

Fire safety in high rise buildings

Purpose of report

For discussion.

Summary

This report updates Fire Commission on the actions taken by central and local government to improve fire safety in high-rise buildings following the Grenfell Tower tragedy on 14 June 2017, and the work of the LGA in relation to this.

Recommendations

That Fire Commission:

- (a) Notes and comments on central and local government's actions to improve fire safety in high-rise buildings, and the LGA's work in relation to this; and
- (b) Discusses the final recommendations of Dame Judith Hackitt's review of building regulations and fire safety if these are published ahead of the Fire Commission meeting.

Actions

Officers to use members' discussion and comments to inform the LGA's on-going work in relation to fire safety in high-rise buildings and its response to the final recommendations of the building regulations and fire safety review.

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Fire safety in high rise buildings

Background

1. Following the tragic fire at Grenfell Tower on 14 June 2017 in which 71 people lost their lives, fire and rescue services and councils have been working closely with the government to ensure that high rise buildings in their areas are safe.

Investigations into the cause of the fire

2. The cause of the fire and the reason it spread so quickly through the tower block is still the subject of an on-going investigation by the Metropolitan Police (MPS). However a report commissioned by the MPS from fire investigation experts BRE Global and written in January 2018 was leaked to the media in April. From what has been published about the report it appears the fire started in a fridge-freezer in a flat on the fourth floor situated 1 metre from the window, and the fire travelled out of the window and took hold in the cladding system on the outside of the block.
3. Printed extracts from the BRE Global report show it concludes the refurbishment of the block failed to meet the fire safety standards set out in the building regulations. The deficiencies identified in the report include:
 - 3.1. the fact that the core of the aluminium composite material (ACM) panels and the insulation used were combustible;
 - 3.2. the incorrect installation of cavity barriers, which meant a chimney effect was created in the cladding system;
 - 3.3. the materials used around the window frames allowed the fire to spread back into other flats rather than stopped its spread;
 - 3.4. the absence of door closers on many front doors meant they were inadvertently left open, contributing to the breaching of compartmentation in the block; and
 - 3.5. the lack of access for fire engines at the base of the tower and the lack of a wet water riser.
4. The BRE Global report suggested further areas for investigation, including whether the fire spread through the open window or the extractor fan in the flat's kitchen, and whether the fire doors used in some of the flats had resisted the fire for as long as they were supposed to.
5. In addition to the MPS investigation, the public inquiry announced by the Prime Minister in June 2017, and chaired by Sir Martin Moore-Bick, has been tasked with identifying the immediate cause of the fire and whether the design and construction of the building complied with building and fire regulations, as well as considering the fire safety measures in place in the block on 14 June 2017. Although the public inquiry initially

hoped to have produced a report on the causes of the fire by Easter 2018, it will only start taking evidence from London Fire Brigade firefighters from June and residents from September to help it establish where and how the fire started, how it spread, and how the fire was fought. This phase of the inquiry will start on 21 May with commemorations of the lives of those who died in the fire. It seems unlikely that the second phase of the inquiry, which will look at the refurbishment and whether this was compliant with the building regulations, will commence before the end of 2018.

Making council tower blocks safe

Remediation work

6. As was reported to the last Fire Commission meeting, fifteen councils have been found to have 45 tower blocks with combinations of ACM cladding and insulation which failed the tests conducted by the Building Research Establishment (BRE) over the summer of 2017. These tests were commissioned by the Ministry of Housing, Communities and Local Government (MHCLG) following representations from the LGA and others, to establish how different combinations of ACM cladding and insulation behaved in a fire and whether they were compliant with the building regulations. In addition to the council blocks over 110 housing association tower blocks in 34 local authorities are also undergoing remediation work.
7. The primary focus for the fifteen councils has been on making the tower blocks they own safe. Undertaking this work is of course complex, and for many of the buildings involves the commissioning of major construction work that has to be planned, consulted on and carried out. The latest published statistics by MHCLG, which were made available at the end of April, show that remediation work has started on 104 of the 158 social housing blocks, with remediation work on seven blocks having finished. In the case of the local authority blocks we understand the failed cladding systems have been removed from a significant majority, and the councils responsible for these blocks are now in the process of replacing the cladding with a new system or have commissioned work to replace it.
8. A particular issue for councils when commissioning remediation work has been identifying what materials should be used to replace the cladding that has been removed. It was hoped at the time of the last Fire Commission meeting that MHCLG would provide building owners with advice on what to use. Although a range of further advice has been issued to building owners by MHCLG since then, this has not specified actual combinations of materials to use. Instead MHCLG has advised that any replacement cladding systems should comply with the guidance in Approved Document B by either using materials of limited combustibility or passing a large scale (a BS 8414) test.
9. All of the replacement cladding systems commissioned by councils that we are aware of are using materials of limited combustibility. While Approved Document B does not

