

Building a Safer Future – The Hackitt Report



Ben Stayte
The Hackitt Review Team

Independent Review of Building Regulations and Fire Safety

LABC Fire Conference: 18 June 2018

Ben Stayte, Independent Review Team

The Independent Review was commissioned in the wake of the Grenfell Tower fire but with a broader remit to look at the regulatory system for high rise buildings

The brief

- Review announced end July 2017
- Reporting to Housing Secretary and Home Secretary
- Make recommendations to ensure a robust regulatory system
- Separate from the Public Inquiry

In 9 ½ months, the review
has covered a lot of
ground...

Timeline

- August 2017 – Terms of Reference
- Autumn 2017 – Mapping, call for evidence, stakeholder bilaterals, roundtables
- **December 2017 – Interim Report published**
- Winter 2018 – Summit and Working groups
- **May 2018 – Final Report published**

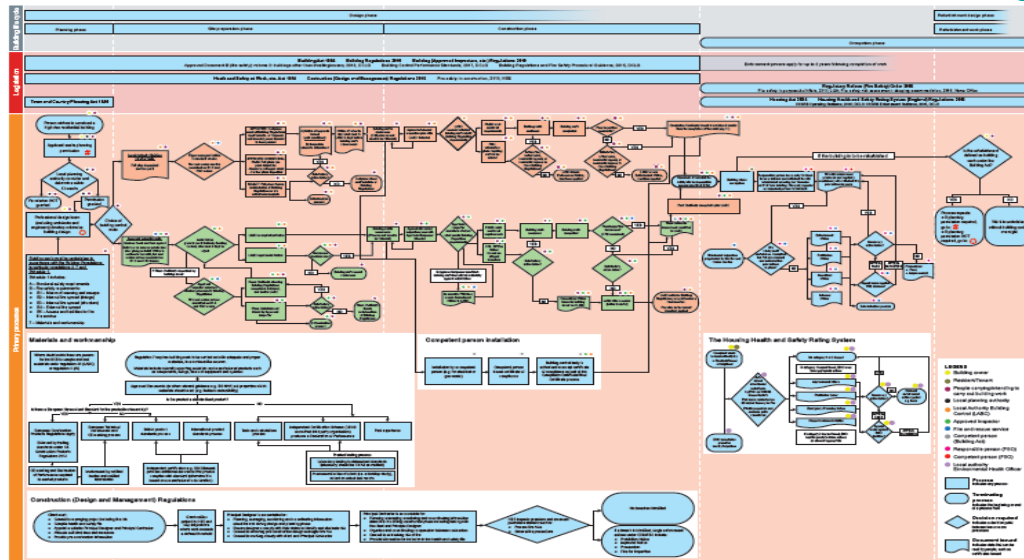
The current system was
assessed as not fit for purpose

Interim report findings

- Regulatory system is not fit for purpose
- Problems in industry culture and regulator effectiveness
- Industry: Stark absence of accountability, no knowledge transfer
- Regulator:
 - Weak statutory processes & enforcement powers
 - Regulator choice particularly problematic
 - Very limited power to drive improvements

Current system hugely complex..

Mapping the building and fire safety regulatory system – high-rise residential buildings



The final report recommended
fundamental reform of the
system...

For HRRBs:

- Defined dutyholders with clear roles / responsibilities creating/maintaining a 'golden thread'
- Stronger regulatory body across building lifecycle
- More independent, coherent BC oversight
- Stronger compliance and enforcement

The final report recommended fundamental reform of the system...

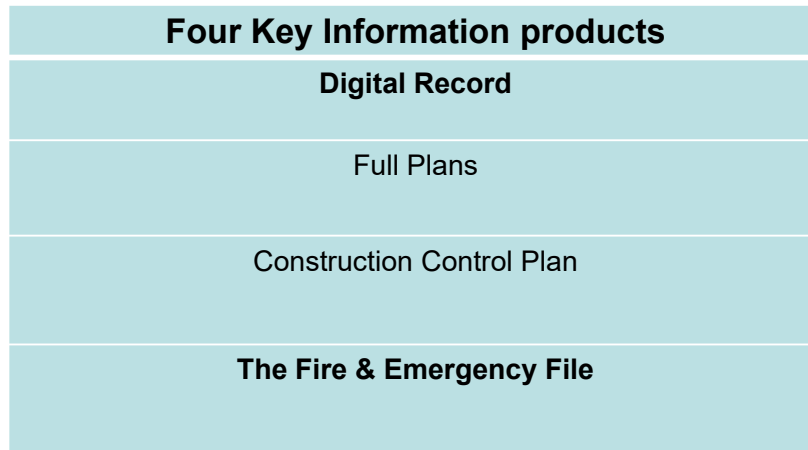
- Raised levels of competence and accreditation
- Empowered residents
- Government to strengthen guidance before technical guidance moves to industry
- Stronger testing, labelling and traceability of products used in construction



Ministry of Housing,
Communities &
Local Government

Defined dutyholders

Key Roles	Why is this role critical?
Clients	Must develop and maintain a sense of ownership and responsibility for building safety and regulatory compliance. Identifying the client's responsibilities at the outset will ensure a greater degree of ongoing engagement.
Principal Designers	Maintains the ownership concept on behalf of the client to ensure that Gateway Points are observed and key players are engaged appropriately.
Designers	Ensures accountability and helps create an audit trail in respect of any design changes that can be followed back through the Principal Designer and ultimately to the client
Principal Contractors	Assumes primary ownership throughout the construction phase, and especially at handover to the occupation and maintenance phase
Contractors	Ensures accountability and helps to create an audit trail to ensure that any on-site changes can be followed back through the Principal Contractor and ultimately to the client



“The Government should set up a ‘Joint Competent Authority.’ This should comprise Local Authority Building Standards, fire and rescue authorities and the Health and Safety Executive, working together to maximise the focus on building safety within HRRBs across their entire life cycle. The optimum model for ensuring effective joint working should be discussed with all relevant parties, but should draw on the model set out above. The JCA should design and operate a full cost recovery model.”



Coherent Building Control oversight

- End dutyholder choice
- Single regulatory route for building control
- AI regime to be adjusted to:
 - Support LABC oversight (expertise/capacity); or
 - Support new dutyholder responsibilities
but never in respect of the same building
- All further potential conflicts of interest ruled out
- New enhanced intervention regime

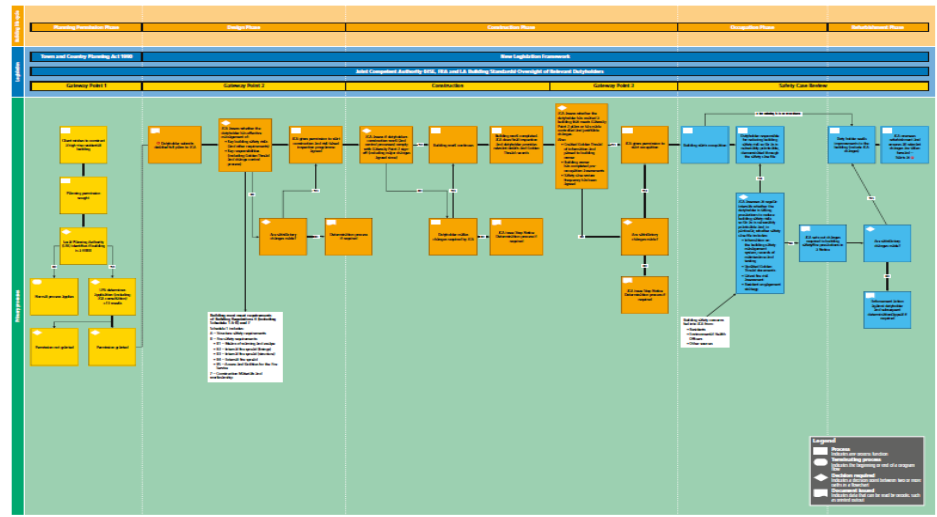


Stronger compliance & enforcement

Gateway Point	The relevant dutyholder must....	In order to...
1	Satisfy the JCA that the planned building will be sufficiently accessible by the fire service	Get permission to use the land for the intended purpose
2	Satisfy the JCA that full plans show key building safety risks will be managed, that robust processes are in place and design meets all Building Regulations requirements	Start building work
3	Satisfy the JCA that the signed-off design has been followed (or that any changes since that point are properly verified and acceptable) that all key documents have been handed over.	Start occupation

...and a new map.

Mapping the new building safety regulatory framework – construction and occupation of a higher-risk residential building (HRRB)



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Local Government

Key remaining issues on building control

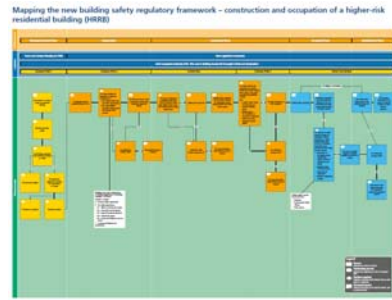
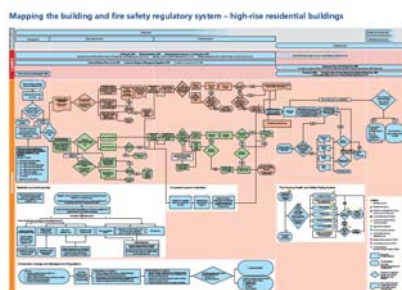
- Formulation of the JCA
- Broadening of BC reach within (a) build and (b) maintenance
- New relationship with AIs
- Structuring of work on HRRBs

People in this room are critical in delivering change

- Government has welcomed the report and its recommendations. More to come
- Implementation will take time, and some bits will require legislative change
- Change in attitude and approach is something that can start now
- Collaboration and partnership within and across industry will be crucial

You can send your thoughts on the review's recommendations to:

HackittResponse@communities.gsi.gov.uk



Building a Safer Future – The Hackitt Report



**Lorna Stimpson &
Martin Taylor**

LABC

Building a Safer Future – The Hackitt Report



Chris Blythe

Chartered Institute of Building

Construction Industry culture and the causes

Chris Blythe
Chief Executive
Chartered Institute of Building

Observations from the Hackitt Report

- Ignorance
- Indifference
- Lack of clarity on roles and responsibilities
- Inadequate regulatory oversight and enforcement tools

Leading to cultural issue across the sector, which can be described as a
'race to the bottom'

Overview of the industry

- Accounts for 9% GDP
- Employs around 2.5m people
- Margins are low 2%-4%
- 90% of people work in firms employing 10 or less people
- 53% of the industry in London are migrant workers, 8% overall in the country
- 1-2% of people on a big site on the payroll of the main contractor

Risk and responsibility transfer the name of the game
Lowest price leads to no investment
Training at an all time low
Apprenticeship achievements low
Average age of the workforce rising

[CITB tells firms to raid other industries for staff](#)

The role of professional bodies?

