

London Fire Brigade

Actions since the Grenfell Tower Fire

OFFICIAL
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1. Introduction

- 1.1 This document has been produced in response to the Inquiry's request, dated 24 September 2018, to provide '*a position paper describing in reasonable detail the actions they have already taken to address questions of public safety raised by the fire, the rationale behind them, and any further steps which they currently plan to take. The position paper should be supported by documentary evidence and should identify the person or persons within the organisation principally responsible for the steps described*'.
- 1.2 Where practicable this statement is supported by the relevant documentary evidence relating to each of the issues covered in the main body of the report. Appendix 6 provides a list of persons responsible for the actions identified in this report.

2. LFB 'Safety and Learning' Review

- 2.1 As an organisation committed to continuous improvement and learning from major events, in the days following the Grenfell Tower fire the LFB started the work to establish a dedicated team to undertake a comprehensive 'safety and learning' review. This team currently consists of over 30 dedicated members of staff who are responsible for undertaking and coordinating the LFB's investigation into the Grenfell Tower fire. This work includes supporting the documentary, data and physical evidence requirements associated with both the Metropolitan Police Service (MPS) investigation and the Grenfell Tower Inquiry (GTI).
- 2.2 The LFB investigation team, known as the *Grenfell Tower Investigation and Review Team* (GTIRT), is made up predominately from the Brigade's existing employees who have been seconded to the team to undertake specific roles to support the various work-streams and associated tasks. This team is currently being funded from LFB reserves.
- 2.3 As the GTI will be aware the work of GTIRT has been significant and seen a number of very detailed documents (Operational Response and Control Reports, etc.) produced that have greatly assisted the GTI to understand the events of the night of the fire.
- 2.4 The GTIRT aims to fully understand the LFB's actions and identify issues that will be progressed through the Brigade's normal organisational improvement processes. It will also, at the appropriate time, provide a comprehensive report detailing the Brigade's response to the fire and will examine some of the underpinning issues that influenced this response.
- 2.5 GTIRT will also discharge the Brigade's Health and Safety legal duties to fully investigate all safety events that occurred during the incident. The full 'Terms of Reference' for the LFB's 'Safety and Learning' review are detailed in Appendix 1.

3. Fire Safety

High Rise Task Force (HRTF)

- 3.1 The week after the Grenfell Tower fire the LFB's Fire Safety Regulation (FSR) department established a HRTF to review the risks associated with high rise residential premises covered by the LFB area. To date this team has conducted in excess of 1,500 activities for high rise related work, including providing reassurance at residents meetings, co-ordinated visits with fire station based staff and the completion of over 1,100 visits to residential high rise buildings.
- 3.2 The HRTF audits were thorough inspections of the relevant (non-domestic) parts of premises and the management arrangements and accorded with government requirements made of Fire

and Rescue Services generally after 14th June 2017 to carry out fire safety checks on high rise residential blocks above 18m. HRTF inspections incorporated intrusive inspection and sought to establish so far as possible that compartmentation was not compromised. Emphasis was placed, for example, on understanding how building services enter and leave service risers and individual dwellings, which in turn required access into ducts and voids, and above false ceilings. Fire doors were subject to higher sampling rates. Checks were carried out on the operation of firefighting lifts and ventilation systems and on the availability of other firefighting facilities

- 3.3 These HRTF activities have been undertaken over three phases and the LFB's approach has varied slightly at each phase based on the emerging information and guidance received.
- 3.4 For example, HRTF1 (the first phase), was primarily focussed on information gathering and initial inspection of the general fire precautions and firefighting facilities in high rise residential buildings. This phase included an audit of the information the LFB holds for these high rise premises within its electronic Operational Risk Database (ORD) to ensure residential high rise premises identified as fitted with ACM cladding are recorded in the ORD. The ORD is intended to contain details of the risks at the premises and other important information, including an electronic Premises Information Plate (ePIP) to support the operational tactics to be employed should a fire occur. Information is also provided by Control on the mobilisation sheet received by crews advising that the premise they are being mobilised to has ACM cladding and if any special evacuation procedures are in place such as a waking watch.
- 3.5 A number of these buildings were re-inspected during HRTF2 (the second phase) once the Building Research Establishment (BRE) test results were made available to the LFB. This phase focused primarily on Local Authority/social housing high rise residential premises and NHS premises. During this phase LFB officers provided advice and guidance to the 'responsible person' for the affected premises on the implementation of the government's interim arrangements for some Aluminium Composite Material (ACM) clad buildings. This included obtaining a competent person's (as defined by the National Fire Chiefs Council¹) advice, waking watch, common alarms and changes to the building's evacuation strategy.