require such combinations to be tested, councils have sought to obtain large scale test results to reassure tenants as part of the consultation process. With the test facilities at BRE booked some time in advance this has delayed councils in getting the test results they need, and some authorities have had to look to other facilities to conduct tests on their preferred replacement combinations of cladding and insulation.

Interim fire safety mitigation measures

10. Where any failed combination of ACM and insulation remains on social housing tower blocks, councils and housing associations have to continue to ensure the safety of residents in those blocks. To assist with that MHCLG and the National Fire Chiefs Council (NFCC) produced additional guidance for building owners. MHCLG issued updated advice on interim fire safety mitigation measures at the end of September 2017. This recommended that building owners check for example, that they have a suitable fire risk assessment, that residents understand emergency fire procedures, and that doors that open on to escape corridors and stairwells are fire resistant.
11. Fire and rescue services have been carrying out inspections with building owners to assess the risks in individual buildings following the issuing of this advice, which has required the deployment of considerable resources. We have been working with the NFCC to quantify this extra cost.

Fire doors

12. An additional issue for some councils has arisen in relation to the fire doors in their blocks. The investigations into the spread of the fire in Grenfell Tower identified concerns about whether some of the fire doors in the block could resist fire for the 30 minutes, as is required by the building regulations. On 15 March the Secretary of State for Housing, Communities and Local Government announced that a door from the block tested by the MPS as part of their investigation had failed after only 15 minutes.
13. As a result MHCLG had sought additional advice from its Expert Panel and the NFCC, as well as technical experts and the government's Chief Scientific Advisers. Extra tests on other doors from the same batch as those at Grenfell Tower made by Manse Masterdors (which ceased trading in 2014), have been commissioned, as have tests on other doors. This testing has included taking the doors apart and analysing the materials used in this batch of doors. We understand that the testing process is still underway. MHCLG say there is no evidence there is a widespread problem, and the fire safety advice provided by the Expert Panel and the NFCC has not been changed as a result.

Private sector blocks

Data collection

14. Once all the social housing high rise residential blocks with failed combinations of ACM cladding and insulation had been identified, MHCLG's attention turned to the private sector. The department wrote out to councils at the start of September 2017 to ask them to gather data on the number of private high rise residential buildings in their area, and in October confirmed that gathering the data on private high rise residential buildings represented a new burden and funding would be made available for this work. MHCLG's initial assessment was that the additional costs would amount to £289,000 across the sector.
15. Although councils have made significant progress in submitting this information to MHCLG, a number of councils are facing a series of challenges in gathering the full set of information, in some instances because of the large number of high-rise blocks they have in their area. Other councils have struggled to identify building owners, sometimes as a result of tangled ownership structures involving off-shore companies ultimately based in places like the British Virgin Islands or the Channel Islands.
16. Our discussions with MHCLG about how best to support those authorities in this position resulted in the Director General for the Building Safety Programme at MHCLG writing to the LGA on 1 March 2018 to announce an additional allocation of £1 million from the government to support councils' work. The LGA continues to work directly with councils to assist them in gathering the data MHCLG has requested.

