery) and particular hazards;*
- h) *Plans of the building as built, showing the locations of the above;*
- i) *Both of the following -*
  - i. *Specifications of any fire safety equipment provided, including all of the following -*
    - *Operational details*
    - *Operators manual*
    - *Software*
    - *System zoning*
    - *Routine inspection, testing and maintenance schedules*
  - ii. *Records of any acceptance or commissioning tests*
- j) *Any other details appropriate for the specific building.”*

**Question TBE1:** Do you agree with the proposed guidance in Section 7 of the consultation version TBE for ‘fire safety information’?

## **New guidance to Regulation 37B – Automatic fire suppression**

6.3 The consultation version TBE proposes a new Section 8 ‘Sprinklers’ which is aimed at providing guidance for sprinklers where an automatic fire suppression system is required by new regulation 37B.

6.4 The new guidance in Section 8 to TBE includes –

- General information on sprinklers and reference to the publication ‘*Sprinklers for safety: Use and Benefits of Incorporating Sprinkler in Buildings and Structures*’;
- Referencing design standard BS 9251 ‘*Fire sprinkler systems for domestic and residential occupancies. Code of practice*’ for residential buildings and BS EN 12845 ‘*Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance*’ for non-residential buildings;
- Guidance for water supplies and pumps for non-residential sprinkler systems designed and installed to BS EN 12845;

## **“Section 8 Sprinklers**

### ***Sprinkler Systems***

- 8.1 *Sprinkler systems installed in buildings can reduce the risk to life and significantly reduce the degree of damage caused by fire. Sprinkler protection can also sometimes be used as a compensatory feature where the provisions of this Technical booklet are varied in some way.*
- 8.2 *Where sprinklers are provided it is normal practice to provide sprinkler protection throughout the building. Sprinklers in flats should be provided within the individual flats, they may also need to be provided in the common areas such as stairs, corridors or landings when these areas are not fire sterile.*
- 8.3 *Where sprinklers are being installed as a compensatory feature to address a specific risk or hazard, it may be acceptable to protect only part of a building. Further guidance can also be found in *Sprinklers for safety: Use and Benefits of Incorporating Sprinkler in Buildings and Structures*.*
- 8.4 *There are many alternative or innovative fire suppression systems available. Where these are used, it is necessary to ensure that such systems have been designed and tested for use in buildings and are fit for their intended purpose.*



## **Design of sprinkler systems**

- 8.5 *Where required, sprinkler systems should be provided throughout the building or separated part, unless acting as a compensatory feature to address a specific risk. They should be designed and installed in accordance with the following—*
- (a) For residential buildings, the requirements of BS 9251,*
  - (b) For non-residential buildings, the requirements of BS EN 12845, including the relevant hazard classification together with additional measures to improve system reliability and availability as described in Annex F of the standard.*

*NOTE: Any sprinkler system installed to satisfy the requirements of Part E of the Building Regulations should be provided with additional measures to improve system reliability and availability and is therefore to be regarded as a life safety system. However, there may be some circumstances in which additional measures to improve system reliability and availability specified in Annex F of BS EN 12845 are inappropriate or unnecessary.*

- 8.6 *If the provisions in a building vary from those in this document, sprinkler protection can also sometimes be used as a compensatory feature. BS 9251 makes additional recommendations when sprinklers are proposed as compensatory features.*

## **Water supplies and pumps**

- 8.7 *For non-residential sprinkler systems designed and installed to BS EN 12845 and its clauses, water supplies should consist of either of the following —*
- (a) Two single water supplies complying with clause 9.6.1, independent of each other.*
  - (b) Two stored water supplies meeting all of the following conditions.*
    - i. Gravity or suction tanks should satisfy all the requirements of clause 9.6.2(b), other than capacity.*
    - ii. Any pump arrangements should comply with clause 10.2.*
    - iii. In addition to meeting the requirements for inflow, either of the following should apply.*
      - The capacity of each tank should be at least half the specified minimum water volume of a single full capacity tank, appropriate to the hazard.*

- *One tank should be at least equivalent to half the specified water volume of a single full capacity tank, and the other shall not be less than the minimum volume of a reduced capacity tank (see clause 9.3.4) appropriate to the hazard.*

*The total capacity of the water supply in (iii), including any inflow or a reduced capacity tank, should be at least that of a single full holding capacity tank that complies with Table 9, Table 10 or clause 9.3.2.3, as appropriate to the hazard and pipework design.*

