



**FINAL BUSINESS AND REGULATORY IMPACT
ASSESSMENT**

**AMENDMENT TO THE BUILDING REGULATIONS AND
BUILDING STANDARDS TECHNICAL HANDBOOK
GUIDANCE - SECTION 2: FIRE**

BUILDING STANDARDS DIVISION

7 June 2019

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Final Business and Regulatory Impact Assessment

1. TITLE OF PROPOSAL

Amendment to the Building Regulations and Building Standards Technical Handbook guidance - Section 2: Fire

2. PURPOSE AND INTENDED EFFECT

2.1 Background

Following the tragic events at Grenfell Tower, London in June 2017 a Ministerial Working Group (MWG) was set up to oversee a review of building and fire regulatory frameworks and any other relevant matters, to help ensure that people are safe in Scotland's buildings, and make any recommendations for improvement as required. One piece of work identified by the MWG was a need for a review of specific aspects of the Scottish building regulations applicable to high rise domestic buildings.

An expert review group, consisting of industry experts from the UK, working in academia, fire engineering, construction/design, Scottish Fire and Rescue Services, building standards delivery and UK wide building regulation development was set up to lead the review. This expert review group met on four occasions and was supplemented by an international panel of members consisting of regulators from Australia, Austria, the Netherlands and the United States of America, which met twice.

Scottish building regulations set national mandatory building standards for the health, safety, welfare and convenience of persons in and around buildings, furthering the conservation of fuel and power and furthering the achievement of sustainable development. These building standards are supported by guidance contained in the building standards Technical Handbooks. The building regulations apply to new buildings and to buildings being converted, altered or extended. Scottish building regulations are devolved to the Scottish Parliament, therefore there is no alternative framework in place which deals with Scottish building regulations and mandatory building standards.

Building standards are expressed in functional terms and do not dictate the methods that should be used to achieve the requirements. The choice of how to comply with the standards lies with building owners and for this purpose Scottish Ministers issue Technical Handbooks containing practical guidance on how the requirements of the building standards may be met. The guidance may be relied upon in any proceedings as tending to negative liability for an alleged contravention of the building regulations. This does not, however, preclude the use of alternative approaches provided the designer can satisfy the local authority verifier that the requirements of the building standards will be fulfilled in the completed building.

2.2 Objective

Buildings have significant implications for health, safety, the environment and our communities. Through the appropriate application of minimum building standards, set by regulations, the design and construction of Scotland's built environment can benefit all owners, user and people in and around our buildings.

This Business and Regulatory Impact Assessment (BRIA) forms part of a building regulations review, specifically amendments to building standard 2.4 and the Building Standards Technical Handbook (TH) guidance that supports Section 2: Fire.

The principle aims and objectives of the proposals support the Government's strategic objectives of a healthier and safer Scotland. This is done through the principles of better regulation by:

- amending building standard 2.4 relating to the unseen spread of fire and smoke in cavities;
- amending TH guidance relating to:
 - All references to British Standards for reaction to fire removed and references changed throughout to the European Classification for reaction to fire;
 - Scottish fire statistics;
 - the status of the Technical Handbook guidance and the use of fire engineered solutions and engineered timber;
 - Clarification on the use of the Technical Handbook guidance for new build Houses in Multiple Occupation (HMO's)
 - provide separate "standalone" guidance covering all aspects of the Domestic TH as it applies to dwellings*;
 - provide separate "standalone" Section 2: Fire guidance applicable to hospitals, shopping centres and residential care homes*;
 - external wall junctions with separating walls and floors and compartment walls and floors;
 - open state intumescent cavity barriers;
 - Green roofs and walls
 - Fire spread on external walls via balconies, solar panels and solar shading;
 - the combustibility of external wall cladding to high rise domestic buildings, entertainment and assembly buildings, residential care buildings and hospital buildings;
 - two means of escape from high rise domestic buildings;

- Scottish Fire and Rescue Service activated evacuation sounders to assist with floor by floor or mass evacuation if necessary;
- Floor and dwelling indicator signs to high rise domestic buildings to assist the Fire and Rescue Service with firefighting and rescue operations;
- Automatic fire safety suppression systems to flats and to certain shared dwellings *.
- Developing a “hub” to deal with fire safety engineered solutions for more complex buildings*.

Note: although part of the Building Standards (Fire Safety) review, the workstreams delineated with an asterisk (*) above will be developed and taken forward at a later date.

2.3 Rationale for Government intervention

2.3.1 Introduction

The Scottish Government has set out an ambitious programme of work in ‘Delivering for today, investing for tomorrow: the Government’s programme for Scotland 2018-2019’.

In the coming year, the Government has committed to implementing the actions recommended by the Ministerial Working Group established following the tragic fire at Grenfell Tower in London.

The Building Standards review of fire safety was completed in December 2018 and will strengthen and enhance key aspects of the Scottish Building Standards system including tighter restrictions on the use of combustible cladding, increased provision for escape in high rise domestic buildings and the introduction of an evacuation system for use by the fire and rescue service in the unlikely event of a floor by floor or mass evacuation of a high rise domestic building following the outbreak of fire.

2.3.2 Grenfell Tower Fire, 14 June 2017

The tragic fire that occurred in the early hours of 14 June at Grenfell Tower in North Kensington, London killing 72 people provided the driver for Government intervention. Although a police investigation and public inquiry have still to be concluded and their findings released, amongst matters being considered are if the cladding fitted in a recent refurbishment of the building did not comply with provisions set out on means of complying with English building regulations.

It is believed other factors in the construction or refurbishment of the building, which led to the rapid spread of fire in the building and reduced

opportunity for occupants to escape, will emerge in due course. Additional factors may, therefore, require to be considered in respect of Scottish building standards at a future date when they become known. However, Ministers considered that the known issues were of such magnitude that they required to be tackled at an early juncture.

This review, therefore, considers the fitness of building standards and associated Technical Handbook guidance of the known issues in relation to domestic high rise buildings. However, where the areas considered have an obvious impact on other building types the opportunity was taken to address these at this time. Other factors arising from the Grenfell tragedy, such as non-compliance with building regulations, have been taken forward under a separate “enforcement and compliance” building standards work stream.

The various threads of the work stream tie into the objectives of the National Performance Framework, in particular that people in Scotland live in “communities that are inclusive, empowered, resilient and safe”. There is a need to ensure that not only do people feel safe in their homes and places of work or entertainment but they actually are as safe as possible from the risk of fire. The revisions will reduce the risk of fire and, where a fire does occur, there are measures in place to restrict the growth of fire and smoke to enable the occupants to escape safely and fire fighters to deal with fire safety and effectively.

