



**Fire Protection  
Association**



# 'Grenfell, A look forward at what needs to change'

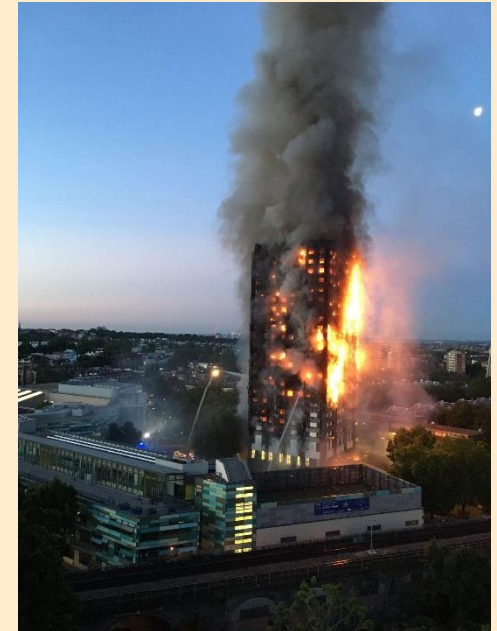
UK Building design and protection for LIFE-SAFETY

## IWMA Conference 2018 - London

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19<sup>th</sup> September 2018



THE UK's NATIONAL FIRE SAFETY ORGANISATION  
Protecting people, property, business and the environment



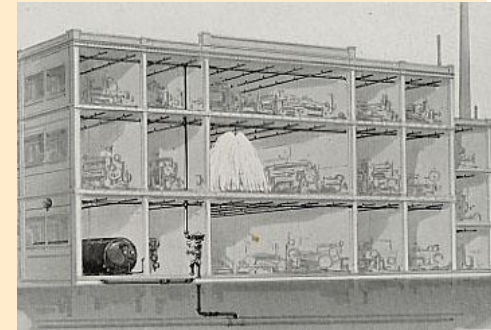


1189

<1666

1774

(2017+?)



2000

2013

2017



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# FE Consultancy website offerings

██████████ have been successful in negotiating fire strategies for a number of mixed-use residential projects around the country. Many of these projects have been situated in inner London and fall under the extended scope of the London Building Act, which has a number of more onerous fire requirements, such as sprinklers. The following savings have been achieved:

- No sprinklers anywhere in the developments, including the underground car parking, residential or offices.
- Reduced levels of compartmentation between the car park and the levels above.
- Single stairways serving both the residential floors and commercial floors.
- Reduction in area lost to smoke venting systems throughout the building.
- Reduction in fire rated facades allowing the freedom to use larger areas of openable windows.

Whilst still achieving these cost savings and flexibility in the design ██████████ ██████████ have been able to introduce a higher level of safety to the occupants within the residential areas by making use of smoke venting systems that are consistent in protecting the stairs.

## retail & offices

Retail and office developments can vary very much in size from small single unit shops or offices to large shopping mall and high rise developments. As with the varying sizes the fire protection requirements and evacuation strategies can vary as much.

- The list of areas where fire engineering can provide particular benefits is almost endless. However, some of the key areas are:
- Increased compartment areas
- Removal of sprinklers
- Removal of fire rated glass
- Reduced number of stairs
- Increased travel distances
- Increased occupancy capacities
- Reduced number of fire fighting shafts
- Reduced levels of smoke control/clearance
- Correctly designed evacuation policies to suit the building



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All perfect results ..... no one died!

