



LONDON FIRE BRIGADE

Report title

High Rise Firefighting Policy PN633 - update

Report to

London Fire Commissioner

Date

30 June 2021

Report by

Assistant Commissioner, Operational Policy and Assurance

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I agree the recommended decision below.

Andy Roe

London Fire Commissioner

Date **This decision was remotely signed on 30 June 2021**

Summary

This report provides an update on the High Rise Firefighting Policy 633 (the Policy/PN633) and recommends that the revised Policy attached as Appendix 1 be implemented. The policy was amended by the London Fire Commissioner (LFC) on 12 February 2020 (LFC-0304xD) to address the challenges related to firefighting, evacuation and rescue identified during Phase 1 of the Grenfell Tower Inquiry (GTI). *It was noted 'that the effective date of implementation is subject to training and equipment provision as outlined in the report, and that the policy may be subject to further amendment'.*

The policy has continued to be reviewed and developed, the availability of equipment has been progressed, and the training programme on the revised High Rise Firefighting Policy 633 has been completed to the extent that the Policy can be implemented.

Recommended decision

The London Fire Commissioner approves the latest updates to the High Rise Firefighting Policy PN633, attached as Appendix 1, and agrees the effective date for implementation of the revised policy is to be the 30 June 2021.

Background

1. The Grenfell Tower fire demonstrated the very high levels of risk which can be created for members of the public and emergency responders when a building does not behave as fire safety requirements intend and the resulting fire exceeds 'normal' expectations and highlighted the challenges associated with firefighting in that environment. As a consequence, one of the key recommendations from the Grenfell Tower Inquiry was that Fire and Rescue Services develop policies for partial and total evacuation of high-rise residential buildings and training and equipment to further support this. In response to that recommendation the LFC amended operational policies for high-rise firefighting, and the handling of multiple fire survival guidance calls (FSG) and created a new policy for Evacuation and Rescue from fires in premises (Evacuation policy). The FSG and Evacuation policies were implemented on 31 March 2021 (LFC 0501 and 0502) and it is proposed that the High Rise Firefighting Policy attached as Appendix 1 should be implemented with effect from 30 June 2021.
2. The Policy is broadly divided into two sections; i) responding to fires in tall buildings that behave as they are designed to in event of a fire and ii) responding to fires in buildings that show signs of not behaving as fire safety requirements intend, where an emergency evacuation or mass rescue may be required and how to manage that increased risk. The policy seeks to address these challenges by ensuring that all those firefighters who are liable to attend incidents where standards of fire protection in high-rise buildings have failed will have a secure understanding of concepts that underpin these activities and the Policy provides procedures that enable an improved, safer and more effective response to high rise incidents.

Key changes to the Policy since February 2020

3. Changes to the High Rise Firefighting Policy were approved by the LFC in February 2020 (LFC-0304xD) but it was recognised that 'that the policy may be subject to further amendment'. The background to the Policy changes is set out in that previous report and so is not repeated in this updating report. During the course of that time some further changes have been made to the Policy which are outlined below.
4. Key changes to the Policy since February 2020 include;
 - Following the Physiological Trials recommendations, guidance is provided regarding the risk of physiological strain of high rise operations and includes; 100m vertical ascent limit when using stairwell ascents for firefighters in BA; use of extended duration breathing apparatus and taking planned breaks during extended ascents when carrying BA and equipment.
 - Use of extended duration breathing apparatus for emergency teams, stairwell safety teams or emergency evacuation or mass rescue in the early stages of an incident.
 - Additional controls in respect of committing a team above the bridgehead without BA or extinguishing media for the specific task of checking Dry Riser Main outlets in buildings behaving in accordance with fire safety provisions.
 - The removal of the proposed procedure where buildings are not behaving in accordance with fire safety provisions, that in exceptional circumstances and with appropriate controls in place, firefighters could be deployed above the bridgehead, in safe air, wearing breathing apparatus equipment but not started up.
 - Minor changes to the order and format of the Policy and the inclusion of further definitions.

The Risk Assessment

5. The Risk Assessment of the Policy has undergone review and amendment since the policy was formally approved by the LFC in February 2020. This review was undertaken in consultation with Health and Safety Services (HSS) and the Grenfell Tower Investigation Review Team (GTIRT) within the Brigade. The review takes into account how the introduction of some control measures can create new risks. The height of a building, for instance, represents a risk for members of the public because of the time it may take to carry out a rescue due to travel distance, especially if essential firefighting and/or evacuation lifts are not working in the building. In order to control this risk, firefighters may travel long distances in Breathing Apparatus, and this introduces a physiological hazard for firefighters. Considering the physiological risk to firefighters as part of this process led to commissioning of the physiological trials by Professor Bilzon from the University of Bath to better understand the physiological strain on firefighters during high rise operations, in particular, the effect of ascending and descending stairs. This was completed in March 2021, following which the risk assessment was reviewed to consider the tasks that are required by firefighters during high rise operations and the control measures to reduce the risk. The Policy is revised to address these findings.
6. The risk assessment has also been reviewed and updated following the proposed additional controls added to paragraph 5.42 of the Policy regarding checking dry riser main outlets in buildings behaving in accordance with fire safety provisions, and this is addressed in detail below.
7. The Assistant Director Health and Safety has reviewed the policy and risk assessment. It is the Assistant Director Health and Safety's view that new High Rise Firefighting policy offers significant new control measures focussed on protecting the integrity of the stairwell that improve the health and safety of both firefighters and members of the public that need to enter/use the stairwell for access/egress. The activities in this policy that may present additional risk to firefighters, including committing a team above the bridgehead without BA or extinguishing media for the specific task of closing dry riser main outlets, are not intended to be routine, but only utilised in limited circumstances that are strictly defined by the policy. Where Incident Commanders give full consideration, in accordance with the policy, to such activities they will be able to determine the additional risk and use this to make an assessment of the risk versus the benefit of completing that activity and in doing so make a sensible and proportionate decision on whether to implement the activity.

The Policy

8. One element of the original revised Policy 633 was not agreed between the Fire Brigades' Union (FBU) and the LFC, namely the LFC proposal that where buildings are not behaving in accordance with fire safety provisions, that in exceptional circumstances and with appropriate controls in place, firefighters could be deployed above the bridgehead, in safe air, wearing breathing apparatus equipment but not started up. This was set out in paragraph 6.30 of the Policy. A full consultation exercise was conducted in accordance with LFC policy and statutory duties and included the holding of a Health and Safety Advisory Panel with an independent Chair in April 2021. Having considered the Chair's recommendation that the procedure be removed, the London Fire Commissioner decided that procedure would not form part of the Policy to be implemented. The relevant stakeholders and operational staff have been advised of the position, and that procedure is now subject to wider consultation on a national basis.
9. The Advisory Panel Chair commented in his report at paragraph 53 that: *Para 7.4.2 of the existing policy (more or less transcribed into 5.4.2 in the proposed policy) allows Firefighters (not wearing BA) to be deployed beyond the ECP [Entry Control Point] for the specific task of closing open valves on a rising main. I was not asked to consider that paragraph, but I suggest further*

consideration be given as to whether, in current circumstances, it is appropriate advice. This is a reference to the procedure in paragraph 5.42 of Policy 633 attached as Appendix 1. As recognised by the Chair, this procedure did not form part of the remit of the Panel, and so was not considered by the Panel, and the comment by the Chair does not form part of his recommendation (which in any event is not binding). However, for the reasons set out below, the LFC is recommended to consider this aspect of the Policy further.

10. The particular procedure in paragraph 5.42 has been included in the revised Policy 633 since February 2020 and was not part of the remit of the Advisory Panel, which was limited to the procedure outlined in paragraph 8 above, since that was the aspect of the Policy disputed by the FBU.

11. In the FBU submissions to the Advisory Panel the FBU commented;

18. The nub of the dispute concerns these issues. The FBU maintains that sending firefighters beyond the entry control point at the bridgehead without first starting up their BA sets is an "extremely high risk activity". The issue of "clear air" – or lack of it beyond the bridgehead – is central to the disagreement. Under LFB's proposed procedure, firefighters are expected to proceed from clear air at the bridgehead into an unknown situation with many hazards, including the risk of exposure to hazardous substances. With this proposed policy, they are not required to use a well-established, reasonably practicable control measure to reduce those known and foreseeable risks.

19. The FBU believes that paragraph 6.30 is unacceptable and should be removed. This would also remove or revise paragraphs 6.3 and 6.31 to 6.38. On the same grounds, additional safeguards are needed for paragraph 5.42, because it currently states that after a bridgehead has been set up, firefighters are allowed beyond it without starting up. It states:

*5.42 If pump operators report gauge readings that indicate that dry rising main outlets above the fire floor may be open, or there are other signs that this is the case, the IC may consider committing a team **above the bridgehead** without BA or extinguishing media for the specific task of closing DRM outlets.*

12. The FBU also stated in its submissions that in respect of any National Operational Guidance it had opposed any proposal to send firefighters above the bridgehead not under air. The position in National Operational Guidance is set out below.

13. The FBU have objected to the inclusion of paragraph 5.42 in Policy 633 on the basis it does not represent safe practice because it concerns firefighters going above the bridgehead without BA where the air could be contaminated, and firefighters could be overcome by products of combustion. The FBU refer to paragraph 40 of the Advisory Panel Report (which stated 'In order to provide protection, BA has to be worn at all times when the wearer is in a hazardous atmosphere, there are grounds to suppose the atmosphere is already hazardous or the atmosphere may become hazardous while the wearer is present') and express the view that 'Clearly, crews above the bridgehead tasked to check the status of dry rising main outlets will be in an atmosphere that may become hazardous while they are present and therefore the previous advice to carry out this task without wearing a BA set is no longer appropriate.'

14. The LFC has a statutory duty to consult with safety representatives including trade union representatives on matters pertaining to health and safety of its workforce. This is set out in the Health and Safety at Work Act 1974 and associated regulations and the LFC process for fulfilling those duties is set out in the Safety Representatives and Safety Committees Policy 222. The LFC is advised that the duty to consult the FBU has been discharged, and that having done so, it is for the LFC to form a view as to whether or not this provision should be included in the Policy, taking into account all material relevant considerations, including but not limited to the objection of the FBU and the reasons for it, and the advice of LFC officers, including the Assistant Director Health and Safety.
15. The procedure in paragraph 5.42 of the revised Policy 633 related to checking dry riser main outlets can be distinguished from the procedure considered by the Advisory Panel (and now removed from Policy 633) because it addresses the possibility of going above the bridgehead without Breathing Apparatus (BA) in circumstances where the building is behaving in accordance with fire safety provisions. The procedure is consistent with the Generic Risk Assessment (GRA) 3.2 (fighting fires in high rise buildings) which has subsequently been incorporated into National Operational Guidance (NOG). The principle of going above the bridgehead without BA in these circumstances is included in the current Policy 633 (paragraph 7.42) and has been in place for a number of years. It is also a procedure reflected in broad terms in policies across the Fire and Rescue service sector. The relevant provisions are set out below;

GRA 3.2

16. *In circumstances where teams need to work in an area above the bridgehead which is not affected by fire or smoke and the Incident Commander has confirmed that the building's construction and any fire engineered solutions have not been compromised, teams can be committed without respiratory protective equipment. These teams must maintain communication and a Safety Officer must be deployed in the stairwell and be in contact with other Safety Officers and the Incident Commander outside the building. Teams not wearing respiratory protective equipment must be withdrawn as soon as it is believed there is a risk that fire or smoke is likely to spread to the unaffected area.*

National Operational Guidance

17. *Extended travel distances to uppermost floors may mean that it is not practical for personnel to be deployed wearing breathing apparatus under air above the fire floor. In circumstances where teams need to work in an area above the bridgehead, that is not affected by fire or smoke and it has been confirmed that the building's construction and any fire engineered solutions have not been compromised, teams should follow local service procedure. If this allows personnel to be committed with breathing apparatus (BA) but not under air, then all appropriate control measures should be followed including appropriate Breathing Apparatus Entry Control procedures, using a different BA entry control board. Regular communication should be maintained, and a safety officer deployed in the stairwell to observe changes in conditions, maintain contact with other safety officers, external observers, the bridgehead and the incident commander.*

Current Policy 633

18. *Para 7.42 In circumstances where personnel need to work in an area above the bridgehead which is not affected by fire or smoke and the IC has confirmed that the building's construction and any fire engineered solutions have not been compromised, teams can be committed without BA. These teams must maintain communication with the bridgehead and a Safety Officer must be*

deployed in the stairwell and be in contact with other Safety Officers and the IC outside the building. Teams should be withdrawn as soon as it is believed there is a risk that fire or smoke is likely to spread to the unaffected area.

