



LONDON FIRE BRIGADE

Informing and supporting the fire service at high rise fires

Presentation to the Tall Buildings Fire Safety Network Group

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DAC Peter Cowup

Acting Head of Operational Procedures

Aim and objectives

- Introduce the revised national Generic Risk Assessment (GRA) for high rise firefighting
- Promote understanding of the hazards and challenges faced by firefighters at high rise fires
- Explain how LFB plans for high rise incidents
- Outline how LFB responds to high rise fires
- Outline how the building owner/occupier can play a key part in supporting LFB planning and response
- The issues and potential challenges linked to dealing with the media
- “Post incident” issues and actions

What is the high rise GRA?

- Published by Department for Communities and Local Government & Chief Fire & Rescue Adviser
- Sets out a national statement of the hazards and control measures for high rise fires
- Each Fire and Rescue Service has to undertake it's own risk assessment and create procedural guidance ("SOPs")
- Provides guidance with regard to planning, training, equipment and incident management
- Provides 'best practise' advice and promotes a consistency of approach between different fire rescue services
- GRA is relevant to personnel from other emergency services and high rise building occupiers/owners (as well as FRSS)

The fire service definition of 'high rise'

- Floor height and position prevents external firefighting/rescue
- Ranges from conventional 'tower blocks' to large/complex commercial premises
- Premises can have multiple use



Basic facilities provided for fire service use in high rise buildings

- Dry or wet rising mains
- Firefighting shafts
- Firefighting lifts
- May also have more complex building systems - sprinklers and smoke control



Challenges firefighters face at a high rise fire – building height and design

1

- Building height
- Falling objects
- Premises security
- Complex internal layout
- Floor or ceiling collapse
- Wall panel failure
- Construction technique (timber frame)
- Building under construction or refurbishment



Challenges firefighters face at a high rise fire – building height and design

2

- Extended communication lines
- Difficult to gather basic information
- Cable entanglement
- Firefighting facilities or fixed installations not working!
- Oxygen deficient or toxic atmospheres
- HVAC systems



Challenges firefighters face at a high rise fire – fire behaviour & development

- Fire and smoke spread
- Fire on multiple floors
- Effect of wind
- Falling burning debris
- Poor housekeeping (high fire loads)
- Smoke travel and the 'stack effect'
- Limited ventilation in compartments (no openings)



Challenges firefighters face at a high rise fire – firefighting & rescue operations 1

- Unknown premises
- Impact of evacuation on firefighting (& vice-versa!)
- Firefighting facilities unavailable or defective
- Locating the fire floor
- Gathering resources
- Water supplies
- Physiological demands (high workload)



Challenges firefighters face at a high rise fire – firefighting & rescue operations 2

- Congested access/egress
- People shut in lift cars
- Breach of firefighting lobbies
- Electrical system failure
- Distances over which casualties may need to be carried
- Vandalism and unlawful activities
- Moral pressure and human factors



Planning – ‘making your friends before you need them’!

- Advance planning is key to success
- Prioritisation based on risk
- Must involve others – especially building owners/operators
- Confidentiality
- Methods of contact with LFB
- Joint training and exercises



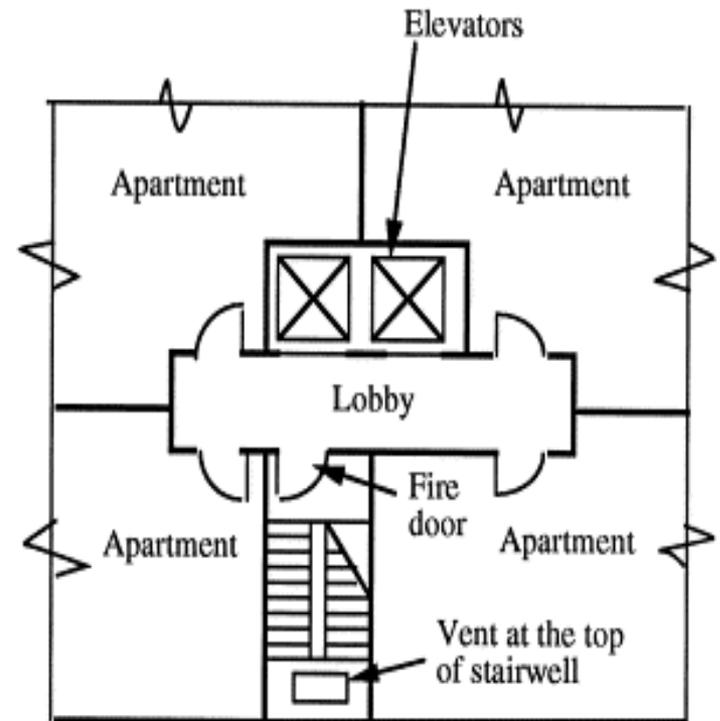
Planning – site specific information the fire service will gather (1)

