

### 3.6 Fire Engineering in the UK (short version)

Jenkins P., United Kingdom

 <p><b>"Fire Engineering in the UK"</b></p> <p>Paul Jenkins Fire Engineering Group London Fire Brigade <small>Copyright LFB</small></p>	<ul style="list-style-type: none"> <li>• Fire officers can read</li> <li>• Fire officers like to read</li> <li>• Fire officers like magic numbers - 18 30 45 60</li> <li>• A fire officers' scale rule "mightier than the sword"</li> <li>• Certification</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Design to code</b></li> <li>• <b>Check to code</b></li> <li>• <b>Build to code</b></li> </ul> <div style="background-color: #003366; color: white; padding: 10px; text-align: center;"> <p>Prescriptive Acceptable safety Comfort zone</p> </div> <p><b>Why do we do it ? - Some history</b></p>
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<ul style="list-style-type: none"> <li>• Frustration from designers / consultants</li> <li>• Need for flexibility in design</li> <li>• Pressure on Government by business</li> <li>• National economic development</li> <li>• The emergence of fire engineering as a discipline</li> <li>• Bickerdyke Allen Report</li> <li>• Big implications for the fire industry</li> <li>• Including regulators!</li> </ul> <p><b>So what changed?</b></p>	<p><b>Help ensure consistent and safe application of Fire Engineering</b></p> <p><b>Ensure quality control of the Fire Engineering approvals process throughout the brigade</b></p> <p><b>To deal with Fire Engineering at a level comparable with other practitioners</b></p> <p><b>To ensure that fire brigade issues are taken into account in innovative design</b></p> <p><b>Provide support and advice to LFEPA staff</b></p> <p><b>Provide Technical input into Policy</b></p> <p><b>The role of LFB Fire Engineering Group</b></p>
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<ul style="list-style-type: none"> <li>• <b>First and Largest UK Fire Service FE Dept</b> Fire Safety Teams, Operational Staff,</li> <li>• <b>External Partners</b> Consultants, Architects/Designers, LA Building Control, Approved Inspectors, other authorities Official bodies - BSI, ACAI, LDSA, etc. Researchers - BRE, StIFF, CFF, RFRPG, Universities, other professional institutions. (Europe and beyond)</li> <li>• <b>We work routinely promoting Fire Engineering within the UK FE Community</b></li> </ul> <p><b>What else do we do ?</b></p>	<p><b><u>Building Regulations</u></b></p> <ul style="list-style-type: none"> <li>• These regulations apply to all buildings.</li> <li>• They deal with the design of new and altered premises.</li> <li>• They are administered by the Building Control Bodies.</li> </ul> <p><b><u>The Regulatory Reform (Fire Safety) Order</u></b></p> <ul style="list-style-type: none"> <li>• This Order applies to all non-domestic buildings</li> <li>• It deals specifically with the safety of the occupants.</li> <li>• The 'responsible person' carries out a fire risk assessment</li> <li>• The FRA ensures that persons are safe from fire</li> <li>• They are administered by the fire Authorities</li> </ul> <p><b>So how are buildings approved in the UK?</b></p>
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### LIFE SAFETY

Life safety is the minimum legislative requirement for the fire design of buildings.

- Safe egress of the occupants from the building or
- Safe movement of occupants to refuge areas within the building.
- Safe operating conditions for fire fighters.
- Safety for people near the building from collapse (including fire-fighters)

Life safety is covered by Regulations which may be prescriptive or functional.

To meet these life safety requirements either a performance-based approach or the simple (prescriptive) rules, as outlined in the Approved Document B or other guidance, can be adopted.



### Approved Document 'B'

Part B deals with fire safety and seeks to ensure reasonable levels of health and safety are provided for people in and around buildings.

The Regulations cover:

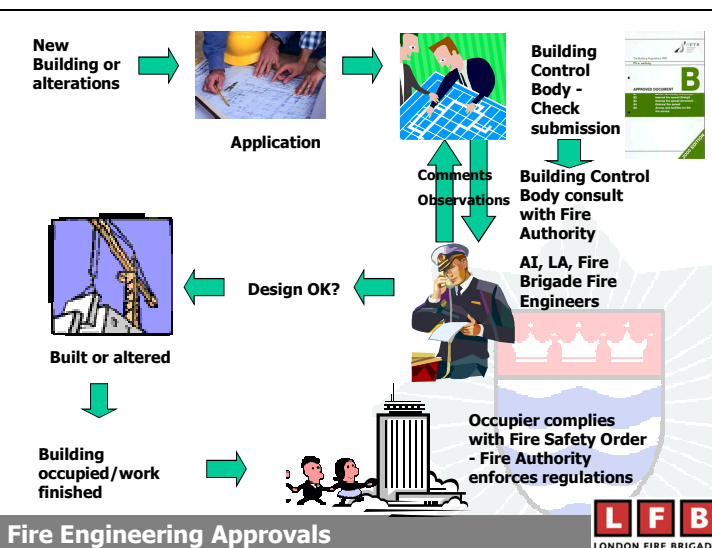
- (B1) Means of warning and escape
- (B2) Internal fire spread (linings)
- (B3) Internal fire spread (structure)
- (B4) External fire spread
- (B5) Access and facilities for the fire service



Life safety to occupants and fire fighters is the minimum legislative requirement.

The Regulations are concerned with life safety and effectively provide the minimum legislative level of safety required in the design of buildings.

The Regulations do not require anything to be done for the protection of property or the environment (but this doesn't prevent these issues being addressed, if desired!)



**“Overcome the restraints of design imposed by prescriptive regulations/codes”**  
**“Facilitate a more cost effective design”**