¹ National Fire Chiefs Council (NFCC) '*Guidance to support a temporary change to a simultaneous evacuation strategy in purpose-built block of flats*' - (Section 3 of Appendix 2 refers).
- 3.6 During HRTF3 (the third phase), over 350 new buildings (private blocks and hotels) were identified, some of which had already been visited or had been allocated to a LFB inspecting officer to arrange a visit. The usual process for referral of these new buildings is that the Local Authority collect the data, which is sent to the Ministry of Housing, Communities and Local Government (MHCLG). This data is then sent to the National Fire Chiefs Council (NFCC) who send the information to relevant fire and rescue service.
- 3.7 The LFB's FSR Department has also undertaken the following:
 - produced the first guidance (under the banner of NFCC) for building owners with ACM cladding;
 - led on assisting the MHCLG in producing guidance for buildings that have partial cladding;
 - provided subject matter expertise to assist Home Office and MHCLG in implementing the Dame Judith Hackitt recommendations. LFB officers hold prominent positions on all the working groups established to deliver the Hackitt recommendations;
 - designated a LFB officer to lead the work on reviewing the competency of LFB's Fire Safety Enforcing Officers;

- embedded a LFB officer as a part of the Ministerial task force dealing with remediation of private tower blocks;
- provided, through the LFB FSR Fire Engineering team, assistance to several other fire and rescue services to help them deal with ACM clad buildings (peer review);
- provided, and are continuing to offer, expertise to Home Office, MHCLG, the Expert Panel and the Dame Judith Hackitt review workstreams. This includes the additional engagement following the concerns raised over fire doors since it was reported that a door from the Grenfell Tower block failed the fire spread test. There are a number of meetings every week on these issues;
- providing advice and support to London local authorities through regular monthly meetings of the London Councils Fire Safety sub group. One of the outcomes of which has been a proposal with the Local Government Association (LGA) and London Councils for a joint inspection team to deal with uncooperative landlords.

Fire Safety Engagement Activities

- 3.8 Since the Grenfell Tower fire LFB officers have consistently engaged with London Councils via the London Councils Fire Safety Group forum. The London Council Fire Safety Group brings together those dealing with housing and fire safety issues and is made up of representatives from the 32 London Boroughs and the City of London, with representation from the Greater London Authority (GLA), Local Government Association (LGA), MHCLG and LFB.
- 3.9 This has allowed the Brigade to share information, advice and best practice on a range of issues such as ACM cladding, fire doors and buildings designed on the basis of a 'Stay Put' strategy, while giving a consistent fire safety message and helping to maintain links between local councils and the LFB's Fire Safety Teams and Borough Commanders. This has helped the LFB to provide community re-assurance, particularly to those in high rise residential properties. Gaps and overlaps with the Housing Act, the Housing Health and Safety Rating System (HHSRS) and the RRO have also been discussed at this forum. Recent topics include Person Centred Fire Risk Assessments and Personal Emergency Evacuation Plans (PEEPs).
- 3.10 The LFB's FSR teams are also working closely with operational colleagues at fire stations in the North East of London to pilot the Brigade's 'Fire Station Checks' initiative. This is an initiative where Fire Safety Inspecting Officers (FSIOs) are working with operational crews at fire stations to provide familiarisation and more specialist input on key fire safety issues that affect lower risk properties. This is aimed at improving operational staff's knowledge and understanding of the more specialised fire safety work and the built environment to enable them to undertake this type of inspection work going forward. This initiative should also help to free up more capacity for the FSIOs to focus on inspecting higher risk premises.

Improvement in fire safety inspection regime

- 3.11 A number of additional Fire Safety Regulation posts were established as a result of the additional funding that the London Fire Commissioner (LFC) secured following the Grenfell Tower fire to enhance the Brigade's inspection regime. This has included development officers, quality assurance officers and the re-engagement of previously retired Inspecting Officers to create a new 'Specific Projects Group' (SPG). This new group is tasked to focus on high risk property types and complete a more thorough inspection (learning from the HRTF inspections).
- 3.12 In the aftermath of the Grenfell Tower incident FSR has been thinking differently about how it recruits fire safety officers, which are needed to meet the demands on the service now and in the future given the emerging demands created through greater public awareness and those

associated with the Dame Judith Hackitt outcomes. The FSR revised recruitment processes will aim to attract highest quality candidates taking into account that competition for skilled fire safety practitioners in the 'post Grenfell' climate is very challenging.

- 3.13 The FSR department has also been in consultation with representative bodies regarding the creation of a new 'gateway' role into becoming a Fire Safety Inspecting Officer, which is linked to new national apprenticeship arrangements titled 'Fire Safety Advisor'. The LFB is hoping the first cohort from these new arrangements will start training with the Brigade shortly. These new roles will assist LFB to improve its business engagement activities to satisfy requirements of 'better regulation' and our work towards 'compliance by consent'.