- Hazards
- Occupancy and use (any variations and the level of vulnerability of the life risk)
- Floor layout & height of the building
- Floor and flat numbering conventions/layout
- Water supplies & fixed installations
- Tactical considerations (such as RVP and appliance/crew access)
- Assess potential for incident size/complexity
- Identify and communicate any limitations

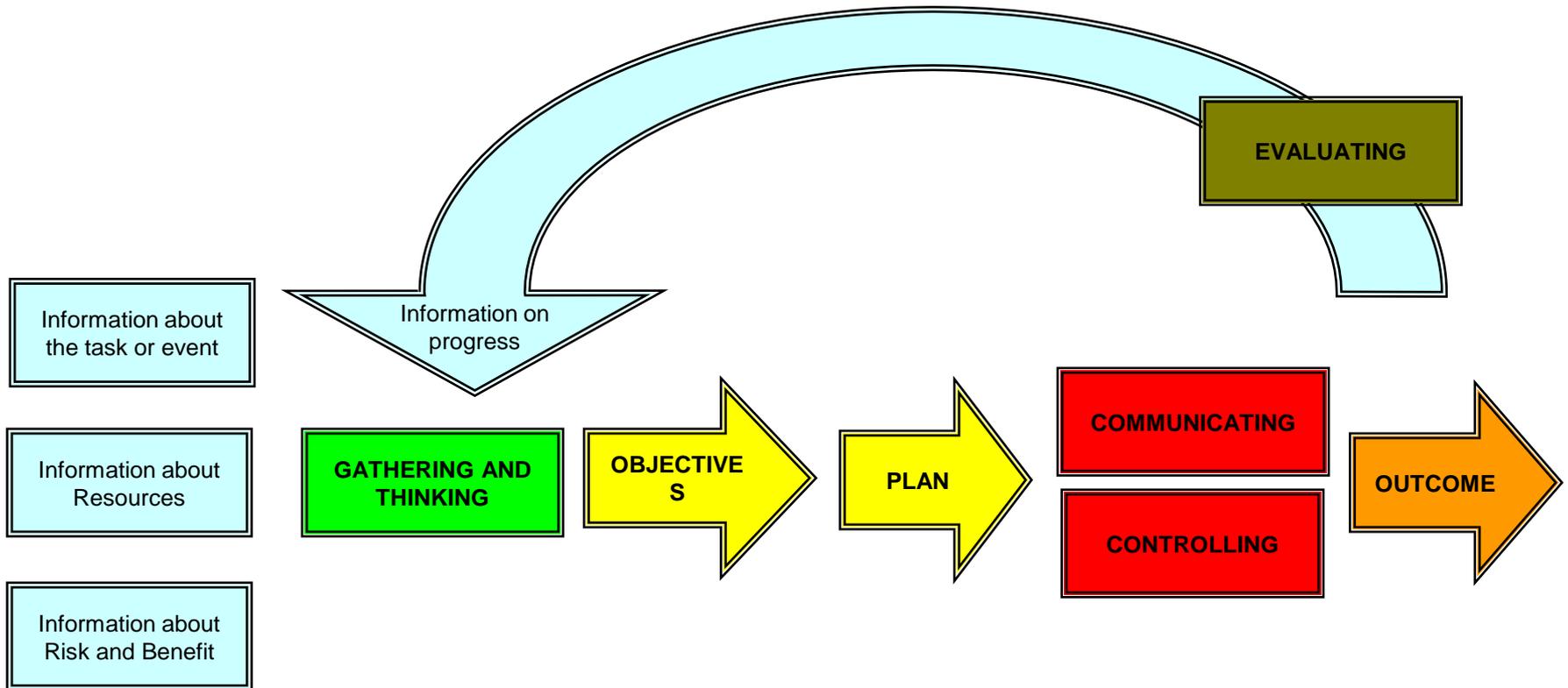


Planning – site specific information the fire service will gather (2)

