



Ministry of Housing,
Communities &
Local Government

Sprinklers and other fire safety measures in new high-rise blocks of flats

A consultation



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Scope of the consultation

Topic of this consultation:	This consultation outlines the Government's intention to amend Approved Document B reduce the trigger height at which sprinkler systems would be required in new high-rise blocks of flats and asks for views on the trigger height options. It also seeks views on proposals to improve wayfinding signage within blocks of flats, and to install evacuation alert systems for use by Fire and Rescue Services.
Scope of this consultation:	Building Regulations – Approved Document B
Geographical scope:	These proposals relate to England only.
Impact Assessment:	Consultation stage analysis is included in this consultation. Further work will be carried out in advance of a decision following consultation. Changes to the analysis may be made based on responses received.

Basic Information

To:	Full public consultation
Body/bodies responsible for the consultation:	Ministry for Housing, Communities and Local Government
Duration:	This consultation will run for 12 weeks, from 5 September 2019 to 28 November 2019.
Enquiries:	For any enquiries about the consultation please contact ADBconsultation@communities.gov.uk .
How to respond:	<p>We encourage you to respond by completing an online survey at: https://www.surveymonkey.co.uk/r/ApprovedDocumentB</p> <p>Alternatively you can email your response to the questions in this consultation to ADBconsultation@communities.gov.uk.</p> <p>If you are responding in writing, please make it clear which questions you are responding to.</p> <p>Written responses should be sent to: Building Safety Programme Ministry of Housing Communities and Local Government 4th Floor Fry Building 2 Marsham Street</p>

London SW1P 4DF

When you reply it would be very useful if you confirm whether you are replying as an individual or submitting an official response on behalf of an organisation and include:

- your name,
- your position (if applicable),
- the name of organisation (if applicable),
- an address (including post-code),
- an email address, and
- a contact telephone number

Introduction

1. In December 2018 the Government issued a call for evidence on the technical review of Approved Document B of the Building Regulations. The Call for Evidence, seeking views to help set the agenda, terms of reference and programme for the technical review, closed on 15 March 2019 and we received 140 detailed responses including representations from professional and trade bodies with large memberships. We are grateful to all those who contributed.
2. The desire for change is clear from the responses to the Call for Evidence – but there is also recognition of the need for research to ensure that any changes represent expert consensus based on a robust evidence base. Necessarily, this work will take some years to complete.
3. However, the Government recognises that there are issues that should be addressed more quickly, and we are committed to taking action where the case is clear. As we plan for the long- term delivery of this review, we will prioritise those issues affecting high-rise residential buildings.
4. In particular, the Government is making a commitment to move forward with a fuller consideration of the options for reducing the height threshold at which sprinkler systems would be required from the current requirement of 30 metres to a lower height threshold. This consultation therefore asks for views on the appropriate height threshold and associated technical requirements.
5. This consultation also asks for views on proposals to change Approved Document B to improve wayfinding signage in blocks of flats, and on the provision of evacuation alert systems for use by the fire service. Evacuation alert systems are being mandated in Scotland and would be used by the fire service to alert residents if the decision has been taken by the fire service to evacuate floors of the building.
6. Section 14 of the Building Act 1984 requires consultation for proposed substantive changes to building regulations. It has been our practice to consult on proposed changes to the Approved Documents, as the implications of changes can be complex so consultation adds value. There is an expectation that we will continue to do this, even where there is no explicit requirement in law to do so.
7. Following consideration of views and further analysis, the Government intends to proceed with changes to Approved Document B for sprinkler provision in new high-rise blocks of flats. It will consider the case for making changes to fire safety guidance for the other proposals based on views received. The requirements will be kept under review to take account of changes in risk and emerging technologies.
8. This consultation focusses only on changes to fire safety guidance for new high-rise blocks of flats. The call for evidence considered a number of other fire safety changes, which if taken forward would apply to a wider set of building types – including the potential for sprinkler provision. The Government will set out the details of a fuller programme of work in due course.