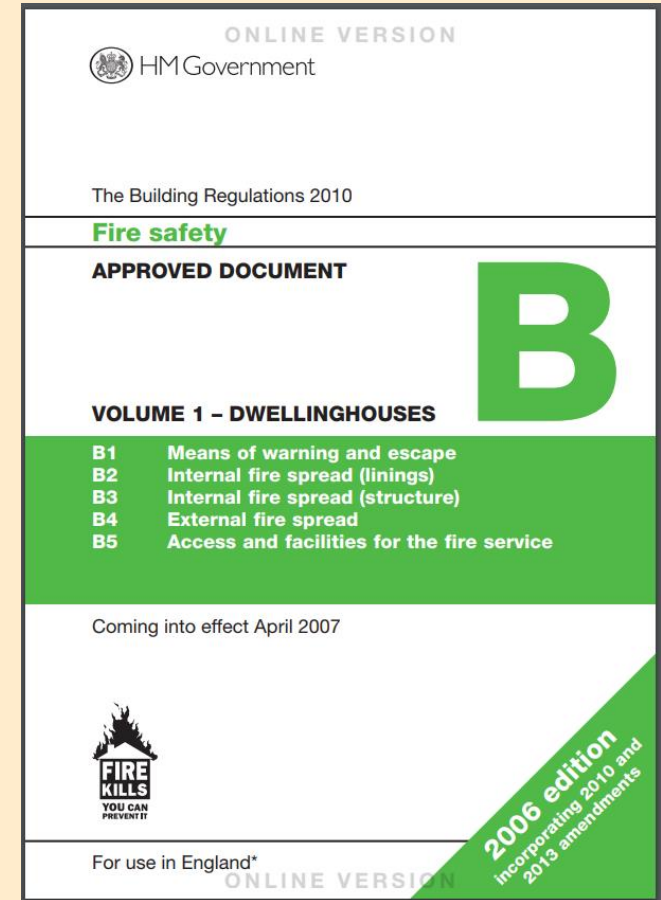
# That is ... until Grenfell happened



# What changes the Risk Factors – Outdated Regulations

## Building Regulations

- Can they cope with new combustible building methods
- Assumption of ‘perfect-world’ build
- No consideration of ‘susceptibility’



# What changes the Risk Factors - Materials



- Structure
- Insulation
- Cladding



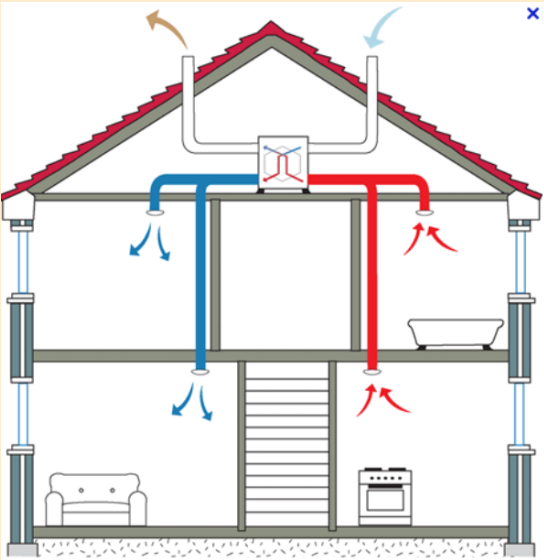
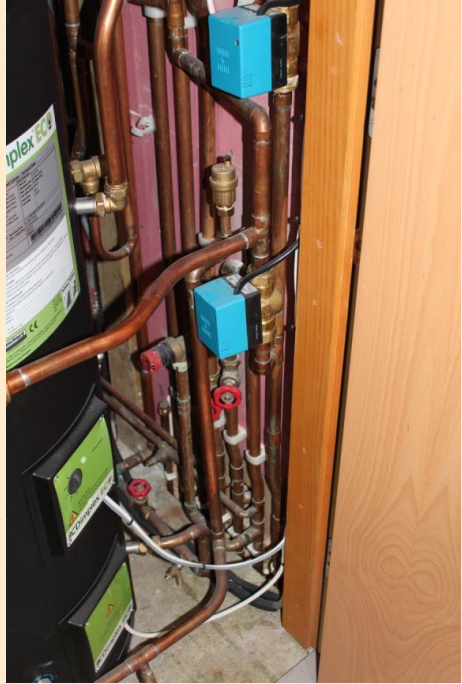