Recommended policy version (para 5.42)

19. *If pump operators report gauge readings that indicate that dry rising main outlets above the fire floor may be open, or there are other signs that this is the case, the IC may consider committing a team above the bridgehead without BA or extinguishing media for the specific task of closing DRM outlets. The following control measures must be applied:*

- *There are no signs of failure of the building's compartmentation.*
- *There are no signs of the failure of the building's fire safety systems, and there is no site specific risk information that indicates there are issues with the building's fire protection measures.*
- *Radio communications are maintained with the bridgehead.*
- *The stairwell is clear of smoke.*
- *They use a T.I.C to survey each floor for signs of fire before proceeding to check the DRM outlet.*
- *GDMs must be used to monitor air conditions*

20. In the event that crews did need to go above the bridgehead to check dry riser main outlets they would need to do so wearing BA, without this provision being included in the Policy. This presents the following issues;

- Additional time to rig
- A potential additional resource requirement, if a further BA Board is needed, which requires stage 2 entry control.
- Stage 2 BA resource requirement – BA relief team, BA emergency team and Entry Control Point Supervisor.
- Additional inconvenience and hindrance of wearing BA to complete a straightforward task.

21. Wearing BA for this task has the benefits of;

- Protecting Firefighters against the potential risk of contaminants and toxic gases above the bridgehead and an unforeseen event where smoke enters the stairwell from a lobby or void - wearing PPE (BA) to reduce this potential risk is the accepted control measure.

22. As detailed in paragraph 7, the Risk Assessment has been reviewed following the Advisory Panel and additional control measures introduced relating to the activity detailed within para 5.42 of the Policy. These control measures and additional requirements within the Policy ensure Gas Detection Monitors are used to monitor the atmosphere above the bridgehead and the Incident Commander must take account of site specific risk information relating to the building before authorising this activity.

23. It is recognised that the current built environment presents considerable challenges to firefighters, most particularly in determining whether the fire safety measures of a building have been compromised and or whether the stairwell is clear of smoke and will remain clear of smoke, and places Incident Commanders in the position of having to evaluate potentially complex and changing circumstances in challenging situations. Given the high 'threshold' required (detailed in

para 5.42 of the Policy) to utilise the procedure it is considered that this procedure will not often be applied.

24. Having regard to all the matters outlined in paragraphs 8 to 23 above, and the views of the Assistant Director Health and Safety, set out in paragraph 7, it is recommended that;

- a) the procedure remains in policy because committing a team above the bridgehead without BA or extinguishing media for the specific task of closing dry riser main outlets to secure the essential water supplies required for attacking a high rise fire, with the control measures detailed in paragraph 5.42, is a reasonable and proportionate action to take in line with a fire services legal responsibilities to protect life and property in the event of fires in its area.
- b) Policy 633 approved in February 2020 be further amended to include additional controls which are set out in para 5.42 of the attached Policy.

Training

25. The implementation of this draft policy approved in February 2020 was subject to training; the training strategy for the High-Rise Fighting Policy, the Evacuation and Rescue from Fires in Premises Policy, and the FSG policy was agreed in the Summer 2020, and a three-phase training programme was initiated.

26. Phase one of the training comprised of the following:

- a) Computer Based Training (CBT) covering the three high-rise policies which required an 80% confidence level of all operational staff to complete, which was achieved in December 2020.
- b) Level 1 officers (Lff to Stn.O) completed a one-day training session covering all three policies. 93% of level 1 officers (1324 staff) completed this training by February 2021.
- c) Level 2 and 3 officers (SC to AC) completed a Guided Learning Experience (GLE) covering all three policies (80% completion rate achieved by 31 January 2021). The GLE is available online to all staff.
- d) The delivery of the station based GLE was completed (80% confidence level) by 31 March 2021.

27. Phase two of the training commenced in April 2021 and will continue for the next 12 to 18 months. This includes a live exercise programme incorporating scenarios where all three policies can be practised. The exercises will be used to both validate the practicality of the policies and provide an assurance that the necessary understanding and skills have been embedded within the workforce for phase two. Phase two also provides the opportunity to develop the policies further and LFC understanding of evacuation principles and the methods by which they are implemented. The pilot large scale exercise (12 pumps) took place on 01 June 2021 and the Area schedule will commence in September with the aim of running one large scale exercise per month per Area (four per month in total).

28. Phase three will be a new 'Urban Firefighting course', which will further support the original acquisition training, this will be undertaken by all operational staff every two to three years. This course is currently in the scoping and development phase. A new 'fighting fires training strategy' is currently under development to provide a holistic strategy to take account of this course and make the best use of existing courses and venues.

New equipment

29. Additional equipment to support these changes include;

- Smoke Blockers to be used on stairwell doors to prevent the ingress of products of combustion to protect the stairwell for use by firefighters and occupants (go-live 29 June 2021).
- Gas Detection Monitors to monitor the environment to ensure the correct levels of respiratory protection is used (implemented 21 June 2021).
- Fire Escape Hood grab bags to provide additional hoods above the bridgehead (introduced).
- Introduction of three 64m Turntable Ladders to provide greater reach and capability (implementation planned to start in September 2021).

30. The implementation of smoke blockers was a required control measure for Policy 633 in the event that the procedure outlined in paragraph 8 above remained, which is currently no longer the case. Their introduction will be a further control measure for other firefighting activities above the bridgehead, but it is not a requirement before go-live of the recommended policy. The risk assessment will be reviewed following the implementation of smoke blockers as an additional control measure.

Pre-Determined Attendance

31. Following the recommendations of the Physiological Trials the Pre-Determined Attendance (PDA) for high rise fires (A1HR) will be amended to ensure extended duration breathing apparatus is available on the initial PDA and in greater numbers where multiple calls are received (four or more) or where the fire involves external facades. This change will be implemented following the go-live of the Policy.

Finance comments

32. The proposal recommends that the London Fire Commissioner approves the updates to the High Rise Firefighting Policy. Any additional training costs identified will be either contained within the existing training contract or subject to a separate growth bid.

Workforce comments

33. The reviewed policy has undergone further consultation with the FBU prior to and following the Health and Safety Advisory Panel and several meetings have taken place. The FBU is in agreement with all aspects of the Policy, save for the inclusion of the provisions set out in paragraph 5.42 of the Policy. The FBU has objected to the inclusion of paragraph 5.42 in Policy 633 on the basis it does not represent safe practice because it concerns firefighters going above the bridgehead without BA where the air could be contaminated, and firefighters could be overcome by products of combustion.

Legal comments

34. Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner (the "Commissioner") is established as a corporation sole with the Mayor appointing the occupant of that office. Under section 327D of the GLA Act 1999, as amended by the Policing and Crime Act 2017, the Mayor may issue to the Commissioner specific or general directions as to the manner in

which the holder of that office is to exercise his or her functions.

35. Section 1 of the Fire and Rescue Services Act 2004 states that the Commissioner is the fire and rescue authority for Greater London. The statutory basis for the actions proposed in this report is provided by section 7 of the Fire and Rescue Services Act 2004, under which the Commissioner must secure the provision of personnel, services and equipment necessary to efficiently meet all normal requirements for firefighting, and must secure the provision of training for personnel.

36. In approving this policy, the Commissioner must comply with:

- The Human Rights Act 1998 and the European Convention on Human Rights (ECHR). Article 2 ECHR encompasses both negative obligations (which prevent public authorities taking lives) and positive obligations (requiring public authorities to take certain steps to protect lives). Public authorities are expected to take reasonable steps to protect a person's life if they know – or ought to know – that they are facing real and immediate risk. The taking of 'reasonable steps' should not place an impossible or disproportionate burden on the authority. The Commissioner is advised that meeting the Article 2 obligations in the exceptional circumstances encompassed by this policy is likely to depend upon and require nuanced, informed, and robust decision making. Those decisions may involve consideration of the existence of saveable life and the extent of the risk presented to firefighters in achieving saveable life and may require the decision maker to assess and strike a balance between the existence and extent of risk to members of the public and to firefighters. Those decisions may have to be taken rapidly and under pressure. Such decisions may properly be subject to scrutiny in subsequent legal proceedings. Officers recommending adoption of this policy have sought to identify and provide all assistance to those charged with this responsibility to equip them to reach Article 2 compliant decisions, which are capable of withstanding that scrutiny.
- The Health and Safety at Work etc. Act 1974. Section 2 of the 1974 Act imposes a general duty on the employer to 'ensure, so far as is reasonably practicable, the health, safety and welfare at work of all of his employees.' This general duty extends (amongst other things) to the plant and systems of work, the provision of information, instruction, training and supervision and to the provision and maintenance of a working environment that is, so far as reasonably practicable, without risks to health and adequate as regards facilities and arrangements for welfare at work. Section 3 of the 1974 Act imposes a general duty to 'ensure, so far as is reasonably practicable, that persons not in his employment who may be affected thereby are not thereby exposed to risks to their health or safety.' In the exceptional circumstances encompassed by this policy, the Commissioner is advised that striking the correct balance between these two general duties is likely to depend upon and require nuanced, informed, and robust decision making. Those decisions may have to be taken rapidly and under pressure. Such decisions may properly be subject to scrutiny in subsequent legal proceedings. Officers recommending adoption of this policy have sought to identify and provide all assistance to those charged with this responsibility to equip them to reach decisions which strike a lawful balance between those competing duties and which are capable of withstanding that scrutiny.
- When carrying out its functions, the Commissioner, as the fire and rescue authority for Greater London, is required to 'have regard' to the Fire and Rescue National Framework prepared by the Secretary of State (Fire and Rescue Service Act 2004, section 21).
- Any relevant national guidance

- The LFC has a statutory duty to consult with safety representatives including trade union representatives on matters pertaining to health and safety of its workforce. This is set out in the Health and Safety at Work Act 1974 and associated regulations and the LFC process for fulfilling those duties is set out in the Safety Representatives and Safety Committees Policy 222. The LFC is advised that the processes undertaken discharge this duty and the means by which any decision is reached on paragraph 5.42 of the Policy is set out in the body of this report.

37. By direction dated 1 April 2018, the Mayor set out those matters, for which the Commissioner would require the prior approval of either the Mayor or the Deputy Mayor for Fire and Resilience (the "Deputy Mayor"). Paragraph 3.1 of Part 3 of that direction requires the Commissioner to consult with the Deputy Mayor as far as practicable in the circumstances before a decision is taken on (inter alia) any "[c] decision that can be reasonably considered to be novel, contentious or repercussive in nature, irrespective of the monetary value of the decision involved (which may be nil)" In light of the FBU views in respect of paragraph 5.42 of the Policy it is considered, for that reason, that this matter falls within the Directions and that the Deputy Mayor should be consulted.

Sustainability implications

38. SDIA submitted states that the introduction of this policy has a sustainability risk rating of low. This assessment has been supported by LFB Sustainability team.

Equalities implications

39. The London Fire Commissioner and decision takers are required to have due regard to the Public Sector Equality Duty (s149 of the Equality Act 2010) when exercising LFC functions and taking decisions.

40. It is important to note that consideration of the Public Sector Equality Duty is not a one-off task. The duty must be fulfilled before taking a decision, at the time of taking a decision, and after the decision has been taken.