Sprinkler provision in new high-rise blocks of flats

9. The current requirement for sprinkler systems in Approved Document B is that new blocks of flats more than 30 metres above ground level should be fitted with a sprinkler system.
10. The call for evidence responses showed that a large majority considered that action should be taken to install sprinkler systems in a wider range of flats, and that the trigger height requirement is currently set too high.
11. Responses to the call for evidence also showed that people viewed the provision of sprinklers to have multiple benefits in providing personal protection of individuals, limiting fire spread, providing protection for property and fittings, and protecting means of escape. In particular, the National Fire Chiefs Council and the London Fire Brigade are supportive of a change of policy and have submitted further evidence since the close of the consultation.
12. Having considered the views submitted as part of the call for evidence, particularly the benefits to life safety and property protection when measured against the cost of provision (see evidence below), the Government intends to proceed with a change to fire safety guidance to require sprinkler systems in a wider range of new high-rise blocks of flats. The focus of this consultation is therefore seeking views on the appropriate trigger height options, and the technical requirements that will underpin that commitment.
13. We do not intend, at this stage, to provide for additional sprinkler requirements for other types of buildings and 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.
14. For buildings that will be in scope of the new building safety regime, we intend to introduce a safety case regime which will require an accountable person to demonstrate how they are managing fire and structural risks on an ongoing basis. Further work is necessary across Government to consider the case for sprinkler provision in a wider set of buildings, and the safety case review regime proposed by Dame Judith Hackitt, will inform decisions on retrofitting sprinklers in existing buildings.

Trigger height options

15. Following the call for evidence, the Government is considering the appropriate trigger height for sprinkler provision in new high-rise blocks of flats. A reduction in the trigger height from 30 metres to 18 metres would be consistent with the ban on combustible materials in external walls and the proposed scope of the building safety regime, so this is the Government's preferred option.

16. However, lower trigger heights apply elsewhere – in Scotland, Wales – but capture a much wider number of buildings. We would therefore welcome views and evidence on what height threshold would be most 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.

Question 1 – Do you agree or disagree that the height threshold for sprinkler provision in new blocks of flats should be reduced? [Agree/Disagree]

1b - If you agree that the height threshold should be reduced, what should the new threshold be and what is the evidence for this particular threshold?

Design for sprinkler provision

17. Current guidance for sprinkler system design in Approved Document B refers to the relevant parts of BS 9251. We propose that for any change in height threshold, Approved Document B would continue to refer to the use of the appropriate sections of guidance in BS 9251. We welcome views and on evidence on this approach.

18. The current Approved Document B does not require sprinklers to be provided in stairs, corridors or landings. The intention of the guidance is for protection to be provided by fire suppression systems in areas where those fires are likely to occur. We are not proposing to change this approach.

Question 2 – Do you agree or disagree that these systems should be designed in accordance with the relevant guidance in BS 9251? [Agree/Disagree]

2b - If you disagree, what specifications and performance should be required?

Transitional provisions

19. The provision of sprinkler systems in more blocks of flats will require industry to be ready to provide them. We propose a transitional period of six months before the requirements would apply.

Question 3– Do you agree or disagree that there should be a transitional period of six months? [Agree/Disagree]

3b - If you disagree, how long should the transition period be?

Consultation stage assessment of impact

20. Our assessment of the costs and benefits of a reduction in the trigger height have focussed on three areas i) the cost to the development industry and impact on housing supply, ii) the benefits to life safety and iii) the benefits in terms of property protection. We have considered evidence produced by the Building Research Establishment (BRE) commissioned by MHCLG, evidence from Wales and Scotland, and fire safety experts and we are continuing to refine the assessment of impact in advance of a final decision being made.

21. Research by BRE commissioned by MHCLG into the effectiveness of residential sprinklers estimates a reduction in deaths and injuries at 76% and 58% respectively when sprinklers are provided. This is clearly a significant consideration.
22. We estimate that reducing the height threshold from 30 metres to 18 metres as a requirement in new build blocks of flats will mean 1,970 new builds fitting sprinkler systems over 10 years, with an annual cost of between £27 to £38 million (mid estimate £32 million)¹. Reducing the height threshold further to, for example, 11 metres would mean 15,940 new buildings fitting systems over 10 years, with an annual cost of between £136 million and £193 million (mid estimate £164 million).
23. Lowering the sprinkler threshold will deliver life, health and property benefits and provide visible reassurance that the new building is safe for occupants, owners and other interested parties such as insurance and mortgage companies.