2.3.3 Building Standard 2.4

Building Standards officials have received technical questions over the years about the need for fire resisting cavity barriers behind some more open types of cladding systems. Parties have asked questions based upon the view that if the fire and smoke spread could be ‘seen’ from outside the building then there was no need to provide cavity barriers to control fire spread in the cavity. The Grenfell Tower fire on the 14 June 2017 is a stark reminder of the value and need for cavity barriers even where the fire can be seen from outside the building. The full scale façade fire tests commissioned by the Ministry for Housing, Communities and Local Government (MHCLG) have reinforced the valuable role that non-combustible cladding and cavity barriers play when inhibiting vertical fire spread up the façade of a building. The expert Review Panel were of the view that whilst all other functional standards remained fit for purpose, the word ‘unseen’ should be removed from mandatory Standard 2.4 at the earliest opportunity.

The expert panel were also of the view that the word ‘cavity’ should replace the words ‘concealed space’ for two reasons. Firstly, a ventilated cladding system may not be considered by some as a ‘concealed space’ since some types of cladding system (including rainscreen cladding) may have gaps around their edges. Secondly, the use of the word ‘cavity’ is a better

reflection on the intent and spirit of the Standard 2.4 Cavities and is clearly defined in the guidance introducing that standard.

2.3.4 Technical Handbook guidance

Additionally, as identified in 2.1 (background), mandatory standards are framed by guidance. As following the guidance tends towards negative liability, this is the most common way of meeting the standards.

Consequently if the Scottish Government want a major shift in how standards are met, changing guidance has the most impact. The rationale for Government intervention in respect of each topic is identified below.

- **Technical Handbook guidance – General advice on status and the use of fire engineering**

The Technical Handbooks contain guidance on one or sometimes more than one means of complying with the requirements of the mandatory building standards. Alternative means of showing that compliance with any or all applicable building standards may be adopted by the building warrant applicant or their duly authorised agent. It is for the applicant or their agent to evidence to the verifier that the requirements of the standard(s) will be met by the alternative method.

Although most practitioners are aware that the Technical Handbooks contain guidance, in practice the guidance is viewed as “the requirements” by all parties involved. This approach can and does lead to misunderstandings and unnecessary delays in the approval of building warrants when an alternative route to compliance is followed. Although this is true of all sections of the Technical Handbooks it is particularly true in respect of Section 2: Fire.

It is intended to expand clause 2.0.7 “Alternative Approaches” within the introduction to Section 2: Fire to clarify the intent and, in some instances, limitations of the guidance. Additional guidance has also been provided on the use of fire engineered solutions and engineered timber.

- **Technical Handbook guidance - Standalone guidance for certain dwellings**

The existing guidance relating to one or two storey dwellings is contained within the Domestic Technical handbook, which covers all building works classed as domestic. These “domestic” works can range from minor alterations and small extensions to a house to the construction of high rise domestic flats. Over the years there has been criticism from both professionals and, in particular, laypeople that the Technical Handbooks are overly complex when dealing with relatively minor domestic projects. It has been suggested that separate “stand alone” guidance solely applicable to smaller domestic projects such as alterations and extensions to houses and the construction of houses with up to three storeys would be of great benefit.

It is considered that robust standalone guidance covering all building standards applicable to these relatively simple works would be of benefit to all involved in the procurement process.

- **Technical Handbook guidance supporting Building Standard 2.7. Combustibility of External Wall Cladding Systems**

The current guidance on the reaction to fire of external wall constructions references both British and European Standards “reaction to fire” classifications. Recent research carried out on behalf of the Building Standards Division questioned whether the “reaction to fire” test standards in the BS 476 suite of British Standards and Harmonised European reaction to fire tests remained relevant. The research considered that, as the test methodology was developed to ascertain the “spread of flame” characteristics of internal wall and ceiling linings in the incipient and growth phases of a fire, it should not normally be used to classify the reaction to fire of external wall cladding materials in a post flashover fire.

The expert panel reviewing Section 2 Fire agreed with the research and concluded that the BS 476 suite of standards relating to reaction to fire should no longer be cited within guidance as they were no longer being supported by the British Standards Institution.

The European Standards currently referred to in guidance to classify reaction to fire are maintained by the British Standards Institution on a 5 yearly cycle.. The consequence of this is that all materials used in external wall cladding systems (including insulation exposed in the cavity) will be required to achieve an A1 or A2 European classification in defined circumstances; that is, they will require to be non-combustible (A1) or of limited combustibility (A2). The continued use of European reaction to fire tests for all other buildings is currently considered to provide an adequate level of safety for external wall cladding systems and insulation exposed in the cavity. This will be kept under review as evidence emerges from the Grenfell Inquiry.

It is intended to retain the alternative means of compliance by evidencing that an external wall cladding system has been the subject of a full scale test meeting BS 8414 Parts 1 or 2, subject to a BR 135 report.

We now extend these provisions for compliance to all buildings with a storey at a height greater than 11 m above ground and to both hospitals & residential care buildings and in entertainment and assembly buildings of any height. The 11m storey height is based on the reach capability of a fire and rescue service ground mounted water jet where there is sufficient pressure and flow in the water main.

- **Technical Handbook guidance supporting Building Standard 2.14. Fire and Rescue Service Activated Evacuation Sounders**

Changes to the guidance in the Technical Handbooks will clarify that the guidance relating to high rise domestic buildings is based on a “stay put” or “defend in place” policy. That is to say, occupants in the building stay in their flats (other than the flat of fire origin) unless it is either unsafe for them to do so or they are directed by fire and rescue services (FRS) to evacuate.

Although very rare, it is recognised that there may be occasions when the FRS require to evacuate the fire floor and in extreme cases, other floors or the entire building. . Currently under such circumstances, the Incident Commander instructs fire fighters to knock on the doors of the flats and advise the occupants to vacate the building when it is safe to do so.

The provision of a fire service activated evacuation sounder system will assist the FRS in evacuating part or all of the building if required, without compromising their firefighting abilities. The system will have a sounder in each of the flats but will not be linked to the smoke and heat detection/alarm system within the individual flats. The system is solely for the use of the Incident Commander in the event of a partial or full evacuation being necessary.

The provision of storey and dwelling indicator signage will assist the FRS in their fire-fighting and rescue operations in high rise domestic buildings.