4. Operational Response

Pre-Determined Attendance (PDA)

- 4.1 In June 2017 the PDA for a typical high rise fire comprised of the nearest four fire engines. This figure was based on:
- i) analysis of the national policy,
 - ii) the number of operational staff and resources required for dealing with a high rise compartment fire,
 - iii) assumptions associated with building regulations, i.e. a single flat fire that will have limited potential for fire spread beyond the compartment of origin.
- 4.2 However, as a result of the Grenfell Tower fire, and whilst awaiting the outcome of the MHCLG work into cladding on high rise buildings, the Brigade implemented an interim change to the PDA to all high rise buildings. This revision took effect from 22 June 2017 with five fire engines, one aerial (high reach) appliance and the standard officer complement for a five pump fire being mobilised to any high rise fire related incident.
- 4.3 In addition to the above, and as a result of the findings from the Government's series of fire safety tests of cladding and insulation combinations undertaken by the Building Research Establishment (BRE), the Brigade made a further interim revision to the high rise premise PDA starting from 10 August 2017. From this date when Brigade Control receives multiple calls (four calls or more) to a residential high rise premise the PDA now includes eight fire engines and one aerial appliance. Where the fire is reported to Brigade Control as being on the outside of a cladded building the PDA is further increased to ten fire engines and one aerial appliance (if the aerial appliance hasn't already been despatched). When this increase in resources is made the standard officer complement for an eight and ten pump fire is also mobilised. Appendix 3 details the two Communications messages that were issued to all operational staff when these PDA revisions were implemented.

Fire Escape Hoods

- 4.4 Recognising the challenges that LFB officers faced in respect to the catastrophic failure of the Grenfell Tower building, in particular that associated with the protected single staircase which became compromised by heat, smoke and fire at a very early stage of the incident, the Brigade has undertaken research and procured fire escape hoods (also commonly referred to as smoke hoods).
- 4.5 Fire escape hoods are designed to be used easily by members of the public where they need rescuing through smoke filled environments, such as those experienced at the Grenfell tower fire. The hoods provide members of the public with up to 15 minutes protection from four of

the main fire gases (carbon monoxide, hydrogen cyanide, hydrogen chloride and acrolein) and can be worn by conscious or unconscious people. If more than 15 minutes protection is required then another hood can be given to each wearer. Firefighters will be able to offer people a hood to wear whilst they are being rescued and they will also be used to protect those who aren't able to escape easily, such as the elderly or wheelchair users.

- 4.6 These fire escape hoods are in the process of being issued across the Brigade. They will be carried on the Brigade's Standard Duration and Extended Duration Breathing Apparatus (SDBA/EDBA) sets which means a total of 649 on front line fire engines. An additional reserve of 78 will be held at the Brigade Distribution Centre. The fire escape hoods are due to go fully into operational service by the end of November 2018.
- 4.7 This new capability gives firefighters and officers a new tactical option should a similar building failure occur in the future. The LFB has worked closely with Kent Fire and Rescue Service, which will also be launching fire escape hoods on its front line fire engines. LFB and Kent will be the first UK fire and rescue services to provide this new capability.

Drones

- 4.8 The Brigade has always enjoyed an effective and very productive relationship with the MPS air support service to provide imagery (including thermal imagery) of incidents in London and this negated the need for the LFB to provide its own aerial imagery capability. However MPS has recently joined the National Police Air Service (NPAS) collaboration and no longer enjoys the same level of control over the air assets it previously owned.
- 4.9 In addition, LFB led for the fire and rescue service on the Home Office supported 'Blue Light Air Support' programme. The programme was tasked to produce a blue print for a national emergency air service to fulfil the requirements of the blue light emergency services and other agencies such as Border Force and the Maritime and Coastguard Agency. A principal aim of the programme was to evaluate the use of unmanned aircraft to undertake some tasks currently delivered by manned rotary aircraft. A report outlining a blue print for a national emergency air service was submitted to Home Office in early 2017 and is currently still be considered.
- 4.10 Following the Grenfell Tower fire, the potential impact of MPS joining NPAS, and recognising the benefits of small drone technology identified during the Blue Light Air Support programme, the Brigade has reviewed its position in relation to providing its own drone capability and the London Fire Commissioner received funding for a drone trial from the Mayor's office as part of a package of additional resources agreed immediately after the fire.
- 4.11 During the 'recovery' phase of the Grenfell Tower fire the LFB made use of a small drone capability, which was secured under the national mutual aid agreement² from Kent Fire and Rescue Service. At the time of the Grenfell Tower fire the LFB did not have its own drone capability. The drone was used extensively to help provide situational awareness for the following issues:
- Extent of the fire spread;
 - structural integrity of the building; and
 - confirmation of safe areas to inform the planning for the body recovery operation.

²the national mutual aid protocol for incidents sets out the terms under which fire and rescue authorities may expect to request or provide assistance to each other in the event of a serious incident.

- 4.12 Drones can offer incident command officers a range of capabilities, with the main aim of improving situational awareness and firefighter/public safety. The LFB started conducting a trial of drone capability on the 25 September 2018, which is expected to last for up to four months.