Wayfinding signage for fire and rescue services

24. The call for evidence asked for views on changes to fire safety guidance to improve access and facilities for fire and rescue services. This is an area where further policy options are being considered and we will set out a wider plan in due course.
25. In advance of that further work, the Government considers that there are simple changes which could be made which would have immediate benefits to firefighter safety. One proposal is to make it a requirement for better wayfinding signage for fire and rescue services in stairways, which could also improve the pace of operational response.
26. 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.
27. The options we have identified range from simple, large, painted on numbers through to photo luminescent numbering that would be visible even where smoke has entered the stairwells. We believe that these 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

¹ These costs are based on an average cost per flat of installing a sprinkler system of between £1300 - £1600, although costs can vary widely so for a small number of new buildings the costs could be significantly higher. To ensure the sprinkler systems are effective they will require maintenance, we have estimated this to cost between an additional £160 - £240 per flat per year.

within the fire-fighting stair of blocks of flats. There is however no prescribed format (size and design) for the signage to be provided.

28. We would appreciate views on whether there is support for the proposal to provide for this requirement in technical guidance.

Question 4 – Do you agree or disagree that there should be a more consistent approach to wayfinding signage for fire and rescue services in Approved Document B?
[Agree/Disagree]

Question 5 – Are there any existing standards or guidance which should be introduced to the guidance provided in Approved Document B? Please specify.

5b – Does this guidance need to be supplemented or amended for inclusion in Approved Document B? If yes, please specify how.

Consultation stage assessment of impact

29. We have undertaken initial high-level analysis around the costs of this proposal. Our analysis considers 3 signage options; Vinyl lettering, Photo luminescent lettering and Emergency powered lighting luminaires. Costs have been estimated for blocks of flats of different heights, 0-11m, 11-18m, 18-30m and 30m+.
30. Vinyl lettering is estimated to be the cheapest option. Requiring this signage in all new build blocks of flats will mean an annual cost of between £1.4 - £2.2 million, in blocks of flats over 11m an annual cost of £1.2 - £1.9 million and in flats over 18 metres an annual cost of £0.4 - £0.5 million.²
31. Photo luminescent lettering is estimated to have an annual cost of £2.8 - £4.2 million if required in all new build blocks of flats, an annual cost of £2.4 – £3.6 million if required in new build blocks of flats over 11 metres and an annual cost of £0.7 – £1.0 million if required in new build blocks of flats over 18 metres.³
32. Emergency powered lighting luminaires are significantly more expensive than the other options and require annual operating costs. Requiring this level of signage in all flats would mean an annual cost of £81 - £121 million, in blocks of flats over 11 metres an annual cost of £74 - £111 million and in blocks of flats over 18 metres an annual cost of £21 - £32 million.⁴
33. The main benefits of this proposal are protection of fire fighters and residents and further analysis is being undertaken to monetise these benefits.

² Based on an installation cost per building of £452 (0-11m), £1,219 (11-18m), £1,951 (18-30m) and £3,658 (30m+) and annual maintenance costs of £5, £12, £20 and £37 for the respective height

³ Based on an installation cost per building of £849 (0-11m), £2,336 (11-18m), £3,737 (18-30m) and £7,008 (30m+) and annual maintenance costs of £8, £23, £37 and £70 for the respective height

⁴ Based on installation cost per building of around £6,083 (0-11m), £16,577 (11-18m), £26,523 (18-30m) and £49,731 (30m+) and annual operating costs of £786, £4368, £6,989 and £13,104.

Question 6 - What views exist on the benefits of each signage option set out above?

6b - What is the preferred option set out above for wayfinding signage? Vinyl lettering, photoluminescent lettering, emergency powered lighting luminaries, other (please specify).

