LONDON FIRE BRIGADE

Consultation Response

17 March 2023

Sprinklers in care homes, removal of national classes, and staircases in residential buildings

Department for Levelling Up, Housing and Communities

Introduction

London Fire Brigade (LFB) is London's fire and rescue service - one of the largest firefighting and rescue organisations in the world and we are here to make London a safer city. Decisions are made either by the London Fire Commissioner (the statutory fire and rescue authority for Greater London), the Mayor of London or the Deputy Mayor for Fire and Resilience. A Fire, Resilience and Emergency Planning Committee of the London Assembly holds the Commissioner, Mayor and Deputy Mayor to account.

Executive Summary

LFB strongly welcomes the government's consultation proposing to set a height threshold for buildings with a single staircase and recognise this as a positive step change. This introduction of a clear limit will give clarity to all stakeholders and prevent the continued practice of increasingly tall buildings being designed and constructed with only a single staircase.

LFB has long called for developers to consider limiting the height on the design and construction of buildings built using a single staircase. We have worked closely with the National Fire Chiefs Council (NFCC) on the development of their position statement setting out a view from fire services on the benefits of introducing a height threshold. This position has also been reflected in LFB's responses to planning and building regulations consultations in London, which has resulted in developers amending design proposals for tall buildings to include multiple staircases.

We support the National Fire Chiefs Council position[1] that 18m/7 floors would be an appropriate limit for a single staircase residential design, which also aligns with the Building Safety Act definition of a higher risk building.

However, LFB strongly welcomes the proposals to set a height threshold of 30 metres for buildings with a single staircase and recognise this as a positive step change. While 18m is preferred, the government's proposal for a 30m threshold would see the introduction of a clear limit (which has previously been lacking) and will give much needed clarity, as well as reflect some of the challenges in planning/delivering homes in dense urban environments such as London.

LFB also strongly supports the proposals to require sprinklers in new care homes. This is a change that we have long advocated for. We would encourage government to support mandatory retrofitting of sprinkler systems in existing care homes as well.

1 https://www.nationalfirechiefs.org.uk/write/MediaUploads/Position%20statements/Protection/NFCC_Position_Statement_Single_Staircases__Final.pdf

Issues with relying on a single staircase during a fire

The consultation correctly identifies some of the potential issues with relying on a single staircase in a tall residential building. Firefighting in tall buildings requires a lot of equipment - such as multiple lengths of firefighting hose - which will be in use in staircases, corridors and lobbies.

This equipment is essential for firefighting but can severely restrict the space in escape routes for evacuation of residents. When firefighting overlaps with occupants needing, or choosing, to leave a building through the same space they are placed in danger of injury because of the equipment obstructing these areas. Vulnerable residents could be even more at risk when attempting to navigate through firefighting equipment. If firefighters need to assist people past firefighting equipment there may be a delay to dealing with the fire itself, in turn placing other residents at further risk. When there is an additional staircase, fire crews and other emergency services can potentially direct residents to use the staircase not utilised for firefighting operations for escape.

Resident's voice

Feedback LFB has received through engagement with communities in London has indicated strong support for more than one staircase in residential blocks of flats. This is linked to their individual and collective sense of safety, noting that 'fear of fire' has not been measured in the same way that 'fear of crime' has been previously. We recommend that community and residents voices are considered as part of the consultation process.

Equity of evacuation

Buildings and their design should accommodate and support all people who live in them, rather than people having to modify their expectations or needs around a building. Current fire safety guidance appears to take for granted that people can easily use staircases in an emergency. It does not provide appropriate design solutions to meet the needs of those who may require additional time or facilities to safely leave a building in the case of fire.

The London Plan 2021 has rightly expected new buildings to be designed with the 'highest level of fire safety' and has specifically required taller buildings to have evacuation lifts as a key part of the design. Design guidance such as ADB has lagged significantly behind in recognising the evacuation needs of all building users. This consultation is a welcome step in addressing this.