41. The protected characteristics are: Age, Disability, Gender reassignment, Pregnancy and maternity, Marriage and civil partnership (but only in respect of the requirements to have due regard to the need to eliminate discrimination), Race (ethnic or national origins, colour or nationality), Religion or belief (including lack of belief), Sex, and Sexual orientation.

42. The Public Sector Equality Duty requires the LFC, in the exercise of all its functions (i.e. everything it does), to have due regard to the need to:

43. Eliminate discrimination, harassment and victimisation and other prohibited conduct.

44. Advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it.

45. Foster good relations between people who share a relevant protected characteristic and persons who do not share it.

46. Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
47. Remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic;
48. Take steps to meet the needs of people who share a relevant protected characteristic that are different from the needs of persons who do not share it;
49. Encourage people who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.
50. The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include steps to take account of disabled persons' disabilities.
51. Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard to the need to:
 - a) tackle prejudice, and
 - b) promote understanding.
52. An Equality Impact Assessment (EIA) formed part of the decision making by the Commissioner when the substantive policy was approved in 2020 and has been reviewed and updated. The EIA attached as Appendix 2 showed an overall positive impact on groups of people with particular protected characteristics.

List of Appendices

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High rise firefighting

New policy number: **633**
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 Issue date: **26 November 2008**
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 Responsible work team: **Fire and Operational Support**

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1 Introduction

- 1.1 This policy sets out a safe system of work for operational personnel who are engaged in search, rescue and firefighting in high rise buildings. Further information is available via Big Learning.
- 1.2 A high rise building, for the purposes of this policy, is defined as a building containing floors at such a height or position that external firefighting and rescue operations may not be feasible. This is not limited to but will always include buildings of 6 floors/18 metres or more.
- 1.3 The term high rise building encompasses a wide variety of structures from conventional tower blocks containing residential flats to very large and complex commercial buildings. Some high rise buildings may be of multiple use (e.g. occupied by a mixture of commercial and residential accommodation) and can contain complex systems which control the building's internal environment, during normal use or during a fire situation.

2 Hazards

- 2.1 Some of the hazards detailed below are specific to high rise buildings; others are more general in nature but are included due to their potential occurrence at high rise incidents and because the characteristics of the building are likely to intensify their effect.
- 2.2 Hazards of high rise firefighting are grouped under four headings:
 - (a) Building height and design
 - (b) Management and use
 - (c) Fire behaviour
 - (d) Firefighting and rescue operations

Building height and design

- 2.3 The height/layout of the building may impact operations due to travel distance for firefighters, equipment and water supplies.
- 2.4 Large or complex floor layouts:
 - (a) A lack of information on the internal layout, flat or floor numbering systems can cause confusion and may also increase the risk of firefighters becoming disorientated.
 - (b) The size and layout of some buildings may make it difficult to reliably determine the location, floor of origin and the extent of fire and smoke spread from the access or street level. This can create the potential for firefighters using firefighting lifts to proceed directly onto a floor area involved in fire or mean that resources are deployed to inappropriate locations.
 - (c) The fire service access level may not be the recognised ground floor level of the building or the same access point used by the public.
- 2.5 Access for firefighters may be delayed due to security arrangements, such as coded entry systems, security grilles and multi-lock door systems. Progress may be inhibited more than once as devices are encountered at a number of points along the route to a fire.
- 2.6 High rise buildings may have a range of fixed installations and fire engineered solutions installed to assist in a safe and timely intervention by the fire service. If the building has been subject to poor standards of installation, poor management or vandalism, these systems may not perform as designed, which can increase risk to occupants, firefighters and other emergency service personnel in the event of a fire.

- 2.7 Some buildings may contain single dwellings that are spread over two or more floors. This means access from the front door may be up or down, and that firefighters may exit the dwelling on a different level to the initial access point. This can lead to disorientation and may affect the decision about where to site the bridgehead.
- 2.8 Objects falling from height. This may include debris which is on fire or in a molten state. These can be a risk to anyone entering or exiting the building and can damage hose lines. Debris can be ejected explosively and building materials such as glass and curtain walling can 'plane' some distance from the building.
- 2.9 Risk of persons falling from height due to the failure of external walls, panels or windows.
- 2.10 Difficulty with lines of communication and radio reception. The scene of operations may be a considerable distance from the point of access and/or command. Communication dead spots may exist within the building.
- 2.11 Entanglement in electrical cabling that has been displaced from surface mounted cable trunking, fixings or failure of false ceilings.
- 2.12 When any high rise building is under construction or refurbishment, facilities such as firefighting shafts, rising mains and active/passive fire safety measures may be incomplete or absent. This may also create a risk of a more rapid fire or smoke spread, collapse and spread of smoke/fire to adjacent buildings.
- 2.13 Failure of firefighting lift equipment or use of non-designated lifts can lead to firefighters and/or evacuees becoming trapped in a lift car. Either the lift, its shaft and/or machine room may be affected by the spread of smoke, fire, heat and water ingress from firefighting operations.
- 2.14 Failure of compartmentation:
 - (a) Original doors may have been replaced with types which do not necessarily offer the required level of fire protection. This may lead to a failure of compartmentation and create more rapid fire spread or, conversely, hinder access where additional security is encountered.
 - (b) The introduction of some modern materials and services, such as cable television, replacement double glazing or combustible cladding arrangements, may compromise existing fire safety measures or compartments. This may cause unpredictable or unexpected spread of fire or smoke.
- 2.15 External cladding is a non-structural material or assembly used to cover structural surfaces on the outside of the building and spandrel panels. They can be used for aesthetic reasons, for insulation or to provide protection from the elements. If external cladding becomes involved in a fire experience has shown that, in spite of regulation, a risk of rapid and catastrophic external fire spread remains. Cladding systems can also create voids and cavities which can contribute to the spread of fire and smoke, this may not be initially obvious. Fires travelling within the cavity between the cladding and the building can be difficult to extinguish.
- 2.16 Fire loading on balconies and the material from which the balconies are constructed may cause fire to spread through and across the building.
- 2.17 Some buildings may be completed in phases, in these cases there may be partial occupancy and people other than construction workers requiring rescue.
- 2.18 Supplies of firefighting water in high-rise buildings may be limited by the capacity of dry or wet rising mains (see Appendices 3 & 4).

Management and use

- 2.19 Poor management and the storage of combustible materials in escape routes may impede evacuation and hinder the progress of firefighters, while promoting fire development.
- 2.20 Although the building may be complete, occupied and fully operational, certain aspects of the building's safety features may be disarmed or isolated for testing, repair or refurbishment such as sprinkler systems, fire alarms and rising mains.
- 2.21 High rise buildings offer additional non-residential service rooms such as storage areas, lift motor rooms and electrical intake rooms which may be illegally accessed for illegitimate purposes, such as drug manufacture, pirate radio station studios or inappropriate sleeping accommodation.
- 2.22 In a multiple use high rise building there may be a mix of evacuation or "stay put" strategies depending on which part of the building is involved. This is often the case in mixed use buildings which are part commercial or part community-use and part residential. This may result in difficulty identifying whether persons have evacuated, need evacuating or require rescue. Additionally, occupants may not be aware of a building's evacuation strategy, leading them to behave differently to the responsible person's fire risk assessment and the IC's expectations.

Fire behaviour

- 2.23 Fire and smoke spread in a high rise incident can be very unpredictable. Fire and smoke may spread rapidly in an upward, downward and/or horizontal direction. It can spread to remote locations not obviously connected to the seat of the fire and compromise escape routes. The following factors can contribute to fire and smoke spread:
 - (a) Failure of compartmentation both internal and externally.
 - (b) Air currents moving up and down the external and internal areas of a high rise building. This may lead to smoke in the building being drawn downwards.
 - (c) Wind speeds are likely to increase with the height of a building and be affected by the position of nearby buildings.
 - (d) A 'blow torch' type effect can be created by an increase in pressure within the fire compartment caused by a build up of products of combustion known as an over pressure and/or by external wind forcing the products of combustion from the compartment, sometimes in unpredictable directions. This is sometimes known as a wind driven fire.
 - (e) The opening of doors, windows or emergency exits may create a flow path for products of combustion leading to a rapid, unexpected increases in temperature and/or fire and smoke spread.
 - (f) Burning material either falling from upper floors or carried aloft by buoyant smoke can also ignite combustible materials through open windows, on balconies and around the base of the building.
 - (g) Staircases in high rise buildings have the potential to act as a chimney allowing the products of combustion to rise or fall.
 - (h) Inappropriate activation or failure of Heating, Ventilation Air Conditioning (HVAC) systems may inhibit the safe removal of smoke from the building or conversely move smoke into previously unaffected areas.

- 2.24 Fires may be encountered on more than one floor as a result of the factors identified above or by acts of deliberate fire setting. In extreme circumstances this can lead to a fire affecting the full height of the building.

Firefighting and rescue operations

- 2.25 Firefighting equipment in staircases and other parts of the building may create obstructions for firefighters and those evacuating the building. This hazard will be intensified in buildings which have a single staircase.
- 2.26 Operations may breach compartmentation. For example, it may be necessary to run hose lines into protected routes, staircases and through fire doors. This may cause smoke and hot gases escaping the fire compartment to enter previously unaffected areas. This may present a hazard to occupants in the common areas and may also impact firefighters at the bridgehead.
- 2.27 The way in which the building evacuation is conducted may adversely impact on the evacuation itself and/or firefighting and rescue operations.
- 2.28 If the building's evacuation plan includes use of lifts by residents, this may affect the ability to move firefighting resources to upper floors.
- 2.29 The intensity of work rate required in relation to firefighting in a high rise fire can lead to an increase in the core body temperature of firefighters. In addition, access to the fire may be limited to a single route, so teams entering the flat or compartment may have little or no option to avoid hostile conditions.
- 2.30 There are public expectations that firefighters will attend incidents and will put themselves at risk to save lives. This can lead to pressure to act immediately, even if no safe system of work is possible with the resources available at the time.

3 Definitions

- 3.1 For LFB operations to be effective, it is important that all personnel have a consistent and clear understanding of the following terms:
- 3.2 **Responsible Person** – A specific term under fire safety law referring to a person (an individual or a corporate entity) who has a measure of control over a premises.
- 3.3 **Planned Evacuation** – A pre-determined strategy for a premises to secure the removal of any persons in or around the premises to a place of safety. The responsibility for determining the strategy rests with the Responsible Person.
- 3.4 **Evacuation** – The immediate movement of people away from actual or potential danger towards a place of relative safety, normally supported by a pre-determined plan/strategy.
- 3.5 **Place of ultimate safety** – A place in which there is no immediate further danger and no risk of fire, heat and/or smoke spreading to. e.g. outside the premises and beyond the hazard zone.
- 3.6 **Place of relative safety** – A place in which there is no immediate danger, but in which there might be future danger from fire. This may be within a staircase enclosure, adjacent corridor or area of the building that is protected from fire/smoke spread by fire resisting construction and doors. It must also have an alternative route to a place of ultimate safety if needed.
- 3.7 **"Stay put"** – A predetermined strategy of the responsible person for a building under which in the event of a fire elsewhere in the building the occupants should be safe to remain where they are unless they are directly affected by fire, heat or smoke. The strategy relies on the principle of compartmentation combined with other fire safety provisions.

3.8 **Emergency Evacuation** – The immediate and unplanned movement of people, assisted by LFB personnel or other emergency responders, away from actual or potential danger towards a place of relative safety, using recognised or normal means of escape, in circumstances where:

- A planned evacuation strategy does not exist for the premises and the IC decides that an evacuation is necessary
- The planned evacuation strategy has not taken place and the IC decides that an evacuation is necessary
- It is determined that the planned evacuation strategy, including a 'stay put' strategy is no longer tenable and/or is not working effectively

It should be noted that both evacuation and emergency evacuation can be either full or partial i.e. they can be applied to the entire premises or just a part of it (e.g. a wing of a hospital).