# What changes the Risk Factors - Design

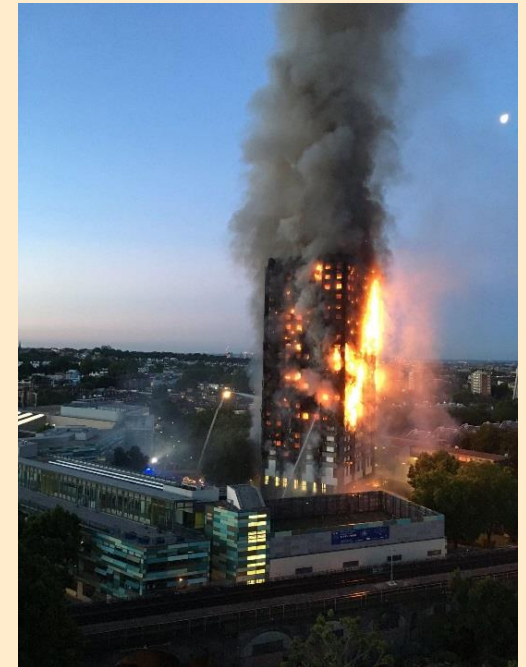


- Building access
- Material accessibility

# What changes the Risk Factors – Energy Systems



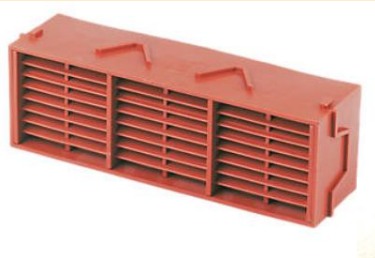
# Transferring Commercial Building Systems to the Residential environment without impact analysis



# DCLG intransigence



Department for  
Communities and  
Local Government



# Going forward

- Dialogue
- Prescribe for the basics of safety
- Honesty & Clarity from all stakeholders on their contribution to the solution
- Redefining responsibilities
- A role for suppression



# Dialogue

- An improved forum for raising safety concerns
- A quality assured system for receiving considered responses
- An extended scope for engagement
- An extended scope of Regulation
- A review timetable

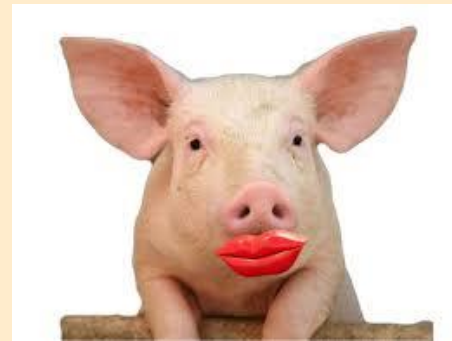


# Prescribe for the basics

- Non-combustible product selections
- More than one escape route
- Passive correctness
- A system for ensuring the above are achieved and maintained throughout the life of the building by qualified people

these are the basic requirements for the additional provision of suppression systems for life-safety.

Anything less and you'll be .....