Scope, the disability equality charity in England and Wales states that there are 14.6 million disabled people in the UK. Nine per cent of children are disabled, 21 per cent of working age adults are disabled and 42 per cent of pension age adults are disabled[2]. While we are not aware of specific UK figures confirming the number of persons who will require additional time or facilities to evacuate, in the United States of America the Centers for Disease Control and Prevention reports that 11.1 per cent of U.S. adults have a mobility disability which means they have serious difficulty walking or climbing stairs[3]. While these figures do not determine exactly the proportion of the population who may need additional time or facilities to assist their escape, they do point to there being significant need from a large section of society.

Additional staircases and evacuation lifts are inextricably linked and we recommend that the preferable height threshold for them to be required is 18m. Regardless of the ultimate decision on the height threshold requiring additional staircases, we recommend that 18m (or lower) should be the height at which ADB initially requires suitably designed and protected evacuation lifts. However, we also recognise that persons living below 18m may require assistance, and we urge the government to urgently progress their research which is currently underway.

[2] https://www.scope.org.uk/media/disability-facts-figures/

[3] https://www.cdc.gov/ncbddd/disabilityandhealth/materials/infographics.html).

Flexibility for firefighting

This consultation correctly identifies the benefits of additional staircases in providing additional resilience during extreme events and reducing the conflict between escaping occupants and attending fire crews. In a fire a single staircase limits tactical response when considering both active firefighting and rescue. In terms of residential buildings, current guidance provides additional protection to attending fire crews at 18m (firefighting lifts, fire mains etc.). Fire crews should be offered the additional flexibility and resilience at the same 18m threshold rather than the 30m as proposed by this consultation.

The final decision on height thresholds for where multiple staircases are needed will need to provide clarity on the objectives of providing a second staircase, and what its purpose is. If the conclusion is that the expectation is to provide multiple means of escape routes for all, and sufficient flexibility for firefighters, consideration will need to be given to the protection and facilities provided for both staircases. LFB has seen cases where the second staircases proposed is not sufficiently separated from the first to provide a genuine alternative means of escape if the first staircase was compromised, by smoke for example.

Recognising the changing way people use tall buildings

As discussed further below, the stay put evacuation strategy typically applied by design teams to blocks of flats remains appropriate for most tall residential buildings that are built and maintained correctly. The stay put evacuation strategy includes the fundamental expectation that any building occupant should be able to leave the building during a fire incident if they need to, are instructed to do so by emergency services or if they choose to do so.

However, design teams are at times designing buildings on the incorrect assumption that only the occupants of the flat where the fire starts will leave, and no one else in the building will seek (or need) to do so. This misrepresentation of the stay put evacuation strategy is sometimes explicitly presented in fire strategies. LFB is experiencing that people are choosing to leave when a fire occurs elsewhere in their building. Anyone who chooses to leave a should be able to do so safely.

In the three years from 1 April 2019 to 31 March 2022, LFB had 154 cases where ten or more people evacuated from a block of flats of at least six storeys (i.e. at least 18m). Those 154 cases meant that nearly 8,500 residents chose to evacuate either during a fire incident or before our fire crews arrived. These figures do not include the instances where less than ten people evacuated. One of the reasons for this is that many communities in tall residential buildings have social media groups (e.g. WhatsApp and Facebook) whereby there is an almost instant communication between large numbers of residents that a fire is occurring in their building. Whereas in the past many people may not even be aware of a fire in their building, now these social media groups enable much more effective communication between residents. Guidance should recognise this use of modern communication channels and should expect that the trend of residents choosing to leave could continue and should not expect this to occur only in buildings over 30m.

Alignment with other government thresholds

The NFCC position (18m or seven storeys) aligns with the government's own building height thresholds recently encapsulated in legislation for high-risk residential buildings.