3.9 **Rescue** – The act of helping a person or persons who are threatened with immediate harm and require assistance to move away from danger towards a place of relative or ultimate safety.

3.10 **Mass Rescue** - The act of helping a large number of people that are threatened with immediate harm and who require assistance to move away from the danger towards a place of relative or ultimate safety. This is likely to involve the deployment of a large number of LFB personnel and/or other responders.

3.11 Emergency evacuation and mass rescue may need to be undertaken at the same time and at the same incident.

3.12 **Compartmentation** – A building design principle used in high rise and other buildings which is intended to inhibit rapid fire spread within the building from one area to another by dividing the building into a series of fire resistant compartments (or boxes) which form a barrier to fire and the products of combustion.

3.13 **Bridgehead** - Definition is contained in [Policy number 434](#) - Sectorisation at incident. The purpose of a Bridgehead is to enable an incident to be dealt with by establishing a control point with suitable resources and emergency provision in a safe area as close as practical to the risk area. In a residential high rise building it is normally located two floors below the fire floor.

4 Planning

4.1 Operational information should be gathered and recorded in accordance with [Policy number 800](#) - Management of operational risk information.

5 Operational procedure

On arrival and information gathering

5.1 Unless an RVP or split attendance has been identified during planning, which should be recorded on the ORD, attendance should be made at the main entrance of the premises.

5.2 The siting of appliances that form the PDA should take into account:

- (a) Access for aereals and other specialist appliances.
- (b) Other agencies such as the London Ambulance Service (LAS) or Metropolitan Police Service (MPS).
- (c) The potential danger of objects falling from height and fire spread.

- 5.3 The IC should remain at access/street level unless planning arrangements have identified a more appropriate location. This should be recorded on the ORD.
- 5.4 To begin to establish effective situational awareness, the IC should gather available relevant information from sources such as:
- (a) Any 'responsible person' present or building occupants.
 - (b) Fire alarm or ventilation control panels.
 - (c) Building plans. If necessary, it may be possible to create plans drawn from the floor layout of unaffected floors, where the floor layout is consistent throughout the building.
 - (d) Premises information plate or ePIP.
 - (e) Signage.
 - (f) Mobile Data Terminals (MDT).
 - (g) Identifying which floor(s) the incident is located on in order to determine where the bridgehead should be sited.
 - (h) CCTV.
 - (i) The location and status of any fire control, fire engineering and/or fixed installation systems.
- 5.5 The IC should ensure that a 360o visual inspection is carried out utilising a thermal image camera (T.I.C) to help identify:
- (a) Internal and external fire conditions paying particular attention to the location of the fire and any unusual or rapid fire spread.
 - (b) Immediate rescues.
 - (c) External building features such as additional staircase, balconies.
 - (d) Alternative access points.
 - (e) Siting opportunities for aerials.
- 5.6 The IC should also give early consideration to the following points:
- (a) Additional resources required to support operations.
 - (b) The potential to attack the fire externally (if vented) with solid core or coned down jets.
 - (c) The need to lay out jets and deploy ground monitors and aerial appliances to prevent external fire spread or to control fires caused by falling debris.
 - (d) If occupants are evacuating or a simultaneous evacuation is in progress. This may hinder firefighting activities which in turn may compromise the safety of occupants in stairwells, lobbies or corridors.
 - (e) Rapid fire spread. Efforts may need to be diverted from firefighting activities and directed towards assisting the emergency evacuation of residents. (See section 6 - Emergency evacuation and mass rescue).
 - (f) If the premises has more than one staircase, the need to establish, if appropriate, separate attack and evacuation stairwells. If this tactic is employed, firefighters assigned to assist evacuation should use the stairwell that has been nominated by the IC as the evacuation stairwell.

- (g) Recognising the effect of wind, noting this may be amplified and made more unpredictable by factors such as the building's height and its proximity to nearby tall buildings.

Securing water supplies for firefighting

- 5.7 The hydrant supply and deliveries from the pump to the dry rising main (DRM) must be twinned and charged using 70mm hose.
- 5.8 Pump operators should monitor their flow gauges while charging the riser and before firefighting has commenced. High flow rates or difficulty in achieving 10 bar pressure before firefighting has commenced can indicate that rising main landing valves may be damaged or open.
- 5.9 If falling debris poses a risk to hose lines going into the building, consideration should be given to protecting hoses with hose ramps or finding an alternative route outside the area where the debris is falling. Care should be taken to not create additional trip hazards by covering hoses.
- 5.10 Effective communication between BA teams, the bridgehead, the IC and the pump operator are necessary to ensure best use is made of the available water supply.
- 5.11 Buildings over 60m (50m from 2006) may be fitted with wet rising mains (WRM). These may need to be augmented at protracted incidents.
- 5.12 **Appendices 3 & 4** contain more information on dry and wet rising mains.

Securing the firefighting lifts and non-firefighting lifts

- 5.13 Where the height and location of the incident makes the use of a lift beneficial, the firefighting lift should be identified and, as soon as resources allow, a firefighter must be detailed to take control of and remain with the lift. The IC should also be aware that some lifts may not access all floors of the building.
- 5.14 Only designated firefighting or fireman's lifts are to be used during an operational incident and other lifts should not be used for firefighting operations. It should also be noted that some older style fireman's lifts may not have the same capabilities as modern firefighting lifts. See Appendix 2 for further information regarding firefighting and fireman's lifts. For the purposes of this policy, fireman's lift will be referred as a firefighting lift.
- 5.15 Teams should exit the firefighting lift at least two floors below the floor where the fire is reported or believed to be unless the IC's plan dictates otherwise. This is to ensure that the risk of firefighters becoming unintentionally involved in the fire is minimised.
- 5.16 If the location of the fire is not known with a reasonable level of certainty, firefighters should approach the believed or likely location of the incident with caution, using a protected staircase. Where possible, floor plans should be obtained to assist in the identification of a safe route to the incident.
- 5.17 The firefighting lift should remain at the bridgehead so that rescued persons can be quickly brought to ground floor level.
- 5.18 In the event that the firefighting lift is not available, consideration should be given to:
 - (a) The resource implications for teams accessing and carrying equipment to the bridgehead.
 - (b) The use of aerial appliances to transport equipment to the bridgehead (if the building design makes this a viable option).
 - (c) Additional resources to enable safe manual handling of casualties down stairways to the point where they can be passed to the care of the ambulance service.

- 5.19 Firefighters should be mindful that any failure of firefighting lift equipment or use of non-designated lifts can lead to firefighters and/or evacuees becoming trapped in a lift car. Either the lift, its shaft and/or machine room may be affected by the spread of smoke, fire, heat and water ingress from firefighting operations.
- 5.20 The IC should consider securing all non-firefighting lifts to assist controlling the movement of people throughout the building.

Establishing a bridgehead and fire sector

- 5.21 Sectorisation of high rise incidents should be in accordance with [Policy number 434](#) - Sectorisation at incidents.
- 5.22 The rank of the sector commander fire should be commensurate with the scale and complexity of the incident and be a minimum of leading firefighter. The sector commander fire will be responsible for establishing a bridgehead and committing teams to carry out any tasks beyond the bridgehead in line with the IC's plan.
- 5.23 The bridgehead should be located two floors below the fire floor unless planning arrangements or the specific design features of the building allows for safe air to be reliably maintained in a position which is closer to the fire. Examples of this might include high rise buildings where flats are accessed from open air balconies or where there are multiple fire doors maintaining compartmentation between the flats and the protected stairwell.
- 5.24 Use of the F.I.R.E. system will help ensure that at the early stages of an incident, the correct personnel and equipment are available to implement safe systems of work. See – **Appendix 7** for detail on the F.I.R.E. System.
- 5.25 If there is potential for congestion at the bridgehead, a staging area below the bridgehead may be required for additional resources.
- 5.26 If worsening conditions or fire spread at or below the bridgehead require it to be repositioned, the following should be done:
 - (a) The BA teams and the IC must be informed of any decision to re-locate the bridgehead and a message sent around the incident ground.
 - (b) All BA teams must be informed to ensure they monitor their air supply and take the new distance into account when assessing their turn around pressure.
 - (c) As relocation will increase the travel distance for BA teams, consideration must be given to the immediate withdrawal of BA teams. Any decision to withdraw BA teams must be balanced against the urgency and importance of the task(s) they are performing.
 - (d) If it is decided not to withdraw the BA teams, teams should acknowledge receipt of the message regarding the bridgehead's new location. If no acknowledgement of the relocation message is received, then the entry control operative (ECO) should instigate a withdrawal of that team via the BA entry control board (ECB).
 - (e) All information and resources should be transferred to the new bridgehead location.
 - (f) If the bridgehead is moved a message should be sent to control to inform them of the relocation.
- 5.27 Gas Detection Monitors (GDM) should be considered for use at the bridgehead for monitoring air conditions.

Committing teams

- 5.28 All specific briefing of teams should take place at the bridgehead once the decision has been made by the IC to commit teams to operations above the bridgehead.
- 5.29 No personnel should proceed beyond the bridgehead without the sector commander fire's authorisation.
- 5.30 The initial BA team's charged jet should be supplied from the floor below the fire floor unless the risk assessment by sector commander fire indicates it is safe to set in on the fire floor. If the initial BA team's branch is taken from the fire floor, consideration should be given to fitting a dividing breach to the DRM outlet to allow the back up jet to be taken from this floor also, if conditions allow.
- 5.31 This assessment can be conducted by looking at the layout of unaffected floors beneath the fire floor to establish the compartmentation of the lobby, protected stairwell and location of the rising main in relation to the fire compartment.
- 5.32 The rising main outlet on the fire floor should only be used if teams can control the doors between them and the suspected location of the fire. As a rough guide this will mean a minimum of two fire doors separation between the rising main and the fire compartment.
- 5.33 If the nature and location of the fire cannot be determined in any other way (i.e. external signs, witness accounts) then, if it is safe to do so, the sector commander fire and ECO may proceed to the fire floor while the bridgehead is being set up to gather information for the IC's situational awareness, taking into account the following control measures:
- (a) They proceed only for as long as there are no signs of fire and return immediately to the bridgehead when signs of fire are observed.
 - (b) They only proceed on the IC's instructions.
 - (c) They maintain radio contact with the IC.
 - (d) The IC has appointed safety officers observing the external faces of the building for signs of fire and they return to the bridgehead immediately if this safety officer reports signs of fire.
 - (e) They use a thermal image camera to look for signs of fire.
 - (f) They maintain a two fire door separation between themselves and the reported compartment on fire (as described in paragraph 4.33).
- 5.34 The sector commander fire must also be mindful of the risks of being pressured into action before sufficient resources are available to mount an effective attack on the fire.
- 5.35 The sector commander fire should recognise that any delay in committing teams can increase the likelihood of fire growth and fire spread occurring. In spite of this pressure, teams must only be committed when a safe system of work has been implemented. Teams should not delay their preparations at the bridgehead while information is being gathered.
- 5.36 The sector commander fire should inform the IC when BA teams have been committed.
- 5.37 An additional BA team with a second jet must be provided as soon as possible, in order to protect and support firefighters involved in rescue/firefighting operations. BA teams must not be committed to the fire compartment without a back-up team being available unless:
- (a) There is an immediate risk to life, or
 - (b) There is an immediate risk of serious escalation of the incident if action is not taken.