- 4.13 For this trial the LFB has purchased two drones that are operated by a minimum of two people; one who pilots the drone and one who operates the cameras. The drones have a number of different payload configurations from thermal imaging cameras to 30 x optical cameras. This flexible capability can support a range of operational environments; for example:
- Fires - where a specific need for a drone is required for aerial footage or would aid senior officers remote from an incident;
 - Urban Search and Rescue - for aerial mapping and wide area search functions including thermal imaging capability;
 - Fire Rescue Units - particularly at water related incidents for locating casualties, using thermal imaging or for wide area searches in conjunction with the Brigade's Emergency Rescue Boats (ERBs);
 - Improve firefighter safety, e.g. capturing thermal imagery remote from the risk area.
- 4.14 By providing an aerial view of an incident drones help to inform the incident commander's firefighting and operational tactics. Drones are also able to access areas, which are unsafe for firefighters which reduces risks and helps improve the Brigade's response to incidents.

Breathing Apparatus (BA) Equipment

4.13 A corporate project to manage the scheduled replacement of all the LFB's Breathing Apparatus (BA) capability is currently underway. The 'Respiratory Protective Equipment' (RPE) project team is examining both the quantity and use of standard duration breathing apparatus (SDBA) and extended duration breathing apparatus (EDBA) sets within LFB. Whilst the scheduled replacement project predates the Grenfell Tower fire, the circumstances of the incident has provided new information that may inform technical and user requirements for the next generation of LFB breathing apparatus capability. It is anticipated that the outcomes from this project will not be implemented until 2020/21, but in the interim period work is underway to examine alternative options to deliver large numbers of EDBA sets to the scene of operations, when required. One option being considered is to make use of the LFB's existing Operational Support Units³ (OSUs) for the delivery of this equipment. The predetermined attendance for certain incidents will be examined as part of this review.

³ OSUs are lorries that deliver specialist equipment to the scene of operations.

- 4.14 The introduction of improved Breathing Apparatus Radio Interface Equipment (BARIE) communications is also being undertaken as part of the RPE replacement project and will depend heavily on funding and available technology. A short term solution being explored is to buy/lease a communications fit for the current Draeger PS7000 BA sets, which may include voice amplification when talking to members of the public through the BA facemask. A station based trial with the manufacturer is being explored as an option to evaluate the validity of this system. As part of the RPE replacement project all enhanced communication options are actively being explored with interested manufacturers.
- 4.15 In addition to the above and as part of the current Fire Rescue Unit (FRU) review work the LFB is exploring earlier mobilisation of FRUs to certain incident types. FRUs are the specialist fire engines that carry EDBA sets. However, caution must be attached to simply providing more EDBA for incidents as there are potentially significant safety implications for firefighters due to the increased physiological burden known to be associated with wearing a BA set of this weight. Therefore, it is important to note that depending on the conditions and due to the greater physiological demands associated with wearing EDBA, having more available air does not always mean being able to firefight for longer.

High Rise Firefighting Tactics

4.16 The LFB is also reviewing various operational response options in terms of its ability to fight fires in high rise properties. This includes:

- Reviewing Positive Pressure Ventilation (PPV) tactics for potential use in high rise buildings;
- Research into a high pressure impellor for use with the Brigade's High Volume Pumps (HVPs). This will involve the testing of the high pressure impellor with a view to examining its effectiveness as a fire ground pump to provide large volumes of water at high pressure. Trials will be undertaken before the end of 2018 to establish whether this enhanced HVP capability could be used to charge a dry rising main fitted in a high rise premise. This research is being followed closely by fire and rescue colleagues nationally;
- Supporting the development of National Operational Guidance (NOG) for high rise fire fighting post Grenfell. This is being progressed via a number of working groups and the LFB continues to be involved in reviewing the new hazards identified post Grenfell and supporting the development of National Operational Guidance;
- Review the LFB's existing methods of entry equipment, policies and training. This work acknowledges the issues associated with breaching compartmentation when commencing firefighting operations. LFB is currently researching methods of gaining access for firefighting whilst at the same time being able to maintain control of compartment doors to control ventilation, smoke spread and fire development. Equipment such as smoke curtains could potentially be deployed on the fire floor following entry of firefighting crews to aid maintaining compartmentation and limit fire gas movement inside the protected stairwell(s);
- Wind driven fire tactics - LFB is currently researching the hazards and risks of wind driven fires at high rise buildings; looking at potential alternative tactical approaches and equipment to deal with this type of incident;
- The LFB is also reviewing existing solutions and undertaking further research into the practical water pressures and flow rates that can be achieved at the maximum heights of dry rising mains, particularly those premises built when dry risers were permissible up to 60 metres.. This work is aimed at identifying if the Brigade's current hose equipment and pumping capabilities are able to provide optimum fire fighting jets at the maximum height of a dry rising main. This research will involve practical testing at a number of residential high rise premises with similar characteristics to Grenfell Tower.

Command Unit (CU) Replacement Project

4.17 Although this project predates the Grenfell Tower fire it is acknowledged that the reliability of the Command Support System (CSS) is an issue. As this corporate project is still over two years away from completion officers are now reviewing whether there is a potential interim IT solution that could be implemented.

4.18 The Brigade is aware that a portable command support system may provide more resilience to cover the interim period ahead of the CU replacement project being realised. Work is currently underway by officers within the Brigade's Operational Policy and Assurance department to research the available technologies to assess whether it is viable and expedient to progress an interim IT solution.