- **Technical Handbook guidance supporting Building Standard 2.9. A Minimum of Two Escape Stairs to High Rise Domestic Buildings –** Changes to the guidance in the Technical Handbooks will call for at least two escape stairs to be provided to high rise domestic buildings. As noted above, the Technical Handbook guidance on protection from fire and the adequacy of means of escape in event of a fire is based on a “protect in place” principle. That is to say that each flat is a protected “compartment”, separated from the remaining building by a construction which achieves at least a one hour fire resistance. The effect of this “compartmentation” is that only the occupants in the dwelling directly affected by a fire need to evacuate the building. All other occupants in dwellings not affected by fire or smoke are safe to remain in their homes unless directed otherwise by Fire and Rescue Services.

It is considered that the requirement for two escape stairs in high rise domestic buildings will provide a degree of “redundancy” in the provision of escape routes for occupants in these types of buildings. Fire statistics show that 95% of accidental fires in dwellings do not spread beyond the room of origin and, in flatted accommodation, less than 1% of accidental fires spread beyond the flat of origin. There is currently no evidence to suggest that existing high rise domestic buildings with a single escape stair are unsafe. However, should a fire start in or enter the communal

areas from adjoining accommodation in a high rise building there is a threat that the escape stair could be compromised by fire and smoke. It is considered that a second escape stair will help ensure that, if one stair becomes un-passable, a second stair will be available to allow the FRS to direct occupants to the safety of a second escape stair from the building.

- **Technical Handbook guidance supporting Building Standard 2.15. Automatic Fire Suppression System to All Flats and certain categories of multi-occupancy dwellings**

There are significantly more fatalities resulting from fires in domestic premises than the collective total for all other types of buildings. The relatively low level of fatalities in non-domestic buildings is undoubtedly due to the various legal obligations placed on the owners and operators of these buildings to carry out and maintain fire risk assessments. The Scottish Government is gathering information and views on proposed actions to strengthen fire safety for people who live in high rise domestic buildings. The consultation closes on 17 July and can be accessed here. <https://consult.gov.scot/fire-and-rescue/fire-safety-consultation-2019/>.

While there is much evidence that automatic fire suppression systems prevent fire growth and can save lives, the installation and maintenance costs remain relatively high. However, research carried out for Scottish Government in 2015¹ indicated that there may be a cost benefit to installing automatic fire suppression systems in flats. At the time the report was written the installation costs in new build flatted accommodation was between £800 and £2,000 for a mains fed installation and between £2,000 and £3,500 for a tank and pump installation.

In addition, the research identified that more than half of the individuals who died in residential buildings had a high level of drink or drug dependency or other vulnerabilities. A significant number of people with this type of demographic live in social rented housing.

It is considered that extending the existing requirements for automatic fire suppression systems to all high rise domestic buildings (i.e. domestic buildings with a storey over 18 m above adjoining ground level) to be applicable to:

- all flatted accommodation regardless of height,
- Shared dwellings that provide care for 3 or more unrelated families on a 24/7 basis or provide accommodation for more than 10 occupants

¹ Research Project to Review the Cost Effectiveness of Sprinklers in Residential Properties – Optimal Economic May 2015

Note: this amended provision, which will now be developed separately for implementation in 2021, will target significant numbers of those identified as being most at risk from a fire in their home or accommodation.

3. CONSULTATION

3.1 Within Government

The various work streams contained in the consultation proposals were developed by the expert review panel (see section 2.1) with input from policy areas of the Scottish Government with an interest in the welfare and health of occupants of high rise domestic buildings. Consultation with the following directorates was carried out throughout the review process, including the drafting process of proposed changes:

- Directorate for Safer Communities – Fire and Rescue Unit
- Directorate for Housing and Social Justice – Better Homes Division and More Homes Division

Any proposals to amend mandatory building standards and/or associated guidance issued under the Building (Scotland) Regulations 2004 require to be notified to the European Commission under the provisions of Technical Standards & Regulations Directive 98/34/EC. This Directive seeks to prevent occurrence of technical barriers to trade and lays down a procedure for the provision of information in the field of technical standards and regulations. Once drafting is complete this notification is made and a standstill period on further development imposed by the Directive requires to be adhered to.

3.2 Public Consultation

A consultation² was opened on 4 July 2018 and closed on 26 September 2018. The full consultation package was published in different formats on the Scottish Government website, as well as being publicised at various seminars and presentations both prior to and during, the consultation period. The consultation consisted of three parts:

- Part one asked questions relating to compliance and enforcement issues,
- Part two asked questions relating to fire safety and
- Part three asked additional “general” questions

This consultation differed significantly from previous public consultations on proposed changes to building standards and Technical Handbook guidance. Rather than seek comments on draft standards or guidance developed in conjunction with the review panel, this consultation document consisted of a series of high level questions seeking views and opinions on a series of “concepts”.

² <https://consult.gov.scot/local-government-and-communities/compliance-and-enforcement-and-fire-safety/>

In support of the 12 week public consultation there were four “world café” events held at Edinburgh, Stirling, Glasgow and Aberdeen. Although attendees at these events were not discouraged from giving their opinion on the “concepts” in the public consultation, the main objective of the events was to gain greater insight into the proposed direction that the changes are going. This additional insight included attendees’ perceived impact on design choices and costings.

In addition to the “formal” feedback processes above, the opportunity to discuss users’ perceptions of the proposals was also taken when officials met or spoke with individuals, businesses, bodies and organisations. For example, Building Standards Division officials met with members of the Tenants and Residents Association where the aspects that impacted on high rise domestic buildings were discussed.

There were 222 responses to the public consultation from individuals, businesses and organisations/bodies representing both professionals and businesses. In addition, 246 individuals attended the four world café events. Analysis of the consultation returns, including opinions expressed at the world café events, was carried out by Pye Tait Consulting and a report³ produced. The following offers a summary of responses to consultation topics:

- **Technical Handbook guidance – General guidance on status**
Four fifths of respondents thought that additional guidance should be provided within the Technical Handbooks clarifying that there are other ways of complying with the requirements of the mandatory standards. The majority of those agreeing considered that such additional guidance would provide further consistency, clarity and flexibility and would support innovation. However, some respondents thought that this was already explicit within the Technical Handbooks.
- **Technical Handbook guidance - Standalone guidance for certain dwellings**
More than half of those responding to this question were in favour of an additional Technical Handbook covering simple detached and semi-detached dwellings up to three storeys. Building professionals, for example, architects, surveyors and consultants and construction firms and contractors were among those most in favour of this initiative with 82% and 92% respectively. Some of the respondents in favour felt the introduction of a document dealing solely with dwellings would be particularly useful for home owners and small developers.

