

Business Sprinkler Alliance (BSA) written evidence to the HCLG Select Committee follow-up work on the Independent Review of Fire Safety and the Building Regulations

Executive summary

- Dame Judith Hackitt's Review should be seen as a starting point for the necessary debate about the Fire Safety Building Regulations and the built environment
- The Grenfell Tower fire highlighted serious failings in the current system – but the Review of Fire Safety and the Building Regulations should not be limited to High Rise Residential Buildings as, long before the Grenfell Tower fire, the BSA and others had been telling Government that the system for all buildings must be amended because the scope of the Regulations is too narrow and because the Approved Document B technical Guidance (ADB) is out of date, and often ambiguous
- The cost of fire is too high: the Review needs to look forward as well as backward – to ensure that the future built environment is resilient to fire so that buildings are both safe and sustainable. To do so, the Government must undertake a comprehensive technical review of Approved Document B and must broaden the locus of the Regulations and the Guidance so that their remit is life safety (including firefighter safety) and property protection
- The comprehensive technical review of ADB must happen before any structural changes to the system of Guidance (as recommended by Dame Judith) is implemented.

The Business Sprinkler Alliance

The BSA is a coalition of leading fire industry organisations and experts which aims to ensure that more of the UK's industrial and commercial buildings are protected from fire with automatic fire sprinkler systems. The members are the National Fire Chiefs' Council, the National Fire Sprinkler Network, the European Fire Sprinkler Network, the British Automatic Fire Sprinkler Association, the Fire Protection Association and commercial insurer FM Global. The BSA rationale is straightforward – the members all know that sprinklers control or extinguish fires at their source and so make the task of the Fire and Rescue Service (FRS) much safer, easier and cheaper while also protecting lives, property, businesses, jobs and the environment.

1. Dame Judith's Report provides a series of recommendations to make High-Rise Residential Buildings (HRRBs) safe from fire. While the Report's focus on HRRBs is appropriate given its mandate, we believe that the almost exclusive focus on HRRBs to the exclusion of fire safety in the built environment generally is an error.

2. Prior to the Grenfell Tower fire significant failings in the fire safety Building Regulations had already been identified and highlighted to Government by many in the fire sector. The failings are twofold:
 - The Approved Document B (ADB) Guidance needs a comprehensive technical review
 - The scope of the locus of the Fire safety Building Regulations should be broadened to encapsulate property protection.
3. Failure to redress these concerns mean that the system of Fire Safety Building Regulations will continue to be “not fit for purpose” even if the Government implements Dame Judith’s recommended changes to the structure of the Regulations and in parallel implements a ban on combustible cladding and desk-top studies.
4. ADB was last reviewed over 12 years ago. This lack of recent and regular review means that ADB does not reflect the changes in construction materials and techniques and building-use patterns over that period – many of which impact fire risk. The current edition of ADB does not reflect this evolution or global incidents as the recent debate about combustible cladding has demonstrated. Additionally, some of the categorisations are no longer appropriately considered:
 - high-rise student accommodation and hotels are part of the “Residential (Institutional)” purpose group. This means that the requirement for sprinklers in residential buildings taller than 30m inexplicably does not apply to these types of accommodation
 - The same applies to Care Homes. The data supporting the introduction of sprinklers into Care Homes has been available for some time. However, the lack of a technical review means that this has not been considered or introduced into the guidance
 - The industrial/commercial purpose groups are no longer appropriate because the differentiation between “industrial” and “storage” is increasingly indistinct as most manufacturing sites include significant space devoted to storage; warehouses for internet sales’ distribution companies and waste processing employ large numbers of staff and house valuable machinery.

We present this non-exhaustive list of items to highlight areas the current Guidance needs to address due to changes and newer evidence. They also demonstrate that ADB must undergo a thorough technical review now. Dame Judith has called for ADB to be clarified and that process is underway. However, the clarification will not change the technical detail it will just make these items more obvious. The revision of the technical content is still essential.