- Leadership and advocacy
- Ensure professional behaviours are consistent with the moral compass
- Ensure that the competencies for professionals are consistent and directly related to the work being undertaken

WHAT WOULD HAPPEN IF CONSTRUCTION COMPANIES BUILD VEHICLES...



Building a Safer Future – The Hackitt Report



Paul Valentine

British Board of Agrément

Ensuring Certainty

Paul Valentine
B.Eng(Hons), C.Eng., M.I.Struct.E
Technical Excellence Director

How Testing & Certification will
Support Stakeholders in promoting
building standards



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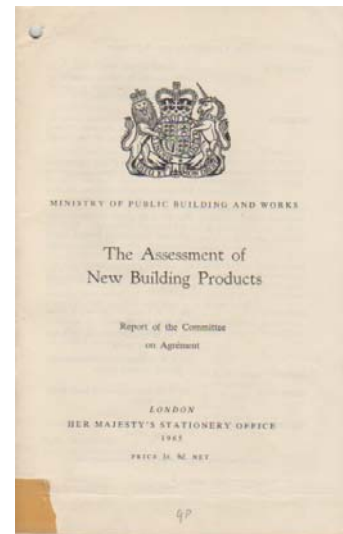
A little of the history of national certification

The 'Independent Review of the Building Regulations and Fire Safety' (Hackitt Report) has far reaching potential to affect all aspects of the construction industry.

The recommendations within the report will affect construction product certification and therefore a brief review of history and current practice presents a platform to look to the future

The BBA was established in 1966 as the Agrément Board by UK Government as a single source supplier in the UK for the construction certification sector.

The mission was to help business and organisations supply the construction industry with products, systems and installers of the highest quality.

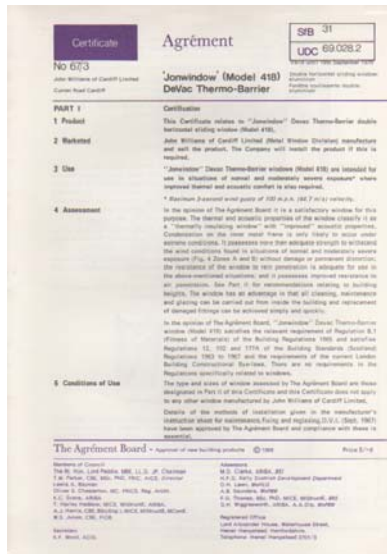


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Progression over the years



In the first year of its creation, the Agrément Board certified 3 construction products as being ‘satisfactory for a purpose’ in accordance with national Building Regulations and associated standards.

In the following 10 years the Agrément Board had certified 150 construction products.

In the 1970s we obtained the first relaxation by the Building Regulation Division of the DoE for cavity wall insulation systems awarded Agrément Board certificates

In 1983 the name was changed to British Board of Agrément and became a not for profit company, the structure that it retains today.



The Introduction of Audit, Inspection and Testing



In its drive to operate for public good, the 1980s saw the BBA introduce **Audit and Inspection** to the certification process for construction products.

The Audit and Inspection process was developed to provide assurance of ongoing quality and standards post certification by requiring that Agrément certificate holders subscribe to a program of factory surveillance which verifies that the original product specification is being maintained

Material, component and system testing are key to certification. Fuelled by a passion for quality, the BBA developed internal **Test** facilities during this period to facilitate development of bespoke test methods needed to undertake certification of some construction products.



Current adoption

By 1995 3000 certificates had been issued which expanded to over 6000 certificates at present day.

To date, over 15,000 construction products have been certified by the BBA for more than 3000 clients in 30 different countries.



The volume of certificates issued increases at a healthy rate and the increase is set to continue.

The BBA believes that today, construction product national certification is an indispensable integral ingredient to delivering predictable quality performance and ensuring regulatory compliance of construction products and systems.

Marks of quality to ensure certainty & competence

Since the 1980s national certification of construction products has opened up to a number of private commercial organisations.

The boundaries of national certification of construction products are not fixed. A stakeholder of the certification should read thoroughly the boundaries of applicability.

Desirable within the industry is that a certifying body holds UKAS accreditation (United Kingdom Accreditation Service) for the services that they offer to ensure quality.

The BBA holds a strong suite of UK accreditation in Product Approval, Test Services, Site Inspection, and Management Systems (Quality, Environmental and Occupational H&S).



The Landscape of certification

The Hackitt Report comments that the current process for testing and certifying products is disjointed and confusing.

In striving for certainty a stakeholder must understand the differences in the current landscape of certification.

National Certification & Technical Approval

This form of certification, such as the **BBA Agrément certificate**, assesses the fitness for purpose of a product or system in the setting of the national standards and regulations and national best practice coupled to UK construction methods and environments.



There is currently no legal requirement to hold national third party certification for construction products or systems in the UK

What of CE Marking and ETAs ?

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Construction Products Regulation (CPR)



Manufacturers of construction products must apply CE marking to any products which are covered by a harmonised European Standard (hEN) – established by CEN

It is voluntary for other products, where manufacturers can opt to hold a European Technical Assessment (ETA)

An ETA is used where no hEN exists for the construction product. The ETA is awarded by assessment against an European Assessment Document (EAD) produced by EOTA (European Organisation for Technical Approvals).

These standards harmonise the methods of assessment and testing for construction products and the method by which performance is declared but **DO NOT** address compliance with national building regulations or other national non-regulatory best practice.

The BBA is both a Notified Body and a Technical Assessment Body (TAB) designated in a number of construction product sectors to produce EADs and award ETAs, assess products, and to carry out FPC inspections and testing activities.



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CE Marking

CE marking indicates that a product conforms with its Declaration of Performance (DoP)

There are typically three ways in which a performance characteristic can be stated:

- As a pass / fail criterion in reference to a test condition in a hEN or EAD
- The actual value of performance (a declared value)
- A class of performance that has been reached

The DoP and the technical standard **should give a decision maker** the relevant information to judge whether a product meets the required standards of the UK.

There are situations in which this may not be the case. **Be careful**, in such circumstances the DoP serves as a normalisation mechanism for comparison only,

Takeaway – CE marking and ETAs are valuable and indeed, are a legal requirement where applicable, but do not provide statements on fitness for purpose within the UK regulatory system and do not replace national certification and technical approval.

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The process of national certification

When a manufacturer or system provider submits a product for national certification the following outline process occurs

- The submission is assessed and a process of appraisal agreed inclusive of testing requirements such that the product can be deemed to meet the fit for purpose requirements of the UK that are applicable
- Once the testing has been completed, assessment experts review the test data, mathematical analysis, manufacturer's information and any historical performance of the product to assess the product's fitness resulting in a draft certificate
- Second line assessment of the certificate occurs in a two stage process. Where compliance with warranty providers' standards is a requirement, the draft certificate is circulated to the warranty provider for comment
- On successful completion of this process an Agrément Certificate is issued and a process of review and factory surveillance initiated

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Agrément Certificates providing certainty to stakeholders

Stakeholders have confidence in specification by accessing independent definitive statements backed by testing and analysis about the compliance of a product or system within the landscape of UK national standard, regulations and requirements.

- Factors relating to the compliance with the Building Regulations and mapping of the appropriate regulations to the product
- Factors relating to additional non-regulatory information
- Verification of technical specifications
- Assessment and verification statements relating to durability, structural performance, behaviour in relation to fire, thermal performance, condensation risk, water resistance, acoustic performance and installation requirements

In the case of the BBA, these statements are backed by UKAS accreditation, experienced UK professionally qualified assessors who have access to over 50 years' experience in construction certification and a complement of staff who sit on standards committees and on various European and national technical committees committed to public safety.

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Audit and Inspection providing certainty to stakeholders

- During the certification process a Quality Plan is agreed with the manufacturer or certificate holder that details the requirements of the product to maintain compliance with the statements in the Agrément Certificate.
- Post certification, the BBA undertakes factory surveillance at the point of manufacture on an agreed basis (typically 6 months) to ensure compliance with the Quality Plan. Non-conformities are rectified.
- To maintain an Agrément Certificate the certificate holder is obliged to notify the BBA of any changes in the product specification

In situations of unrectified non-compliance the BBA can suspend and ultimately withdraw certification from a construction product.

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A review process that provides certainty to stakeholders

- BBA Certificates are subject to a review on a three yearly basis or sooner should a significant change in technical standards or regulations occur
- During the review the certificate holder is notified if a re-issue is required either on a technical or non-technical basis
- Where a technical re-issue is required the certificate is technically re-assessed and exposed to the same technical quality checks as those in the original certification process
- Following successful completion of the review an updated certification is issued

Stakeholders should check the validity of a Certificate at the BBA website.

<http://www.bbacerts.co.uk>

Agrément Certificates – Part of the Golden Thread of Information

- Agrément Certificates holders have invested in product development and certification to demonstrate that their products comply with national standards and in many cases exceed such standards at the point of certification.
- Agrément Certificate holders have committed to surveillance of the factory production to demonstrate continued compliance
- Agrément Certificates are subject to a review process to ensure certification is compliant with current standards on an ongoing basis

Stakeholders specifying products and systems that hold Agrément Certificates can demonstrate due diligence in having independent professional information which is used to make judgements about use and specification in the context of current UK regulations and standards. Agrément Certificates are therefore set to be part of the Golden Thread of Information

The future of certification

There are a number of catalysts within industry that mark the potential for change in an exciting way in product and system certification of construction products. A number of these are the basis for recommendations within the Hackitt Report

- The need for increased clarity in product certification wording
- The increase in and availability of digital technologies and data platforms
- The increase in the introduction and adoption of new building materials and systems
- The increased pressures in time frames to deliver products to market that have robust certification

The BBA is currently exploring the development of new processes and products to deliver enhancements to construction product certification. Such processes aim to improve integration of construction product information within the building lifecycle ecosystem and demonstrate the robust quality that BBA certified products and systems must maintain.

Some aspects of this research

Clearer definition of product and system integration

The Hackitt Report promotes a system based approach to building design and notes that systems exist within systems.

In production and system certification there has to be a boundary to the scope of the assessment. Methods are being explored for risk assessing a product within its system environment and noting the impact of failure of a component that is outside scope. These measures are aimed at increasing the transparency of certification wording

Digital technologies

In direct support of the recommendations on providing a digital record within the Report, methods of providing digital certification are being explored. Digital certification data could contribute to the package of building information to be used by duty holders in forming the digital record and be object orientated to integrate with BIM data sets.

Some aspects of this research

Potential for stepping closer to continuous certification

A world that envelopes digital data requires that the data be as live as possible. The BBA is exploring methodologies that aim to promote in the future a continuous review process to provide certification that is current and immediately responds to changing standards.

Process improvement

As the efficiency of review processes increase and digital certification data mature overall efficiency in certificate production will ensue, promoting reduced delivery times for fully certified products to market.