³ see <https://consult.gov.scot/local-government-and-communities/compliance-and-enforcement-and-fire-safety/results/buildingstandardscomplianceandfiresafetyconsultation-analysisreport.pdf>

Responses from those employed by local authorities (primarily building standards surveyors) indicated that they did not see value in a standalone dwelling Technical Handbook, with only 21% agreeing with the proposal. This is, perhaps, unsurprising as they work with the Technical Handbooks daily and are, therefore, more familiar with their contents than other professions. There was concern that a separate Technical Handbook dealing solely with the more common dwellings has the potential to “dilute” knowledge on other areas of domestic buildings as it would have to be specifically sought out rather than viewed when considering, for example, detached dwellings.

- **Technical Handbook guidance supporting Building Standard 2.7. Combustibility of External Wall Cladding Systems**

This part of the consultation asked several questions relating to the areas of the Technical Handbook providing guidance on the suitability of external wall cladding systems.

The first question asked whether reference to the BS 476 suite of standards relating to reaction to fire testing should be removed from the Technical Handbooks. Although only 22% of respondents did not think that BS 476 standards covering reaction to fire testing should be removed there was not a majority in favour (48%). The remaining 30% were unsure. When considering the groups responding, the largest percentage in favour of the proposal came from those working in local authorities (68%). As the majority of this group were building standards surveyors it may be that they are more familiar with the differences between the BS 476 series of reaction to fire test standards and the Harmonised European fire tests.

The second question in this series had two elements, firstly, whether the means of evidencing the “reaction to fire” properties of materials/products should be limited to A1 or A2 materials/ products and secondly, whether the guidance should apply to all building types with a storey over 11m (previously only applicable to high rise domestic buildings with a storey over 18m). The 11m storey height is based on the reach capability of a fire and rescue service ground mounted water jet where there is sufficient pressure and flow in the water main.

The responses indicated broad support for the proposals, with 58% in favour. Again, local authorities were overwhelmingly in support with 85% agreeing that this should be taken forward. Those agreeing saw it as a way of restoring public confidence as well as increasing safety and clarity. Building professionals (architects, surveyors, etc.) and construction firms/ contractors did not consider this was the correct way to go, with 59% and 67% respectively responding “no” or “unsure”.

The main rationale for those that did not agree was economic viability of some projects. In addition, 10 respondents were opposed to lowering the trigger height from the current 18m (for high rise domestic buildings) to 11m suggesting that the current trigger point was satisfactory or that further evidence is required.

Of the 20% indicating they were unsure, many questioned the proposed 11m trigger height, as well as the applicability to all building types.

Respondents were also asked for their thoughts on whether the guidance for A1 or A2 materials/products should also apply to the external wall cladding systems of entertainment and assembly buildings, residential care homes and hospitals, regardless of their storey height. Although the percentages varied slightly, the responses were similar to the previous question, with local authorities broadly in favour on 81% and building professionals and construction firms/contractors broadly against, with only 30% and 24% respectively agreeing with the proposals. In particular, manufacturers of off-site modular buildings were concerned that this proposal would prohibit the use of their buildings for these types of use.

The final question relating to the Technical Handbook guidance for building standard 2.7 related to the use of BS 8414 fire test and BR 135 reports as a means of evidencing compliance of external wall cladding systems on buildings with a storey height of over 11m. Just under half (47%) of all respondents considered that this was a reasonable approach, however, more than one third (35%) of respondents were unsure, perhaps highlighting the “specialist” nature of the subject, with the majority of these coming from members of the public. If those responding “unsure” are excluded from the accounting 72% of the remaining respondents were in favour of the proposal. Most of those agreeing with the proposal considered the test methodology to be fairly well respected in industry but may benefit from “updating”. A small number of those responding “no” indicated that there should be a ban on combustible cladding.

- **Technical Handbook guidance supporting Building Standard 2.14. Fire and Rescue Service Activated Evacuation Sounders**

Over three quarters of respondents (76%) supported the proposals, with wide spread acceptance also from those attending the “world café” events. Some respondents from all response categories and some “world café” event attendees expressed concerns relating to maintenance of the installation and a need to ensure its use did not create additional risks to occupants.

Due to the specialist nature of this proposal no attendees at the world café events had experience of costing such an installation. However, discussions with the Technical Author for the forthcoming British Standard

on evacuation sounders has indicated that costings can be expected to be in the region of £350 to £450 per flat for a seven storey building. These costs include a 'secure by design' evacuation panel, enhanced fire resisting cable and evacuation sounders.

- **Technical Handbook guidance supporting Building Standard 2.9. A Minimum of Two Escape Stairs to High Rise Domestic Buildings**

A majority (58%) of respondents agreed that high rise domestic buildings with a storey at a height of over 18 m above ground level should have a minimum of two escape stairs. This recognised the increased resilience/redundancy the proposal would offer where evacuation was initiated. Of those respondents that did not agree, almost a quarter (24%) were unsure. Included in this number were nearly half of respondents employed by local authorities (47%), citing, as did with many other "unsure" respondents, a lack of evidence as their rationale.

In contrast to the "unsure" rationale, many of those agreeing with the proposal cited unsubstantiated reasons, such as "helping to ease congestion" and "providing an essential alternative means of escape".

Many of the respondents that did not agree with the proposal came from a building professional or construction firm contractor background. One of their main points raised was a concern that the proposal was in reaction to the Grenfell Tower tragedy rather than based on any evidence of benefit. Some of these respondents also thought that a wider single stair may be a better option for consideration.

Several attendees at the "world café" events provided estimated costs for a second escape stair in a high rise domestic building. Attendees also pointed out that there would be significant additional maintenance costs and commensurate loss of revenue based on the floor area of the building. Representatives from housing associations advised that these additional costs and loss of revenue would play a major role in whether or not such buildings were economically viable and in any event additional costs would have to be passed onto the owners or tenants of such buildings.

- **Technical Handbook guidance supporting Building Standard 2.15. Automatic Fire Suppression System (AFSS) to All Flats**

This element of the review is now to be implemented as part of broader change to the provision of AFSS in new housing, scheduled for implementation in 2021. Reporting on the issue is therefore also deferred and will be included in that process.

3.3 Business

As indicated in section 3.2 and elsewhere in this document, in addition to the main public consultation, a series of four “world café” events were held in Edinburgh, Stirling, Glasgow and Aberdeen. These events, which were attended by 246 individuals representing most business streams that have a potential to be impacted by the proposals, formed the basis of the Scottish Firms Impact Test. Attendees included representatives from architectural practices, house builders, social housing providers, fire engineering practices, building contractors and local authorities. The locations of the four World Café events were chosen to facilitate as wide a geographic coverage of Scotland as practical.