- 5.38 The second jet can be supplied from the rising main outlet on the fire floor (or the additional dividing breaching outlet if this has been used) or the next appropriate floor and must be of sufficient length to reach the furthest point that the initial firefighting team can reach.
- 5.39 If signs, symptoms or conditions that may lead to backdraught, flashover or other abnormal fire development are present, a second jet and BA team must be present before the initial firefighting team are committed into the fire compartment.
- 5.40 Hose lines should be laid and charged in an area unaffected by fire or smoke and behind the safety afforded by a fire-resistant structure or fire resisting door(s).
- 5.41 Hose lines should be fully charged before entering any doorway to prevent them passing under a door, which could subsequently cause a flow restriction or the door to become an obstruction when the jet is charged.
- 5.42 If pump operators report gauge readings that indicate that dry rising main outlets above the fire floor may be open, or there are other signs that this is the case, the IC may consider committing a team above the bridgehead without BA or extinguishing media for the specific task of closing DRM outlets. The following control measures must be applied:
- (a) There are no signs of failure of the building's compartmentation.
 - (b) There are no signs of the failure of the building's fire safety systems, and there is no site specific risk information that indicates there are issues with the building's fire protection measures.
 - (c) Radio communications are maintained with the bridgehead.
 - (d) The stairwell is clear of smoke.
 - (e) They use a T.I.C to survey each floor for signs of fire before proceeding to check the DRM outlet.
 - (f) GDMs must be used to monitor air conditions
- 5.43 If the area above the bridgehead may become affected by products of combustion, this team must be in BA.
- 5.44 If smoke is reported on the stairwell above or below the fire floor, consideration should be given to committing BA teams above the fire floor without extinguishing media to determine the status of fire doors and ventilation openings, to open or close doors on the IC's instructions and to determine the effectiveness of any ventilation systems present. The benefits of this must be balanced against the risk of BA teams having no extinguishing media. The following control measures must be implemented:
- (a) The teams are committed for this specific task.
 - (b) Safety officers have been established to monitor the exterior of the building and can update these teams directly by radio on changing external conditions.
 - (c) The teams use T.I.C's to monitor heat conditions around them.
 - (d) Teams withdraw to the bridgehead if radio communications is lost.
 - (e) Teams withdraw to the bridgehead if telemetry signal is lost.

Search and rescue

- 5.45 The IC should nominate a Sector Commander Search at the earliest available opportunity. It is good practice for the Sector Commander Search to nominate a Search Coordinator early in an

incident to support a systematic and thorough process. See [Policy number 803](#) – Search and rescue procedures within structures.

Fire survival guidance

- 5.46 Incidents in high rise buildings can lead to fire survival guidance (FSG) calls being received by Brigade Control. All FSG calls should be managed in accordance with [Policy number 790](#) Fire survival guidance calls.

Safety officers

- 5.47 The IC should appoint safety officers as soon as reasonably practicable as per [Policy number 162](#) - Officer responsibilities at incidents.
- 5.48 The IC must deploy dedicated external spotters in the early stages of and throughout the incident to monitor the following:
- (a) Fire conditions including:
 - (i) External breaching of compartmentation.
 - (ii) Rapid, unusual or abnormal fire spread.
 - (b) Any rescues required.
 - (c) Structural integrity of the building.
 - (d) Falling debris.
- 5.49 External spotters should provide the IC with regular updates and communicate directly with the sector commander fire to enable them to inform BA teams via the ECO of any changes in the ventilation profile and/or fire dynamics which may affect internal conditions. This is a control measure for all firefighting activities above the bridgehead.

Safety cordon

- 5.50 IC's should consider the implementation of an appropriate sized hazard zone cordon.
- 5.51 The size and shape of this cordon should take into account wind conditions and the size, height and construction of the building and give consideration to falling debris, smoke travel and convected heat.
- 5.52 As part of cordon arrangements, it may be necessary to designate and take steps to maintain 'safe routes' of access and egress into the building.

Communication difficulties

- 5.53 Where appropriate and available the IC should consider the use of alternative radio channels to manage the volume of radio traffic or, where there are communication difficulties, other equipment, such as radio repeaters, leaky feeders and hand-held digital main scheme radios (see [Policy number 488](#) - Incident communications).

Messages

- 5.54 When attending a high rise incident, the IC will have to gather sufficient information to carry out a risk assessment and implement the appropriate safe systems of work. The implementation of high rise procedure should be reflected in an informative message to Brigade Control as soon as possible. If sent in isolation, the full details of the incident (e.g. dimensions, area involved) do not

need to be sent. See [Policy number 518](#) – Messages from incidents.

Example:

"From at; high rise procedure implemented, tactical mode Oscar"

5.55 The above message indicates that a risk assessment has been carried out, and that a safe system of work has been implemented. This message can only be sent where the following minimum systems of work have been implemented:

- (a) The location of the bridgehead has been risk assessed as appropriate for the incident.
- (b) Access and egress to and from the bridgehead is secured and maintained.
- (c) The bridgehead is established and a charged jet is ready for deployment.

Ventilation

5.56 Ventilation should only be undertaken on instruction of the IC and in accordance with [Policy number 883](#) - Tactical ventilation.

Building design and fire safety measures

5.57 A senior fire safety officer (SFSO) will be informed of all confirmed four pump fires, will attend all confirmed six pump fires and above and can be requested whenever specialist advice is required by the IC.

5.58 Every high rise building has been designed with systems to help keep stairwells and escape routes clear from the products of combustion.

5.59 Building regulations require all buildings over 6 floors/18m high to make provisions for firefighting and firefighter access. The basic facilities provided within these buildings should include:

- (a) Firefighting shaft.
- (b) Dry/wet rising mains (DRM or WRM).
- (c) Firefighting lift.
- (d) Ventilated lobby or corridor.

5.60 Firefighting shafts including fire mains (but not firefighting lifts) may also be found in certain building types with a floor exceeding 900 m² and heights exceeding 7.5m. In addition to those within firefighting shafts, fire mains may also be located in other staircases and/or corridors within a high rise building.

5.61 Automatic fire suppression systems may also be found in high rise buildings. The installation of sprinkler systems may indicate that there are larger compartment areas with significant fire loadings present.

5.62 Automatic fire curtain systems may be present in a variety of configurations and orientations. If the building has an automatic fire curtain system installed, the IC should ensure teams are suitably briefed on their location(s) and the risk they can pose to safe egress from the building, should they operate whilst a team is committed in the compartment where they are installed.

5.63 Additional information on firefighting facilities and fixed installations is provided in **Appendices 1 – 5**.

5.64 In premises identified as having an increased risk of fire/smoke spread due to issues such as, but not limited to, combustible cladding or a lack of compartmentation, the responsible person may

have temporarily changed the stay put strategy to simultaneous evacuation. In these cases, fire detection and alarm systems may have been installed or a temporary simultaneous evacuation protocol may have been adopted whereby fire marshals monitor the premises and are responsible for initiating evacuation if a fire occurs.

6 Emergency evacuation and mass rescue

- 6.1 There may be circumstances where high rise buildings have failed to behave as they are designed, and the level of risk to both residents and firefighters is substantially increased.
- 6.2 In these circumstances it may be necessary to implement an emergency evacuation or mass rescue.

When to implement an emergency evacuation and/or mass rescue

- 6.3 The decision to initiate an emergency evacuation and/or mass rescue requires the IC to strike a proportionate balance between the prevailing risks and benefits. This cannot be exhaustively predicted in advance for every situation.
- 6.4 Advising large numbers of people to evacuate from a premises, through escape routes that may be affected by smoke, can have adverse as well as positive consequences. Any decision to commence emergency evacuation is likely to cause disruption and may also lead to panic, a delay in tackling the fire, persons being injured or, in the most extreme case, fatalities.
- 6.5 Conversely, an appropriate and timely decision to evacuate may reduce the risk that people may be harmed or become trapped and increases the likelihood that an emergency evacuation or mass rescue will be successful.
- 6.6 The factors listed below should be considered by the IC when deciding whether to implement an evacuation and/or mass rescue operation may include - but may not be limited to whether;
 - multiple emergency calls (four or more 999 calls to the same address) or multiple fire survival guidance (FSG) calls, defined as three FSG calls or more from one premise type or a number of premises within a building; [Policy number 790](#) - Fire survival guidance calls
 - emergency or FSG calls are being received to the same building but from a location that is remote from the initial fire
 - where it becomes apparent that Brigade Control are reaching their capacity to manage the number of 999 calls and duration of individual FSG calls, the information gathered from waiting callers may be delayed, which in turn could impair the IC's situational awareness on the incident ground
 - large numbers of people are evacuating
 - there is rapid spread of fire or smoke, either externally or internally from one compartment and/or floor to another
 - fire and/or products of combustion spread to locations within the premises remote from the original fire
 - fire is spreading via external cladding
 - reports of deteriorating conditions internally
 - where it is not possible to deliver sufficient extinguishing media or, for other reasons, firefighting activity is not controlling or extinguishing the fire

This list is not exhaustive and other signs of the potential catastrophic failure of compartmentation may be observed.

- 6.7 These signs and symptoms, either in isolation or in combination, do not automatically mean that an emergency evacuation and/or mass rescue is required, but their presence should always be actively assessed by the IC.

How to implement an emergency evacuation and/or mass rescue

- 6.8 When the decision is made to implement an emergency evacuation and/or mass rescue the development of a tactical plan for the emergency evacuation and/or mass rescue must be informed by a risk assessment. See [Policy number 342](#) - Dynamic risk assessment. Tactics that commit firefighters to the risks of operations above the fire floor without extinguishing media must be robust, proportionate and carefully considered.
- 6.9 If a decision is made to change the responsible person's planned evacuation strategy, it should be recorded as soon as practicably possible on the Key Decision Log (KDL) and shared with other attending emergency services ([Policy number 828](#) - Recording decisions at incidents).
- 6.10 Information regarding the status and progress of the evacuation should continue to be shared and updated between responding services, Brigade Control and those attending or monitoring the incident on a regular and timely basis.
- 6.11 The IC must inform control of the following information so that it can be passed on to callers:
- (a) Where fire escape hoods are in use.
 - (b) Firefighting/evacuation/rescue activity currently taking place elsewhere in the building.
- 6.12 If a mass rescue and/or emergency evacuation plan is implemented then the IC must declare a 'Major Incident', See [Policy number 263](#) - Major incident procedure, and send a METHANE message as soon as practically possible.
- 6.13 Any incident where emergency evacuation and/or mass rescue is implemented is likely to be resource intensive. ICs must anticipate this and make up resources accordingly.
- 6.14 The speed and extent at which an incident is escalating will dictate the urgency of the emergency evacuation and mass rescue plan. The IC will need to consider the safest and most effective way to warn and inform the residents that they need to escape from the building. This could include for example:
- (a) Use of megaphones.
 - (b) Use of intercoms or door entry systems.
 - (c) Use of public address systems.
 - (d) Use of fire alarms.
 - (e) Use of building evacuation systems.
 - (f) Use of LFB drone public address capability.
 - (g) Use of the NPAS helicopter public address capability.
 - (h) Use of the media and social media via LFB press office.
 - (i) Internal telephones.
 - (j) Systematic loud door knocking.

(k) Forcing of doors to flats.

Committing firefighters to knocking on doors and/or forcing entry are higher risk activities but are likely to be safer and more effective the earlier in the incident they are commenced. (See section headed "Managing increased risk").

- 6.15 It may be necessary to begin emergency evacuation and mass rescue operations with minimal teams. The IC will need to decide which communications methods they use against the level of risk this exposes their teams to and the speed at which they anticipate they will need to clear the building.
- 6.16 The IC's evacuation plan must consider:
- (a) The risks to residents of flats closest to the fire.
 - (b) The risks to residents of flats furthest from safety (e.g. at the highest points of the building).
 - (c) Whether time and resources allow forcing entry to flats from which there is no answer.
 - (d) Residents who may require additional assistance to evacuate.
 - (e) The need for a systematic approach and record keeping.
- 6.17 Teams conducting door knocking will need to be briefed on the time spent at each door considering the need to alert the entire building's occupants and the time available.
- 6.18 It is important to note where flats have been cleared. This can be achieved using the door marker crayon and door marker tags in the F.I.R.E bag and recorded on a Forward Information Board (FIB).
- 6.19 When deciding whether or not to force doors to any flat the IC should consider the potential breach of compartmentation and the effects this may have on the entire building.