4.19 However, communications bandwidth over existing mobile phone bearer networks, coupled with delays to the national Emergency Service Network (ESN)⁴ solution, means that restrictions

on the amount of data that can be transferred will apply to any portable system for the immediate future.

⁴ *The Emergency Services Network (ESN) is a Government project to deliver a new communication system that will be used by the three blue light emergency services and other public safety users in the UK. It will be based on the latest technology, delivering secure and resilient voice communication but also broadband data services.*

- 4.20 In defining the requirements for the new command support solution the Brigade has requested that suppliers consider the use of linking alternate data sources, e.g. drone footage, into the new command support solution, across a range of device types. However, the use of such data has to be balanced against the need for the core incident data (e.g. messages from the Brigade's mobilising system) to be supplied without restriction as a priority. Once suppliers respond to the tender invitations the Brigade will be able to review which technologies and solutions will best be placed to provide all data required by the command support system.

Level 3 Advanced Incident Command Skills / Level 4 Strategic Incident Command Skills

- 4.21 Although this initiative predates the Grenfell Tower fire the events of 14th June 2017 have been the catalyst to bring this work forward. In November 2017 talks with the Brigade's training provider (Babcock Training International) advanced to scoping out the development of both a Level 3 (L3) Advanced Incident Command and Level 4 (L4) Strategic Incident Command 1 day course. The L3 course is designed for all Deputy Assistant Commissioners (DAC) including substantive and temporary DACs and those Group Managers eligible to provide operational cover on the DAC rota. In August 2018 Babcock delivered the first of three pilot courses to ten DAC delegates. All pilot courses received very good feedback and an additional three courses have been scheduled for quarter three of 2018/19 to ensure sufficient course places are available to all eligible officers. The course aims to confirm the knowledge and understanding of a L3 Incident Commander associated with the organisational and strategic coordination arrangements. The L4 Strategic Command course is currently in development and the first pilot course is expected to be delivered in quarter four of 2018/19.

Decision Loggist Training

- 4.22 Decision logging has been identified as a function that needs improvement. Within the Brigade decision logging is focussed on three key areas. These are:
- Logging key decisions and the rationale for these decisions, such as those taken at 'Commissioner's Continuity Group (CCG) convened under the Brigade's Strategic Response Arrangements (SRA), the Brigade Co-ordination Centre (BCC) and meetings held at the Metropolitan Police's Special Operations Room;
 - Decision logging in an operational environment;
 - Minute taking, e.g. Commissioner's Group (CG) and Tactical Support Group (TSG) meetings.
- 4.23 In May 2018 a report on the LFB's decision logging capability was submitted to the Safety & Assurance Directorate Board (DB) meeting. At this meeting it was agreed to sanction a revised training solution and increase the number of trained loggists to provide the Brigade with greater resilience. Following extensive research a pilot course has now been developed, which is being held over two days starting 19th December 2018.

Revalidation of Incident Command (RoIC)

4.24 The RoIC is a corporate project that is currently in the planning stage of the project cycle. The project, once delivered, will see all Incident Commanders undergo a revalidation of their command skills on a bi-annual cycle through a knowledge test, evidence of Incident Command hours undertaken and a practical demonstration of their command proficiency using an Incident Command Exercise (ICE). In May 2018, following a recommendation at corporate level, a dedicated project manager was employed to progress this project.

Operational Policy Updates

4.25 The LFB is currently reviewing Policy Note (PN 633) High rise firefighting and the associated training materials, which is at present out for consultation with the Brigade's Heads of Service. It is also being extensively consulted on with the two main Representative Bodies; the Fire Brigades Union (FBU) and Fire Officers Association (FOA). The updated policy will aim to complement the review of Policy Note 800 (PN 800) Management of Operational Risk. (see Section 6 of this report) and be an interim position ahead of any new National Operational Guidance being published.

4.26 The LFB is also reviewing its Fire Survival Guidance (FSG) policy note (PN 790). It is expected that changes to this policy will be made as a result of the review. Extensive scoping work is underway to include:

- a scalable approach to managing FSG calls - potential options for supporting the Control Room staff, when large numbers of FSG calls are being received, is being reviewed as part of this work. Any solution(s) developed will aim to compliment the existing arrangements that are already in place for dealing with high call volumes;
- optimising the use of existing communications equipment that ensure a network is established that can withstand the passing of multiple FSG call information between Control and the incident ground while ensuring Control receives accurate progress reports from the incident. Trials of various communications structures and protocols are on-going to establish the optimum solution using the existing communications equipment. The solution(s) and any associated training requirements will form part of the revised FSG policy;
- testing, through practical exercises, the current FSG information handling protocols and related capacity issues, minimising the stages currently undertaken to transfer FSG call information from LFB Control to the bridge head at the incident ground. These exercises have included reviewing different options for passing FSG call information between LFB Control and the incident;

4.27 The measures described above are predominantly concerned with ensuring the timely transfer of information between Brigade Control and the fireground. Another but equally key element is ensuring that effective processes are in place to handle large volumes of FSG calls which are likely to overstretch the capacity of a single Control room and ensure the timely sharing of risk critical information between Control rooms taking overflow calls. The actions that LFB and NFCC are working on collaboratively to improve this element are described below in paragraphs 5.3 to 5.5.