*8.8 For the systems described in paragraph 8.7, both of the following apply if pumps are used to draw water from two tanks.*

- (a) Each pump should be able to draw water from either tank.*
- (b) Any one pump, or either tank, should be able to be isolated.*

*The sprinkler water supplies should not be used as connections for other services or other fixed firefighting systems.”*

*8.9 For a sprinkler system to be effective, it is essential that there is an appropriate water supply. It is strongly recommended that developers and designers discuss project specific details with Northern Ireland Water to determine what supply is likely to be available and what pressure can be expected.”*

**Question TBE2. Do you agree with the proposed guidance regarding sprinklers given in Section 8 of the consultation version of TBE?**

## **Amended guidance for automatic fire detection and fire alarm system provision in dwellings (dwellinghouses and flats) in Section 2 – Means of escape**

### **i. New build/material change of use**

- 6.5 Amended guidance is proposed to extend the provision of smoke and heat alarm detection to a greater number of rooms (i.e. all habitable rooms) in flats and dwellinghouses (those not with a storey exceeding 200m<sup>2</sup> in area) created as new build or as a result of a material change of use.
- 6.6 TBE was first introduced in 1994 and for fire alarm provision in dwellings, initially required self-contained smoke alarm/s on each storey (circulation space), to be interconnected and mains wired. An alternative was an automatic fire detection and alarm system to BS 5839-1: 1988 L3 standard.
- 6.7 An amendment in 2005 saw TBE technical provisions uplift to smoke detection in circulation spaces, principal habitable room and heat detector in each kitchen. The system was required to be mains powered, interconnected with battery or capacitor back-up. An alternative was an automatic fire detection and fire alarm system to BS 5839-6: 2004 of at least Grade D Category LD2 including a smoke alarm in the principal habitable room and a heat alarm in every kitchen.
- 6.8 There was no change in TBE 2012 and the current guidance in TBE says a dwelling should be provided with either:
- (a) smoke alarms complying with BS 5446-1 and a heat alarm or alarms complying with BS 5446-2 installed in accordance with paragraphs 2.25 to 2.33; or
  - (b) an automatic fire detection and fire alarm system complying with BS 5839-6: 2004 of at least Grade D Category LD2 standard including a smoke alarm or alarms in the principal habitable room and a heat alarm or alarms in every kitchen.
- 6.9 So smoke detectors have been required to be mains wired and interconnected since 1994. In 2005 the coverage expanded to include the principal habitable room and heat detector in each kitchen. Also introduced in 2005 was the battery or capacitor back-up requirement.
- 6.10 The proposed amendment will mean for new dwellings or dwellings created as a result of a material change of use at least one smoke alarm to be provided –
- (a) In the circulation route or routes on each storey;
  - (b) In all habitable rooms; and
- at least one heat alarm to be provided in every kitchen. All alarms would be required to be mains powered with battery or capacitor back-up and interconnected so that they all give an audible alarm when one of them is activated.

- 6.11 A new definition of “habitable room” will be inserted into TBE and will read –  
*“any room in a dwelling other than a kitchen, utility room, bathroom, shower room, dressing room or WC”.*
- 6.12 This will mean a smoke alarm will be required in all bedrooms, living rooms, study, lounge etc.
- 6.13 BS 5839-6 ‘*Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises*’ is the recognised British standard for fire detection and alarm provision in dwellings.
- 6.14 The 2004 version (referenced in TBE currently) recommends for single family dwellings and shared houses with no floor greater than 200m<sup>2</sup> to have a minimum of a fire detection and fire alarm system for protection of life of Grade D Category LD2. It recommends heat detectors are installed in every kitchen and the principal habitable room. Where more than one room might be used as the principal habitable room, a heat detector should be installed in each of these rooms. The detector in the principal habitable room (but not the kitchen) may alternatively be a smoke or carbon monoxide detector. However a heat detector is preferred in view of its lower potential for false alarms and the lesser need for maintenance.

Note: The updated 2013 and 2019 versions of BS 5839-6 have the same category of coverage as the 2004 version. They have however amended the recommendation of a heat detector in the principal habitable room to a smoke detector. Also the Grade D has separated into two separate Grades (D1 and D2). TBE will be updated to reference the 2019 version as part of this amendment to reflect the new Grades of system.