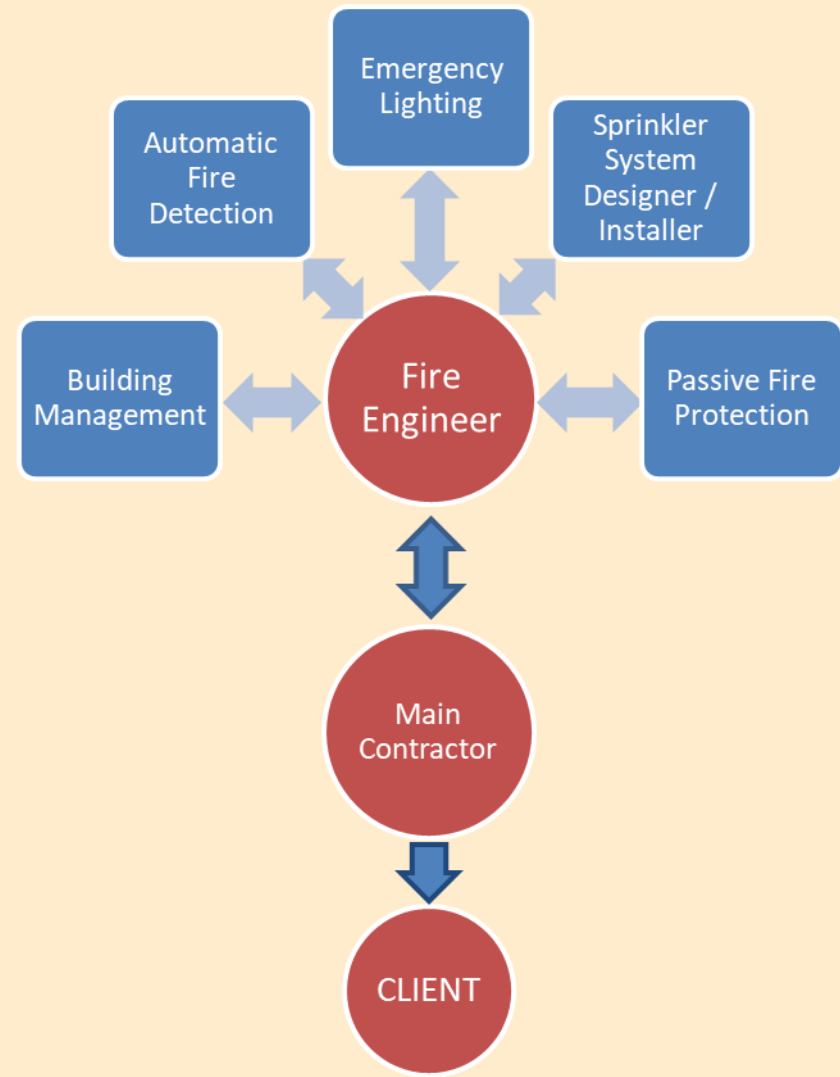
# Honesty and clarity

- Our Building Regulations and the law
- Fire and Rescue Services
- Insurers
- Building designers
- Fire Engineer
- Protection system providers



# Redefining Responsibilities

- System Design must NOT be left to the supplier
- Only the Fire Engineer, commissioned by the MC on behalf of the Client can specify system requirements against the Fire Management Plan in association with knowledge of its interplay with other safety measures
- Suppliers must not take on responsibilities that belong to the Fire Engineer – potentially a legally dangerous thing to do



# A role for suppression

Grenfell has certainly prompted debate

- Historically ‘occupancy’ has always determined need for suppression (rather than the building)
- Prescription in some sectors is a possibility
- Standards might need to be improved to determine ability to meet ‘requirement’
- ‘Requirement’ make need better definition

# TGN Residential Sprinkler Systems

- Over 50% of the document is actually to assist the Fire Engineer understand and appreciate their responsibilities
- The rest of the document seeks to ‘tighten-up’ an otherwise loose standard and promote best practice installation – particularly for multi-storey premises

# BS9251 – Special Circumstances

## Special Circumstances

- a. Occupancy type not listed in Standard or out of scope
- b. Mixed Occupancy (Commercial / Residential)
- c. High-rise buildings
- d. Building of combustible structure, insulation, or cladding
- e. Property protection requirement
- f. System installed to provide compensatory features
- g. Dwelling with high fire load
- h. Incompatible fire service response with water supply duration
- i. Building with atrium
- j. Building housing vulnerable people
- k. Building with fire engineered design solution

User directed to SEEK EXPERT ADVICE

# TGN to BS 9251 Objectives

1. Confirm roles and responsibilities in relation to:
  - a. CDM
  - b. RRO
  - c. How things might be post Hackitt review
2. Extoll the virtues of:
  - a. 3rd party certification of designers, installation and product
  - b. BS 9251 experience
  - c. Using companies that are financially solid
3. Assist those working on behalf of the Client tasked with producing the Fire Safety Plan, to properly specify the requirements of the **Sprinkler system** for communication to the Sprinkler System Designer / Installer
4. Assist those working on behalf of the Client tasked with producing the Fire Safety Plan, to properly specify the requirements of the **Passive** making good (if different from the sprinkler installer) so that poor product choice does not damage the system.
5. Encourage the Designer / Installer to produce good systems that are more likely to perform and less likely to leak
6. To provide worked examples for topical multi-storey buildings that might become the norm. going forward

# What the future will be - complicated

Timber skyscrapers could transform London's skyline



**London's first timber skyscraper could be a step closer to reality this week after researchers presented Mayor of London Boris Johnson with conceptual plans for an 80-storey, 300m high wooden building integrated within the Barbican.**



# Thank you

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All guides and documentation referred to freely available from

[www.RISCAuthority.co.uk](http://www.RISCAuthority.co.uk)

<https://robust.riscauthority.co.uk/>

[www.theFPA.co.uk](http://www.theFPA.co.uk)

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