

Joint Code of Practice  
**Fire Prevention on Construction Sites**  
7th Edition


Howard Passey  
Education & Training Director

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### Relevant Numbers

- 11 construction fires a day in the UK
- 80% of businesses who suffer a major fire go out of business within 18 months
- Arson fires on construction sites are predicted to increase due to economic climate


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### Construction..... a definition

- renovation, repair, upkeep, redecoration and other maintenance work
- installation / modification of process plant and equipment
- installation, maintenance, repair and removal of fixed services, such as gas, electrical, compressed air and hydraulic systems
- dismantling and final demolition
- The principles for the fire safe management of all of the above are identical

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### What's the problem?


- Construction Industry Insurance Premiums
  - 1989           £89.60m
  - 1990           £90.32
  - 1991           £80.66

*Figures represent approx. 85% of active UK construction market writers  
Scaled up accordingly, overall figure - £95m*

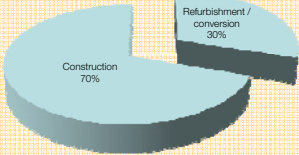
- Examples of Direct Losses
  - June 1990    Broadgate Phase 8    £35m
  - Aug 1991     Minster Court        £120m

To sustain these losses premiums would have need to be increased by 400% - 500%

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### Number of serious fires by occupancy

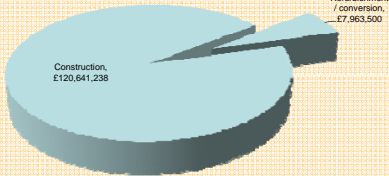


Occupancy	Percentage
Construction	70%
Refurbishment / conversion	30%

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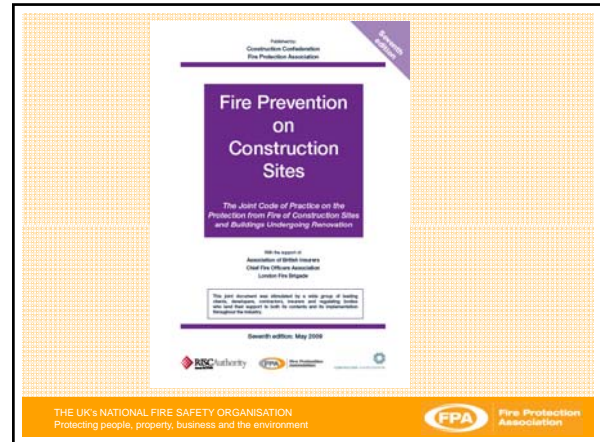
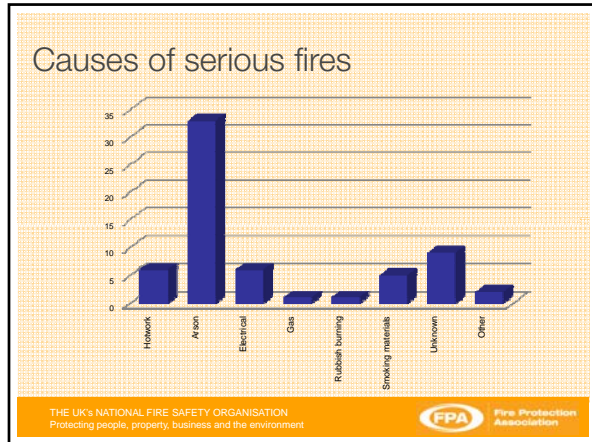
### Losses from serious fires by occupancy



Occupancy	Losses (£)
Construction	£120,641,238
Refurbishment / conversion	£7,983,500

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### Joint Code of Practice

- Published 'jointly' by the Construction Confederation and Fire Protection Association (on behalf of RISC Authority)
- 1<sup>st</sup> edition published in 1992
- Objective of code is fire prevention
- Is an insurance requirement for all projects with an original contract value of over £2.5 million

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FPA Fire Protection Association

### Significant changes in 7<sup>th</sup> edition

- Updates to reflect changes in legislation
  - Regulatory Reform et al.
  - CDM
- High fire risk sites
  - High rise construction
  - Large project
  - Large timber framed structure
  - projects where risk assessments indicate significant potential loss of life or property.
- Storage and use of acetylene
- Waste burning

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### High fire risk sites

- High rise.....
  - Height of 30m above ground level (reach of F&RS appliances)
- Large project.....
  - Contract value > £20m
- Large timber framed structure.....
  - Four or more storeys
- Risk assessments indicate significant potential loss of life or property.....
  - Self explanatory