Legal powers

17. The other main issue that councils have raised with MHCLG are their powers to take action where landlords do not prove co-operative. MHCLG wrote to councils in October 2017 setting out the powers they believed were available to councils under the Housing Act 2004 and the associated Housing Health and Safety Rating System. MHCLG's view was that the powers in the legislation could be used in relation to external cladding systems.
18. Although many building owners have come forward to volunteer information about their buildings, as has already been noted identifying building owners and what type of cladding is on a building is taking a considerable amount of time in some instances. In the event that a building owner is not co-operative in identifying what cladding is on their building councils will have to consider taking samples to identify what it is. Should it turn out to be ACM cladding that needs to be removed there is also a question about what councils can or have to do if the building owner does not organise the removal of the cladding.

19. As MHCLG identified, councils have powers to take action under the Housing Act and the Housing Health and Safety Rating System, but there are risks associated with doing so. We have therefore outlined with London Councils a number of ways that MHCLG could minimise these risks for councils. In response MHCLG have been examining the statutory guidance and the statutory operating directions for local authorities in their relationship with those private sector building owners with a view to reinforcing local authorities in carrying out this building safety related work. However progress with this work has been delayed by changes in personnel in the relevant team in MHCLG leading on this work.
20. If councils have the ability to take the necessary action against any building owners who are not taking their fire safety obligations seriously, this should limit the burden on fire and rescue services, given that the information councils have so far gathered suggests that there are significantly more private high-rise buildings with ACM than there are council blocks with it.

Outcomes from the programme

21. The work councils are doing around fire safety in private high-rise buildings is already having an impact on leaseholders. A first-tier tribunal has recently ruled that it is legitimate for building owners to recover the cost of interim fire safety measures from leaseholders through their service charges. The mayors of Salford and Greater Manchester had added their voices to those Members of Parliament who are highlighting the impact on leaseholders as an issue. The LGA has been in discussion with MHCLG officials and London Councils about what could be done where building owners pursue leaseholders for the costs of any interim fire safety measures or remedial work to the buildings.

Large Panel System buildings

22. After concerns were raised by residents on the Ledbury estate shortly after the Grenfell Tower fire about cracks in the walls of the blocks, and the implications this might have for fire safety, the London Borough of Southwark commissioned Arup in July 2017 to investigate the cracks. Arup concluded that the cracks were actually gaps between the concrete panels that make up the buildings, resulting from the fact the four tower blocks were constructed using the large panel system (LPS) method and did not affect the strength of the blocks.
23. Southwark then asked Arup to check the structure of the blocks to ensure that they could withstand the kind of gas explosion that occurred at Ronan Point in 1968, as the Ledbury blocks were built to the same design and had piped gas. The gas explosion in a flat in Ronan Point had led to one corner of the building collapsing; as this resulted in much more damage than anticipated it was termed 'disproportionate collapse'. The structural appraisal by Arup concluded that the blocks had not been strengthened to a standard

required to have piped gas, and this was cut off, pending a further, more thorough, investigation of all four blocks.

24. Arup submitted the conclusions of their further investigations to Southwark on 20 November. This report set out the findings of a structural assessment of the blocks on the Ledbury estate, and in particular their resistance to disproportionate collapse, their resistance to wind loading and the durability of the concrete structure. 19 flats across the four blocks were examined. These investigations found that:

- 24.1. The structure of the buildings was in good condition;
- 24.2. Each block met the wind loading requirements in the current building regulations;
- 24.3. But the blocks do not fully comply with the recommendations to prevent disproportionate collapse in large panel system buildings set out in the 2012 guidance produced by BRE and MHCLG to update the 1968 guidance.

25. Arup therefore recommended that strengthening work to the floors, cross-walls and connections between external panels and internal walls is undertaken to the blocks. As carrying out the work will require tenants to be moved out of their flats, Southwark is costing the work, and then will work with consultants and local residents to look at all the possible options for the future of the tower blocks.