Some aspects of this research

Potential for continued testing of construction products

The BBA is exploring methods of enhancing factory surveillance and product testing post certification in support of Chapter 7 of the Report.

Clarity of standards

The BBA is committed to providing a presence on committees involved in the development and implementation of test standards both in the UK and European Union and will maintain its activities in EOTA and other similar assessment organisations.

Some aspects of this research

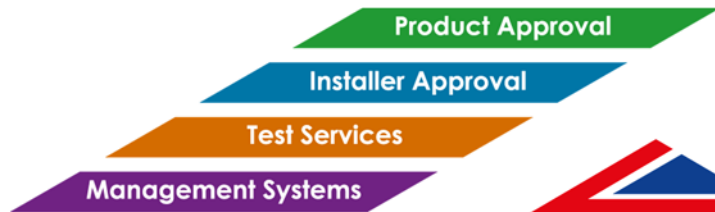
Final Words

The BBA, in full support of the Hackitt Report, is committed to promoting public safety in construction products and is enthusiastic about the benefits to the construction industry which change will bring.

Any Questions?



Thank you



Building a Safer Future – The Hackitt Report





Roy Wilsher

National Fire Chiefs Council



NFCC
National Fire
Chiefs Council

Grenfell : Building Safety



Roy Wilsher
Chair
National Fire Chiefs Council

NFCC Response

- 14 June – Call With Dany Cotton
- 14 June – First Ministerial Meeting, first day for Nick Hurd and Alok Sharma – Fledgling NFCC
- Data Collection other ACM Buildings 600+
- Close Links to LGA/FSMC
- Visits by Fire & Rescue – 1255 before October, now into thousands
- Screening Tests – almost 100% Failure
- Interim Fire Safety – 22 June
 - Fire Risk Assessment
 - Residents, Doors, Means of Escape
 - Compartmentation, Smoke Control
 - Firefighting Facilities
 - Car Parks and BBQs
 - Temporary Communal Alarms and Fire Wardens
- Simultaneous Evacuation



NFCC
National Fire
Chiefs Council

Related Matters

- Camden – Chalcots Estate – 21 June



- Mad Day Saturday – 24 June
 - All NHS Buildings
- Data Cleansing – hundreds of blocks, mainly London and Manchester
- Expert Panel – 27 June



NFCC
National Fire
Chiefs Council

Building Regulations- a reminder (for me)

Clause 12.7 specifically refers to insulation materials and filler materials but is now being interpreted more generally (see BCA Guidance note 18). Therefore where a building has a storey 18m or more above ground level all significant materials should be of limited combustibility (Class A2 in accordance with EN 13501-1)

- **Option 1**
 - Use Materials of Limited Combustibility
- **Option 2**
 - Testing to BS 8414-1/2 and meeting BR 135 criteria
- **Option 3**
 - Fire engineered assessment of cladding based on test data (Desktop)
- **Option 4**
 - Holistic fire engineered assessment of whole building



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Grenfell Tower

- **Post Grenfell – We are:**
 - centrally co-ordinating fire and rescue services' fire safety auditing of ACM clad buildings, witnessing and assuring tests, and commissioning fire safety audits
 - reporting into government forums – Ministerial, Expert Panel, Industry Response Group
 - providing advice and support to FRSs throughout the auditing process on a case by case basis where necessary
 - Working with LABC partners on known social and local housing blocks
 - Other cladding systems
 - Fire Doors
 - Private Sector Tower Blocks
 - Stay Put
 - Public Inquiry



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Dame Judith Hackitt's Review

- Provided our initial submission into the scope of the review
- Coordinated a comprehensive national submission from Fire & Rescue following the call for evidence
- Fed into all of the 6 working groups that were established, as well as other forums such as round tables
- Currently preparing a formal response to the final report
- First work streams – JCA and competence



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Hackitt Review Recommendations

- There is a lot to be pleased about:
 - a focus on clear and accountable dutyholders
 - new gateway points
 - digital record keeping
 - stronger sanctions
- Some areas where we have concerns, or where further work/detail is required:
 - Definition of HRRB – Residential 10+ Storeys, we feel is too narrow
 - How the JCA models would work:
 - Concerns that the proposals do not adequately address the overlapping regulatory frameworks; lack of recommendations to resolve the interaction between the current governing regulations, as well as buildings not in scope



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Next Steps

- Standing ready to work with Government as they consider the recommendations
- Continuing to support the ongoing identification of dangerous buildings
- Working closely with partners on current challenges, including private sector blocks



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Dr Angus Law

University of Edinburgh



Building a Safer Future Conference

A wider range of buildings

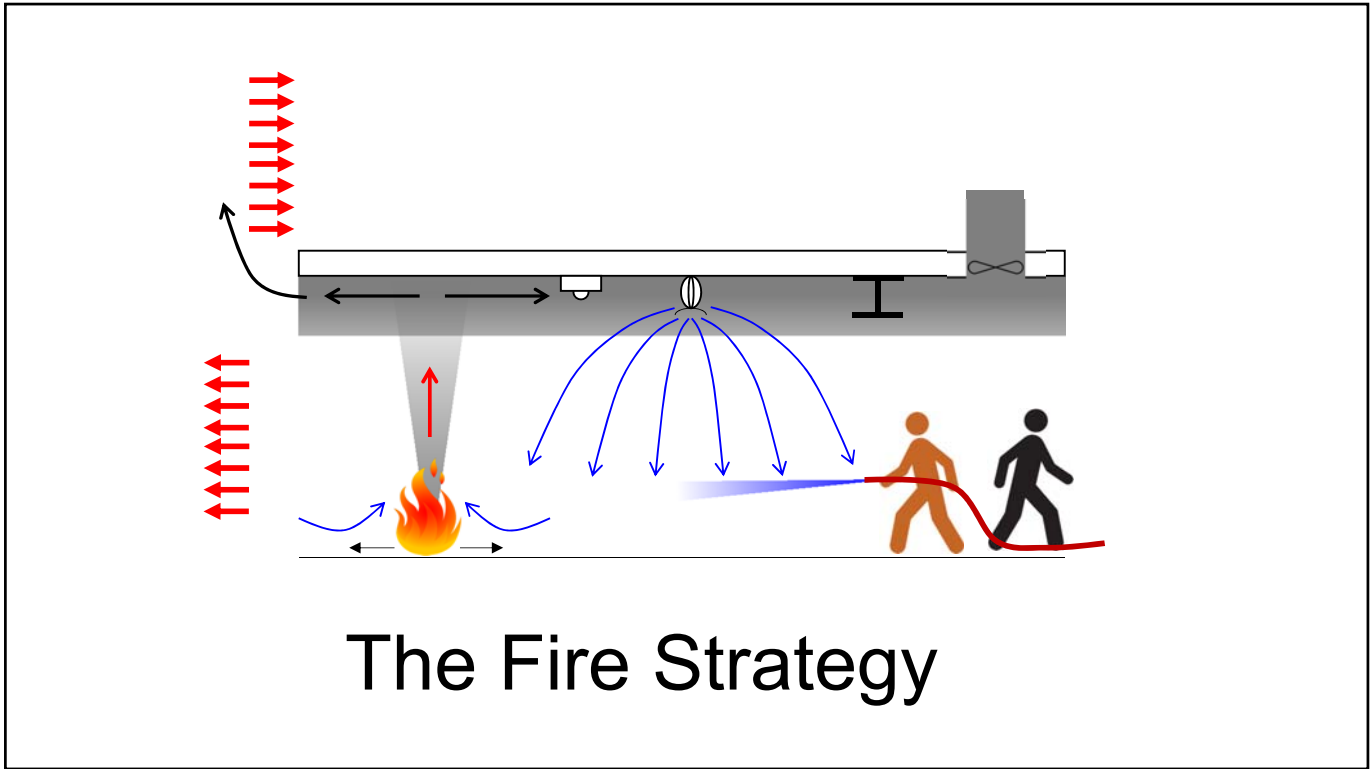
What else should be brought into scope?



THE UNIVERSITY of EDINBURGH
School of Engineering

Dr Angus Law
BRE Lecturer in Fire Safety Engineering

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Classification

Solution

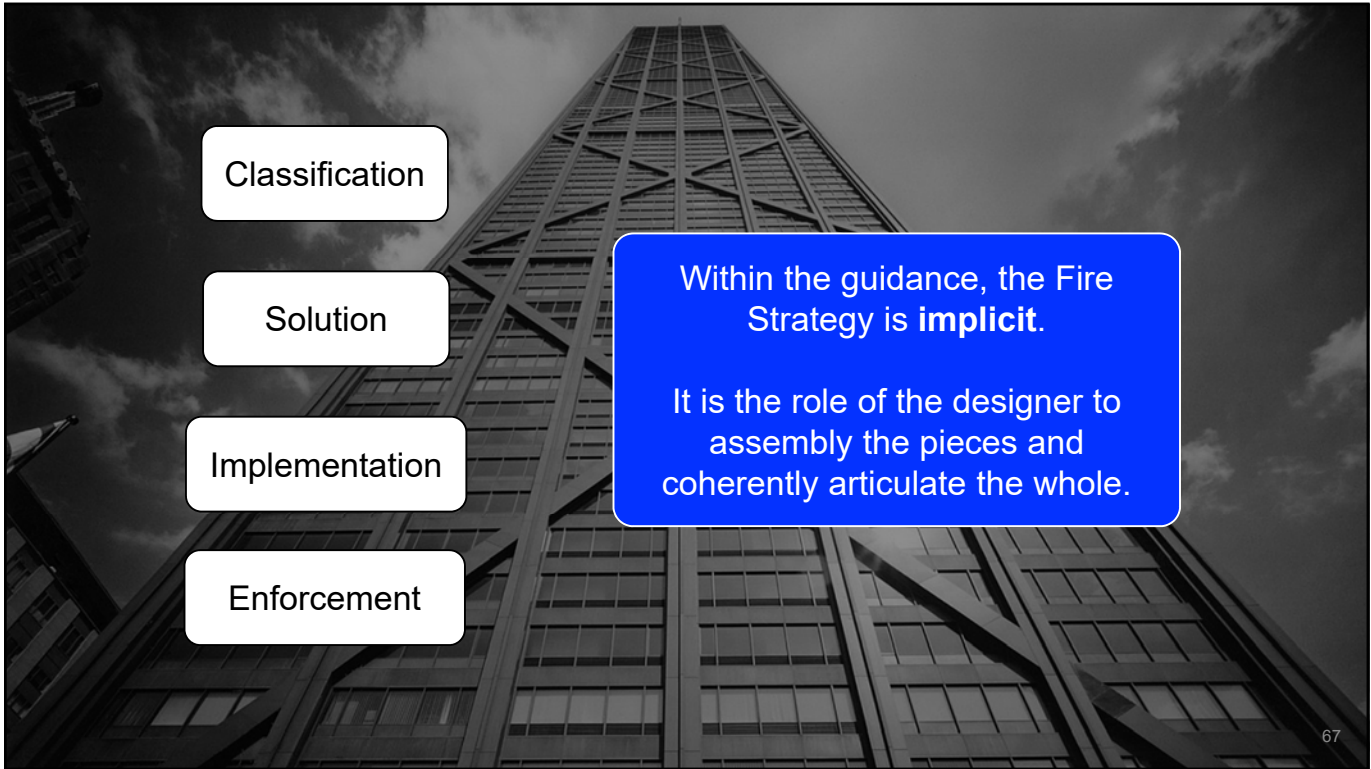
Implementation

Enforcement

Within the guidance, the Fire Strategy is implicit.