- 6.15 Proposed wording to paragraphs 2.23, 2.25, 2.28 and 2.35 of TBE:

“2.23 *A dwellinghouse should be provided with either –*

- (a) *Smoke alarms complying with ~~BS 5446-1~~ **BS EN 14604** and a heat alarm or alarms complying with BS 5446-2 installed in accordance with paragraphs 2.25 to 2.33; or*
- (b) *An automatic fire detection and fire alarm system complying with BS 5839-6 of at least **Grade D2** Category LD2 standard including a smoke alarm or alarms in ~~the principal habitable room~~, **all habitable rooms** and a heat alarm or alarms in every kitchen.*

*Note: A higher standard of protection should be considered where occupants of a proposed dwelling would be at special risk from fire. Further advice on this is also given in BS 5839-6.”*

“2.25 At least one smoke alarm should be provided –  
(a) in the circulation route or routes on each storey; and  
(b) in ~~the principal habitable room~~ **all habitable rooms.**”

“2.28 Smoke alarms should be located in ~~a principal habitable room~~ **all habitable rooms** so that no point in the room is more than 7.5m from the nearest smoke alarm.”

“2.35 Each individual flat should be provided with either –

- (a) smoke alarms complying with ~~BS 5446-1~~ **BS EN 14604** and a heat alarm or alarms complying with BS 5446-2 installed in accordance with paragraphs 2.25 to 2.32; or
- (b) an automatic fire detection and fire alarm system complying with BS 5839-6 of at least Grade **D2** Category LD2 standard including a smoke alarm or alarms in ~~the principal habitable room~~ **all habitable rooms** and a heat alarm or alarms in every kitchen.”

**Question TBE3. Do you agree with the revised provisions for installation of smoke alarms in all habitable rooms as part of automatic fire detection in new dwellings?**

**ii. Extensions and/or alterations**

6.16 Also proposed in relation to fire alarm provision for dwellings is new guidance to clarify the alarm coverage needed when an existing dwelling undergoes an extension and/or alteration.

6.17 Proposed wording after paragraph 2.24:

**“Extensions and/or Alterations**

**2.24A** *Where new habitable rooms are provided, a fire detection and alarm system should be installed where –*

- (a) the room is provided above or below the ground storey; or*
- (b) the room is provided at the ground storey, without a final exit.*

*Smoke alarms should be provided in accordance with paragraph 2.23 to ensure any occupants of the new rooms are warned of any fire.”*

**2.36A** *“Where new habitable rooms are provided, a fire detection and alarm system should be installed in accordance with paragraphs 2.24A to 2.24B.”*

**Question TBE4: Do you agree with the new guidance in relation to fire alarm provision in dwellings subject to an extension and/or alteration work?**

**New guidance for Smoke ventilation in common escape routes of blocks of flats in Section 2 – Means of escape**

6.18 New guidance is proposed to update provisions to ensure adequate smoke ventilation from the common escape routes (lobbies, corridors and stairways) in blocks of flats with a storey more than 11m above ground level. The guidance will also clarify requirements for buildings containing flats with a top storey less than 11m above ground level.

6.19 The proposed amendment will –

1. provide for external wall smoke vents or smoke shafts as a means to achieve natural smoke ventilation from common escape routes in blocks of flats;
2. reference BS EN 12101-2 '*Smoke and heat control systems. Natural heat and smoke control exhaust ventilators*' for components of smoke vents; and
3. make reference to BS EN 12101-6 '*Smoke and heat control systems – Part 6. Specification for pressure differential systems*' as the document to use for the designing of mechanical smoke control systems that use pressure differentials.

6.20 Currently TBE makes reference to the relevant recommendations of BS 5588-1 '*Fire precautions in the design, construction and use of buildings: Code of practice for residential buildings*' for means of escape provisions in flats. It is planned to introduce all means of escape provisions for flats into TBE as part of a future revision to Section 2 in Phase 3. As an interim measure as part of this package of changes, it is proposed to maintain the reference to BS 5588-1 for now but introduce updated guidance for adequate smoke ventilation requirements from the common escape routes in blocks of flats.

6.21 The new guidance can be viewed in the consultation version of TBE issued as part of this consultation package.

**Question TBE5: Do you agree with the amended guidance regarding smoke ventilation from the common escape routes in buildings containing one or more flats as inserted in TBE?**

## **New guidance for Section 6 – Facilities and Access for the Fire and Rescue Service**

6.22 New and amended guidance is proposed for Section 6 'Facilities and Access for the Fire and Rescue Service' of TBE.

6.23 The Department considers there are simple changes which can be made which would have immediate benefits to firefighter safety. The changes are aimed at assisting firefighters in their operational duties of search and rescue and firefighting.