How to manage increased risk

- 6.20 In order to conduct an emergency evacuation and/or mass rescue it is highly likely that teams will be placed at a greater level of risk than is normally tolerated at a high rise incident. For example, in order to conduct systematic door knocking teams are likely to be required to work above the fire without extinguishing media. This decision should be recorded in a KDL.
- 6.21 IC's should only undertake higher risk activities if the benefits are proportionate, such as saving saveable life. This section supports the IC's risk assessment process.
- 6.22 Where resources and the capacity of the rising main allow, teams with firefighting jets should be strategically positioned to protect the escape routes of teams committed above the bridgehead without extinguishing media. The locations of these teams should take into account the need to keep doors on to escape routes closed as far as possible. The IC must consider the priority of protecting the escape routes against the priority of fighting fire.
- 6.23 When managing increased risk, the following control measures must be in place (in addition to those detailed in paragraph 5.43) for teams working above the bridgehead in BA but without extinguishing media:
- (a) immediate withdrawal to the bridgehead in the event of the loss of radio communication and telemetry signal.
 - (b) external spotters observing the external faces of the building with established communication lines. The IC should consider withdrawal of crews if communication with external spotters are lost and cannot be re-established.

- (c) stairwell safety teams.
- (d) only forcing entry into flats in which crews are confident that there is no fire spread.

Use of stairwell safety teams

- 6.24 Firefighters committed above the bridgehead without extinguishing media are at increased risk of harm from deteriorating fire conditions below or above them. In order to protect them the IC must deploy stairwell safety teams to:
- (a) Monitor the temperature and conditions in the stairwell and around lobby access doors with T.I.Cs and assess the safety of teams. Instigate a tactical withdrawal if indications of a sudden or significant rise in temperature or deterioration in conditions are observed.
 - (b) Report on fire/smoke conditions and ventilation of the escape route/s to the sector commander fire.
 - (c) Update the bridgehead and teams working above it of any change in conditions.
- And also to:
- (d) Provide advice and support to residents and members of the public within the stairwell.
 - (e) Provide residents with fire escape hoods if necessary.
- 6.25 Teams committed to protect the stairwell should comprise of a minimum of two, follow normal BA procedures and where resources allow, be led by a minimum of leading firefighter. Each team should have a GDM to monitor air conditions for members of the public in the stairwell.

Physiological strain of high rise firefighting

- 6.26 High rise firefighting, and in particular ascending stairs will cause core body temperatures to rise and firefighters are at risk of illness caused by the physiological strain. Officers should be mindful of this when tasking teams.
- 6.27 Physiological trials have indicated that, in order to manage the level of physiological strain in BA, firefighters should not ascend stairs vertically greater than 100m (or lower if they are required to perform a significant firefighting task before descending or if there are arduous conditions on the ascent).
- 6.28 As a rough guide, 100m will normally equate to approximately 30 floors in a residential high rise building.
- 6.29 It is recommended that BA teams ascending stairs take one minute breaks every ten floors as a minimum in order to manage their exertion levels, regulate their breathing and heart rate.
- 6.30 In circumstances where teams are required to ascend multiple floors to reach the bridgehead without the use of a firefighting lift, consideration must be given to facilitating the rest and cooling of firefighters within a staging area or bridgehead. This will enable BA teams to lower core body temperatures prior to commitment.
- 6.31 EDDBA wearers are more likely to be at risk of physiological strain (including increased core body temperature) due to the weight of the BA set and the potential duration of the wear.

Use of Extended Duration Breathing Apparatus (EDDBA)

- 6.32 Due to the extended duration provided by an EDDBA set, it is beneficial for use at high rise incidents for the following tasks:

- emergency teams
- extended travel distances such as working on upper floors carrying out evacuation and mass rescue
- stairwell safety teams.

The IC should consider reserving EDBA for this purpose and requesting additional resources as required.

7 Review and trade union consultation

7.1 This policy will be reviewed monthly by LFB and Fire Brigades Union (FBU).

7.2 Other triggers for review include:

- The introduction and retro-fitting of evacuation alarms in high-rise residential buildings.
- The retro-fitting of sprinklers in high-rise residential buildings.
- The outcomes of any national or regional research into the practicality of evacuating high rise residential buildings built to support a Stay Put strategy.
- Legislation requiring landlords to devise evacuation plans for high rise residential buildings built to support a Stay Put strategy.
- Legislation requiring landlords to provide personal emergency evacuation plans (PEEPs) for residents needing additional help to evacuate their home.
- The introduction of personal gas detection equipment into the LFB.
- The introduction of smoke curtains/blockers into the LFB.

8 References

8.1 The following policies are relevant to and should be read in conjunction with this policy:

- [Policy number 047](#) - Sprinklers and drenchers
- [Policy number 162](#) - Officer responsibilities at incidents
- [Policy number 263](#) - Major incident procedure
- [Policy number 342](#) - Dynamic risk assessment
- [Policy number 412](#) - Mobilising policy
- [Policy number 434](#) - Sectorisation at incidents
- [Policy number 466](#) - Respiratory protective equipment - breathing apparatus – operational procedures
- [Policy number 488](#) - Incident communications
- [Policy number 513](#) - Premises information box systems
- [Policy number 518](#) - Messages from incidents
- [Policy number 790](#) - Fire survival guidance calls
- [Policy number 800](#) - Management of operational risk information
- [Policy number 803](#) - Search and rescue procedures within structures
- [Policy number 829](#) - Hoarding
- [Policy number 872](#) - Operational professionalism at emergency incidents
- [Policy number 883](#) - Tactical ventilation
- [Policy number 907](#) - F.I.R.E Bag - technical information

Appendix 1 - Firefighting shafts

- 1 Firefighting shafts are a means of enabling firefighters to reach a point within a building in a position of relative safety from which to commence their firefighting and rescue operations.
- 2 The detailed recommendations on the provision of firefighting shafts within buildings are contained within BS 9999 and Approved Document B (Building Regulations). In brief a firefighting shaft will contain a firefighting stair, a firefighting lobby with a dry or wet fire main and a firefighting lift. There will always be a provision to ventilate a firefighting shaft either mechanically or manually. In large complexes with a variety of uses, firefighting shafts may serve separate parts of the complex. For example, in a complex consisting of high rise offices over a shopping centre, the offices may be provided with a dedicated firefighting shaft that does not serve the shopping centre.

Appendix 2 - Firefighting and fireman's lifts

- 1 Firefighting lifts are provided in high rise buildings to enable firefighters and their equipment to reach the upper floors speedily and without undue fatigue. Firefighting lifts are dedicated lifts that have a special electrical circuit and a fire control switch at the fire brigade access level (usually at ground floor). Wherever possible a firefighting lift is not smaller than an eight person lift and will carry a load of up to 850kg. The electrical supply to the lift is independent of the other circuits in the building.
- 2 The term "fireman's lift" describes a normal lift, in which is fitted a "fireman's switch" at ground floor or at firefighter access level which is used to override the normal lift controls. These were normally installed in buildings prior to or around the 1980s. As with a normal lift it will not have all the structural protection, protected services, duplicate power services, functionality, or overall resilience that a more modern standard BS EN 81-72: 2003/2015, BS 5588 Part 5 or BS 9999 firefighting lift will have.
- 3 The term "Firefighting lift" describes a lift installed to BS EN 81-72: 2003/2015, BS 5588 part 5 or BS 9999, and is a lift fitted with additional protection, functions, and controls that enable it to be used under the direct control of the fire service when fighting a fire. The firefighting lift is a development of the type of lift known as a "fireman's lift". Although existing "fireman's lift" installations may in some circumstances be refurbished, in new buildings and those under going significant changes, the aim should be to provide lifts that comply with the current codes of practice. Further information can be sourced from BS EN 81-72 2015 – Lifts: Firefighters lifts.
- 4 It is not possible to determine whether or not a lift is a firefighting lift or a fireman's lift visually. The type of lifts should be identified during the planning phase and during PRA visits and recorded in the ORD. Older lift installations may not provide all the facilities that modern firefighting lifts, conforming to the latest European standard will offer. In these instances, lift facilities and functions should be checked during the planning phase for appropriate use at an incident.
- 5 The minimum features to be considered when assessing whether a lift is safe for use by firefighters should include the provision of:
 - Firefighter recall switch at access level
 - Firefighter in-car controls
 - Firefighter communication system
 - Floor indicators
- 6 Early control of the firefighting lift(s) must be taken by switching the fire switch to the 'on' position. If any doubt exists as to which floors a lift serves, its use should be avoided.
- 7 The fire control switch varies according to the manufacturer but is of a positive on/off type and is located adjacent to the firefighting lift. There are a number of different types e.g. a switch contained in a glass fronted box or metal fronted padlocked box, or of lift key type. In all cases the position of the control switch should be indicated by a suitable notice. For a modern standard firefighting lift installation the expectation is that when the control switch is operated to the 'on' position it will provide the following action:
 - (a) If travelling upwards the lift car will stop and return to the access floor level, while if the car is travelling downwards, it will continue to travel and stop at the access floor level. At the access floor level, the doors will then open and remain open. The buttons provided at each floor landing and inside the car will be inoperative during this period.

- (b) When the lift reaches the access floor level the landing call point buttons will remain inoperative, but the car buttons will resume control. Because of this, where resources allow, a firefighter is to be detailed as the firefighting lift operative to maintain control of the lift and is to remain in control until relieved of this duty. This firefighter is to have a radio for communication with the bridgehead and the IC.
- (c) Modern lifts require the close door button to remain depressed until the door has closed fully and the open door button depressed until the door has opened fully. This is a safety mechanism to minimise the risk of firefighters becoming caught in a fire in the lift lobby area.
- (d) When two lifts are side by side it is possible that both will be controlled by the fire control switch; this will be the case if, on the operation of the switch, both cars return to the access floor level and the doors open and remain open.
- (e) The lift is to be taken to the bridgehead when firefighting commences so that it is available to transport any rescued people quickly to ground floor level. The lift operative must closely monitor radio traffic to ensure that the lift is used to greatest effect when required at either the bridgehead or ground floor. If the lift is not available to transport casualties to the ground floor, consideration must be given to requesting additional resources to assist.
- (f) When a firefighting lift is used for emergency purposes care must be taken not to overload it and, when the emergency is over, the fire switch is to be returned to the off position, the cover closed and secured and one of the landing call buttons operated to check that the lift has been restored to normal working.
- (g) The use of passenger lifts that are not identified as a firefighting lift should be avoided and must not be used for firefighting purposes. Normal lifts do not have a dedicated power supply and will not be under the control of the fire service personnel. It is possible for a normal lift to be called to the floor involved in the fire and the doors to open automatically, exposing the occupants to potential harm.

Appendix 3 - Dry rising mains

- 1 A dry rising main (DRM) consists of an empty pipe installed vertically in buildings over 18 metres in height, with a fire service inlet at the lower end and outlets at various levels throughout the building. DRMs may be installed in any building as a compensatory feature to address other factors such as the nearest hydrant, poor perimeter access or layouts within buildings which exceed 45m from the fire appliance to the furthest point.
- 2 The advantages of using a DRM are that it:
 - Reduces the time taken to supply water to upper levels
 - Reduces the amount of hose required to reach the fire
 - Reduces frictional loss in the delivery supply
 - Lessens the amount of equipment needed
 - Reduces effort required by firefighters
 - Helps to keep stairways clear of hose
- 3 A DRM can deliver at least 1500 litres of water per minute. If the requirement for water exceeds the DRM capacity, the IC should consider augmenting supplies.
- 4 The inlet box will have the words 'DRY RISER INLET' in 50mm lettering on the box door for identification. They have a 65mm instantaneous female outlet on each floor or in some cases alternate floors. Riser outlets should be located either in a protected lobby or approach stairway. The outlets should be secured in the closed position. In a residential building, it should be noted that the lobby may be the corridor.
- 5 A drain valve is connected at the inlet and allows the system to be drained on completion of the incident. An air valve is normally fitted at the highest point in the riser to facilitate drainage by allowing air to enter the riser.
- 6 The British Standard – BS 9990:2015 includes the requirement for the provision of isolation valves at intervals not exceeding 10m so that sections of the fire main can be isolated to enable repairs to be carried out. The valves should be secured in the open position by a chain and padlock or incorporated within a monitoring system to indicate when the valve is not fully open. (However, these are sometimes considered an overprovision in DRM installations and may not therefore be present. They should however be found in new WRM installations.)
- 7 The standard charging pressure for a DRM is 10 bar at the inlet.
- 8 DRMs have a finite capacity to deliver water. If multiple jets are in use, it may not be possible to achieve optimum flow rates or recommended operating pressure for individual branches. Branch collar and flow settings can be used to improve water distribution between all jets in use.
- 9 Where two separate rising mains exist within the same building, the management and identification of branches must be strictly controlled and communicated between sector commanders.