It is the role of the designer to assemble the pieces and coherently articulate the whole.

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Classification

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Implementation

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Within the guidance, the Fire Strategy is **implicit**.

It is the role of the designer to assemble the pieces and coherently articulate the whole.

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Table A2 Minimum periods of fire resistance

Purpose group of building	Minimum periods of fire resistance (minutes) in a:					
	Basement storey ⁽⁵⁾ including floor over		Ground or upper storey			
	Depth (m) of a lowest basement		Height (m) of top floor above ground, in a building or separated part of a building			
	More than 10	Not more than 10	Not more than 5	Not more than 18	Not more than 30	More than 30
1. Residential:						
a. Block of flats						
– not sprinklered	90	60	30*	60**†	90**	Not permitted
– sprinklered	90	60	30*	60**†	90**	120**
b. Institutional	90	60	30*	60	90	120#
c. Other residential	90	60	30*	60	90	120#
2. Office:						
– not sprinklered	90	60	30*	60	90	Not permitted
– sprinklered ⁽²⁾	60	60	30*	30*	60	120#
3. Shop and commercial:						
– not sprinklered	90	60	60	60	90	Not permitted
– sprinklered ⁽²⁾	60	60	30*	60	60	120#
4. Assembly and recreation:						
– not sprinklered	90	60	60	60	90	Not permitted
– sprinklered ⁽²⁾	60	60	30*	60	60	120#

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Classification

Solution

Implementation

Enforcement



Fig. 3. Interior of the large test building start of the office occupancy test fire with wood. This test represents about the maximum of com office occupancy.

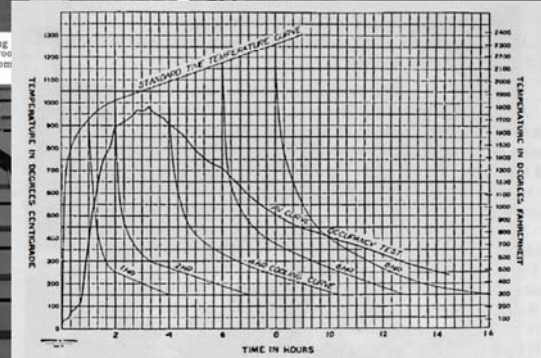


Fig. 5. Standard time temperature curve used in furnace fire tests, cooling curves, and curve representing the temperatures in a typical occupancy test.

Classification

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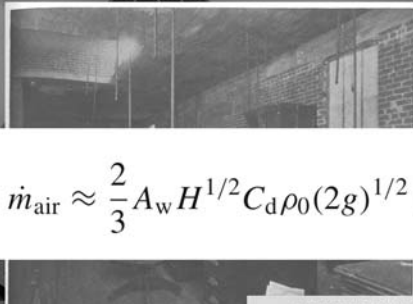


Fig. 3. Interior of the large test building start of the office occupancy test fire with wood. This test represents about the maximum of com office occupancy.

$$\dot{m}_{\text{air}} \approx \frac{2}{3} A_w H^{1/2} C_d \rho_0 (2g)^{1/2} \left(\frac{(\rho_0 - \rho_F) / \rho_0}{[1 + (\rho_0 / \rho_F)^{1/3}]^3} \right)^{1/2}$$

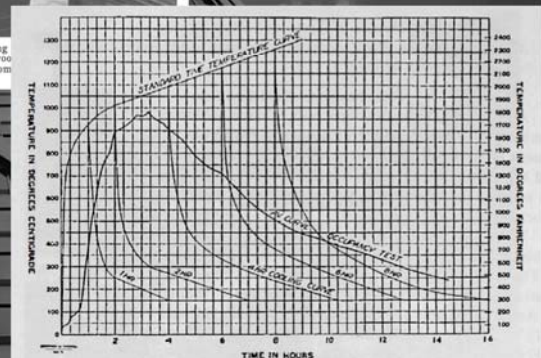


Fig. 5. Standard time temperature curve used in furnace fire tests, cooling curves, and curve representing the temperatures in a typical occupancy test.

Classification

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4. Assembly and recreation:						
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Fig. 5. Standard time temperature curve used in furnace fire tests, cooling curves, and curve representing the temperatures in a typical occupancy test.

Classification

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Implementation

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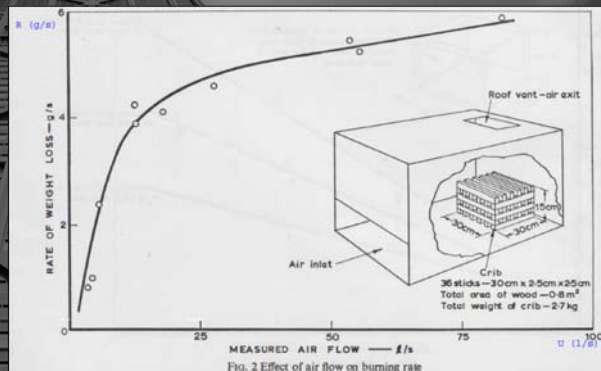
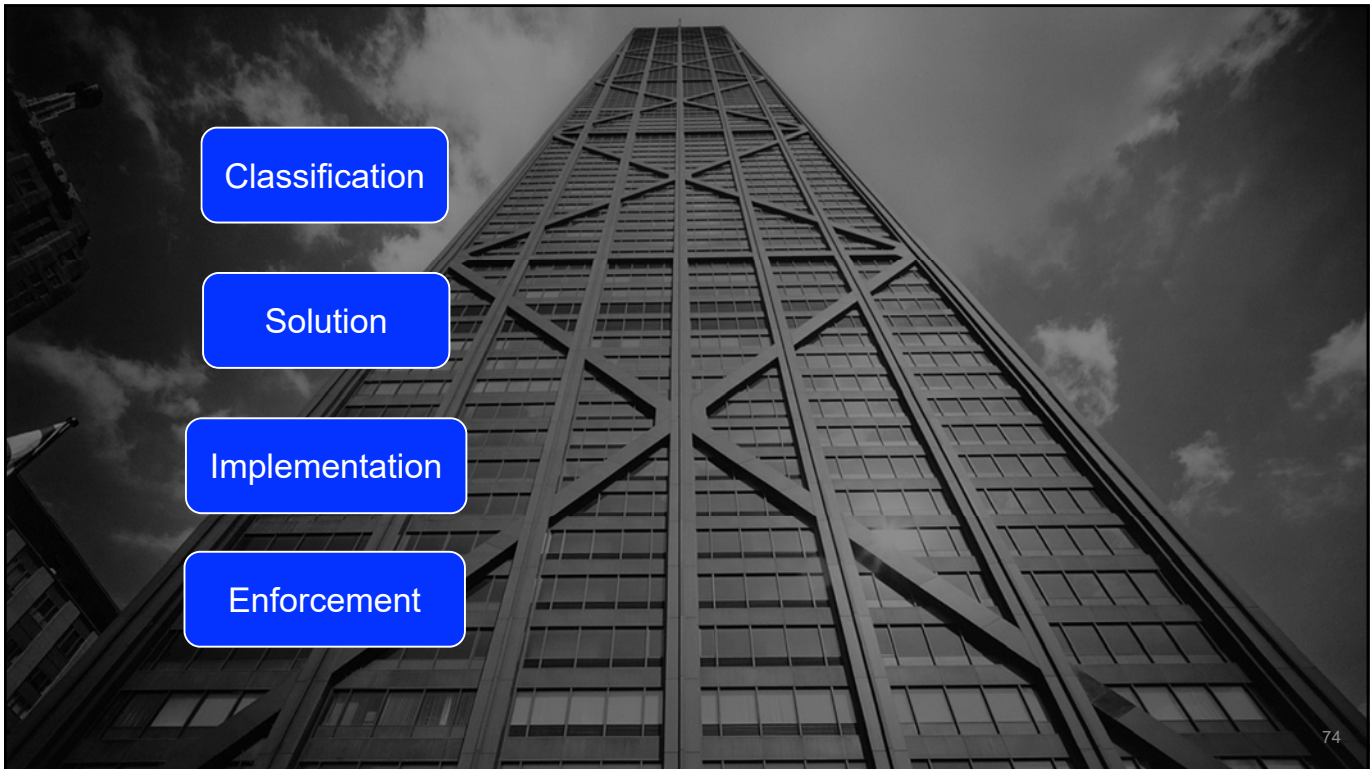