4.28 In addition to the above a thematic review is underway to identify any practical user improvements that can be made to the existing range of incident communication equipment. This includes handheld radio, portable and main scheme Airwave radio and Command Unit communications equipment.

5. Control

- 5.1 The review of Policy Note (PN 790) described above is directly relevant to the Control room function: in particular the management of large numbers of FSG calls and to ensuring optimum information flow in both directions between Control and the incident ground.
- 5.2 The management of multiple 999 and FSG calls within the control room itself has also been the subject of review by the LFB, particularly where the number of such calls may be on the exceptional scale experienced during the Grenfell Tower fire.
- 5.3 LFB, like all emergency services have established mutual aid arrangements in place with other Control rooms to answer and handle 999 calls including FSG calls should its own capacity be exceeded as a result of a major incident or spate conditions such as widespread flooding. LFB Control senior managers have engaged with the National Fire Chiefs Council (NFCC) Mobilising Officers Group (MOG) and discussed improving the communication of risk critical information between Controls involved in taking overflow calls under the established mutual aid arrangements.
- 5.4 The group has carefully considered the Grenfell Tower incident and the challenges presented by a number of Controls simultaneously handling calls relating to the same incident. The group propose the establishment of a dedicated national Airwave talk group for Fire Controls to enable the affected Control to simultaneously broadcast risk critical information to all Controls handling overflow calls and ensure supporting Controls can communicate information to the affected Control.
- 5.5 A proposal paper has been drafted by MOG to be presented for consideration by the NFCC Operations Coordination Committee. It is recognised that the proposed measure may be an interim solution dependent on the outcomes of work undertaken by the National Operational Learning Secretariat in response to the issue detailed in paragraph 9.1(ii) below.
- 5.6 The Brigade Control 'fallback' facility located in Stratford (the Control facility in use on the night of the Grenfell Tower fire) has been upgraded to enable the National Police Air Service (NPAS) helicopter downlink to be displayed on the large screens in this Control room.
- 5.7 The Brigade's 'Dynamic Cover Tool' (DCT), which assists Control officers to optimise the available fire cover resources during periods of high demand, is currently being tested to make it accessible at Stratford through a web based application. The DCT is already available at the Brigade's primary Control centre in Merton.
- 5.8 In addition, Brigade Control senior managers are considering the ad hoc actions implemented on the night of the fire to mitigate the unprecedented nature of the incident, recognising that established policies and procedures were overwhelmed. A training package is being developed and will be delivered to ensure that all staff are aware of the actions taken on the night where these are considered effective. Where improvements to the actions taken on the night have been identified, staff will receive input on the original action and the identified improvement. It is recognised this training is an interim measure prior to the implementation of revised policies and technological solutions such as those detailed in paragraph 4.26 and 4.27 above and 9.1 (ii) below.
- 5.8 A more effective training recording system with the facility to automatically update Individual Training Records will also be implemented shortly, together with a more effective system, similar to that used for fire station staff, to ensure core skills are identified and competency of staff in these core skills is maintained .

6. Community Reassurance Activities

- 6.1 LFB Borough Commanders have been providing reassurance and focussed advice to their local communities in response to the concerns of residents following the Grenfell Tower fire. This has taken the form of briefings to partners, including local authorities and housing associations, residents and community groups and giving advice in relation to cladding and safety in high rise residential buildings.
- 6.2 In terms of providing support to the local community directly affected by the Grenfell Tower fire the LFB has initiated an immediate local response via the Kensington and Chelsea Borough Commander and local fire station crews. These activities included reassurance visits to local high rise residential blocks and a structured Home Fire Safety Visit (HFSV) programme focused on those blocks. This work is in addition to the focused programmed activity co-ordinated by the Brigade's Community Safety Department.
- 6.3 In addition to the above the a dedicated Community Safety 'Action Plan' of activity was co-ordinated by the Brigade's Community Safety Department. This included a number of initiatives, schemes and support focussed on prevention and community assurance within the borough of Kensington and Chelsea. These activities are set out in Appendix 4.

7. Operational Risk Information (ORI) Review

- 7.1 Since the Grenfell Tower fire the LFB has initiated a new corporate project to review and improve the current approach to the gathering, recording and dissemination of operational risk information. The review is assessing the effectiveness of how LFB risk assesses buildings and will define a unified approach that can be used across the organisation. The project is also:
 - i) coordinating the review of LFB Policy Note 800 (Management of operational risk information);
 - ii) ensuring that any changes are integrated with the outcomes from the Fire Safety Checks (FSC) initiative, which started in August 2016;
 - iii) identifying and planning for any new training requirements; and
 - iv) ensuring that any system related implications are integrated into the current and planned LFB IT upgrade programmes.
- 7.2 The outcomes of the ORI review and any resulting enhanced workflows will be pivotal to the design principles of the next phase of data system refreshes, some of which are on hold to ensure that they are informed by the outcomes of this review. The LFB is committed to developing a data infrastructure that will streamline the sharing of critical risk information across the various strands of the organisation, so that operational crews and Fire Safety Inspection Officers (FSIOs) will naturally achieve a shared view of the risks across London.