The new regulatory regime introduced by the Building Safety Act is a strengthened regulatory regime for high rise and other in-scope buildings (higher-risk buildings), improving accountability, risk-management and assurance. Higher-risk buildings in the Act are defined by their height and use. These internationally used factors are an industry-accepted way of identifying buildings where the consequences from a fire or a structural failure can be significant. The new regime applies to buildings that are at least 18m in height or have at least seven storeys and have at least two residential units. That suggests that the government considers 18m a building height that is higher risk.

Similarly, the Fire Safety (England) Regulations 2022 (FSER) defines a high-rise residential building as one of 18m (or seven storeys) and requires substantially more assessment, maintenance and reporting by

responsible persons for a building at that height. That suggests that 18m (as well as the 11m also in the FSER) is a threshold whereby the government suggests that additional requirements are needed.

The introduction of a height threshold for single staircase buildings will also bring our regulatory regime into line with those of other comparable countries across the world. England has long been an outlier in allowing buildings of unlimited height with only a single staircase where most other comparable countries impose a height threshold.

Current conflict within ADB

Regardless of height, the requirement for multiple staircases will need to correct an apparent contradiction within Approved Document B (Volume 1) whereby the commentary suggests "*People, regardless of ability, age or gender, should be able to access buildings and use their facilities*", yet the design guidance provided allows for single staircases alongside no expectation for the provision of evacuation lifts. This consultation rightly identifies the need for additional staircases, however we also highlight that ADB should provide equitable egress for all building users in the form of evacuation lifts.

ADB states that its provisions are to support a stay put evacuation strategy. However, it also clarifies that common escape routes require additional protection as they need to "*allow occupants to escape should they choose to do so or are instructed/aided to by the fire service.*"

ADB also points out that in the Secretary of State's view requirement B1 is met by factors such as "*All people can escape to a place of safety without external assistance*" and that "*Escape routes are suitably located, sufficient in number and of adequate capacity.*"

In respect of buildings being inclusive for all building users, ADB says "*People, regardless of ability, age or gender, should be able to access buildings and use their facilities. The fire safety measures incorporated into a building should take account of the needs of everyone who may access the building, both as visitors and as people who live or work in it. It is not appropriate, except in exceptional circumstances, to assume that certain groups of people will be excluded from a building because of its use*."

"*The provisions in this approved document are considered to be of a reasonable standard for most buildings. However, some people's specific needs might not be addressed. In some situations, additional measures may be needed to accommodate these needs. This should be done on a case-by-case basis*."

So, on the one hand ADB is saying that the building should be accessible for all buildings users, yet it doesn't provide a solution for egress in the form of evacuation lifts or alternative stairs (that can be used while the fire and rescue service is using one for firefighting).

We have been presented with numerous examples of fire strategies that explicitly state 'we do not need to consider disabled evacuation from the residential floors'. In our opinion this demonstrates how ADB is being interpreted. We can provide examples of this if it will assist.

Consultation questions for the provision of sprinklers

Question 4 – Do you agree that sprinklers protection should be extended to new care homes of any height?

LFB **agree** that any new care homes should have sprinkler protection regardless of their height.

Question 5 – Alternatively, would you agree with the proposal if it included a 10 bed threshold?

LFB **disagree** that the coverage should be based on a threshold number of beds.

Question 6 – We welcome views on whether there are any exemptions you would include, what they are, and your evidence supporting their exclusion.

We do not consider it appropriate to apply exemptions for the proposed requirement to protect residents in care homes with sprinklers.

Assuming the reference to care homes only includes settings where care and lodging is provided together by the same provider to a range of persons and includes onsite staffing; we consider that all care homes should be provided the protection of sprinklers. An arbitrary threshold such as the numbers of beds does not automatically translate to how safe those residents may be in the case of fire. That is more closely linked to other fire safety provisions such as compartmentation and sprinklers and is also closely linked to the effectiveness of management of the premises and the numbers of available trained staff to prevent fires and to undertake evacuations.

There is no case to suggest that someone should reasonably be less protected by the provision of sprinklers in a 10-bed care home than if they resided in an 11-bed care home.