26. Issues with buildings constructed using the large panel system method have also been identified on the Broadwater Farm estate in Haringey. Following advice from MHCLG to local authorities after the problems had been identified on the Ledbury estate, Haringey instructed structural engineers to examine a number of large panel system buildings with a gas supply. Although these are low rise blocks, the engineers' feedback was that the blocks did not meet the standards to have gas supplies. As a precautionary measure to enable residents remain in their homes Haringey removed all gas cookers from the blocks, provided all affected tenants with replacement electric cookers and fitted disruptor valves so in the event of a leak the gas supplies to the blocks is cut off, reducing the risk of an explosion.

27. The Arup and Haringey findings may have implications for other LPS buildings, and MHCLG and BRE are still currently considering the wider implications of the Arup report. One possibility is that councils will have to commission structural surveys if they have not already done so to check that the strengthening work, which should have been carried out was actually done, and that any LPS buildings they own comply with current building regulations and the 2012 MHCLG and BRE guidance.

Hackitt Review of building regulations and fire safety

28. In July 2017 following the fire at Grenfell Tower, the LGA called for an urgent and immediate review of the building regulations to look at how easy they are to use, understand and comply with. The government responded by establishing an independent

review led by Dame Judith Hackitt at the end of July 2017. The review was tasked with submitting an interim report in autumn 2017 and a final report in spring 2018.

29. The terms of reference for the review identified two purposes: to make recommendations to ensure there is a sufficiently robust regulatory system in the future; and to provide further assurance to residents that the regulatory system is working to ensure the buildings they live in are safe and remain so. In reaching its conclusions the review was also asked to:

29.1. Map the current regulatory system as it applies to new and existing buildings;

29.2. Consider the competencies, duties and balance of responsibilities of key individuals in ensuring that fire safety standards are adhered to;

29.3. Assess the theoretical coherence of the current regulatory system and how it operates in practice;

29.4. Compare this with other international regulatory systems and regulatory systems in other sectors with similar safety risks; and

29.5. Make recommendations that ensure the regulatory system is fit for purpose with a particular focus on multi-occupancy high rise residential buildings.

30. The review issued a call for evidence in September 2017, and the LGA drafted a submission, which was sent in on 13 October.

Interim Report

31. An interim [report](#) from Dame Judith Hackitt's review was published on 18 December 2017. In it Dame Judith Hackitt set out the review's key findings, the direction of travel as it prepared the final report and the rationale for the proposed next steps, as well as the mapping it had done of the current regulatory system. The review's overall conclusion was that "the current regulatory system is not fit for purpose in relation to high-rise and complex buildings". It also identified some early actions to support the review's direction of travel including restricting the use of desktop studies and that government should improve the clarity of Approved Document B, which provides guidance on meeting the fire safety requirements in the building regulations.

32. In his response to the interim report, the Secretary of State for Housing, Communities and Local Government confirmed in December that the government accepted all of the interim report's recommendations. He added that MHCLG would revise the Approved Documents on Fire Safety to clarify them and restrict the use of desktop studies, with a new British Standard being commissioned on when and how they can be used. MHCLG would also consider how the entire suite of Approved Documents can be restructured and reordered to make it more user-friendly.

33. The interim report reflects many of the points made in the LGA's submission to the review's call for evidence. The overarching conclusion that the current regulatory system is not fit for purpose echoed the LGA's view that the fire at Grenfell Tower has exposed a

systemic failure. Nearly all the substantive points made in our submission were picked up in the interim report including:

- 33.1. The lack of clarity in the Approved Document on Fire Safety;
 - 33.2. The problematic interaction between individual parts of the wider suite of Approved Documents;
 - 33.3. The problems with product labelling, product certification and the fire safety testing of cladding systems;
 - 33.4. The need for specific individuals to have responsibility for ensuring a building is constructed to the building regulations;
 - 33.5. The impact of the competitive market in building control on standards and inspections;
 - 33.6. The competencies of those involved in carrying out fire risk assessments; and
 - 33.7. The way that the Housing Act 2004 and the Fire Safety Order work separately and together.
34. This represented a considerable lobbying success on the part of the LGA. In our initial media response to the report's publication we therefore welcomed it.