The discussions with attendees confirmed that the proposals will have limited impact on small or medium sized businesses, with the exception of some smaller architectural practices involved non-domestic developments. Most of the proposals were reasonably well received, with general agreement that they would help create safer buildings in Scotland. However, the proposal for a minimum of two escape stairs to be provided in high rise domestic buildings caused some concern, particularly those delivering social housing, with one representative of this group suggesting that the additional costs, including ongoing maintenance, would make them unviable. The main issues from most attendees was one of training.

In addition to the above, face to face discussions have been held with:

- individual insulation and insulation panel manufacturers
- modular building suppliers
- trade bodies representing the two main factions of insulation manufacturers
- trade body representing manufacturers and suppliers of portable buildings
- representatives from Scottish Fire and Rescue Services.

4. OPTIONS

In considering how best to address the range of objectives identified in clause 2.2 above, four possible options were identified:

- Option 1 – do nothing;
- Option 2 – increase awareness of issues through the introduction of voluntary guidance outwith Building Standards Technical Handbooks;
- Option 3 – amend and improve relevant guidance to the Building Standards Technical Handbooks; or
- Option 4 – amend building standard & Technical Handbook guidance

4.1 Sectors and groups affected

Sectors and groups affected include:

- Building users – people living in or using the building should benefit from a safer building environment arising from proposed changes and not be subject to loss of amenity and facilities as a consequence of the take up of the revised and improved technical guidance
- Building designers/constructors – All those involved with building design and construction would have to familiarise themselves with the new /amended standards and guidance through training, etc.
- Building procurement – Persons or companies procuring new buildings or building work would experience increased overall costs in relation to most aspects subject to amendment. Particularly those involved in the procurement of high rise domestic buildings for rent or sale.
- Verification – Local authority verifiers would have to train staff in relevant areas of the building standards and associated guidance where the scope has been extended or revised.
- Product manufacturers – Companies manufacturing or supplying materials would require to ensure their products comply with relevant European Standards and/or have passed full scale fire tests. May cause a delay in getting products to market as there is limited test facilities available.

4.2 Benefits

With the exception of the proposals for amending building standard 2.4, all of the topics involved in the review relate to changes or clarification to the existing guidance that supports mandatory building standards. Therefore it is likely that a single option would be appropriate for all subjects. When assessing the effectiveness of the four options to achieve the desired outcomes indicated in paragraph 2.3, the following observations were made:

4.2.1 Option 1 – Do nothing

This option offers no benefits. There would be no improvement or other gained to building regulations. No improvements would be developed for constructed building to ensure the safety of the building's occupants in the event of a fire. This option does not address any of the issues of concern identified. It which would not improve safety in affected buildings and may lead to criticism of government policy on fire safety or residents in the post-Grenfell era. No implementation and delivery plan required as there is no change and therefore no delivery.

4.2.2 Option 2 – Introduce voluntary guidance

Any benefits gained by the development and introduction of voluntary guidance would be wholly dependent on the level of use of the guidance. Benefits would, at best, be identical to those possible under option 3 but only in respect of those buildings where the designer chooses to adopt the recommendations of such voluntary guidance. Additional guidance could even provide inconsistency. Without recognised status within the Technical Handbooks the take up and therefore the benefits, of all aspects of the measures are likely to be inconsistent and limited.

In addition, voluntary guidance would not enable clarification of intent for building standard 2.4. As such, designers that currently “manipulate” the terms of the standard would continue to do so.

Due to the potential for inconsistency of approach taken by designers, this option is unlikely to deliver the robustness of design required and therefore has the potential again to result in criticism of government policy on fire safety of residents in the post-Grenfell era.

4.2.3 Option 3 – Amend Technical Handbook guidance

The principal benefit of option 3 is that, by amendment to existing guidance, all the measures will be applied through the existing building standards monitoring and enforcement system. This will mean that improvements are made possible to assist in achieving the intention of the standards through the use of guidance by building owners and developers. However, amending guidance will not enable clarification of intent for building standard 2.4. As the building standards system is a functional system applicants have the option of meeting the requirement(s) of any applicable building standard by other means.

- **The status of the Technical Handbook guidance**

Following a six month “lead-in” period, the functional system of building standards was introduced in Scotland in May 2005. However, despite being operational for nearly 14 years there still appears to be some confusion and lack of consistency of approach on the part of many practitioners on both sides of the verification process. Clarification that first and foremost, the guidance within Section 2 is not suitable for every building design and there are some building designs that the guidance is not suitable for. The current guidance states that there are two building types that are currently excluded, these being dwellings with a single storey area greater than 200 m² and high rise domestic buildings with a storey height exceeding 60 m above ground level. However, other reasons for the unsuitability of guidance are less easy to describe as, for example, it may only be guidance to one or two standards that is unsuitable for a particular type or design of building.

The benefit in expanded “generic” clarification of the intent of the guidance contained within Section 2: Fire of the Technical Handbooks will be primarily one of time saved on both sides of the verification process.

Amending TH guidance relating to:

- Publishing separate “standalone” guidance covering all aspects of the Domestic TH as it applies to dwellings will provide benefit to national house builders as well as small builders and small architectural firms dealing with one-off houses and extensions and alterations to existing dwellings. In addition, lay persons will more readily be able to access building standards guidance in connection with an issue they may have in their home or to prepare a building warrant submission for smaller works. This work will be progressed and developed separately.
- Publishing separate “standalone” Section 2: Fire guidance documents or incorporate into existing documents applicable to hospitals, shopping centres and residential care homes will assist designers involved in these types of buildings. The main benefit to separate publication is that the guidance will be more easily amended when necessary, for example, taking account of changes in hospital working practices or innovative design or construction. This work will be progressed and developed separately.
- Reducing the permissible combustibility of external wall cladding systems to high rise buildings and entertainment and assembly buildings, residential care buildings and hospital buildings of any height will:
 - Reduce the possibility of rapid spread of fire on the external façade of a high rise building or defined high risk lower rise building.
 - Provide enhanced safety to firefighters tackling a fire on an external façade.
 - Reduce the possibility of fire spread on an external façade re-entering a building and affecting occupants or users in other compartments or separate spaces or affect the escape routes in, for example, an assembly building.
- The means of escape from high rise domestic buildings. Requiring at least two stairs to high rise domestic buildings with a storey at a height of more than 18 m above ground level will provide additional confidence to those living in high rise buildings that they will be able to escape from the building if the need ever arose.
- Scottish Fire and Rescue Service activated evacuation sounders will provide assistance to firefighters if they need to evacuate all or part of a building in the event of fire. Although full evacuation of a high rise domestic building is a rare occurrence, partial evacuation, for example the floor of fire origin and floor above the floor of origin, is more commonly

carried out. Currently this process is very “labour intensive” with firefighters required to knock and wait for a response from all flats to be evacuated. The proposals will enable the incident commander to activate the alarm on the floor(s) to be evacuated allowing firefighters to continue fighting the fire until either additional crew arrive or they can be spared to confirm that occupants have made their escape.