Many care settings have significantly reduced staff numbers, particularly at night, and may be unable to undertake a safe and effective evacuation of residents. In many cases the attendance of the fire and rescue service is assumed to compensate for deficient numbers of staff members which is not appropriate. While it is still under investigation, fires such as in the Beechmere care home in Crewe indicate cases where significant loss of life was only narrowly avoided by the swift intervention of attending fire crews. Therefore, in conjunction with the requirements to include sprinklers we also recommend that Approved Document B (ADB) includes a minimum level of staffing for a maximum number of beds per protected area, taking into account the dependency of the occupants. This could be presented in tabular form within ADB.

The requirement for sprinklers in new care homes should include extensions to existing care homes, and in those cases should require sprinklers throughout the premises and not just in the extended parts. It should also include change of use to a care home (for example from sheltered housing to a care home).

In reference to paragraph 22 of the consultation, we recommend that the government provides a clear definition for the various types of care settings and specialised housing.

We consider the protection of new care homes a critical initial step forward. We recommend that the government should extend this requirement to other types of care settings, and support mandatory retrofitting of sprinkler systems in existing care homes.

Question 7 – Do you agree that Approved Document B should remove the current allowances when sprinklers are provided?

LFB **agree** that the current allowances should be removed.

Question 8 – Which allowances do you think should be provided and what evidence do you have to support your view? [Free text]

We do not consider it appropriate to provide allowances for reduction in other fire safety provisions for the inclusion of sprinklers. While we appreciate in the past there has been an intent to incentivise the inclusion of sprinklers, this is counter-productive. For example, not requiring self-closing devices on fire doors is not appropriate as there is not a sufficient evidence-based justification for removing this safety measure.

Question 9 – Do you agree that Approved Document B should recommend sprinklers to the new BS 9251:2021 standard?

LFB **agree** with the recommendation to include sprinklers to BS9251:2021 in terms of the reference standard.

Question 10 – If you disagree, what other standards would you suggest, and what is your evidence to support using the alternative standards? [Free text]

We agree that a BS 9251:2021 system should be the minimum requirement, however BS 5306:0 should also be referenced. There will be cases whereby an alternative system (e.g. BS EN 12845 including additional measures to improve system reliability and availability) is more appropriate, and ADB should make this clear.

Question 11 – Do you agree that there should be a transitional period of 6 months?

LFB **disagree** with the proposed transitional period of 6 months.

Question 12 – If you disagree, how long should the transition period be? [Free text]

We believe a transitional period provides opportunity for developers to build more un-sprinklered care homes which will continue to place more staff and residents at risk of death or injury due to the risk critical factors described above. These care homes could be in use for many decades in the future without this risk addressed. Our recommendation is that no transitional period is applied and that all care homes utilising ADB from the point of publication should be designed incorporating sprinklers.

Consultation questions for the removal of national classifications

Question 13 – Do you agree that the national classifications for reaction to fire should be removed from Approved Document B?

LFB **agree** that the national classifications for reaction to fire should be removed from ADB.

Question 14 – Do you agree that the national classifications for fire resistance should be removed from Approved Document B?

LFB **agree** that the national classifications for fire resistance should be removed from ADB.

Question 15 – If you disagree, what evidence can you provide that outlines why the national classifications are still required.

LFB agrees that the national classes should be removed from ADB as long as the protection level increases and definitely does not decrease.

Question 16 – Do you agree that there should be a transitional period of twelve months?

LFB **agree** that a twelve month period appears to be appropriate.

Question 17 - If you disagree, how long should the transition period be and what is your evidence to support a longer or shorter transition period?

N/a

Question 18 – Please outline any concerns you have about the withdrawal of the national classification with regards to fire resistance including potential impacts, such as on the fire door industry.

We welcome improvements, which this appears to be. However, LFB are not specialists in this area and others will be better placed to provide a more detailed response.