6.24 In Section 6 of TBE, the Department is proposing –

- (i) Amending the guidance on firefighting shaft provision in buildings which have a storey 900m<sup>2</sup> or more in area at a height of 7.5m or more above fire and rescue service access level to require a firefighting shaft for Purpose Group 5 (Assembly and Recreation) buildings;
- (ii) Amending the guidance on firefighting shaft location so that no point on a storey should be more than 60m from a fire main in a firefighting shaft and in addition where sprinklers are not provided, no more than 45m from a fire main in a protected shaft/stair;
- (iii) Amending the guidance so that a building with a storey over 50m above fire service vehicle access level, should be provided with a wet fire main. In all other buildings where fire mains are provided, either wet or dry fire mains are suitable;
- (iv) Amending the guidance so that a pump appliance should be able to access to within 45m of all points within a dwellinghouse/flat as opposed to 45m to the dwelling entrance door;
- (v) Introducing new guidance to require the provision of an emergency evacuation alert system for buildings containing flats with a storey more than 18m above ground level. A new standard for such a system has been published by BSI – BS 8629: 2019 '*Code of Practice for the design, installation, commissioning and maintenance of evacuation alert systems for use by Fire and Rescue Services in buildings containing flats*';
- (vi) Introducing new guidance to require provision of consistent wayfinding signage for use by the Fire and Rescue Service in buildings containing flats with a storey more than 11m above ground level; and
- (vii) Introducing new guidance to require the provision of a secure information box in buildings containing flats with a storey more than 11m above ground level.

## i. Changes to Firefighting Shaft Provision

6.25 Current TBE guidance requires buildings in Purpose Groups (PG) 4, 6 and 7(a) [Shop and commercial; Industrial and Storage and other non-residential] which have a storey 900m<sup>2</sup> or more in area at a height of 7.5m or more above fire and rescue service access level to have a firefighting shaft (all buildings which have a storey more than 18m above fire and rescue service access level require firefighting shaft/s). Analysis of fire statistics indicate the risk in terms of number of casualties per fire is greater for buildings in 'Purpose Group 5 – Assembly and recreation' compared to those in other Purpose Groups. The proposal is to add PG5 buildings with a storey 900m<sup>2</sup> or more in area at a height of 7.5m or more above fire and rescue service access level to the list requiring a firefighting shaft. This should enhance occupant and firefighter safety.

**Question TBE6. Do you agree with the proposed change in guidance to require all Purpose Group 5 buildings which have a storey 900m<sup>2</sup> or more in area at a height of 7.5m or more above fire and rescue service access level to have firefighting shaft provision?**

## ii. Changes to Fire mains Provision

6.26 Post World Trade Centre fire of 2001, tests were carried out on firefighters during search and rescue operations. Core body temperature and other physiological parameters were recorded during these tests. The outcome of these tests resulted in changes to firefighters clothing, equipment and procedures which have been implemented via various other Government and Fire and Rescue Service procedures. The Building Disaster Advisory Group's (BDAG) research project of 2005 – '*Economic impact of the inclusion of BDAG proposals for the provision of firefighting equipment and facilities in the revised Part B*' (in England) also showed that firefighters may not be able to safely penetrate more than 34m into a 'compartment' to rescue a casualty. This conflicts with guidance in existing TBE which sets out a minimum number of firefighting shafts for a given storey floor area and establishes a maximum distance from any point on the floor to the fire main landing valve in those shafts to limit the distance that firefighters would need to lay hose (hose distance) to 60m.

6.27 The proposal is to maintain the guidance in TBE that two firefighting shafts should be fitted in a building with any storey floor area over 900m<sup>2</sup> and also retain the 60m hose distance to a fire main in a firefighting shaft. In addition, also proposed is new guidance so that where sprinklers are not provided, no point on a storey should be more than 45m from a fire main in a protected shaft/stair. This will go some way to address the concern in the research on penetration distances for firefighting personnel in a compartment.