- Storey and dwelling indicator signs will assist the fire and rescue service to identify and respond to the source of an incident.

4.2.4 Option 4 – Amend building standard & Technical Handbook guidance

As all of the subjects relate to amendments and/or updates to a single building standard and existing guidance that supports existing mandatory building standards, there is no justification or benefit for the introduction of further standards. With the exception of building standard 2.4, these functional standards are considered fit for purpose at present. Amending building standard 2.4 will enable clarification of intent in relation to cavity barriers, resulting in safer facades to affected buildings. However, amending other existing standards to incorporate prescriptive measures would be contrary to the principle of the system based on functional standards. Also it would be inconsistent with the current design choice and flexibility for achieving compliance.

In addition to the above, the benefits of amending the guidance contained within the Technical Handbooks are all as per option 3.

4.3 Costs

4.3.1 Option 1 – Do nothing

This option would not change the position for industry and prospective building owners/occupiers/users, so there would be no costs. Inconsistency would remain with regard to application of the guidance and as such stakeholders would not necessarily have the inherent fire safety in new buildings that everybody wants. The current costs to society from fires in domestic premises, including death and serious injury would remain unchanged.

4.3.2 Option 2 – Introduce voluntary guidance

Where a person chooses to follow any recommendation identified within guidance that lies outwith the Technical Handbooks the cost implications would be as indicated under option 3 below. Nominal costs would also arise for government in the production of separate guidance. However, it is difficult to envisage how an additional tier of guidance would enhance the core Technical Handbook and may even be perceived as unhelpful and/or confusing to some users of the system.

The extent of any inconsistency of approach is difficult to determine, therefore costs to industry are equally difficult to quantify as is the reduction in societal costs from death and injury.

In addition, this option would not enable clarification of intent for standard 2.4, so there would be no additional costs associated with this part of the proposal. A designer's ability to exploit the wording in the standard would remain, with the associated reduction in intended fire safety in external wall cladding, particularly in relation to high rise buildings. The current costs to society from fires in affected premises, including the potential for death and serious injury would remain unchanged.

4.3.3 Option 3 – Amend Technical Handbook guidance

- **Building standard 2.4**

This option would not enable clarification of intent for standard 2.4, so there would be no additional costs associated with this part of the proposal. A designer's ability to exploit the wording in the standard would remain, with the associated reduction in intended fire safety in external wall cladding, particularly in relation to high rise buildings. The current costs to society from fires in affected premises, including the potential for death and serious injury would remain unchanged.

- **The status of the Technical Handbook guidance**

Clarifying the status of the Technical Handbook guidance will not have a significant direct cost implication for industry or building occupants / users. However, it would be hoped that such clarification would reduce the time spent by building warrant applicants (or their agents) in needlessly showing that the guidance is being met and surveyors employed by verifiers vetting against the guidance when an alternative means of compliance has been used.

- **Standalone guidance Domestic TH as it applies to dwellings**

This work will provide benefit to national house builders as well as small builders and small architectural firms. Lay persons will more readily be able to access building standards guidance in connection with an issue they may have in their home or to prepare a building warrant submission for smaller works. It is expected that there will only be a small cost implication for Scottish Government in extracting and re-distributing this guidance. This work will be progressed through discussion with house builders and developed separately.

It is considered that there will be some, albeit limited, cost benefit to designers using the guidance, which will effectively make the proposal cost neutral in the short term and slightly beneficial in the longer term.

- **Standalone Section 2: Fire guidance applicable to hospitals, shopping centres and residential care homes**

The exact format and home of the guidance currently within Annexes A, B and C of the Non-Domestic Technical Handbook has still to be finalised. However, it is expected that there will only be a small cost implication for Scottish Government in extracting and re-distributing this guidance. This work will be progressed through discussion with sector organisations and developed separately.

As with the domestic guide noted above, it is considered that there will be some, albeit limited, cost benefit to designers using the guidance, which will effectively make the proposal cost neutral in the short term and slightly beneficial in the longer term. However, this option would not enable clarification of intent for building standard 2.4.

- **Amended provision to address performance of external cladding systems.**

Reducing the permissible combustibility of external wall cladding systems to high rise buildings and entertainment and assembly buildings, residential care buildings and hospital buildings of any height will:

- Potentially increase costs for projects where combustible cladding products were previously acceptable. However, this is impossible to quantify due to the vast number of alternative solutions that may be adopted, some of which may actually result in reduced costs.
- Potentially increase costs for projects where cladding products assessed under the BS 476 suite of standards relating to reaction to fire test methodology were previously acceptable. Again, this is impossible to quantify.
- Potentially increase costs for manufacturers of products previously assessed under the BS 476 suite of standards relating to reaction to fire test methodology. Such products will require to be tested and classified under European reaction to fire standards to be used on the building types affected. It is difficult to determine costs to industry directly related to this initiative as manufactures are constantly upgrading and updating their product range.
- Reduce the potential for fire spread on façades of higher risk buildings and, therefore, reduce potential cost to society of injury and death to occupants and firefighters. In addition, the cost of firefighting operations will be reduced, along with environmental costs, both locally due to, for example, firefighting water wash off and globally due to products of the combustion process, for example carbon monoxide, entering the atmosphere.
- By containing the spread of fire on the façade, reduce the number of occupants requiring decanting and therefore limiting the cost, due to fire damage remedial work.

- **Amending provisions for means of escape**

A requirement for at least two stairs to high rise domestic buildings with a storey at a height of more than 18m above ground level will increase build costs by £1,000 to £1,500 per square metre per storey, with a floor area of between 12 and 15 m² per floor suggested for the additional stairwell. These figures would suggest a cost of between £12,000 and £22,500 per storey, for example resulting in an additional cost for a second stair to a seven storey building of between £84,000 and £157,500. Due to the success of the “stay put” policy, the need to fully evacuate a high rise domestic building is a rare event. Anecdotal evidence from Fire and Rescue Services suggests that in these rare events evacuation has been successfully carried out without any issue and without any significant injury in single stair domestic buildings, therefore there is no cost benefit attributable to this initiative. However, in an unforeseeable “worst case” fire scenario, perhaps similar to Grenfell Tower, a second stair may prove invaluable in ensuring the safe evacuation of the occupants in the event of a full (simultaneous) evacuation.