5. This view was also expressed by a recent CLG Minister, Stephen Williams, who said more than 3 years ago (on 3 March 2015): My Department’s Secretary of State committed to a review, which will deliver a revised document in 2016-17; the intention is to simplify the guidance where possible and update and revise the technical content at the same time”.
6. Dame Judith has also recommended that ownership of the guidance be passed to industry. We do not see why this act would make any significant change to the process. But we are concerned that this will introduce yet another delay to the necessary technical review. We therefore believe that if the Government accepts Dame Judith’s recommendation to pass ownership of the guidance to industry, it only implement the structural change after a comprehensive technical review of ADB is completed under the current structure i.e. managed by the Building Regulations Advisory Committee. This action would prevent further delay to the long overdue technical review.
7. There is a wider concern which we believe should be addressed during this period of the Review of Fire Safety and the Building Regulations: the cost of fire. There are no current government figures on this.

The last study of the Economic Cost of Fire was completed in 2011 to cover the year 2008¹ which put the figure at £8 billion. The government then ceased the compilation of these figures. This accords with direction whereby fire had been virtually off the Government's agenda before the Grenfell Tower fire because fire deaths had been on a welcome steady decline and because the number of fires has been decreasing. Currently the annual cost of fires in the UK is estimated by the Fire Sector Federation to be £9.1 billion. The cost of fire is rising and the greatest cost increases are a consequence of fires in industrial and commercial buildings.

8. A contributing factor to this rising cost of fire is that the locus of the Fire Safety Building Regulations is restricted to life safety. A focus on life safety is paramount, but it should not be to the exclusion of considerations about the wider costs of fire. But the current Regulations take no consideration of property protection. Hence if all occupants evacuate a building safely in the event of a fire, but the building is badly damaged or destroyed, under the Regulations the outcome is "a success". But in each case of a building being badly damaged or destroyed by fire, the activity which took place within the building before the fire can no longer take place after. The displacement or even loss of this activity (whether the building was a business, a school, a health care facility, a home) generates costs to the economy and to society and so are ultimately born by the public purse.
9. The following are 5 fires in different non-residential building types which offer a snapshot as to why it is in the Government's and the Nation's interest to adopt a new approach to fire safety building design:
 - In August 2016, the Selsey Academy in Chichester was destroyed by fire. There were no injuries or deaths but pupils are still being taught in temporary accommodation on the site
 - On the 11 July 2017 a fire destroyed the Weybridge Community Hospital. There were no injuries or deaths, but the community has lost health services. Nearly 12 months on temporary buildings are being used to provide limited services and the local community are having to use surrounding health units.
 - On 31 December 2017 a fire badly damaged a car park in Liverpool. There were no injuries or deaths but 1600 cars were destroyed, the building will have to be demolished and the loss of the parking spaces will impact on the city's economy
 - In January, a fire destroyed part of Nottingham train station. It has been recently refurbished at a cost of £60 million. There were no injuries or deaths but travel was severely disrupted for a period and the station requires substantial repair
 - In March, a fire destroyed the Gardman gardening supplies warehouse in Daventry. The 40,000m² building was brand new and had only recently started its operations. There were no injuries or deaths but the business has had to go back to its old site, which is considerably smaller and 100 miles, away to continue operations at great cost to the business and employees.

Under the current locus of life safety, each of these fires was a "success" because there were no deaths or injuries. We disagree. These fires were not "a success" because each was the cause of significant – but avoidable - disruption and cost.

10. The failing of the current system is not just that a tower block fire could lead to the tragic death of 72 people, nor just that ADB is woefully out-of-date, but also that the Fire Safety Building Regulations allow buildings to be designed so they may be destroyed in the event of a fire.
11. Also, of note is the fact that in 2012, the Government repealed many of the fire safety provisions of the Local Acts. The provisions of the Local Acts had the objective of life safety, minimising property damage, preventing spread of fire to neighbouring buildings and firefighter safety. They applied to a range of

¹ Economic Cost of Fire: estimates for 2008 – DCLG February 2011

buildings including those meriting special consideration: high buildings, large storage buildings, and car parks. One of the conditions of all almost all the Local Acts was that warehouses larger than 7,000m³ would be protected by a range of fire safety measures including fire extinguishing systems – automatic sprinkler systems. Despite studies showing the positive impact on the fire damage to these buildings the Local Acts were repealed as a part of the de-regulatory agenda implemented by the Red Tape Challenge.