Appendix 4 - Wet rising mains

- 1 Wet rising mains may be fitted in all buildings over 60 metres in height (as of 2006 buildings over 50 metres in height) due to the excessive pressures required to pump water beyond this level.
- 2 Wet rising mains consist of vertical pipes similar to the dry rising main system with landing valves at each floor. The pipe system is connected to a permanent water supply, normally a tank, fed from the town mains. Duplicate automatic pumps, one duty and one standby supply this water to the pipe system.
- 3 The tanks are fitted with an automatic warning system to indicate a low water level.
- 4 At protracted incidents or where there is a high demand for water, the wet rising main tank may need to be augmented.
- 5 Wet rising mains are designed to supply 1500 litres per minute for 45 minutes as a minimum. Due to the height of the building and the pressures used, water pressure reduction valves are fitted to the outlets at each floor.
- 6 If the WRM should fail, the IC should identify whether the system has isolation valves installed and use these to optimise water supplies to the outlets being used.
- 7 Buildings constructed prior to 2006 will have outlet pressures of 4 to 5 Bars. Changes to BS 9990:2015 now recommend an outlet pressure of 8 Bars, this recommendation does not affect installations installed before this date.

Appendix 5 - Water suppression systems

- 1 These may be found in commercial, residential and multiple use high rise buildings (and since 2006 has been a requirement to be installed in residential buildings over 30m) and can play an important part in fire suppression. Sprinkler installations comprise of a system of pipes erected at or near the ceiling of each floor and are connected (through a series of valves) to one or more dependable water supplies. The installation of sprinkler systems may enable larger compartment areas with significant fire loadings to be constructed. It is important to understand the system installed and how it operates during familiarisation visits.
- 2 Sprinklers perform three functions: to detect fire, to attack fire and to give an audible warning.
- 3 All residential buildings over 30m and built after 2005 should have the facility to isolate the sprinklers per flat or per floor
- 4 On arrival a member of the team should be sent to the main stop valve in a commercial premises or on the floor controls for residential, so that:
 - (a) They can open the valve if they find it closed, on the orders of the IC.
 - (b) They can ensure that the valve is not closed except on the orders of the IC.
- 5 Where the water supply can be augmented, via a Brigade inlet, the pump should be set in ready to increase the pressure should a large number of sprinkler heads be operating at the same time.
- 6 The sprinklers should not normally be turned off in order that the fire may be fought with jets or spray branches.
- 7 If extra water is needed, it should not be taken from the main supplying the sprinklers unless it is of a large size.
- 8 Always check the area where the sprinklers have activated to make sure the fire is out and not hidden under stored items.
- 9 If for any reason the water supply to the sprinklers cannot be turned off, consider damage control to avoid unnecessary water damage. Water discharge from single sprinkler heads can be dealt with by tying the female coupling of hose under the sprinkler head and running the hose out of the building.
- 10 Sprinkler floor isolating valves may be fitted to the system to allow for maintenance or repair of part of the sprinkler system. See [Policy number 47](#) - Sprinklers and drenchers.
- 11 Residential systems can have isolation valves located within the flats, outside the individual flats (ceiling mounted) or whole floor isolation points located in service risers.
- 12 Where fire control centres are provided often the sprinkler system is fully monitored. Therefore, there should not be any need to send a FF to the stop valve. The IC should liaise with the fire control centre to confirm this.

Water mist systems

- 13 Water mist systems are increasingly being used in the built environment but are still classed as water suppression systems. They may not have all the design features of a traditional sprinkler system. Additionally, they will fall into different categories depending on the risk they are designed to protect.
- 14 For more technical detail reference can be made to the British Standard Draft for Development series 8489-1:2016 – Industrial & Commercial & BS 8458:2015 Residential & Domestic systems.

Appendix 6 - Controlled dividing breeching – Protocols for use

- 1 Only one controlled dividing breeching should normally be used in a rising main. This should normally be connected to the DRM via the short length of 70mm DRM outlet hose to reduce strain on the DRM outlet.
- 2 The second jet (to protect the egress of firefighting teams) can be taken from the dividing breeching.
- 3 Where two jets are supplied via dividing breeching, a burst length in one hose line will cause a reduction in the quantity of water supplied to the second jet.

Appendix 7 - F.I.R.E. System

- 1 The F.I.R.E system is designed to be a "Grab & Go" solution, to efficiently and systematically transport the essential items of equipment required at the bridgehead in the early stages of the incident.
- 2 Although not intended to be absolutely prescriptive, using the F.I.R.E system and distributing equipment as detailed below, allows the risk critical equipment to be transported in a systematic way to the bridgehead by a minimum of 4 personnel.
- 3 Example of division of tasks and equipment - Team of 4:
 - **Sector commander fire/bridgehead commander**
F.I.R.E bag ([Policy number 907](#) - F.I.R.E Bag - technical information)
T.I.C
Halligan bar (FEE)
 - **Entry control operative**
IEC Pack
ECB
F.I.B
Hydraulic door opening tool (in holdall)
 - **2 x BA Wearers**
SDBA Set each
2 lengths of 45mm hose each - secured with carrying straps or carried as a Cleveland roll
- 4 As soon as practicably possible, the F.I.R.E system should be augmented as a minimum with:
 - (i) Sufficient hose for two hose lines to reach the effected area of the building
 - (ii) An additional branch
 - (iii) Bracket and tripod for BA board
 - (iv) Access keys/codes
 - (v) Floor plans (if available)
 - (vi) Extinguisher
 - (vii) Smoker blocker
 - (viii) Fire escape grab bag

Further information on the F.I.R.E system is available via the [F.I.R.E. system briefing document](#)

Appendix 8 - Buildings with combustible cladding

- 1 Since the Grenfell Tower fire, all responsible persons for buildings with aluminium composite cladding (ACM) were directed by the government to test their ACM to determine the combustibility of the products on their buildings. Fire safety inspecting officers subsequently carried out fire safety inspections on those buildings with combustible cladding.
- 2 The purpose of the inspections was to ensure the general fire safety measures within these buildings were properly installed, maintained and managed. This included inspecting fire doors, fire compartmentation, smoke detection systems (where installed) and ventilation arrangements. Fire crews supported these inspections and where necessary have updated tactical plans on the operational risk database (ORD).
- 3 Over 200 buildings in London have been identified as having cladding systems and compartmentation issues that do not meet the required standard and subsequently present a risk of uncontrolled internal and external fire and smoke spread. The responsible persons of these buildings have implemented interim control measures which should a fire occur, will support a full evacuation of the building.
- 4 If 'stay put' advice is not supported, then a range of interim mitigating measures will be required in order to support the responsible person's simultaneous evacuation strategy, which could include a waking watch or a communal alarm in order to safely alert and evacuate the residents of the building.
- 5 Operational crews are expected to familiarise themselves with such buildings on their station grounds and ensure a revised tactical plan is prepared to reflect these arrangements. [Policy number 800](#) - Management of operational risk information provides guidance on undertaking a premises risk assessment and the development of a tactical plan. The plans should focus on identifying firefighting facilities installed in the buildings and have a good understanding of the fire safety measures in place to protect the lobbies, corridors and staircases should a fire occur. Consideration needs to be given to the occupants evacuating down the staircases when setting up a firefighting operation.

Appendix 9 - Key point summary – High rise firefighting

Information on task or event

- MDT
- Plans
- Premises Information plate
- Persons reported
- Potential fire spread
- Evacuation strategy
- Building design
- Fire Survival Guidance
- Evacuation

Information about Resources

- PDA
- Aerial
- Police/Ambulance/Local Authority
- Utilities
- Firefighting lift
- Wet/Dry riser
- Sprinklers
- Hydrant location
- Ventilation arrangements

Information about Risk and Benefit

- Life risk
- Fire spread
- Signage
- MDT
- Processes within building
- Plant rooms
- Potential for collapse
- Gas
- Electricity

Gathering and thinking

Objectives

- Save life
- Locate fire
- Prevent fire spread
- Extinguish fire
- Evacuation
- Safety of personnel
- Ventilation

Communicating

- Radio channels
- Fire Survival Guidance
- Police/Ambulance/Local Authority
- "High rise procedure implemented" if; bridgehead established/risk assessed/access and egress is secured and maintained/ a charged jet deployed.

Controlling

- Sectorise
- Fire Survival Guidance and Search co-ordinator
- Evacuation strategy
- Cordons
- Safety Officers

Plan

- Site appliances leaving access for others
- Safety cordons
- Secure water supply– twin hydrant and DRM with 70mm hose and charge the DRM.
- Order resources
- Secure firefighting lift
- Conduct DRA to establish the bridgehead
- Minimum 1Lff and 3 FFs to bridgehead
- Fire Sector Commander
- F.I.R.E system:
 - Minimum of 4 people
 - F.I.R.E bag
 - 45mm hose sufficient to set up attack (min 4 lengths).
 - 1 x ECB
 - 2 x BA sets
 - First aid and resuscitation equipment
 - Breaking in gear
 - T.I.C
 - Access keys/codes
 - Floor plans
 - F.I.B
- Adequate weight of attack
- Additional resources to bridgehead
- Safety team – internal and external;
- Stairwell protection team – Ventilation arrangements
- Jets to cover surrounding risks
- Rescues
- Co-ordinate search
- Evacuation strategy
- Communication structure
- Lobby sector

Document history

Assessments

An equality, sustainability or health, safety and welfare impact assessment and/or a risk assessment was last completed on:

EIA	15/10/2008	SDIA	15/11/2011	HSWIA		RA	17/05/2013
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Audit trail

Listed below is a brief audit trail, detailing amendments made to this policy/procedure.

Page/para nos.	Brief description of change	Date
Throughout	This policy has been protectively marked.	21/06/2011
Throughout	This policy has been reviewed as current. Minor changes have been made throughout and the Key Point Summary has been updated to reflect current procedure. Please read to familiarise yourself with the content.	18/11/2011
Throughout	Minor wording corrections added. Sections now correctly referenced.	23/11/2011
Page 16, para 8	Updated reference to form 5566 as this has now been withdrawn and replaced with a new procedure.	10/05/2012
Pages 11 and 12	Cross reference links to policies added to paragraphs 7.30, 7.35 and 7.37.	13/12/2012
Page 14	Reference page has been updated with additional policy numbers.	13/02/2012
Throughout	PN521 has been replaced with PN800.	22/02/2013
Page 12	Changes made following review of policy in response to an SAI event.	26/11/2013
Page 1 & page 22	Changed 'Protect' to 'Official' in line with new security marking scheme.	07/08/2014
Page 2 and 22	Key point summary removed from page 2 and KPS flowchart added as appendix 7.	28/08/2014
Page 2 Para 1.1 Page 4 Para 2.29	Reference made to PN 793 Compartment Firefighting. Minor amendment to wording.	11/09/2014
Page 21	'Subject list' table - template updated.	29/01/2015
Throughout	Policy updated to reflect national GRA 3.2. and associated LFB risk assessment	01/06/2015
Risk Assessment Throughout	Amended to include controlled dividing breaching. Updated to reflect introduction of Fire Initial Response Equipment (FIRE) Bag.	10/07/2017

Page/para nos.	Brief description of change	Date
Throughout	Changes made following review of policy in response to event.	17/06/2021

Subject list

You can find this policy under the following subjects.