Evacuation alert systems

34. There was some interest expressed in the call for evidence on the provision of an emergency evacuation alert system to be used in high-rise blocks of flats. The system would provide the fire and rescue services with an option to initiate a change in evacuation strategy via an alarm. Such a requirement is being introduced in Scotland shortly, and the standard for the system is still being developed.
35. As a new standard is being developed, there is a need to review the evidence base and more fully understand the risks. Concerns have been raised, for example, that the operation of such a system at too early a stage could present further hazards. Noted concerns include the risk of overcrowding in stairways and compromising ventilation systems where they are designed to account for single door opening into the stairway. We would appreciate views from respondents to the following questions.

Question 7 – Should Approved Document B include a requirement for an emergency evacuation system, which could support fire and rescue services operational response by alerting residents if they need to evacuate? [Yes/No]

7b – For each response, what views exist on the benefits and risks of such an approach?

Question 8 – If this requirement was introduced to Approved Document B, above what height threshold should this system be required?

8b – For each response, please provide evidence to support your answer.

Consultation stage assessment of impact

36. We estimate that applying this proposal to buildings over 18 metres in height will mean an annual cost of between £10 million and £13 million⁵. If we reduce this threshold to all new build blocks of flats over 11 metres it will mean an annual cost of between £44 million and £51 million.
37. Further assessment of benefits will be considered alongside the development of any requirements.

⁵ Based on a cost per building of installing the required evacuation system of between £33,000 and £40,000 for an 18-30m building and between £52,000 and £78,000 for a 30m+ building. Annual maintenance cost of between £330 and £400 per building for 18-30m and between £520 and £780 for a 30m+ building.

Assessment of Impacts

38. A further assessment of impacts will be made following consideration of consultation responses and alongside the development of any requirements.

Question 9 – Please provide any additional evidence on costs, risks and benefits which should be considered in an assessment of impacts in the following areas.

- a) Sprinkler provision in new high-rise blocks of flats
- b) Wayfinding signage for fire and rescue services
- c) Evacuation alert systems

Question 10 - Are you aware of any particular equalities impacts for these proposals? How could any adverse impact be reduced and are there any ways we could better advance equality of opportunity or foster good relations between people who share a protected characteristic and those who do not? Please provide evidence to support your response.

About this consultation

This consultation document and consultation process have been planned to adhere to the Consultation Principles issued by the Cabinet Office.

Representative groups are asked to give a summary of the people and organisations they represent, and where relevant who else they have consulted in reaching their conclusions when they respond.

This consultation document and consultation process have been planned to adhere to the Consultation Principles issued by the Cabinet Office.

Please be aware that, as a public authority, the Department is bound by information rights legislation (including the Freedom of Information Act (2000), the Environmental Information Regulations (2004), the Data Protection Act (2018) and the General Data Protection Regulation); the Department may, therefore, be obliged to, in the event of an information request, release information provided in response to this consultation.

If you want the information that you provide to be treated as confidential, it would be helpful if you could explain to us why you believe that should be the case. If we receive a request for disclosure of information we will take into account, your explanation and where appropriate apply all relevant exemptions to withhold from disclosure the information. As each information request is judged on its own merits we cannot give an assurance that confidentiality will be maintained in all circumstances. We will process your personal data in accordance with the law and in most circumstances, this will mean that your personal data will not be disclosed. A full privacy notice is included at Annex A.

An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

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 via the [complaints procedure](#).

Annex A

Personal data

The following is to explain your rights and give you the information you are be 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 Ministry of Housing, Communities and Local Government (MHCLG) is the data controller. The Data Protection Officer can be contacted at dataprotection@communities.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, MHCLG may process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

4. With whom we will be sharing your personal data

It may be necessary for MHCLG to share data with consultants who we employ for advice on the issues raised in the consultation. Wherever possible, data would be anonymised.

5. 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.

6. 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.

The Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in terms of data protection will not be compromised by this.

7. Your personal data will not be used for any automated decision making.

8. Your personal data will be stored in a secure government IT system. After a period of three months, data collected by Survey Monkey will be moved from there to our internal systems.