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### High fire risk sites

- Permanent / site based fire marshals and deputies
- Water supplies – agree with F&RS & test flows before commencement and at 3 month intervals
- Possible requirement for additional extinguishers (risk assessed)
- Separate arson risk assessment
- CCTV & permanent security presence
- FD&A system in temporary accommodation linked to building and receiving centre (unless 24hr security)
- Increase separation distances for flammables & smoking areas
- Locked metal stores for combustible storage
- Restricted use of petrol generators

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## High rise structures

- Concerns....Time to escape
  - Lack of completed compartmentation
  - Inadequate water supplies
- Specific fire risk assessment required
- Protect MOE – fire doors etc
- Horizontal compartment complete every 10 floors
- Shafts (inc atria) similarly protected
- Electrical operated FA system throughout
- Wet riser

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## Large timber framed structures



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## Large timber framed structures

- Appropriate fire protection treatment of timber
- Plan to minimise risks – particularly on multi premises sites
- Earliest possible compartmentation
- Subdivision of horizontal shafts/ducts using temporary fire retardant boarding
- Permanent fire resisting structures (doors, partitions, stopping) installed as soon as practicable
- Final cladding to building in place as soon as possible
- Proximity of structure to boundary and adjacent buildings considered as part of site risk assessment
- Facing exposed timber construction and combustible insulation with non-combustible materials at the earliest opportunity
- Access to building under construction denied when work not in progress

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26 May 2007 - Windows in shops and homes were left shattered and wreckage was strewn across the centre of Wolsingham, near Bishop Auckland, when an oxy-acetylene set being carried inside a contractors van exploded killing the 33 year old driver



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## Storage & use of acetylene

- Increasing commercial pressure not to use acetylene (business continuity)
- Constitutes a serious fire and explosion hazard when unstable (impact or increased temperature)
- If involved in fire – up to 200m exclusion zone for extensive periods of time
- Eliminate use wherever reasonably practicable – use alternative methods
- If use is unavoidable keep number of spare cylinders to minimum
- Remove to safe store and / or off site as soon as use is complete
- Support cylinders adequately trolleys/chains/straps

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## Waste burning

- Discouraged – permit system must be enforced (sample provided)
- Open burning allowable on large civil engineering projects before construction above foundation stage
- In all other cases use of incinerator required
- Complete a specific fire risk assessment and waste burning permit
- Meet legislative environmental requirements
- 50m separation to stores, plant, structures
- Sift waste to be burnt
- Permanent fire watch – trained in use of extinguishers
- Extinguished 60 minutes before close of site
- No accelerants to be used

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## Other changes

- Requirement to liaise with F&RS at design stage including liaison re water supplies for high fire risk sites
- Requirements for multiple provisions of manually operated alarm sounders, hard-wired call-points and wi-fi linked fire alarm systems
- Reference to alternative certification schemes for temporary covering materials added (Certfire - Warrington)
- Fire break distances between temporary accommodation and building under construction clarified

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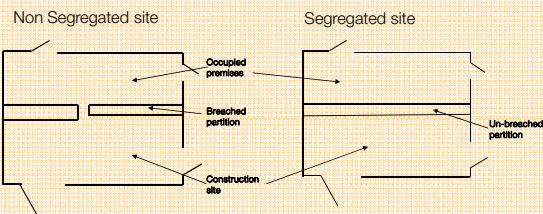
## Enforcement

- Legislative requirements on construction projects will generally be enforced by either or both the Health and Safety Executive or the Fire & Rescue Authority
- Responsibilities will depend upon whether: -
  - the site is stand alone/segreated OR non-segreated and;
  - *Process Fire Safety* or *General Fire Precaution* matters are under consideration

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## Segregated or not?



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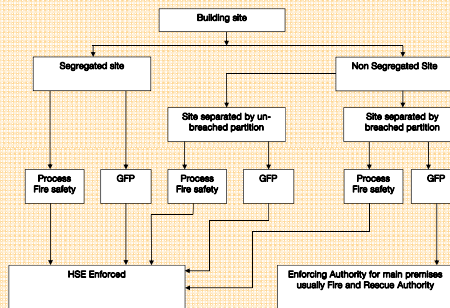
## Process & GFP Defined

- *Process fire safety* matters, are precautions to prevent fire starting in the first place and prevent spread. Process matters include the safe use and storage of flammable materials and precautions to ensure that work processes do not start fires.
- *GFP (General fire precaution)* matters deal with the actions needed should a fire occur. GFP matters include raising the alarm, means of escape, fire-fighting facilities and emergency planning.

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## Enforcement Flowchart



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## Stand-alone sites


- Independent construction sites with their own boundary will be enforced by the HSE.
- In such cases temporary accommodation units: -
  - Within the site perimeter (hoarding) will be enforced by the HSE
  - Outside the site perimeter will be enforced by the Fire & Rescue Authority

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Questions?

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Thank you .....  
..... the end

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