Cable entanglement	Buildings and Structures
Incident Management	Flowchart - Key Point Summary (KPS)
Wet rising main	Tower blocks
Special risks	Mobile Data Terminals (MDT)
High Rise Buildings	High Rise
Firefighting shafts	Firefighting lift
Firefighting - Special risk areas	Firefighting – Buildings
Firefighting	Dry Rising Mains
GRA 3.2	

Freedom of Information Act exemptions

The reason this policy has been securely marked:

Considered by: (responsible work team)	FOIA exemption	Security marking classification
Operational Procedures	Fully exempt, see FOIA592.1 request.	Official – Ops Security Official – Health & Safety

Standard Equality Impact Assessment Form

Question 1: Which Team, Department, or Project Board is responsible for carrying out the Standard Equality Impact Assessment?

Name	OPA
------	-----

Question 2: Lead assessor's contact details

Name	Daniel Kipling	Mobile No	07342 026 121
Job title	Group Commander	Extension	31003
Department	OPA	Email	Daniel.kipling@london-fire.gov.uk

Question 3: Title of / policy (please include the policy number) / project / report / proposed change / initiative / decision

High Rise Firefighting Policy PN633

The amended PN633 has been developed in response to learning identified through the Brigade's Grenfell Tower safety and learning review process. It also addresses a recommendation and particular issues relating to evacuation and rescue arising from Phase 1 of the Grenfell Tower Inquiry (GTI).

Question 4: Is the work...

New		A complete redesign	
A small change or policy review		Other (e.g. reviewed as current)	Policy reviewed and amended to provide new guidance and procedures regarding managing increased risk at buildings that do not behave as fire safety requirements intend and the resulting fire exceeds 'normal' expectations. Additional guidance provided regarding risks of physiological strain to firefighters during high rise operations and use of extended duration breathing apparatus.

Question 5: Briefly outline the aim and the purpose of the work

Aim	The aim of this policy is to provide guidance to respond to high rise incidents which include control measures to reduce the risk.
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Purpose	<p>The purpose of the amendments to the policy is to provide guidance in relation to:</p> <ul style="list-style-type: none"> • Protection of the stairwell. The policy provides tactical flexibility to support crews in maintaining compartmentation of stairwells. • The introduction of stairwell safety teams. • Dedicated external spotters to inform commanders of changes in fire behaviour. • Recognising Building Failure. The policy provides guidance on how to recognise the signs and symptoms of high rise building failure. • How to manage the increased risk of Emergency Evacuation and Mass Rescue. • Guidance regarding risk of physiological strain of high rise operations. • Use of extended duration breathing apparatus.
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Question 6: Has an EIA been conducted previously? (please tick)			
Yes	X	No	
If yes, attach a copy. If no, state the reason.	An EIA was previously completed for the extant PN633		

Question 7: Who is it intended to benefit / Who does the change affect?				
Staff	X	Wider public	X	Service users
Other (please state)	The intended benefit is to the public and LFC firefighters and officers.			

Initial Equality Impact Assessment – Screening Stage

Complete the table below to see whether you need to complete a full Equality Impact Assessment.

Only positive impacts identified: No full EIA required	Only neutral impacts identified No full EIA required	One or more adverse impacts identified Full EIA required
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Question 8: Identifying the impacts
<p>Consider the relevance of the policy / project / decision on each group below and describe any impacts identified.</p> <p>NB: Some characteristics may attract multiple impacts e.g. age: positive impact on older people, adverse impact on younger people.</p>

Protected Characteristic	Level of Impact (Positive impact, neutral impact, adverse impact)
Age (younger, older or particular age group)	Positive Impact – the provisions made in this policy are designed to increase the feasibility of rescue of persons in age groups where their mobility or ability to self-evacuate are likely to be hindered.
Disability (physical, sensory, mental health, learning disability, long term illness, hidden)	Positive impact - the provisions made in this policy are designed to increase the feasibility of rescue of persons in groups where ability to self-evacuate or be rescued are more challenging as a result of disability.
Gender reassignment (someone proposing to/undergoing/ undergone a transition from one gender to another)	Neutral impact
Marriage / Civil Partnership (married as well as same-sex couples)	Neutral impact
Pregnancy and Maternity	Positive impact - the provisions made in this policy are designed to increase the feasibility of rescue of persons where their mobility or ability to self-evacuate are likely to be hindered which may include when pregnant or carrying a baby.
Race (including nationality, colour, national and/or ethnic origins)	Positive impact – The changes to this policy have been made as a result of the learning outcomes from the Grenfell Tower fire. Grenfell Tower residents were racially diverse. Based on Grenfell alone, the changes to this policy should have a positive impact of the survivability of these groups in a similar circumstance. Where in some circumstances nationality or ethnicity may create a language barrier the introduction of a pictogram, and the possibility that firefighters may speak multiple languages may assist. Although not addressed specifically by this policy, these resources are part of the LFC provision.
Religion or Belief (people of any religion, or no religion, or people who follow a particular belief (not political))	Neutral impact
Sex (men and women)	Neutral Impact - The reference within the policy to "firemans" lift is due to a specific type of lift that differs from a "firefighting lift". This is industry standard. It is recognised that this terminology would not usually be acceptable and its use has been limited to where it is necessary to refer to that specific facility.
Sexual Orientation (straight, bi, gay and lesbian people)	Neutral Impact
Are there any other groups this work may affect? i.e. carers, non-binary people, people with learning difficulties, neurodiverse people, people with dyslexia, ADHD, care leavers, ex-offenders, people living in areas of disadvantage, homeless people, people on low income / poverty?	Positive impact - the changes made to the provisions in this policy are designed to increase the feasibility of rescue of persons in groups where their mobility or ability to self-evacuate are likely to be hindered, whether this is due to mobility issues or cognitive impairment. Based on the outcomes of the Grenfell tower fire, there may be an increased likelihood of these groups in high rise fires. We have considered the impacts on this group by looking at it from both a fire risk perspective as well as specifically against the changes to the policy to ensure there is a positive impact on this group for those living in high rise buildings. Additional work:

	<ul style="list-style-type: none"> • LFB reviewed the available data to consider the occupant composition of high rise buildings. There is insufficient data available at this time to test the assumptions made within this EIA to inform the subsequent review of the policy and EIA that has taken place prior to go-live of the policy. • Communication to residents is key at a high rise incident, particularly where an evacuation or rescues are required. Work has been undertaken to identify pictogram cards that can be used to instruct and inform residents in this event and these have been provided to all crews with additional training. The pictogram was developed in conjunction with a speech-language therapy resources company. • There are a range of language skills within our current operational staff. These skills could potentially be utilised at high rise and other incidents which affect diverse communities. LFB collates information on the language skills of staff through the 'personal details' form which can be updated via Hotwire. However, this is disclosed on a voluntary basis, but managers can and do utilise the language skills of their staff in relevant circumstances. • High rise incidents may be traumatic for staff, residents and others involved in the incident. The policy does not specifically detail guidance regarding this but is supported by PN915 – Recognising and coping with potentially traumatic events and a dedicated LFB Counselling and Trauma Services team.
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Question 9: Has your assessment been able to demonstrate the following?

Positive impact	The creation of the new policy will have a positive impact on a number of protected characteristics including age, disability, pregnancy and maternity and race and other groups including neurodiverse people.
Neutral impact	The changes to the reviewed policy have a neutral impact on the following groups; <ul style="list-style-type: none"> • Gender Reassignment • Marriage/Civil Partnership • Religion or Belief • Sexual Orientation
Adverse impact	
Any other comments	

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Question 10: Meeting the [Public Sector Equality Duty](#) under s149 Equality Act 2010

How have you considered whether this project / policy / decision does the following:

1. Eliminates unlawful discrimination, harassment and victimisation
2. Advances equality of opportunity between different groups, and
3. Fosters good relations between different groups.

What we must do under law	Provide a description or summary of how this will be achieved
Eliminate discrimination	No discriminatory impacts have been identified
Advance equality of opportunity	The changes to this policy have been made to improve existing high rise procedures as a result of the review of the Grenfell Tower fire. The changes are designed to positively impact protected characteristic groups who may be more at risk of fire; who may be more significantly impacted by fire; or whose mobility inhibits evacuation in the event of a fire in a high rise building. The changes to the policy are designed to mitigate the disadvantages these groups face in relation to fire, thereby demonstrating commitment to advancing equality of opportunity. An example of this are changes that have been made to consider the impact of people with mobility issues residing on the upper floors of a high rise building, whose ability to be rescued may be hindered by (but not limited to) age, disability or pregnancy or maternity.
Foster good relations	Fostering good relations between people who share a protected characteristic and people who do not share it is part of the Equality Act 2010 and PSED. Clear published policies which demonstrate consideration of all the London community is one of the means by which this can be done.

Question 12: What data has been used to inform the Impact Assessment? (E.g. GLA Datastore, Census Data, Staff Monitoring Data, Staff Survey Data, Local Borough Population Demographics).

Data Source	How it has been used
DataStore	This was used to gain an understanding of the demography of areas with high concentrations of residential and commercial high-rise premises and the people that utilise them.

Question 13: How have you ensured your policy, project or proposal uses inclusive language that doesn't unintentionally discriminate against certain groups?

Tools used to assess inclusive language e.g. gender bias screening tools , Stonewall toolkit on inclusive policies, speaking with Inclusion Team, Comms Style Guide , Policy 0370: Writing Policies and Procedures .	Outcome
<i>PN370 – policies and procedures guidance</i>	Consistent approach to policy format

Question 11: Have you consulted with staff, LFB support groups, trade unions, public / service users, and / or others to help assess for impacts? (please tick)	
Yes	X
No	
If yes, who was involved and how were they involved? If not, why not?	
Who?	LFB Legal Team, LFB Community Safety Team, LFB Regulatory Fire Safety Team, Representative Bodies, LFB Inclusion Team.
How?	Consultation, meetings and peer review. RB consultation through the Brigade Joint Council for Health Safety and Welfare (BJCHSW).
If no consultation, why not?	
Consultation with the LFB Inclusion team	Terminology agreed
Utilisation of the style guide	Consistent language
Agreeing terminology with the LFB legal team	Terminology agreed

Full Equality Impact Assessment Form

If you have identified **any** potential or actual adverse impacts, you must complete a full equality impact assessment form.

A full assessment helps you to decide what steps need to be taken to mitigate or justify the adverse impacts you have identified.



For guidance and support, please contact the Inclusion Team (Second Floor, Union Street, or email safertogether@london-fire.gov.uk) or a relevant Equality Support Group **(LINK TO ESG PAGE ON INCLUSION PAGES – HOTWIRE)**

Full EIA Form and Action Plan

Lead person responsible:	
Date the Action Plan will be reviewed:	

Protected Characteristic Group	What impact did you identify (positive, neutral, adverse)?	Do you plan to mitigate or justify this impact?	How will you mitigate or justify the impact? Outline the steps that will be taken	Who will be responsible?	When will this be reviewed?
Age					
Disability					
Gender reassignment					
Marriage / Civil Partnership					
Pregnancy and Maternity					
Race					
Religion or Belief					
Sex					
Sexual Orientation					
Other group e.g. carers, non-binary people, people with learning difficulties, neurodiverse people, people with dyslexia, ADHD, care leavers, ex-offenders, people living in areas of					



LONDON FIRE BRIGADE

disadvantage, homeless people, people on low income / poverty.					
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Document Control

Signed (lead for EIA / action plan)		Date	
Sign off by Inclusion Team		Date	
Stored by			
Links			

Dates for action plan to be reviewed	Comments