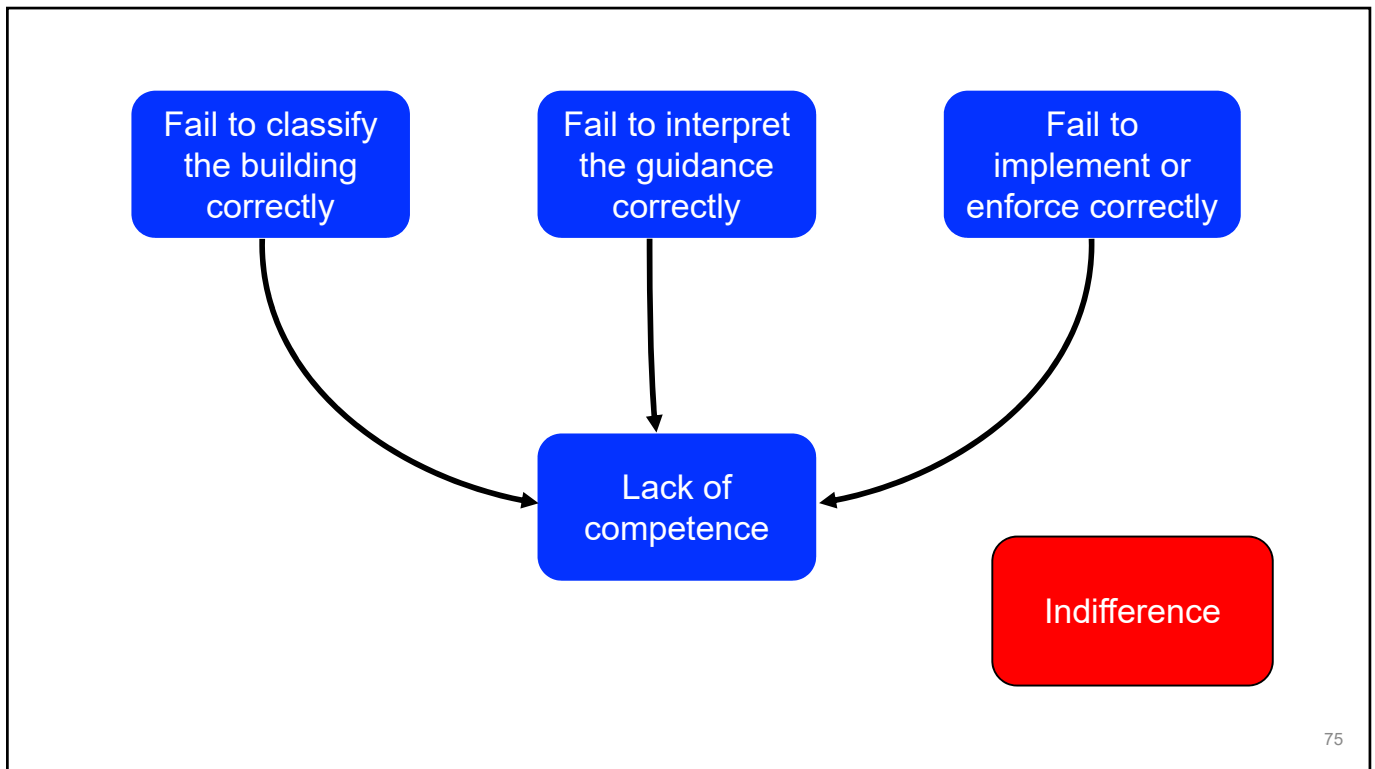
Fig. 2 Effect of air flow on burning rate

Fuel load

Ventilation

Compartment size





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Fire safety engineering

0.30 Fire safety engineering can provide an alternative approach to fire safety. It may be the **only practical way** to achieve a satisfactory standard of fire safety in some **large and complex** buildings and in buildings containing different uses, e.g. airport terminals. Fire safety engineering may also be suitable for solving a problem with an aspect of the building design which otherwise follows the provisions in this document.

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Classification

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Enforcement



Fig. 3. Interior of the large test building start of the office occupancy test fire with wood. This test represents about the maximum of com office occupancy.

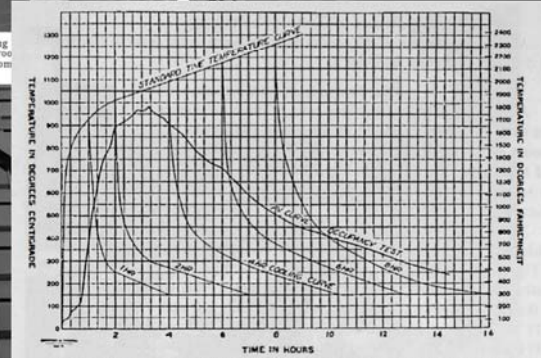


Fig. 5. Standard time temperature curve used in furnace fire tests, cooling curves, and curve representing the temperatures in a typical occupancy test.

Classification

Solution

Implementation

Enforcement



Fig. 3. Interior of the large test building start of the office occupancy test fire with wood. This test represents about the maximum of com office occupancy.

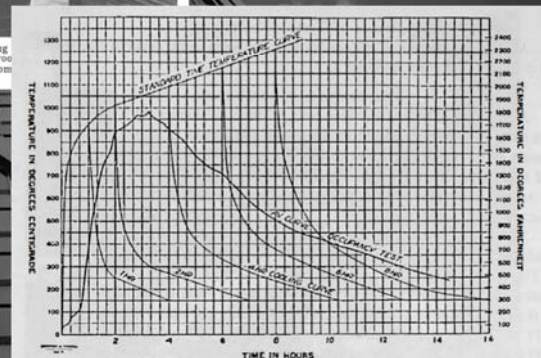
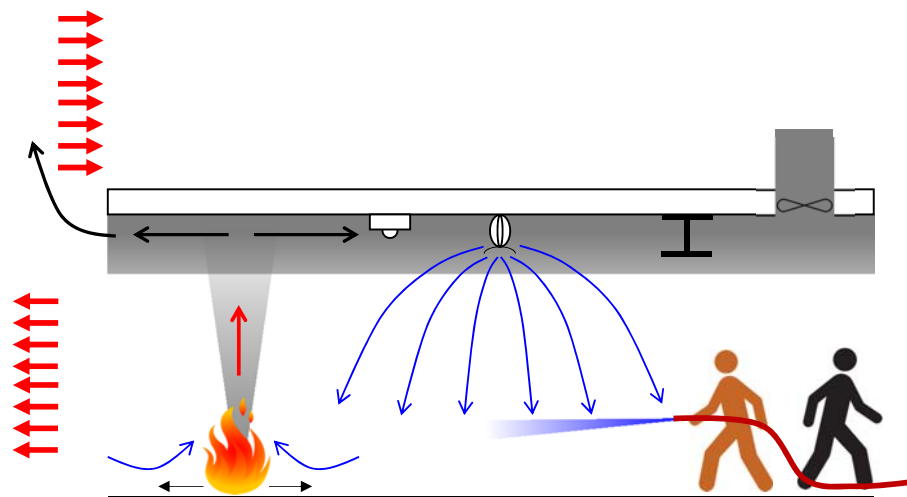


Fig. 5. Standard time temperature curve used in furnace fire tests, cooling curves, and curve representing the temperatures in a typical occupancy test.

To safely interpret and apply the guidance, the designer **must** have adequate competence

To check that the designer has done their job properly, the regulator **must** also have adequate competence...

79

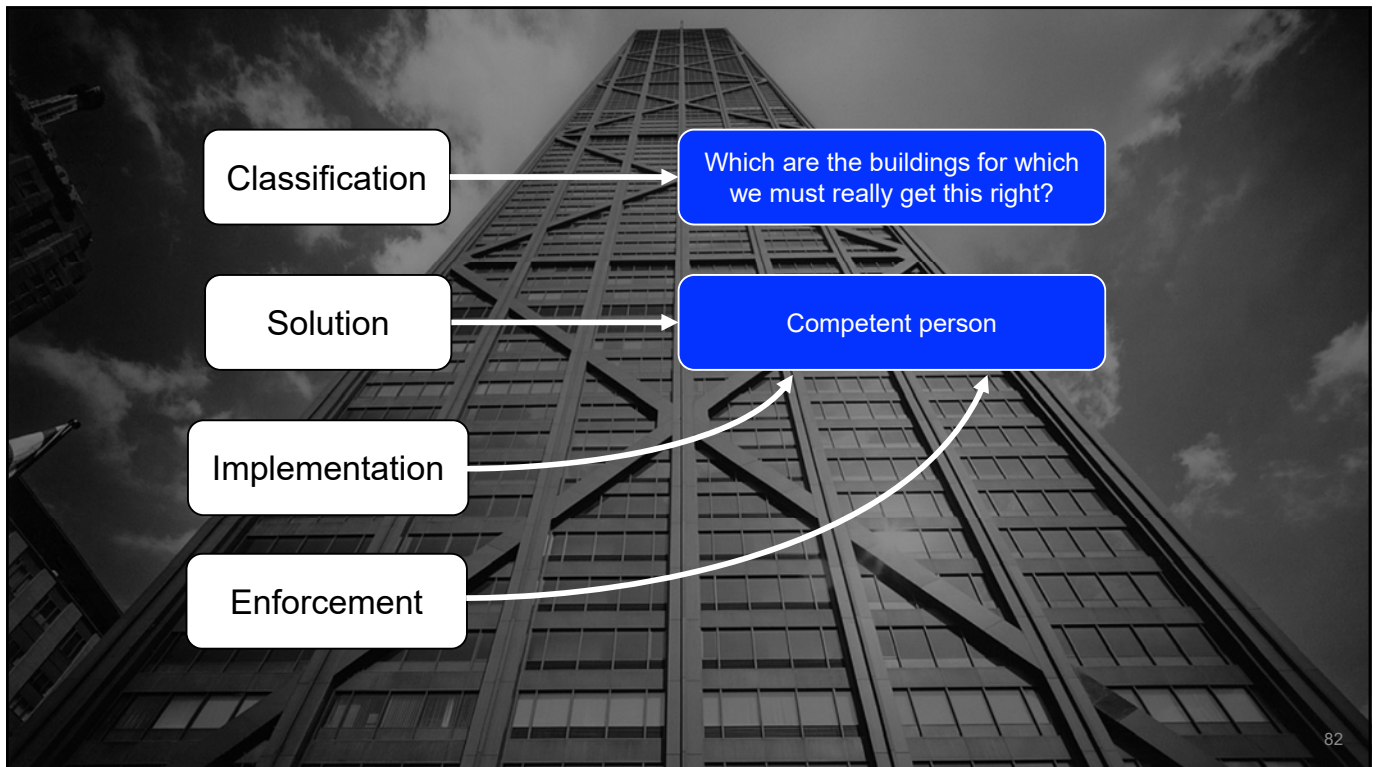


The Fire Strategy

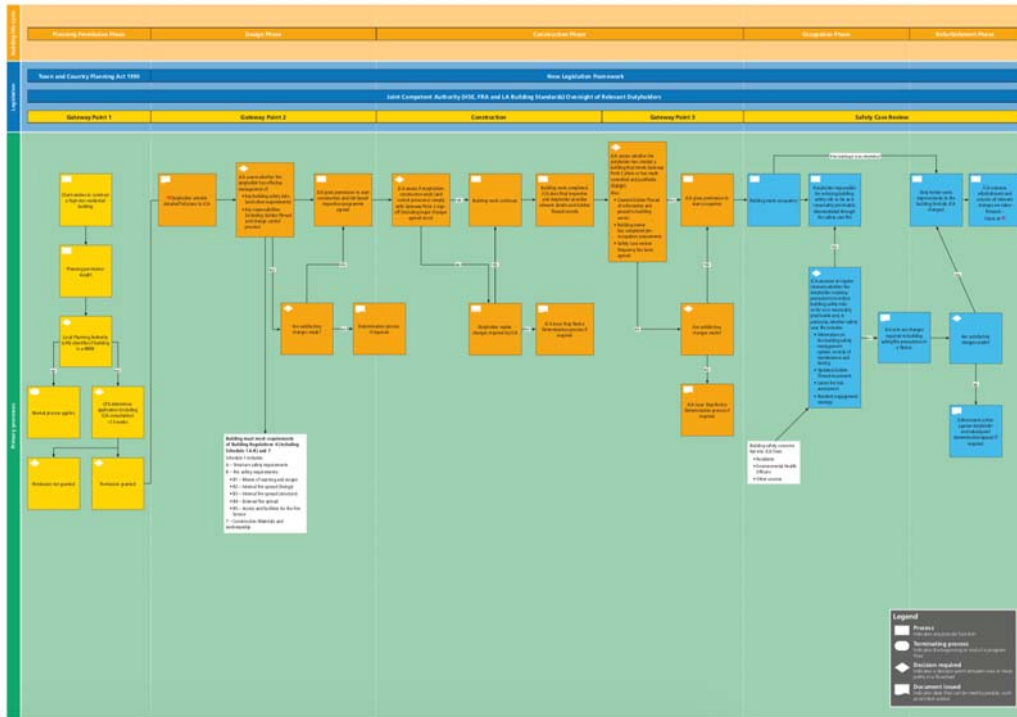
Recommendation 1.1

The new regulatory framework should apply to residential properties which are 10 or more storeys high in the first instance. New HRRBs should be identified by the Local Planning Authority and notified to the regulator. Existing buildings in scope should be identified through other means, learning from the MHCLG Building Safety Programme experience.