8. High Reach Fire Engines (Aerials)

- 8.1 LFB has provided its vehicles and equipment contractor, Babcock Critical Services, with a detailed output based specification for three extended height aerial appliances to complement the twelve standard height aerial appliances, which are currently being procured as part of the normal replacement life cycle for these assets. Technological advances mean these extended height aerial appliances have now become available on a similar size chassis to the Brigade's current fleet, mitigating the access and other issues associated with larger vehicle chassis, which existed previously.

- 8.2 In 29 May 2018, Babcock went out to the market to invite tenders for the supply of all of the new aerial appliances. This included the supply of both standard and extended height appliances as a single contract. The window to accept tender proposals closed on 25 June 2018 and the evaluation process of the received tender proposals has now been completed.
- 8.3 A preferred bidder has emerged from this process, but the tenders are now being subject to some further technical clarifications prior to the final decision being made. LFB is expecting delivery of the first of the new extended height aerial appliances towards the end of 2019.

9. National Operational Guidance

- 9.1 Two immediate issues were identified by the Grenfell Tower fire 'safety and learning' investigation;
- i) rapid fire spread taking place at the early stages of an incident and well before the expectation of when compartmentation of a building would normally be compromised, and
 - ii) how Fire Survival Guidance (FSG) calls are managed nationally when this type of call is passed to another Control Centre.
- 9.2 Both issues have been shared with the Fire Central Programme Office, National Operational Learning process, where LFB have worked closely with the National Operational Learning Secretariat. This has produced series of recommendations.
- 9.3 These recommendations have resulted in a number of national 'Action Notes' being published through the National Operational Learning User Group (NOLUG) forum. These 'Action Notes' include:
- An Action Note sent to 'Skills for Justice' (the sector skills council for the fire and rescue service) with a recommendation for the review of the National Occupational Standards (NOS), with a purpose of ensuring relevant knowledge and understanding of building construction, fixed installations, fire science and fire engineered solutions that complement National Operational Guidance – 'Fires in buildings';
 - An Action Note to all fire and rescue services in the UK highlighting the existing requirements under the National Operational Guidance control measures: 'Produce a risk management plan' and 'Site Specific Risk Information (SSRI)', in reference to high-rise premises designed or constructed in a way that may result in rapid fire spread. The note states that the NFCC support the approach of fire and rescue services determining their PDA for specific incident types on the basis of their own operational risk assessment (ORA). Each ORA will be cognisant of the need to achieve the appropriate speed and weight of attack.
 - An Action Note to NOG recommending a number of hazard and control measures relating to rapid fire spread and appropriate provision for fire survival guidance has also been issued.
- 9.4 In addition to the Action Notes referred to above, the NOG team have reviewed the hazards and control measures associated with rapid fire spread and are currently consulting on the proposed revisions to the guidance.
- 9.5 As a region in its own right LFB is also a standing member/stakeholder on the NFCC governed NOLUG with a member of the Brigade's Incident Command Policy and Assurance team representing the LFB at this forum. One of the groups references is to collate, consider, discuss and disseminate responses to issues put forward by various regional representatives. In

September 2018 LFB put forward an issue for discussion, which relates to evacuation methods used in high rise buildings involved in fire. The group, which meets every three months, is due to provide feedback at the next meeting in December 2018.

10. Counselling and Trauma Service

- 10.1 The LFB has a long standing and well respected in-house counselling service. The team has been expanded in the immediate aftermath of the Grenfell Tower fire in recognition of the ongoing nature of their role in supporting LFB staff deal with the traumatic impact of the fire and process of giving 'oral' evidence at the Grenfell Tower Inquiry. To date, the LFB's Counselling and Trauma team have treated over 157 personnel for adverse trauma response and/or Post Traumatic Stress Disorder (PTSD).
- 10.2 At the time of the Grenfell Tower fire the LFB had 5.2 trained counsellors (full time equivalents) with one providing out of hours, on call support. As a result of the Grenfell Tower fire the establishment of the counselling team has increased with an additional four whole time counsellors being employed.