**Question TBE7: Do you agree with the amended guidance so that the maximum distance from any point on a storey to a fire main in a firefighting shaft is 60m and in addition, where sprinklers are not fitted, the distance should be a maximum of 45m to a fire main outlet in a protected shaft (not necessarily a firefighting shaft)?**

**iii. Dry fire mains height limitation**

- 6.28 Based on BRE Project of 2005 – ‘*Hydraulic calculation of wet and dry risers, hoses and branches*’, the research concluded the hydraulic pressure from a fire and rescue service pump appliance could not deliver the required flow of water through a dry fire main beyond a height of 50m above fire and rescue service access level. The existing guidance in TBE specifies 60m height which originates from BS 5588 Part 5 ‘Access and facilities for fire-fighting’.
- 6.29 The proposed amendment will limit the use of a dry fire main to a maximum storey height of 50m above fire and rescue service access level as opposed to the existing 60m in TBE.

**Question TBE8: Do you agree with the amended guidance to set a storey height limit of 50m above fire service vehicle access level for provision of a dry fire mains?**

**iv. 45m distance from pump appliance to all points in a dwelling**

- 6.30 The same research on hydraulic calculation of wet and dry risers, hoses and branches also concluded that for a building without fire main provision, the effective hose penetration distance from the fire and rescue vehicle appliance needed to be measured 45m to reach all points within each individual dwelling (for blocks of flats) and dwellinghouses. The existing TBE guidance of 45m to reach the individual dwelling entrance door (set again under BS 5588 Part 5 ‘Access and facilities for fire-fighting’) needs amended accordingly.

**Question TBE9: Do you agree with the amended guidance so that a pump appliance can gain access, so that the effective hose penetration distance can reach to within 45m of all points within a dwellinghouse/flat? (for buildings not fitted with a fire main)**

**v. Evacuation Alert Systems**

- 6.31 From the ‘Grenfell Tower Inquiry: Phase 1 Report Overview’, one of the recommendations was:

*‘that all high-rise residential buildings (both those already in existence and those built in the future) be equipped with facilities for use by the fire and*

*rescue services to enable them to send an evacuation signal to the whole or a selected part of the building by means of sounders or similar devices’.*

- 6.32 An Emergency Alert System would provide the fire and rescue service with an option to initiate a change in evacuation strategy via an alarm. A new Standard for such a system has been published by BSI – BS 8629: 2019 ‘*Code of Practice for the design, installation, commissioning and maintenance of evacuation alert systems for use by Fire and Rescue Services in buildings containing flats*’.
- 6.33 The proposal is to require the provision of such systems in buildings containing flats with a storey more than 18m above ground level.

**Question TBE10: Do you agree with requiring an emergency evacuation alert system to be installed in buildings containing flats with a storey more than 18m above ground level?**

**vi. Wayfinding Signage**

- 6.34 From the Phase 1 report of the Grenfell Tower Inquiry it was recommended that in all high-rise buildings, floor numbers should be clearly marked on each landing within the stairways and in a prominent place in all lobbies in such a way as to be visible both in normal conditions and in low lighting or smoky conditions.
- 6.35 There have been instances where firefighters have faced problems identifying floors during an incident where the wayfinding signage perhaps could have been clearer. This highlights the need to improve the consistency of approach in providing wayfinding signage to ensure this does not happen in future by making small but meaningful changes to technical guidance.
- 6.36 The proposal therefore is to make it a requirement for better wayfinding signage for the fire and rescue service in stairways and lobbies, which could also improve the pace of operational response.
- 6.37 We believe signage could be provided at relatively low cost but would be an important contribution to building safety. BS 9991 already recommends that signage numerically indicating the floor level should be provided within the fire-fighting stair of blocks of flats. There is however no prescribed format (size and design) for the signage to be provided.
- 6.38 It is proposed to implement the Inquiry’s recommendation that wayfinding signage be present in all high-rise residential buildings. We propose going beyond the Inquiry’s recommendation and introduce a requirement for it in all buildings containing flats (Purpose Group 1a) with a storey more than 11m above ground level. Wayfinding signage is relatively straightforward and inexpensive to introduce and will support Fire and Rescue Service operations and make an important contribution to building safety.

**Question TBE11: Do you agree with the new requirement for wayfinding signage in buildings containing flats with a storey more than 11m above ground level?**

**vii. Secure Information Boxes**

6.39 From the Grenfell Tower Inquiry, it was recommended that high-rise residential buildings contain a Premises Information Box, the contents of which must include a copy of the up-to-date floor plans and information about the nature of any lift intended for use by the fire and rescue service.