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82

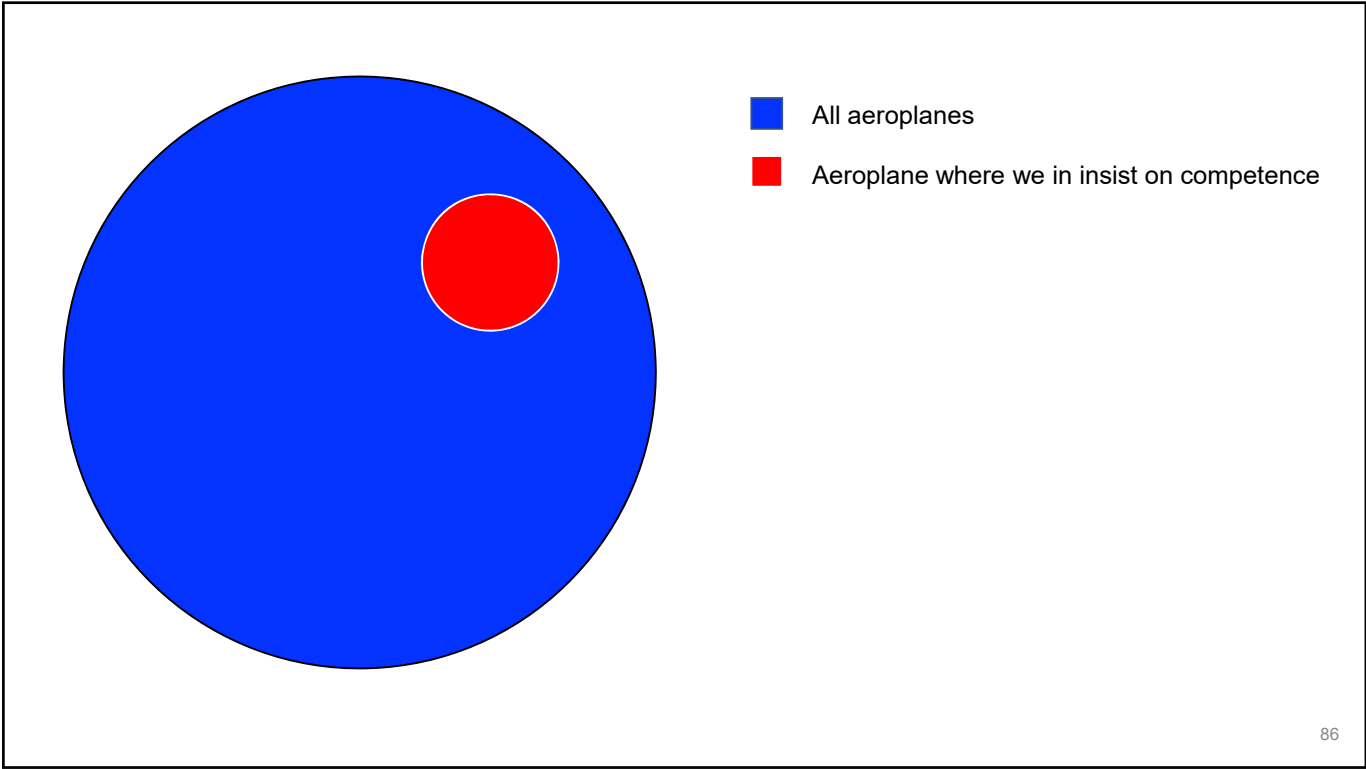
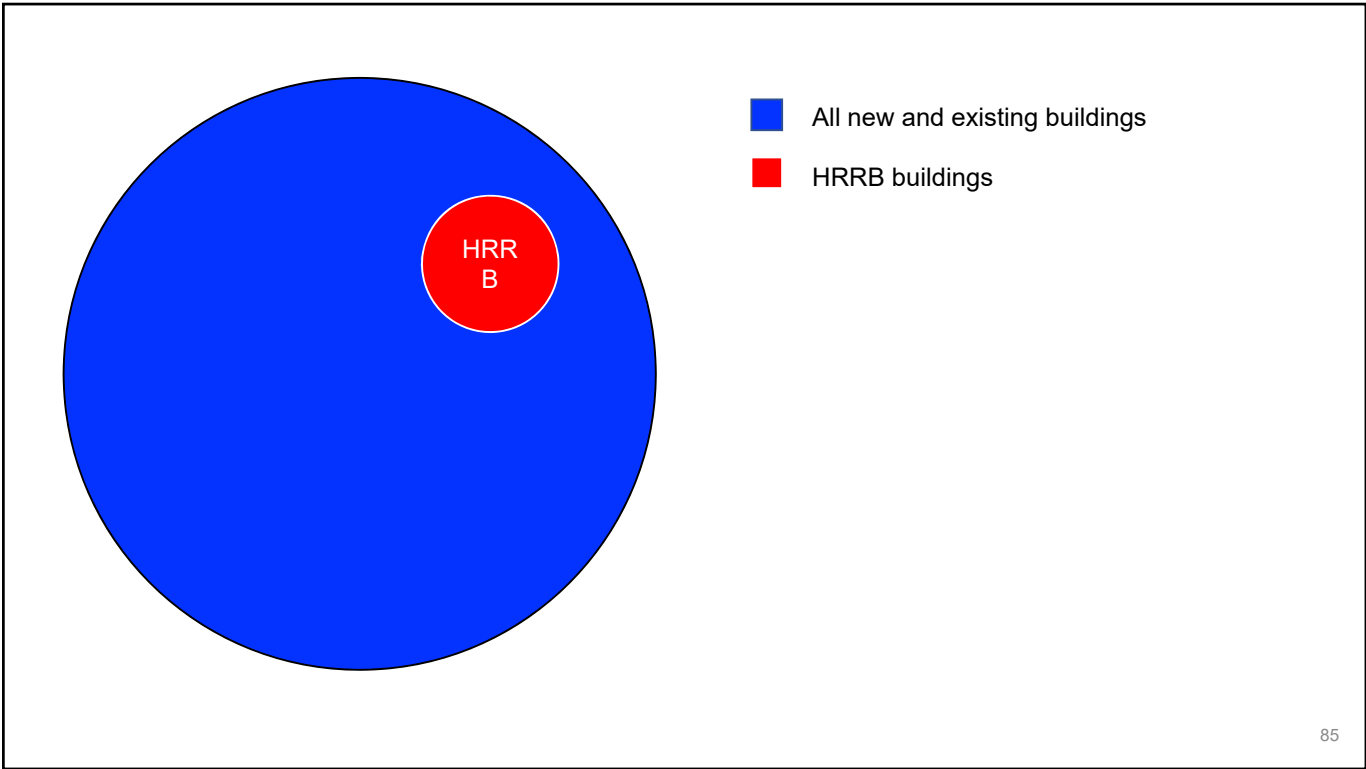