- Number and location of firefighting lifts
- Evacuation protocols (e.g. phased?)
- Fixed installations, including location, status & controls
- ‘Bridgehead’ locations
- Communications (FRS & provided)
- Building construction – materials and design (e.g. presence of voids)
- Any significant fireloading and/or ‘housekeeping’ issues!



The fire service response to high rise fires – how we make decisions



The fire service response to high rise fires – “on arrival” tactics and actions

- Attend to main entrance or RVP
- Appliance siting (access for aerial appliances and falling debris)
- Initial liaison with “responsible person” to determine fire location, life risk and hazards
- Building systems/information – status & location of AFD, building plates/information boxes or CCTV)
- Confirm whether evacuation in progress and strategy in use
- Establish a safety cordon

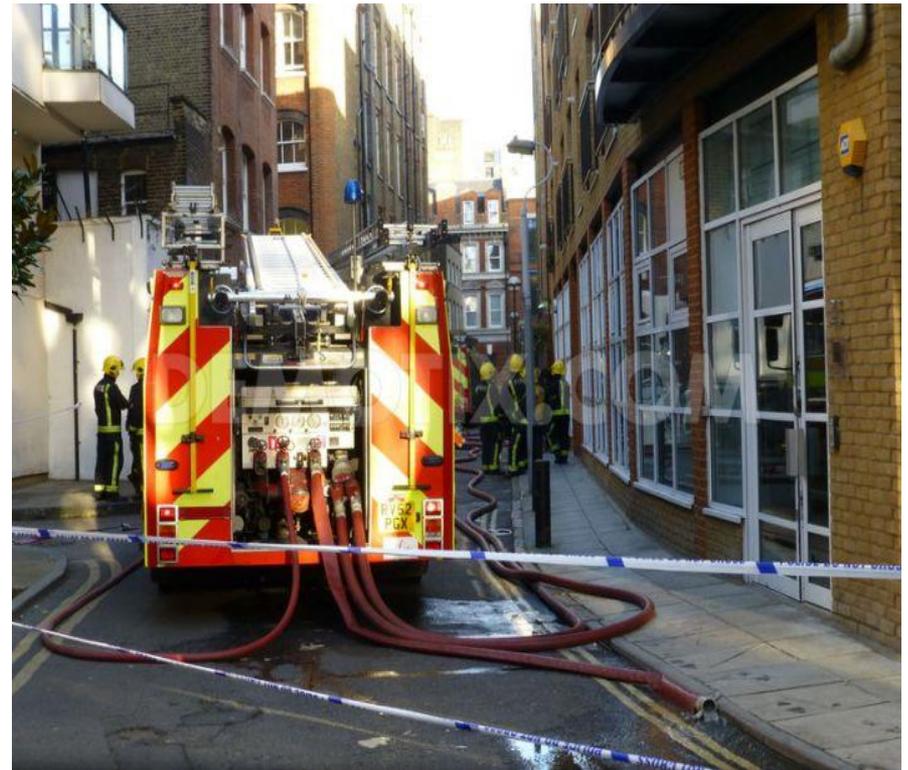


What can an occupier do to support LFB in the early stage of an incident?