6.40 The Department holds the view that Secure Information Boxes (or Premises Information Boxes) are a recognised method through which building owners / managers and occupiers can provide information to the attending Fire and Rescue Service. Currently, there is no statutory requirement to have them installed in multi-occupied residential premises, their use is voluntary.

6.41 When they are installed, there are benefits for the Fire and Rescue Service in terms of their response to incidents as the boxes provide fire-fighters with readily accessible information about the building. The information may include floor plans with the location of key firefighting equipment; a single page building plan with the location of key firefighting equipment; and contact details for the person in charge of the building.

6.42 Having this information in a Secure Information Box could be seen either as an alternative or supplementary to sending paper and electronic copies of plans to the Fire and Rescue Service.

6.43 There is some existing guidance for such provisions in certain building types, for example BS 9999 provides guidance on Operational Information (emergency packs). Also, the Fire and Rescue Service may have their own guidance notes on Secure/Premises Information Boxes. This new requirement in statutory guidance should be helpful to increase their usefulness, with the intention of standardising aspects such as box specifications, markings, signage, location, access, and contents.

**Question TBE12: Do you agree with the new requirement for a secure information box in buildings containing flats with a storey more than 11m above ground level?**

## Proposed Amendments to Section 6 ‘Facilities and Access for Fire and Rescue Services’ of TBE

(Black text – Existing, Red text – New, Strikethrough – To be deleted)

### New paragraph after 6.1

#### “6.1A

*The main factor determining the facilities needed to assist the Fire and Rescue Service is the size and use of the building. Generally, most firefighting is carried out within the building.*

*6.1B If it is proposed to deviate from the guidance in Section 6, then it would be advisable to seek advice from the Fire and Rescue Service at the earliest opportunity.”*

### Amend Paragraph 6.3

*“A shopping complex should be provided with firefighting shafts in accordance with the recommendations of ~~BS 5588-10 Section 3~~ **BS 9999**. Any other building should be provided with a firefighting shaft or shafts, to serve all storeys, where –*

- (a) It has a storey more than 18 m above fire and rescue access level;*
- (b) It is a building of Purpose Group 4, **5**, 6 or 7(a) and has a storey 900m<sup>2</sup> or more in area at a height of 7.5 m or more above fire and rescue access level;*
- (c) ....*
- (d) .....*

(Diagram 6.1 ‘Provision of firefighting shafts’ will be amended also)

### Delete paragraphs 6.4 and 6.5 and Table 6.1 and insert

#### “6.3A

*Firefighting shafts and protected stairways should be located such that every part of each storey more than 18m above fire and rescue service vehicle access level (or above 7.5m where covered by paragraph 6.3) complies with the maximum distances given in paragraph 6.3B.*

#### 6.3B

*In any building, the hose laying distance should meet all of the following conditions –*

- (a) a maximum of 60m from the fire main outlet in a firefighting shaft on a route suitable for laying a fire hose (hose route). If the internal layout is not known, every part of every such storey should be not more than 40m in a direct line from a fire main outlet;
- (b) Additionally, where sprinklers have not been provided in accordance with Section 8, the hose laying distance should be a maximum of 45m from a fire main outlet in a protected shaft or 30m in a direct line (although this does not imply that the protected shaft needs to be designed as a firefighting shaft).

### 6.3C

A minimum of two firefighting shafts (each containing a firefighting lift) should be provided to buildings with a storey that has a floor area of 900m<sup>2</sup> or more and a floor level 18m or more above Fire and Rescue Service access level.

### 6.3D

A minimum of two firefighting shafts (which do not need to include a firefighting lift) should be provided to buildings where paragraph 6.3(b) applies.”

### Amend Paragraph 6.6

“Firefighting shafts should be designed and constructed in accordance with the relevant recommendations of ~~BS 5588-5~~ **BS 9999**.

Where a building falls within paragraph 6.3(a) or (c) all firefighting shafts should have a firefighting lift complying with the relevant recommendations of ~~BS 5588-5~~ **BS 9999**.”

### Amend Paragraph 6.8

“A firefighting shaft should be provided with –

- (a) A wet fire main where it has a storey more than ~~60~~ **50** m above fire and rescue access level; or”

### Amend Paragraph 6.19

“The provisions for vehicle access are related to whether or not the building has a fire main or mains and, where it does not, to the size and height of the building.