The review's second phase of work

35. A formal response to the interim report was agreed by the LGA's Grenfell Task and Finish Group in discussion with the Lead Members from Fire Services Management Committee, a copy of which is attached at **Appendix A**.
36. The second phase of the independent review's work was launched at a summit held on 22 January. This was followed by an invitation to key stakeholders to contribute to six working groups covering construction and design; occupation and maintenance; regulations and guidance; competence; residents' voice and quality assurance and products.
37. The LGA applied for places on all six of the working groups. However we were only offered places on two of the working groups: occupation and maintenance; and the residents' voice. We were also invited to participate in a sub-group to the construction and design working group looking at procurement and supply. The National Fire Chiefs Council were represented on all of the working groups.
38. The two working groups the LGA were represented on met several times each, and along with other working groups their recommendations were presented to Dame Judith Hackitt in mid-March. Since then work has been underway on completing the final report, which we understand will be published before the end of the month, and possibly ahead of the Fire Commission meeting. If this is the case, a verbal update on the recommendations from the report and its implications for fire and rescue services and councils will be given at the meeting.

Approved Document B consultation

39. Following on from the recommendation in the review's interim report that the use of desktop studies should be restricted, MHCLG launched a consultation on 11 April. This proposes that where there is an existing standard on the use of desktop studies this is used, and if there is not then the principles of a European standard (BS EN 15725:2010) should be followed. To assist, the government has commissioned the British Standards Institute to produce a standard for the use of desktop studies in relation to cladding systems utilising results from large scale tests (BS 8414 tests). Though the consultation seeks views on whether the use of desktop studies should be banned altogether, the impact assessment in the consultation identifies the possibility that the proposals in the consultation might result in the greater use of desktop studies.
40. Given the importance attached in the consultation to BS 8414 tests it is concerning that the validity of the BS 8414 standard has been increasingly called into question recently. BRE at the start of February issued a statement related to data from a BS 8414 test carried out by Celotex at BRE in 2014 on one of their polyisocyanurate insulation products that was used on Grenfell Tower. BRE had been notified by Celotex that on reviewing the test results Celotex had identified anomalies between their design specification for the cladding system to be tested and the actual cladding system they installed to be tested. As BRE understood that the test system had not been constructed to Celotex's design specification, the test results were withdrawn.
41. Additionally at the end of January Sky News reported claims by one major building insulation manufacturer that another building insulation manufacturer had 'influenced' the full scale fire safety tests carried out by MHCLG over July and August 2017 by placing fire barriers over the thermometers measuring the heat generated by the fire. The manufacturer involved in conducting the tests said the placement of the fire barriers had been copied from previous tests, that they showed the fire performance of ACM cladding was the key factor in the fire safety performance of any cladding system.
42. Recent work by the Association of British Insurers and the Fire Protection Association has also questioned how representative the BS 8414 tests are of real world fire conditions, and they led further calls for reform of the testing regime. Given these new concerns and the LGA's previously expressed worry in our submission to the Hackitt review in October that the way cladding systems are installed on building sites never replicates how systems are installed for BS 8414, the LGA has called for a complete ban on the use of desktop studies and for only non-combustible material to be used on complex and high-rise buildings. These points will be made in the LGA's response to the consultation.

Implications for Wales

43. Building regulations are a devolved responsibility of the Welsh Assembly Government, and the main implications from the LGA's work and that of the review of building regulations and fire safety are on high-rise buildings in England, though the Welsh government is likely to take account of the review's recommendations.

Financial Implications

44. The LGA's work in response to Grenfell Tower continues to be intensive, however it has been met so far from existing resources.

Next steps

45. Members are asked to:

45.1. Note and comment on central and local government's actions to improve fire safety in high-rise buildings, and the LGA's work in relation to this; and

45.2. Discuss the final recommendations of Dame Judith Hackitt's review of building regulations and fire safety if these are published ahead of the Fire Commission meeting.

46. Officers will use members' discussion and comments to inform the LGA's on-going work in relation to fire safety in high-rise buildings and its response to the final recommendations of the building regulations and fire safety review.