Consultation questions for the inclusion of a new threshold for use of single staircases

Question 19 – Do you agree that Approved Document B should include a maximum threshold for the provision of a single staircase in residential buildings?

LFB strongly **agree** that there should be a maximum height threshold for the design of residential buildings with a single staircase.

Question 20 – Do you agree with our proposed threshold of 30 metres+?

LFB **disagree** with the proposed threshold.

Question 21 – If you disagree with the proposed threshold, at what height do you think the threshold should be set?

We support the National Fire Chiefs Council position that 18 m/seven floors would be an appropriate limit for a single staircase residential design, which also aligns with the Building Safety Act's definition of a higher risk building.

However, LFB strongly welcomes the government's consultation proposing to set a height threshold of 30 metres for buildings with a single staircase and recognise this as a positive step change. While 18m is preferred, the government's proposal for a 30m threshold would see the introduction of a clear limit (which has previously been lacking) and would give clarity to all stakeholders, as well as reflecting some of the challenges in planning/delivering homes in dense urban environments such as London.

Question 22 – What evidence do you have to support this threshold?

As above, our preference is for the threshold to be set at 18m, and we also highlight that the focus should not be limited to the numbers of staircases alone but should equally consider the equity of escape for all building users. Therefore, we urge the government to require the use of suitably protected evacuation lifts in conjunction with the requirement for additional staircases.

Please see the executive summary for the range of evidence that we consider to be relevant in relation to this point, including; the existing issues with single staircases, the views of residents/communities, equity of evacuation, flexibility for firefighting, changing use of buildings, alignment with other thresholds and current conflicts within ADB.

Question 23 – Do you agree that additional measure should be provided to ensure sufficient separation between staircases?

LFB **agree** that additional measures should be provided to ensure that sufficient separation is provided between staircases. It is illogical to not thoroughly review this to ensure that multiple staircases provide the resilience that should be required for tall residential buildings.

Question 24 – What additional measures should be provided to ensure the appropriate separation between staircases? Please provide any additional evidence to support your view.

While separation in terms of distance, and physical separation (or both) between staircases may be important, other aspects will be equally, if not more, important particularly in dense urban areas where there is significant pressures on the available building footprint. Two poorly designed, or poorly protected staircases will not provide sufficient alternatives for escape and firefighting, and if both staircases could be detrimentally affected by the same fire, the design will not be appropriate. The key benefits of additional staircases are allowing for more robust and reliable means of escape for any residents who chose to leave during a fire, regardless of where they are in the building, and to provide increased resilience and flexibility for firefighting. The staircases should ultimately allow for escape and firefighting to occur safely simultaneously during a fire.

Therefore, the key objectives below should be fully considered with regards to the change to guidance:

Objectives that the multiple staircase (and lift) provision should fulfil:

- Provide safe egress for all building users, including those who either won't be able to, or would find it difficult to descend stairs;
- Provide suitable resilience and flexibility for firefighting operations.

To enable these objectives to be met, it will be appropriate to have specific thresholds (e.g. building height, travel distances, numbers of flats per floor) where all staircases should be required to include; a firefighting/evacuation lobby protected from the ingress of smoke at all times by fire resisting separation and a suitable smoke control system, firefighting equipment such as rising mains, and sufficient numbers of firefighters and evacuation lifts.

There may be an argument that for buildings that are not too tall, have a limited corridor (i.e. travel distance) length, and have a limited number of flats per floor; that one staircase may be designed with full firefighting and evacuation facilities (as above) but another staircase is still required to be being fully protected against the ingress of smoke, but may be appropriate without all facilities (such as lifts). In such instances there must be clear guidance in ADB.

Current thresholds for the numbers of firefighting shafts (e.g. greater than 900sqm or firefighting hose lengths) may be insufficient to capture the flexibility for both means of escape and firefighting.