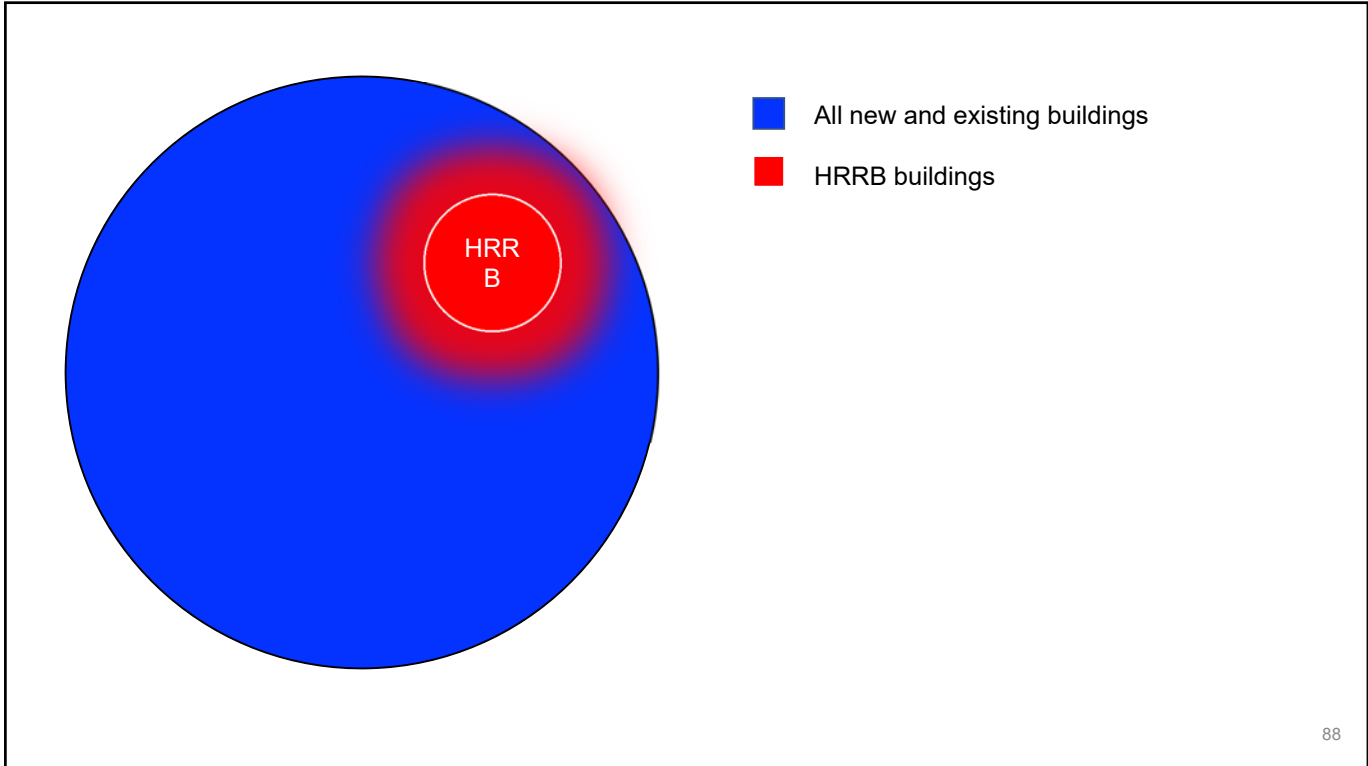
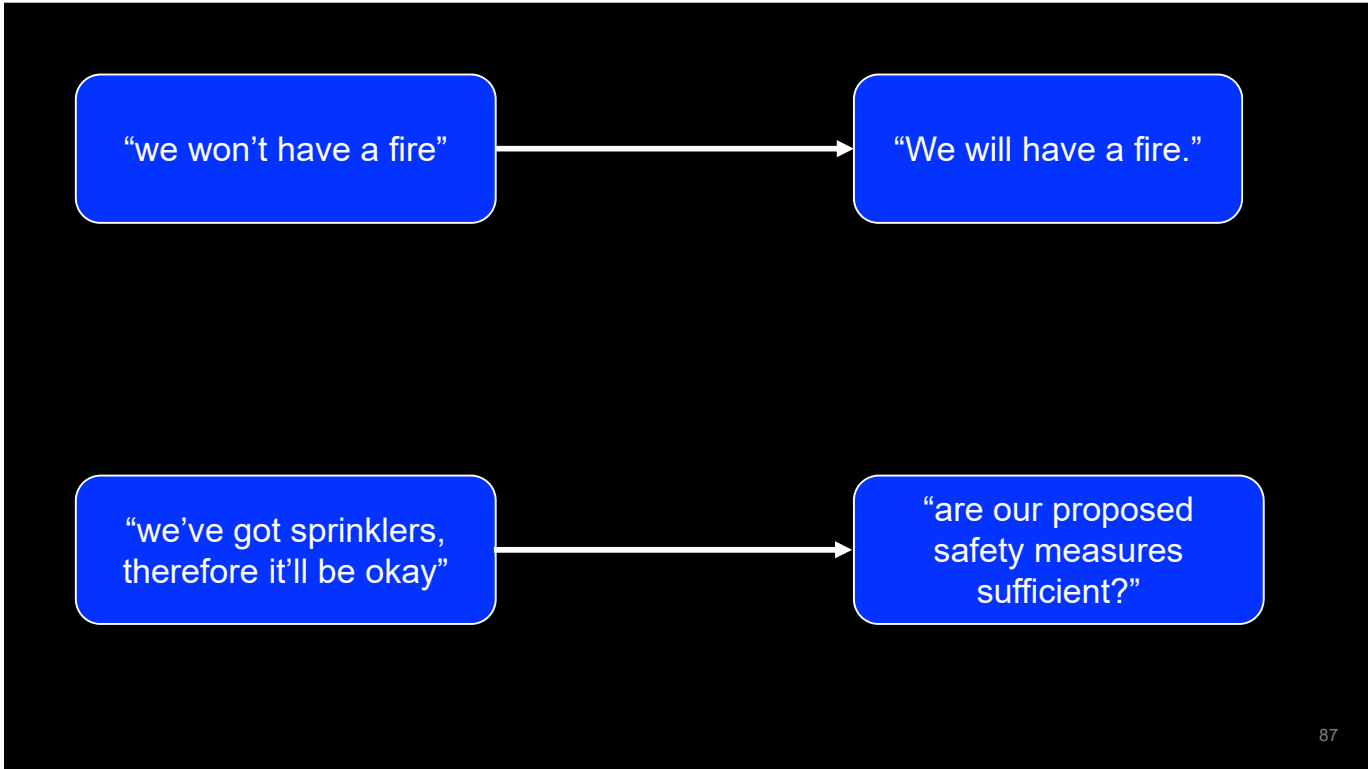
Building a Safer Future Conference

A wider range of buildings

What else should be brought into scope?







Summary

- There is a new emphasis that individuals should be adequately competent for the High Rise Residential Buildings.
- This competence is also required for every other building.

A two tier system
enables change

Who would want to
commission a second
tier building?

- Change of mindset is can drive “drip drip” improvements.

89

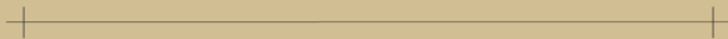
Building a Safer Future – The Hackitt Report





Adrian Dobson

Royal Institute of British Architects



The Dutyholders

Maintaining the “golden thread”

RIBA 
Architecture.com

The Dutyholders
Regulation of Construction

- Town and Country Planning Act 1990
- The Building Act 1984 and the Building Regulations 2000
- CDM Regulations 2015
- Party Wall Act 1996
- Site Waste Management Plans Regulations 2008
- Housing Grants, Construction and Regeneration Act 1996
- Equality Act 2010
- The Provision of Services Regulations 2009
- Architects Act 1997

The Dutyholders
Contractual obligations

The Architect:

- exercises reasonable skill, care and diligence in accordance with the normal standards of the Architect's profession in performing the Services and discharging the Architect's obligations.

(The Architect will need to provide adequate professional and technical resources.)

Source: RIBA Standard Form of Architects Appointment

The Dutyholders

Code of Conduct obligations

Standard of Service:

- Practitioners shall only provide services for which they are competent and qualified; shall ensure that any employees or associates assisting in the provision of services have the necessary competence to do so; and shall provide reliable professional leadership for their colleagues or teams.

Source: International Ethics Standard (IES)

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The Dutyholders

A turning point?

Grenfell Tower fire

- Largest loss of life in a single peacetime building fire since the Exeter Theatre Royal fire of 1887 in which 186 people died
- A turning point in the UK approach to fire safety regulation and building procurement?
- Failure of regulation
- Lack of competence
- Lack of independent oversight of construction



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The Dutyholders

Change is necessary

RIBA Expert Advisory Group

- Recommendations to the Independent Review of Building Regulations
- Changes to Approved Document B guidance, including baseline prescriptive requirements in relation to combustible materials, sprinklers and means of escape
- More effective enforcement
- Increased independent oversight of construction work
- Statutory roles of Principal Designer and Principal Contractor to be adapted to cover the life safety of building users



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The Dutyholders

Baseline requirements

RIBA Expert Advisory Group

- Review of the “stay put” policy
- Building Regulations requirement for central fire alarm systems in multiple occupancy residential buildings
- Requirement for sprinklers/automatic fire suppression systems in all new and converted residential buildings
- Requirement for more than one means of vertical escape from new multiple occupancy residential buildings of more than three storeys
- External walls of buildings over 18m in height to be constructed of non-combustible (European class A1) materials only



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A question of priorities

RIBA Expert Advisory Group

- For refurbishment projects involving “material alterations” to high-rise, multiple occupancy residential buildings, the retro-fitting of central fire alarm systems and sprinklers/automatic fire suppression systems should be mandatory
- Structured on a similar basis to the “consequential improvements” required under Part L of the Building Regulations to the energy performance of existing buildings



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The Dutyholders

Hackitt report

Dame Judith Hackitt report themes:

- Better definition and allocation of roles and responsibilities within the building and fire regulatory system, with defined duty holders
- Increased independent oversight of the quality of construction work
- Stronger compliance and enforcement of building control
- Raised levels of competence and accreditation of those involved in design, construction and maintenance of higher risk buildings



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The Dutyholders

Procurement

Procurement, quality, risk and competition:

- Report of the Independent Inquiry into the Construction of Edinburgh Schools (schools procured using PFI/design and build contracts), published in February 2017.



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The Dutyholders

Procurement

Procurement, quality, risk and competition:

- The Lead Designer (architect or engineer) is commonly no longer responsible for oversight of the design and the specification of materials and products from inception to completion of the project, with design responsibility often transferred to the contractor, numerous sub-contractor designed elements, and no single point of design responsibility
- The frequent absence of the role of the clerk of works or site architect and the loss of independent oversight of construction and workmanship on behalf of the client means that the client often has little real control over construction quality and frequently is over-reliant on the building control process alone to ensure compliance with the Building Regulations
- Product substitution for so-called value engineering purposes may not be properly assessed
- Fire engineering approaches may be used to justify ignoring tried-and-tested fire safety measures (number of means of escape, travel distances etc.) in order to improve economic viability of development

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The Dutyholders

Where to next?

Hackitt report recommendations:

- The Joint Competent Authority (JCA) – how will it work?
- Higher Risk Residential Buildings (HRRBs) – is the frame of reference too narrow?
- Outcomes based v prescriptive guidance – what is the right balance?
- Assessments in lieu of tests?
- Combustible materials?



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The Dutyholders

Client

Client duties:

“It is also clear that clients, particularly public sector clients with statutory duties in relation to the communities they serve, cannot simply delegate away from themselves the responsibility of putting in place an appropriate level of informed, independent scrutiny to ensure the safety of the public buildings they procure. By independent scrutiny the Inquiry is referring to inspection by individuals or organisations appointed by or directly employed by the client who are independent of the project company or contractor undertaking the project.”

Source: Report of the Independent Inquiry into the Construction of Edinburgh Schools



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Client

Client duties:

“As a result of these duties it may be that more clients seek to utilise a clerk of works type role to act as their eyes and ears throughout the construction process.”

Source: Final Report of the Independent Review of Building Regulations and Fire Safety

“I think there will be a general rise in what you might describe as assurance roles...”

Source: Simon Rawlinson, Partner and Head of Strategic Research, Arcadis, quoted in Building magazine



The Dutyholders

Principal Designer

Principal Designer duties:

- Responsible along with the Principal Contractor for updating and finalising the “digital record” and the “fire and emergency file”
- The Principal Designer will need to have powers during the design and any “contractor design” periods of projects to enable safe design and construction
- How will independence be maintained in the case of a novated Principal Designer?
- Time for statutory duties, criminal liabilities and the real decision makers to take responsibility?



The Dutyholders

Principal Contractor and Building Owner

Principal Contractor duties:

- Maintaining a digital design record and any changes during construction
- Assumes a widespread application of level 2 processes?
- The Construction Control Plan?
- Providing the “fire and emergency plan” to the future building owner

Owner/Superior Landlord duties

- Must nominate a “building safety manager”



The Dutyholders

Maintaining the “golden thread”

Key dutyholders

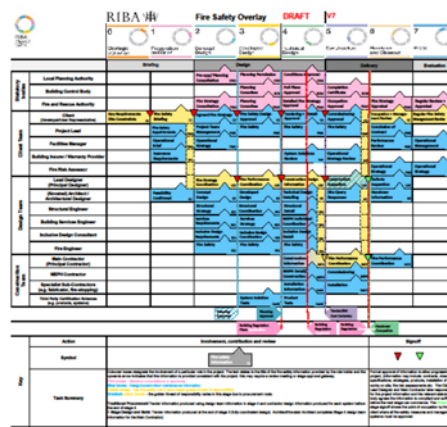
Client, Principal Designer, Principal Contractor, Owner/Superior Landlord

Key information products

Digital Record, Fire and Emergency File, Full Plans and Construction Control Plan

Key gateways

Planning Approval, Full Plans and Completion



The Dutyholders

Summerland 1973

“Recommendation 1: In the designing of a building, a named person should be in charge from the outset and take, and be known to be taking, the major decisions.”