Where a building –

- (a) Does not have a fire main and is a block of flats, access for a pump appliance should be provided to within 45 m (hose route) of ~~each door giving access to~~ **all points within** each individual dwelling;
- (b) Does not have a fire main, is not a block of flats and is less than 2000m<sup>2</sup> in area and the height to the top storey is less than 11 m, access for a pump appliance should be –
  - (i) Provided to within 45 m (hose route) of the building other than for a dwellinghouse where the 45 m should be to ~~a door giving access to the interior~~ **all points within each individual dwelling**; or

- (ii) *Provided to 15% of the perimeter;*”

After paragraph 6.21, insert –

**“Evacuation alert systems**

6.21A *In buildings containing flats (purpose group 1(a)) with a storey more than 18m above ground level, an evacuation alert system (EAS) should be provided in accordance with BS 8629.*

6.21B *The system should enable the fire and rescue service to initiate operation of evacuation alert sounders within each individual dwelling on any single floor, multiple floors and the entire building, according to circumstances.*

6.21C *An evacuation alert system is not, and should not be confused with, a fire alarm system. The EAS should not be integrated with a fire detection and fire alarm system (or any other system), nor should any devices (such as fire detectors), other than evacuation alert devices, be connected to the EAS.”*

**“Wayfinding signage**

6.21D *To assist the fire and rescue service to identify each floor in a building containing flats with a storey more than 11 m above ground level, floor identification signs and flat indicator signs should be provided.*

6.21E *The floor identification signs should meet all of the following –*

- (a) the signs should be located on every landing of a protected stairway and every protected corridor/lobby (or open access balcony) into which a firefighting lift opens;*
- (b) the text should be in sans serif typeface with a letter height of at least 50mm. The height of the numeral that designates the floor number should be at least 75mm;*
- (c) the signs should be visible from the top step of a firefighting stair and, where possible, from inside a firefighting lift when the lift car doors open;*
- (d) the signs should be mounted between 1.7m and 2m above floor level and, as far as practicable, all the signs should be mounted at the same height;*
- (e) the text should be on a contrasting background, easily legible and readable in low level lighting conditions or when illuminated with a torch;*
- (f) the wording used on each floor identification sign should take the form Floor X, with X designating the number of the storey, as intended for reference by residents.*

6.21F *The floor number designations should meet all of the following conditions –*

- (a) The floor closest to the mean ground level should be designated as either Floor 0 or Ground Floor;*

- (b) *Each floor above the ground floor should be numbered sequentially beginning with Floor 1;*
- (c) *A lower ground floor should be designated as either Floor -1 or Lower Ground Floor;*
- (d) *Each floor below the ground floor should be numbered sequentially beginning with Floor -1 or Basement 1.*

*6.21G All floor identification signs should be supplemented by flat indicator signs, which provide information relating to the flats accessed on each storey. The flat indicator signs should meet all of the following –*

- (a) *The signs should be sited immediately below the floor identification signs, such that the top edge of the sign is no more than 50mm below the bottom edge of the floor identification sign;*
- (b) *The wording should take the form Flats X-Y, with the lowest flat number first;*
- (c) *The text should be in sans serif typeface with a letter height of at least half that of the floor indicator sign;*
- (d) *The wording should be supplemented by arrows when flats are in more than one direction;*
- (e) *The text and arrows should be on a contrasting background, easily legible and readable in low level lighting conditions or when illuminated with a torch.*

*Note: In the case of multi-storey flats with two or more entrances, the flat number should only be indicated on the normal access storey.”*

### **“Secure Information Boxes**

*6.21H A Secure/Premises information box provides a secure facility to store information about a building for use by the fire and rescue service during an incident.*

*6.21J Buildings containing flats (purpose group 1(a)) with a storey more than 11m above ground level should be provided with a secure information box.*

*Note: Consideration should also be given to other buildings with large, complex or uncommon layouts where the provision of a secure information box may be beneficial.*

*6.21K The box should meet all of the following conditions –*

- (a) *Sized to accommodate all necessary information;*
- (b) *easily located and identified by firefighters;*
- (c) *secured to resist unauthorised access but readily accessible by firefighters; and*
- (d) *protected from the weather.*

*6.21L Best practice guidance can be found in Sections 2 to 4 of the ‘Code of Practice for the Provision of Premises Information Boxes in Residential Buildings’ published by the Fire Industry Association (FIA).”*

6.44 The Department welcomes views on the changes in the issued TBE, particularly whether it would be helpful to include any other information.