Where full flexibility for firefighting and escape is required, all staircases should:

- Have direct access (e.g. via a dedicated protected lobby) to sufficient numbers of firefighting and evacuation lifts such that the required escape capacity is achieved, equity of escape is provided for all building users, and that sufficient resilience is in place should a lift not be available (for example through repair or maintenance).
- Be protected by a dedicated lobby which should prevent the ingress of smoke at all times (i.e. in both escape and firefighting) to enable occupants to safely await the arrival of an evacuation lift. The lobby should also be provided sufficient passive fire protection and firefighting facilities to allow fire crews to instigate firefighting from either the stair or directly from the lobby itself;
- Be protected by smoke control to prevent the ingress of smoke into the lobby and stair (as above). The independent smoke control assigned to each stair/lobby/corridor combination will likely need to operate concurrently with a smoke control system protecting another staircase/lobby/corridor combination to ensure that dominant airpaths are not detrimental;
- Be protected by a smoke control system which allows firefighters to approach a fire from the same direction as the airflow instigated by the smoke control system (from upstream of the air paths).
- Provide the staircase, lobby, corridor combination for each stair such that occupants do not need to move through a lobby associated with one staircase to access the other staircase.

Alongside this, ADB should have a clear scope and clear definition of where it can (and more importantly cannot) be used.

If the principles above are fulfilled, staircases in close proximity may in fact be considered true alternatives, and therefore may be appropriate.

Question 25 – Do you have a view on how long the transitional should be, and what evidence do you have to support your proposed transition?

As detailed above, we agree that this transition period should be as short as possible to minimise the number of developments that are in the current pipeline progressing into building regulations stage without the new requirements.

Question 26 – Do you agree further consideration is needed to clarify the paragraph?

LFB **agree** that further consideration is needed to clarify the paragraph.

Question 27 – If you agree, please outline what materials would you cover in the paragraphs and what is your evidence to support this?

To a certain extent LFB considers the existing text appropriate, however assuming some have either found this unclear, or have intentionally been attempting to misinterpret, then clarification of the existing intent

would be welcomed. However, we do not consider this exercise should relax the intent in any way by disapplying the restrictions to any materials or circumstances.

6. Assessment of impacts

Question 28 – Please provide any additional evidence on costs, risks and benefits which should be considered in an assessment of impacts in the following areas.

a) Sprinklers in Care Homes and in housing for vulnerable people, regardless of building height

The impact analysis within this section of the consultation is fundamentally flawed in that it focuses only on limited financial estimates and concludes that there is 'no overall cost benefit either for life safety or property protection'. See our responses above for further observations on the benefits of sprinklers in care homes, while noting the significant societal impact.

NFCC has provided further evidence on this point in its response to the consultation, which LFB fully supports.

b) removing the national classification (BS 476 series) from Approved Document B

No response.

c) Residential Buildings above 30m in height being recommended to include 2 staircases

It is unclear how the costings within this impact assessment have been calculated, and we seek further clarification on this. We would question the limited benefit of the policy assumed in the consultation outside of residents valuing of a second staircase for their wellbeing. There are a range of benefits to this policy highlighted in our evidence in the executive summary which would create value.

Question 29 - 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.

As above, we consider that requirements such as evacuation lifts should be included in any revision of ADB to provide equity of escape. Buildings must be built to suit the needs of those who live within them, not people required to be suitable for the building.

Question 30 – Are you aware of any particular environmental impacts for these proposals? How could any adverse impact be reduced and are there any opportunities to advance positive environmental impacts? Please provide evidence to support your response.

The sprinkler recommendations within this consultation will have a positive impact upon the environment and sustainability. Studies have shown that where sprinklers are installed there is a decrease in the amount of water used in firefighting. Furthermore, sprinklered fires are estimated to release less carbon emissions compared with an un-sprinklered building of the same type. The potential environmental impacts of fire result from the use of water for firefighting, and the contaminated run-off from firefighting tactics, and greenhouse gas emissions and other pollutants emitted when a fire breaks out. Sprinklers can mitigate the impact and release of these contaminates.

For further information, please contact: Daniel Stern at daniel.stern@london-fire.gov.uk