“Recommendation 2: If manufacturers, fabricators, and other participants in a project are expected to take responsibility for some part of the performance of the building, these responsibilities should be clearly agreed in writing, and the client should be informed.”

Source: Report of the Summerland Fire Commission 1974



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The Dutyholders

Summerland 1973

“Recommendation 3: Architects and clients together should carefully consider the requirements and performance of a building in use at the stage when conceptual designs are proposed, and before proceeding with the details of the design and the later submission of plans to the authorities.”

“Recommendation 6: Building inspections during construction should be conducted formally and precisely, both by architects and the local authority inspectors. They should be recorded to confirm that the building is being built in accordance with the approved plans and the relevant byelaws and regulations.”

Source: Report of the Summerland Fire Commission 1974



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Summerland 1973

“Recommendation 7: On the completion of the works, after a satisfactory official inspection, a completion certificate should be issued. No public building should be occupied until after this has been done.”

“Recommendation 16: Manufacturers and suppliers should provide the fullest possible information about the fire properties of building materials to intended users.”

Source: Report of the Summerland Fire Commission 1974



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Summerland 1973

“Recommendation 17: In applying the results of British Standard and other standard fire tests on building materials and structures, architects and designers should bear in mind the difference in scale between the standard test and the conditions of use in full size. If necessary, special investigations should be made on a suitable scale to supplement the test.”

Source: Report of the Summerland Fire Commission 1974



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Building a Safer Future – The Hackitt Report



Neil Gibbins
Institution of Fire Engineers



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Competence and Ethics

Neil Gibbins QFSM FIFireE
The Institution of Fire Engineers

Neil Gibbins QFSM FIFireE

- 40 years in fire- FF to Acting CFO
- National lead- CFOA- Fire protection
- Lead implementation of The Fire Safety Order
- President of IFE
- CEO of IFE
- Now strategic advisor



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IFE objectives

OUR VISION:

A global organisation of fire professionals striving to build a safer society

OUR MISSION:

To promote, encourage and improve the science, practice and professionalism of fire engineering

OUR VALUES:

Inclusivity, professionalism, value, learning, responsibility, independence and openness



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Do professionals actually share the same perspectives on ethics, competencies and accountabilities or are they just words that, in real life, make sharing 'the golden thread' a vague practice?



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Why are we here?

- Grenfell- a tragedy
- 100's of other tall buildings-
facades failing BS8414-
a scandal?



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The UK fire safety system

Legal requirements-

- Building Act/Regulations
- Fire Safety Order
- Product safety
- General Health and Safety
- Fire and Rescue Services Act 2006



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Statement of Ethical Principles

In 2005 the Royal Academy of Engineering and the Engineering Council jointly created a statement of ethical principles to guide engineering practice and behaviour. A revised statement was jointly produced in 2017.

The statement is the result of wide consultation, both within the engineering profession and with other professionals specialising in applied ethics. It contains four fundamental principles and is designed to form the core of the codes of conduct published by the professional engineering institutions. All registered engineers and technicians have committed to working in an ethical and socially responsible manner in accordance with their institution's code of conduct.

The Engineering Council and the Royal Academy of Engineering believe that all persons engaged in engineering at any level, from the youngest apprentice and student, should be educated and encouraged to think and work in accordance with these ethical principles. The statement is therefore offered to employers and to education, training and qualification providers to adopt or include in their curricula as they see fit. The aim is for engineering to be seen and recognised by the public as a trusted and ethical profession.

The statement is underpinned by four fundamental principles:

1. Honesty and integrity



2. Respect for life, law, the environment and public good



3. Accuracy and rigour



4. Leadership and communication



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3. Accuracy and rigour

Engineering professionals have a duty to acquire and use wisely the understanding, knowledge and skills needed to perform their role. They should:

- always act with care
perform services only in areas in which they are currently competent or under competent supervision
- keep their knowledge and skills up to date
- assist the development of engineering knowledge and skills in others
- present and review theory, evidence and interpretation honestly, accurately, objectively and without bias, while respecting reasoned alternative views
- identify, evaluate, quantify, mitigate and manage risks
not knowingly mislead or allow others to be misled



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Press statement - Issued on behalf of the Industry Response Group's Steering Group on Competences for Building a Safer Future Independent Steering Group to take forward Dame Judith Hackitt's recommendations on competence-

The Steering Group will meet fortnightly throughout the year and, in addition to overseeing and peer-reviewing the outputs from the eleven working groups, the Group will

also:

- determine arrangements for the effective oversight of competence requirements to support the delivery of competent people working on higher risk residential buildings;**
- propose the role and remit of an overarching competence council;**
- identify and fill any further gaps in the competence requirements across the commissioning, design, construction, refurbishment, maintenance and management of higher risk residential buildings;**
- organise a workshop on the principles of competence frameworks; and**
- make quarterly reports to MHCLG/JCA, via the Industry Response Group**



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Working Group Subject	WG 1 Engineers	WG2 Installers	WG3 Fire Engineers	WG4 Fire Risk Assessors	WG5 Fire Safety Enforcement Officers	WG6 Building Control/Std's Inspectors	WG7 Building Designers/ Architects	WG8 Building Safety Managers	WG9 Site Supervisors	WG10 Project Managers
Notes	<i>May be split into two groups</i>									
Lead	Engineering Council	Build UK/ FSF	IFE	FSF (FRACC)	NFCC	LABC/ACAI	ARB	Independent	CIOB	RICS
Chair	George Adams	Independent [Build UK]	T.B.A	Dennis Davis	T.B.A	Lorna Stimpson Martin Conlon	T.B.A	Anthony Taylor	Peter Dawber	Prof Charles Egbu
Secretary	Katy Turff	Martin Duggan	T.B.A	Stephen Adams	T.B.A	T.B.A	T.B.A	FPA/BIFM	Lyndsey Montgomery	Steven Thompson
Start date	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A	T.B.A
Members	Kevin Wellman (CIPHE)	Paul Williams (CIPHE)	T.B.A		T.B.A	David McCullogh (RICS)	Alan Cripps (RICS)	Rob Greenfield (BIFM)	Wayne Ward (BIFM)	Wayne Ward (BIFM)
T.B.A	Relevant PEIs	FSF IFE BCA		RICS FSF IFE		CIAT LABC/ACAI CICAIR	Government RIBA CIAT	CIAT LGA NFH	CIAT Build UK CIOB	CIAT ICWCI Build UK



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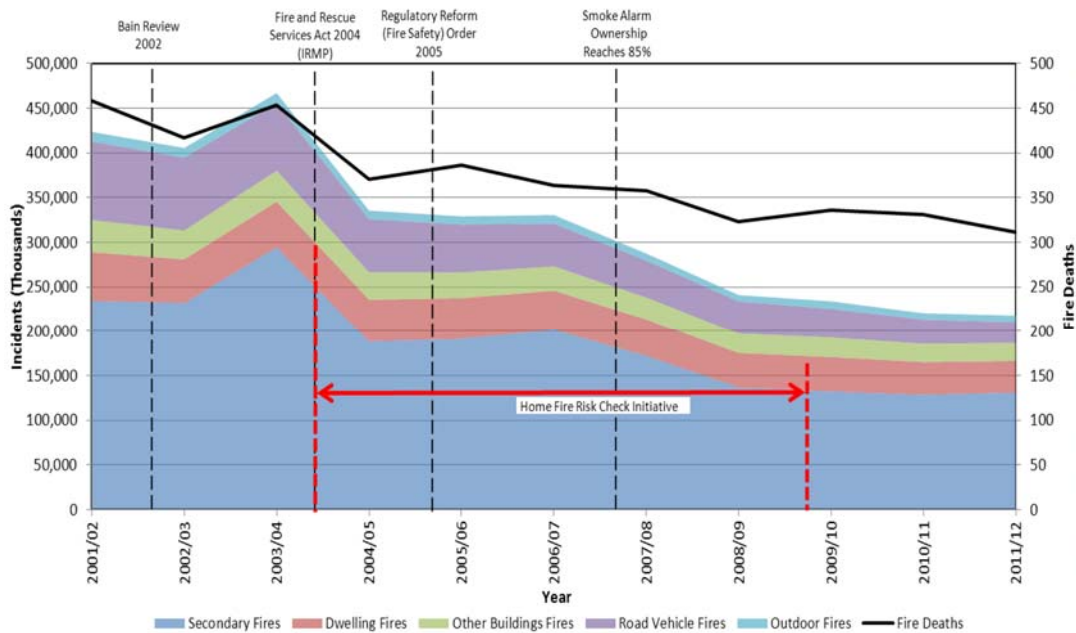


Figure 1: Change in incidents between 2001/02 and 2011/12 (England)³



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The UK fire safety system

- Goal based Building Regulations
- Goal based Fire Regulations
- Goal based Fire cover/attendance



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The UK fire safety system

- Standards v Requirements
- Certainty v Flexibility?
- Flexibility = innovation?
- Innovation = improvement?
- Safer ? Quicker? Less cost?



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The UK fire safety system

- Goal keepers-
 - Architects/designers
 - Procurement
 - Contractors
 - Building control
 - Responsible person (FSO)
 - Risk assessor
 - Fire safety order enforcer



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The UK fire safety system

- Goal keepers-
 - Architects/Designers- demonstrable competence
 - Procurement
 - Contractors
 - Building control
 - Responsible person (FSO)
 - Risk assessor- demonstrable competence
 - Fire safety order enforcer



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The UK fire safety system

- Goal keepers-
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The UK fire safety system

- Goal keepers-
 - Architects/Designers
 - Procurement
 - Contractors
 - **Building control** - Building Act?
 - Responsible person (FSO)
 - Risk assessor
 - **Fire safety order enforcer**- Fire Safety Order?



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Some thoughts-

- High risk and complex...
- Maintain freedom in design – but -
- Designer//construction/ building approval/responsible person/fire risk assessor/**competent at least**
- plans approval, fire safety order enforcer-**professional**
- “Industry” agree “standard”?



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Golden Threads?

Comprehensive guidance supporting Building Regulations- (Industry)

Understood and applied by design team (competence)

Buildings constructed in accordance with design

Buildings managed by persons aware of fire safety design

Feedback from real world failures /near misses refines guidance

Competence, professionalism, ETHICS.



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Thanks for attending and listening.

Neil.gibbins@ife.org.uk

07967 021853



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