## **7 DRAFT REGULATORY IMPACT ASSESSMENT – PART E**

7.1 The Department is publishing a consultation stage Regulatory Impact Assessment (RIA) alongside this consultation paper. In summary:

- The impact assesses the proposed changes for the two new regulations 37A and 37B to Part E (Fire safety) of the building regulations and the guidance changes to Technical Booklet E (Fire safety).
- It will mean fire safety information being made available to building owners/occupiers at the handover stage in the lifecycle of a building. The requirement will apply to a wide variety of buildings defined as ‘relevant premises’ under the Fire and Rescue Services NI Order 2006 and buildings containing flats with a storey more than 11m above ground level.
- It will also mean a suitable automatic fire suppression system will need installed in a variety of buildings, principally residential in nature. The prescriptive list of buildings where this new requirement will apply includes buildings containing flats with a storey more than 11m above ground level, residential care homes, nursing homes, children’s homes, family resident centres and purpose-built student accommodation (PBSA) with a storey more than 11m above ground level.
- The analysis compares the changes (Option 2) against a ‘Do nothing’ (Option 1) where no changes would be made to the Building Regulations.
- Option 1 is not considered viable as although it imposes no direct costs, it produces none to little benefits and foregoes the benefits of Option 2. It would leave Part E and TBE out of step with related regulations and guidance in other jurisdictions. For the changes in relation to the perceived higher risk buildings, it would leave residents/occupants at greater risk of harm due to the consequences of fire.
- Option 2 will result in an overall cost implication for industry, however the benefits in terms of lives saved and injuries prevented, not to mention the property protection benefits are significant to justify the changes. The extra costs involved will be relatively small in proportion to the total build cost.
- It is anticipated at this stage the costs to industry will be approximately £4.855m per annum. Initial first year only costs of familiarisation for the industry and District Council Building Control are £173k and £18.8k respectively.
- A number of risks and assumptions in deriving costs and benefits are detailed in the Impact assessment document which is issued as part of this consultation package.

- The Department considers that the amendments will have no significant effect on competition in any markets.
- The amendments apply to a range of buildings, primarily of a residential nature and therefore have an effect on the house-building sectors, property owners, developers, etc. with no adverse impact on equality of opportunity or the needs of rural customers.
- The Department does not expect an Environmental Impact from the preferred Option to affect the wider environment outside the buildings affected and it will not result in additional greenhouse gases being emitted. There is likely small environmental benefits to the changes.
- The preferred Option is primarily focussed on saving lives and preventing injuries due to fires in residential type buildings. The proposed amendments are likely to give reassurance of a feeling of improved safety for residents leading to a positive impact on public health and welfare which will bring a number of non-monetised social benefits.

**Question IA1: Do you agree with the assumptions, costs and impacts set out in the consultation stage RIA?**

**Question G1: Please set out any additional comments you have.**

## **8. TIMING AND NEXT STEPS**

8.1 The Department proposes that these amendments to the regulations and Technical Booklet should come into operation 6 months after the laying of the Statutory Rule to amend the regulations.

# Annex A

## Personal data

The following is to explain your rights and give you the information you are entitled to under the Data Protection Act 2018.

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally), not the content of your response to the consultation.

### 1. The identity of the data controller and contact details of our Data Protection Officer

The Department of Finance (DoF) is the data controller. The Data Protection Officer can be contacted as follows:

Data Protection Officer  
Department of Finance  
Room 23, Dundonald House  
Upper Newtownards Road  
Belfast  
BT4 3SB

Tel: 028 9052 4961

Email: [dataprotectionofficer@finance-ni.gov.uk](mailto:dataprotectionofficer@finance-ni.gov.uk)

### 2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

### 3. Our legal basis for processing your personal data

The Data Protection Act 2018 states that, as a government department, DoF may process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation. In addition to the statutory requirement in the Building Order to consult on building regulations matters there is an expectation of appropriate public consultation on substantive changes to the Building Regulations.

### 4. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for two years from the closure of the consultation.

### 5. Your rights, e.g. access, rectification, erasure

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right:

- a. to see what data we have about you
- b. to ask us to stop using your data, but keep it on record

- c. to ask to have all or some of your data deleted or corrected
- d. to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at <https://ico.org.uk/>, or telephone 0303 123 1113.