- Responsible person available to meet (and direct?) LFB on arrival
- Is there a need to create space for appliance access and siting?
- Life risk is key – has roll-call been completed and is everyone accounted for? Has evacuation strategy been implemented?
- Probable location of any persons believed to be missing?
- Any vulnerabilities to be considered – e.g. physical disability?
- Location and size of fire?
- Location and nature of any hazards?
- Hand-over relevant information – building handbook or plans
- Advise on status and location of building systems, such as risers, AFD, sprinklers and CCTV?
- Advise on status, locations and reach of relevant building services, such as fire lifts and internal communications

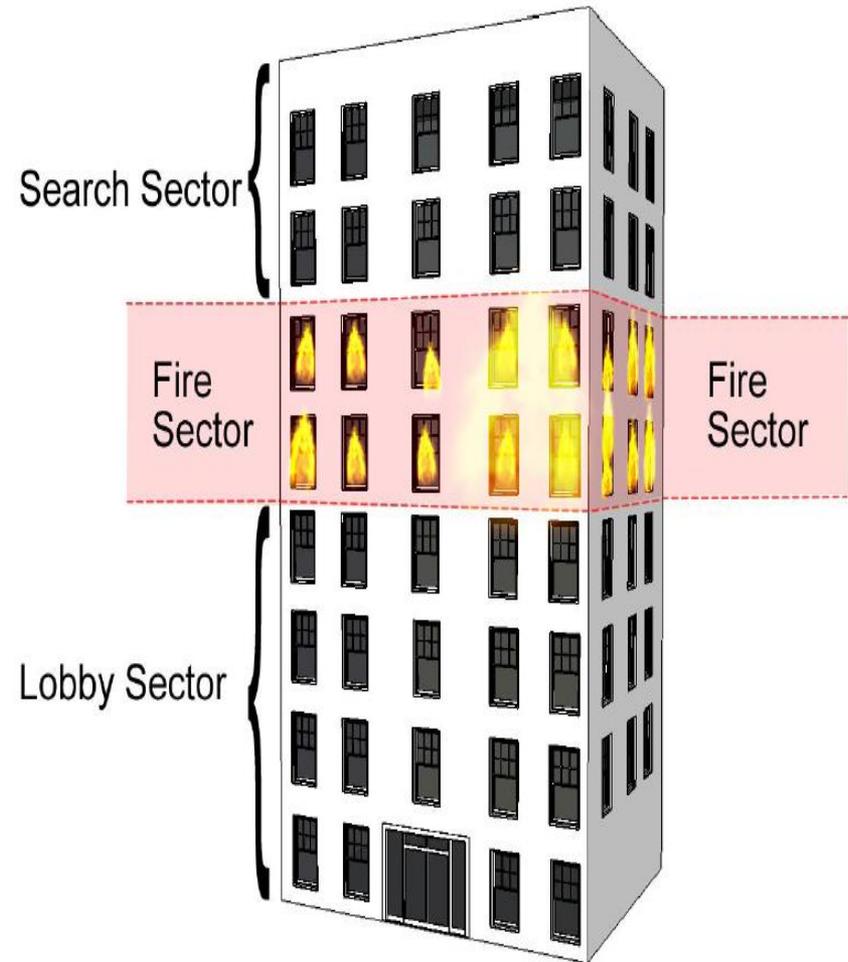
The fire service response to high rise fires – securing water supplies and firefighting lift

- Twinned hose into the rising main
- Confirm status of fixed installations
- Layout – need to know distances from outlet to fire and compartment size, layout and fireloading
- Take control of sprinkler stop valve
- Take control of firefighting lift(s)
- Confirm which floors served by lifts
- Firefighters must exit 2 floors below fire floor
- Lift car will then remain at this



The fire service response to high rise fires – establishing a ‘bridgehead’

- Established in safe air in a lobby (not a corridor)
- Two floors below where fire is or reported to be
- Position needs to take into account risk of smoke spread once doors opened
- Fire sector commander will take control of forward operations (IC stays on ground)
- Potential for congestion – may establish a ‘staging area’ below bridgehead
- May be re-located as last resort if compromised by fire/smoke



