



## Sprinklers in schools

### Background

In England the Building Regulation guidance setting out Fire Safety in Schools is contained in a document named Building Bulletin 100, designed by the Department for Education, and which has both a life safety and property protection element in it. Compliance with Building Bulletin 100 is deemed to satisfy the requirements of the Building Regulations.

Around a decade ago UK Fire Chiefs and others gave their support to a revision of BB100 calling for the introduction of sprinklers in newly built schools.

As a result BB100 was amended to include the following commitment from the Government in the Ministerial forward:

***“It is now our expectation that all new schools will have sprinklers fitted. Any exceptions to this will have to be justified by demonstrating that a school is low risk and that the use of sprinklers would not be good value for money.”***

In 2016 BB 100 was revised by the Dept. for Education and the above wording was replaced with the following:

***“The Building Regulations do not require the installation of fire sprinkler suppression systems in school buildings for life safety and therefore BB 100 no longer includes an expectation that most new school buildings will be fitted with them.”***

This revised wording was circulated for consultation by the Department for Education. It immediately received heavy objections from all across the fire sector resulting in a decision to pause and further review BB100.

Following a meeting of the All Party Parliamentary Fire Safety & Rescue Group (APPFSRG) and Lord Nash and his officials on 23rd February 2017, DfE officials were charged to speedily produce a further update of the revised BB100 Document which would take account of the concerns raised by the APPFSRG Group. In April 2017 Sir David Amess received a letter directly from one of the DfE's officials, seeking the All-Party Group's approval to the insertion of one paragraph, as a solution to the concerns raised.

This was declined, on the basis that the evidence provided by Fire & Rescue Services suggested that when a risk assessment confirms that automatic sprinkler protection is appropriate, the client seeks a loophole NOT to install automatic sprinklers, and the Education Funding Agency are permitting this route to be used knowing that only Building Bulletin 100 contains both a life safety and property protection element; unlike the alternative, which doesn't have a property protection element!

There followed a period of a further three months without any response from DfE, at which point Sir David Amess Sought an update.

On 24<sup>th</sup> July 2017, Lord Nash responded saying that the General Election had delayed the DfE's response and the Grenfell Tower fire had caused DfE to halt its revised DRAFT Guidance to take account of any findings from the Expert Panel or the Public Inquiry had been made. Meanwhile the existing BB100 would remain extant and unchanged.

## The Risk

According to UK Fire statistics in England alone there were 686 fires in schools in 2016/17. The Association of British Insurers say the most expensive school fires typically cost around £2.8 million to address, and over the last four years an average of 24 of these large loss fires have occurred every year totalling £67.2million. Aside from the financial impact, UK school fires disrupt the education of an estimated 90,000 children and students annually.

Whilst Government's expectation was that most if not all new schools would be fitted with sprinklers, recent estimations show that the rate has diminished from around 70% of new schools being built with sprinklers in 2007, down to a mere 30% as of December 2016.

(The 70% figure came from figures agreed by former Minister Vernon Coaker MP at a meeting with Zurich Mutual Insurance. And the 30% figure was provided by Larry Stokes of Zurich and was acknowledged as correct by Mike Green at the Hon. Admin Sec (APPFSRG)'s meeting with him last December 2016)

## Current situation

During the consultation process to review BB100 strong representation was made from all sections of the fire community including the National Fire Chiefs Council to reconsider the removal of the expectation to fit sprinklers in new schools. As a result DfE decided that the present BB100 would remain in place until a revised form of words could be found, which deals with the concerns raised. Therefore the wording setting out the expectation of Government remains, pending the Grenfell Tower Public Inquiry and any matters arising therefrom.

***“All new schools will have sprinklers fitted. Any exceptions to this will have to be justified by demonstrating that a school is low risk and that the use of sprinklers would not be good value for money”.***

However, the problem still remains that if only 30% of newly built schools are protected with sprinklers, the expectations of Government set out in the guidance clearly are not being met.

## Why is this happening?

Whilst the 2007 edition of BB100 introduced an expectation that sprinklers would become the norm and the guidance also provided risk assessment tools to help determine the appropriate provision of sprinklers, the guide also provided an alternative route as follows:

***“A designer is not required to follow the guidance in this document, but may adopt an alternative approach, possibly based on fire safety engineering. This is a risk-based approach, with the aim of providing an acceptable level of safety that gives good value for money. The onus is on the designer to demonstrate that the design results in an appropriate safety level, as good or better than that achieved by following the detailed design guidance here”***

The above paragraph taken from the Executive Summary of the 2007 edition of BB100 provides designers with an alternative approach to fitting sprinklers that they argue is based on providing value for money.

With typically schools fires in England occurring at around 600 plus fires a year, and with the biggest of these fires typically creating costs of around £2.8 million (or £67.2million annually), the argument for value for money seems weak given that the provision of a sprinkler system for a medium sized school, during the building stage is around £100,000. (or about the same cost as providing carpets).

Recent research ( attached) establishes that over a five year reference period there were 83 fires in educational premises where sprinklers were fitted. In each occasion where the sprinklers were expected to operate they did so. They contained and or extinguished the fires, dramatically reducing fire damage and making reopening of the school much easier, minimising the disruption to education. (see page 59 - 64 of the document)

### **The proposed solution**

A proposed solution would be to standardise the risk assessment process and ensure that designers of all new schools must use the fire risk assessment tools provided in BB100 to determine if sprinklers are appropriate based on both life and property risk. Where this points to sprinklers as being appropriate, an alternative solution which doesn't provide automatic sprinkler protection, should not be permitted.

### **NOTE**

***Sprinklers are mandatory in new schools in Scotland and Wales.***