- **Introducing provision of evacuation sounders and signage.**

A requirement for Scottish Fire and Rescue Service activated evacuation sounders will add in the region of £350 to £450 per flat for a seven storey building assuming 6 flats per floor. Therefore the total cost will be between £14,700 and £18,700 costs include a ‘secure by design’ evacuation panel, enhanced fire resisting cable and evacuation sounders. There will also be relatively small ongoing maintenance costs associated with such an installation. The cost benefit is difficult to ascertain as its function is primarily related to reducing the time firefighters may have to spend manually evacuating flats if and when the need arises. Although the time firefighters spend on individual tasks, such as manual evacuation, is not recorded, it is recognised that fire and rescue service operated evacuation sounders will be a benefit to them carrying out their operational duties if fire has spread beyond the dwelling of fire origin and there is a need to evacuate other flats.

4.3.4 Option 4 – Amend building standard & Technical Handbook guidance

This option has the same cost benefits as option 3 in respect of the changes to the Technical Handbook guidance. In addition, the proposals would also enable clarification of intent in the current wording of building standard 2.4. Re-wording building standard 2.4 will remove any ambiguity over the intent of the standard, ensuring buildings with cavities, particularly those within rainscreen cladding systems to external walls, are safer than they would otherwise have been. The costs to society from fires in affected premises, including costs associated with firefighting and those from death and serious injury, would be reduced.

5. SCOTTISH FIRMS IMPACT TEST

The Scottish firms impact test regards all firms with fewer than 50 full time employees as being small businesses and those with less than 10 as micro businesses. Guidelines state that a concerted effort should be made to consult small and micro businesses over policy proposals.

As noted in clause 3.3, a number of representatives from small and micro businesses were consulted during the “world café” events held in Edinburgh, Glasgow, Stirling and Aberdeen. Due to the nature of the proposals there is, for the most part, little involvement for small and micro businesses. The main exception to this is in respect of the proposed “standalone” guidance for dwellings and the potential for smaller architectural practices being involved in the design process of affected buildings.

- Amending building standard 2.4 – All agreed that this was needed to provide clarity of intent. However, none considered it would have any financial impact on them or their clients.
- Clarifying status of Technical Handbook guidance – Whilst some considered this unnecessary, most agreed that such clarification would make deviating from the guidance easier/less time consuming and therefore would have the potential to achieve slight cost benefits.
- Separate “standalone” guidance for dwellings - All agreed that this would be useful for all parties involved in the construction, alteration or extension of dwellings. Again, from an ease of use/time saving perspective, it was considered that there was the potential for slight cost benefits.
- Separate “standalone” guidance for hospitals, shopping centres and residential care homes – None of the small and micro businesses consulted were involved in these types of buildings and therefore could not offer an opinion on whether there would be any cost implications of introducing such guidance.
- Amending Technical Handbook guidance in respect of external wall cladding, improving escape from high rise domestic buildings, the provision of SFRS activated evacuation sounders, signage and the provision of automatic fire suppression systems to all flats – Again, none of the small and micro businesses consulted were involved in these types of buildings and therefore could not offer an opinion on whether there would be any cost implications of introducing such guidance.

6. COMPETITION ASSESSMENT

As the changes will form part of national building regulations they will be implemented uniformly throughout the country. It is not envisaged that any of the aspects identified in clauses 2.3.2 and 2.3.3 of this assessment will impact on competition between companies.

Having reviewed the four competition questions provided within the Competition and Market Authority guidelines for policy makers on competition assessment, we are satisfied that the changes to the building standard and Technical Handbook guidance will not impact on competition within the market place.

7. CONSUMER ASSESSMENT

Certain aspects of the proposals will have an adverse impact on consumers as they will result in increased build costs, which the developer will, in all likelihood, pass some or all on to the purchaser or tenant/leaser of the building. In relation to dwellings, these items are:

- lowering the trigger height for non-combustible cladding systems to 11 m;
- provision of a second escape stair to high rise domestic buildings;
- Provision of a SFRS activated evacuation sounder system in relation to high rise domestic buildings;
- Provision of floor (storey) identification signs and dwelling indicator signs to high rise domestic buildings;
- a requirement for cladding systems to entertainment and assembly buildings, residential care buildings and hospital buildings to be non-combustible, regardless of the height but subject to an exemption for small buildings.

With regard to dwellings, the actual amount of additional costs is dependent on many factors, such as the specification of products used and the number of units in the building. Economies of scale would also have a part to play in determining additional costs per unit. In respect of the items above, assuming six flats per storey, each with a floor area of 80 m² and additional costs were divided equally across all flats, the approximate costings would be:

- c. £500 per flat for non-combustible cladding systems in buildings with a storey height over 11 m above ground level. This is based on A2 ACM as opposed to PE ACM, however, costs will vary considerably depending on what cladding was desired and there may be a zero cost impact in a more prestigious building;
- c. £3,300 per flat for a second stair based on six flats per storey, although it is likely that the footprint of such buildings would increase to make a second stair more financially viable. In such cases there may not be any additional costs as the layout of a larger flatted building may require a second stair under current building regulations;
- c. £400 per flat for an SFRS activated evacuation sounder system. As the control panel is the single most expensive part of the installation, again the greater number of units being served, the lower the individual unit cost;

- c. £170 per floor for floor identification signs and dwelling indicator signs including directional arrows where appropriate.

The total cost of the proposals will therefore add in the region of £4,228 to the build cost of each affected flat. Based on current build rates of 5 to 6 high rise domestic buildings in Scotland per annum, the cost to industry will be in the region of £1,400,000 per year based on 55 flats per building. It would be envisaged that this additional build cost will not be absorbed by the developer but will be passed onto the first owner of the property. As many of these units will be small “first time buyer” type properties, this initiative may be seen by many potential purchasers as disproportionately increasing the cost over existing properties, resulting in a downturn in demand for new build high rise flats.

It is not so straight-forward to determine increased costs for non-domestic buildings as the size, height, floor area and footprint all vary significantly. However, installing cladding systems with A2 ACM as opposed to PE ACM would add in the region of £10 – 15 / m² to the build costs. As with domestic buildings, there may be no cost impact if the desired cladding material achieves an A1 or A2 European classification.

8. TEST RUN OF BUSINESS FORMS

No new forms will be introduced as a result of this policy.

9. DIGITAL IMPACT TEST

The building standards system in Scotland is a functional based system. That is to say that there are high level building standards that must be met, with Technical Handbooks supporting these standards with guidance on one or more ways of achieving compliance with the standards. However, there is no requirement to follow the guidance in the Technical Handbooks and alternative means of complying may be adopted by the building warrant applicant or their duly authorised agent.