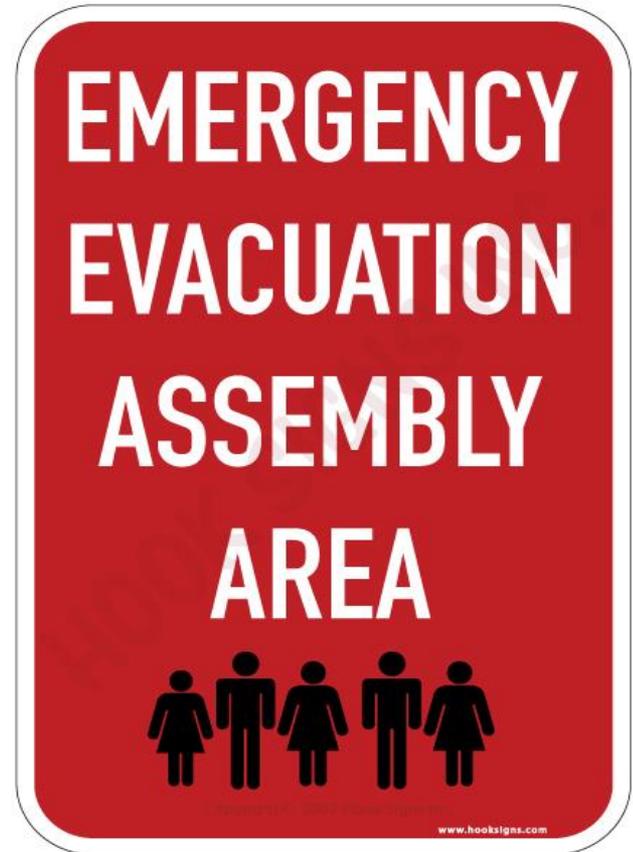
The fire service response to high rise fires – fighting the fire and carrying out any rescues

- Information about life risk will be recorded and used to determine priority of actions
- Crews entering the fire floor will take charged hose lines
- Building will be searched from point of greatest danger
- Crews may be committed above the fire without breathing apparatus (provided it is safe to do so)
- Other services e.g. police may assist with evacuation/rescue in areas not affected by fire or smoke



The fire service response to high rise fires – evacuation and fire survival guidance calls

- Evacuation will normally follow occupiers plan (as part of their FRA)
- Advice from LFB Control will normally be for occupants to stay put – unless directly affected by fire or smoke
- LFB Control will deal with any ‘fire survival calls’ using these 4 principles
 - *Escape* - Is there an alternative safe route out?
 - *Assess* - what situation is the caller faced with
 - *Protect* - by offering advice and reassurance
 - *Rescue* - maintain contact to assist rescue
- High rise fires can generate high numbers of calls



Media involvement

- Significant number may be on scene shortly after incident starts
- Potential for UK and World-wide interest
- Joint approach with Metropolitan Police and London Ambulance
- Pressure to speculate – e.g. on the cause of the incident
- Questions fed by rumour!
- Get your facts straight before you speak!



Media involvement

There are three phases to media interest

1. **'Mayhem'** – “You are not coping!”
2. **'Mastermind'** – “An expert has said....!”
3. **'Manhunt'**
 - “Who’s fault was this?”
 - “Have the emergency services done everything possible to save lives?”
 - Was the owner/occupier to blame or negligent?



After the fire

- Fire safety and structural integrity will be assessed before LFB hands back building to occupier (may involve external agencies, such as local authority)
- All fixed installations should be reinstated as far as practicable
- LFB will undertake damage control during incident – but there may be more to be done!
- Incident will be de-briefed – any “lessons learned” should inform future practises and procedures
- Review information held on premises (content and format)
- Need to make contemporaneous note of actions/decisions (to support any investigation and/or future enquiry)
- Any contraventions identified will be subject to appropriate enforcement action
- If premises is residential, further community safety intervention may be needed
- If there are any anti-social behaviour or vandalism issues, these should be reported to the police

Summary of key issues

- Fires in high rise buildings can pose particular challenges and hazards to the fire service
- Planning and information-sharing in advance of any incident is very important
- Building occupiers need to engage with the fire service locally and, where appropriate, facilitate familiarisation visits and training exercises
- Building occupiers can play a vital role in informing and supporting LFB operations at any fire
- High rise fires are likely to attract media interest
- There are a range of actions and considerations to be addressed after a fire i.e. the 'recovery phase'



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Any questions?

[Only easy ones please!]