12. The solution is to pursue a risk-based approach which addresses resilience to fire. To make the system robust will require a change to the Building Act and to the limitations attached to Part B of the Building Regulations to the effect that property protection is a requirement alongside life safety. This would then require changes to the ADB Guidance, some of which would be to the sprinkler provisions because sprinklers prevent large, dangerous and destructive fires. Of note is the fact that if a building is designed to be resilient to fire, the safety of the occupants (and firefighters in the event of a fire) will also be significantly enhanced.
13. The view that property protection should be a requirement of the Fire Safety Building Regulations is common across the fire sector. A survey of Fire Sector Federation (FSF) members undertaken in early 2017 showed that the vast majority recognised the urgent need for the Regulations and their Guidance to be reviewed and that they cover property protection as well as life safety. More recently, another survey² commissioned by the FSF confirmed that these views are also shared across the build community – with 66% believing that property protection should be consideration of the regulations. 89% also stated they want firefighter safety to also be a consideration.
14. While those in the fire and build community see the need for radical change, a converse concern is that many end-users misunderstand the intent and effect of the current Fire Safety Building Regulations and their Guidance: a recent YouGov poll undertaken for the BSA has highlighted that 69% of the businesses polled thought that following the Fire Safety Building Regulations Guidance means that their business premises are adequately protected from fire events. This fundamental misunderstanding is therefore a cause of a false sense of protection which is all the more concerning given the data showing that the costs of fire to business and to the public purse are increasing.
15. Dame Judith's Review was tasked to focus on tall residential buildings because the Review was a direct consequence of the Grenfell Tower fire. But the Review's mandate was not to focus on tall residential buildings to the exclusion of all other building types and purpose groups. Our message is that this review must be forward looking, it must be comprehensive, it must address all building types and it must have the objective to reduce the cost of fire. Put simply, the Fire Safety Building Regulations must be designed to ensure that the built environment of the future is resilient to fire so that it is both safe and sustainable.

Recommended action

16. The Government should immediately start a comprehensive technical review of Approved Document B under the current ownership of BRAC - and must then undertake subsequent reviews every three years. The review must address the changes in building design, materials and construction which heighten fire risk. The focus of the BSA is industrial and commercial buildings – from this perspective the review must address:
 - The impact of increased use of insulation and combustible materials within building construction and their impact on the speed of fire spread, compartment sizes and fire conditions within compartments. The introduction of such materials has led to increased fire damage and therefore the increased consequence of fires.

² NBS: Reviewing Approved Document B (Fire Safety) November 2017

- The evolving design of industrial and commercial buildings to meet the needs of the internet economy: large unpartitioned warehouses using sophisticated and expensive machinery and large numbers of employees to manage operations; just-in time logistics dictating that factories need large, multi-tiered spaces – hence the distinction between a warehouse and an industrial building in the Guidance purpose groups is blurred and is therefore inappropriate
- The impact these changes have on the operational tactics of the Fire and Rescue Service (FRS) in response to fire: their ability to access buildings, effect rescue operation and the scale of the fire they may have to fight
- The fact that the 20,000 m² threshold for sprinklers in warehouses provided by the ADB is far too high: it challenges the resources that are available to the FRS contain a potential fire; it compares badly against the average compartment size allowed before sprinklers must be fitted in most European countries where thresholds range from 800m² to 5,000m²; and a cost benefit analysis undertaken by the BRE in 2013³ shows that the threshold should be reduced to 2,000m². Also, given the increasing heights of modern industrial and commercial buildings, a meter cubed threshold – as previously provided by the local Acts - is appropriate.

17. The Government should in parallel amend the Building Act and the limitations of Part B of the Fire Safety Building Regulations to the effect that property protection is a requirement of alongside life and firefighter safety.

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³ An environmental impact and cost benefit analysis for fire sprinklers in warehouse buildings – BRE Global, December 2013