As the proposals will only affect completed buildings, it is not considered that there will be any intended or unintended consequences from technological advances.

10. LEGAL AID IMPACT TEST

It is not envisaged that there will be any greater demands placed on the legal system by this proposal. Accordingly, it is not considered that there will be any effect on individuals’ rights of access to justice through availability of legal aid or possible expenditure from the legal aid fund.

11. ENFORCEMENT, SANCTIONS AND MONITORING

The changes will form part of the Scottish Building Standards Technical Handbooks. These documents give guidance on compliance with the mandatory building standards set by the Building (Scotland) Regulations 2004 (as amended).

All matters relating to enforcement, sanctions and monitoring will be carried out under the existing processes that form part of the building standards system in Scotland, as set out under the Building (Scotland) Act 2003 (the Act). Parties responsible for operation of this system are the 32 Scottish local authorities, appointed as verifiers under the Act and the Building Standards Division of the Scottish Government.

Generally, work subject to the Building (Scotland) Regulations 2004 requires to be the subject of a building warrant before work commences and to have a completion certificate accepted once works are complete. Exclusions are set out under Schedule 3 to Regulations 5 of the Building (Scotland) Regulations 2004.

Where a building warrant is required, proposals are subject to the scrutiny of verifiers who have enforcement powers under the Act to ensure compliance with the Building (Scotland) Regulations 2004.

12. IMPLEMENTATION AND DELIVERY PLAN

12.1 Dissemination

On publication of amended building standard 2.4 and the revised Technical Handbook guidance, designers, contractors and verifiers will have 15 weeks to familiarise themselves with the changes as the date of enforcement / introduction will be 1 October 2019. The Building Standards Division have carried out some “advanced notification of intent” at numerous seminars and presentations over the past six months or so and intend to carry out full dissemination events. In general, it is anticipated that the changes will be “absorbed” as part of the overall Building Standards system.

12.2 Post-implementation review

Review will be carried out by the Building Standards Division considering the implementation of the change made to building standards legislation (amendment of building standard 2.4) and supporting Technical Handbook guidance. This review will monitor the effectiveness of the changes and ensure that subsequent reviews can be made on an informed basis. This will be done on a regular basis through usual contacts with bodies representing trades, designers, verifiers and the industry in general. The implemented changes will be subject to a review within a ten year period.

13. SUMMARY AND RECOMMENDATIONS

It was clear from responses that there remains majority support for the implementation of change to further improve fire safety in high rise domestic buildings and the related matters consulted upon.

Accordingly, Option 4 - 'Together with the changes to building standard 2.4, introduce additional new or amended mandatory standards, together with new or amended supporting guidance within the Technical Handbooks' is recommended.

• Summary costs and benefits table

Option	Total benefit per annum: - economic, environmental, social	Total cost per annum: - economic, environmental, social - policy and administrative
1 – Do nothing	No benefits, other than no additional costs to developers and procurers of affected buildings. There are no improvements made and high rise domestic buildings and other high risk buildings remain at risk of fire on the façade getting out of control.	No additional cost implications short term, however, in the event of a fire there is a risk of subsequent damage and therefore high costs to building owners for remedial works and society from the potential for serious injuries or fatalities. Environmental costs from such fires will also be high from the risk of pollution fallout from the fire and contaminated fire-fighting water run-off. No cost implications for those involved in the design or procurement of affected buildings.
2 - Increase awareness through the introduction of guidance outwith the Technical Handbooks	Same as option 3 below. However, as guidance would sit outwith the Building Standards system it would not carry the same legal status and therefore would not be consistent with the "Better Regulations" principle. Additionally, the Technical Handbooks tend to be viewed as "de facto" regulations and are much more likely to be followed than guidance that does not have this status.	Implementation costs for industry would be the same as option 3 below. Familiarisation costs to industry would be the same (or possibly greater) as option 3. Slight increase in production costs of guidance for Scottish Government. Where such guidance is not followed, for example, for cost reasons, the environmental and societal costs noted in option 1 would apply.
3 – Amend building standard 2.4 and improve relevant guidance to existing standards within the Technical Handbooks	Overall the proposals will improve the safety of occupiers of the affected buildings in the unlikely event of a fire in a high rise building getting out of control. There is no added benefit identified from a reduction in fire deaths and injuries for a second escape stair in a in a high rise domestic building. In the unlikely event of a fire getting out of control in a high rise	The additional cost of the proposed measures may dissuade developers from building high rise domestic buildings, resulting in a decrease in the number of affordable properties reaching the market. The total cost of the proposals will add in the region of £4,228 to the build cost of each affected flat. Based on current build rates for these types of properties (5/6 high rise domestic blocks per annum with an average of 60 flats per

Option	Total benefit per annum: - economic, environmental, social	Total cost per annum: - economic, environmental, social - policy and administrative
	<p>domestic building, the second escape stair, evacuation alert system and the floor identification and dwelling indicator signs will assist the fire and rescue service with mass evacuation if necessary.</p> <p>The floor indication signs and dwelling indicator signs in a high rise building will assist fire-fighting and rescue operations following the outbreak of fire anywhere in the high rise domestic building.</p> <p>Technical Handbook guidance would be more consistent with the principles of "Better Regulation".</p>	<p>block) this would equate to a total additional build cost of around £1.26 – 1.51 million.</p> <p>From an environmental perspective, the improved cladding requirements will reduce the number and impact of, fire incidents spreading to the outer façade of a building. However, as a second stair will increase the footprint of tower blocks this may result in the development of some sites, particularly inner city sites, being physically or financially unviable.</p> <p>Socially, while a second stair may increase levels of perceived safety in new high rise blocks, the opposite is true for occupiers of existing single stair high rise blocks, who may feel less safe as they have only one stair.</p>
<p>4 – Together with the changes to building standard 2.4, introduce additional new or amended mandatory standards, together with new or amended supporting guidance within the Technical Handbooks</p>	<p>Essentially the same as option 3 above, however, additional mandatory standards could add prescription and reduce flexibility for industry. Therefore it is not consistent with the "Better Regulation" principles.</p>	<p>Implementation costs for industry will be the same as option 3 above. Familiarisation costs to industry will be the same (or possibly greater) as option 3 above. Slight increase in production costs of guidance for Scottish Government.</p>

14. DECLARATION AND PUBLICATION

I have read the Business and Regulatory Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs. I am satisfied that business impact has been assessed with the support of businesses in Scotland.

Signed: 

Date: 12/6/2019

Kevin Stewart MSP

Minister for Local Government, Housing & Planning

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