11. Communications and Media

- 11.1 Initial communications focused on the incident and immediate aftermath of the Grenfell Tower fire, including staff communications and public messaging. Since the fire there has been significant communications focus on reissuing and clarifying key safety messaging for the public. Content on the LFB website about fire safety in purpose built blocks of flats and maisonettes was reviewed in June 2017. This content, including animations, was originally developed as part of the LFB 'Know the Plan' campaign launched after the Lakanal House inquest. NB: All materials relating to the 'Know the Plan' campaign have already been disclosed to the GTI.
- 11.2 All content has then been promoted through media work focussing specifically on the practical advice LFB gives to Londoners living in purpose built flats and maisonettes. There was also focussed social media activity supporting this and communications to partners asking them to share this information.
- 11.3 The London Fire Commissioner wrote to housing providers across the capital on 26 June 2017 with a reminder of their duty to ensure there is a comprehensive fire risk assessment for all purpose built blocks of flats and maisonettes they own or manage. A copy of this letter is included as Appendix 5. The LFB has also reissued three fire safety tools designed to help housing providers check that their buildings are safe, also initially developed as part of the LFB's 'Know the Plan' campaign. These are two guides for councillors originally published in July 2014 to help councillors scrutinise the safety of purpose built flats in their constituencies:
- i) Councillor guide on fire safety for use during estate visits;
 - ii) Councillor guide on fire safety for use during council meetings; and
 - iii) The third is an audit tool to help examine whether the right measures are in place to ensure that refurbishments of blocks don't negatively impact fire safety is also available. This was first published in January 2015 and is called the 'Fire safety in refurbished buildings audit tool'.
- 11.4 Posters and guides targeted at members of the public, which were available to be jointly branded by housing providers and the LFB have been redistributed via partners including London Councils and the National Housing Federation. Campaigning work has also been

intensified specifically on the topics of sprinklers, building regulations and calling for a review of 'Approved Document B'.

- 11.5 Since the confirmation of where the fire started the LFB has increased proactive use of fire safety messaging in relation to white goods, primarily through increased focus on the pre-existing 'Total Recalls'⁵ campaign.

⁵ The 'Total Recalls' campaign, launched by the LFB in 2016, calls for improvements to manufacturing standards for white goods and the product recall system in the UK.

- 11.6 The LFB's use of internal communications have been extensive, making sure staff have access and updates to counselling, trauma and wellbeing information and are aware of the importance of referring media enquiries to the press office. Internal communications have also been used to keep all fire brigade staff updated on the Public Inquiry and Criminal Investigation.

12. Long Term Health Monitoring

- 12.1 The respiratory health of firefighters is already examined during their routine periodic medicals, which involve a specific asbestos health surveillance component. In addition to this, the Brigade have initiated discussions with researchers at Imperial College (in association with the Royal Brompton Hospital and Kings College) to undertake independently funded research into the effects of the Grenfell Tower fire on both the respiratory health and mental health of those firefighters that attended the incident. The study will be led by and financed through Imperial College London in collaboration with King's College (London) and independently of LFB.
- 12.2 If this study goes ahead firefighters will be offered a more comprehensive medical examination of cardio-respiratory health and a review of their psychological wellbeing. The study will be conducted in an entirely confidential manner in accordance with the ethical standards of good clinical and research practice; participation will be voluntary. The study's findings, which will be presented in a manner from which it will be impossible to identify individual participants, will be published in peer-reviewed journals and a summary of the study findings disseminated to all the participant.

13. London Resilience Group (LRG)

- 13.1 The LRG had full time staff committed to the Grenfell Fire Response Team until 8 September 2017, at which point the Recovery operation was formally handed over to the Royal Borough of Kensington and Chelsea. Since that time London Resilience has conducted the following pieces of work in direct relation to the Grenfell Fire.
- 13.2 On the 4th October 2017 the LRG convened members of the partnership to conduct a table-top exercise focussed on residential tower block evacuations. The exercise had representatives from:
- Greater London Authority (GLA) (including Communications and Housing teams);
 - LFB (Assistant Commissioner and Deputy Assistant Commissioner from the Fire Safety Regulation department);
 - MPS (Emergency Preparedness unit);
 - Local authorities (Chief Executive, Director of Housing and Chief Executive Liaison Officer (Resilience));
 - London Councils (Head of Strategic Policy);

- Major London housing associations;
- Voluntary sector (British Red Cross); and
- Department of Communities and Local Government Resilience and Emergencies Division (now MHCLG RED).

13.3 The exercise focussed on two scenarios: partners actions in relation to another tower block fire and also the need to decant residents from a number of tower blocks simultaneously due to fire safety concerns. The following actions were recorded and discharged to the relevant agency for further work or investigation:

- To consider early communication with the volunteer sector during an incident in regards to the activation of mutual aid - Action: LRG
- For Borough Resilience Forums (BRFs) to revisit Rest Centre availability through Housing associations and refresh representatives awareness - Action - BRFs (communicated via LRG)
- To acknowledge 'Community Resilience' within strategic coordination arrangements during an incident - Action: All Partners
- To consider GLA Housing's offer to the housing association of coordination and capacity of volunteers during an incident - Action: Housing associations
- To clarify the roles and responsibilities of the HCA (Homes Community Agency) in response to an fire incident - Action: DCLG RED
- To consider where the capacity is for additional resources in regards to emergency and temporary accommodation - Action: Local authorities
- Local authority housing departments to consider a mechanism for coordinating resources to identify temporary and emergency accommodation and manage rehousing of large numbers of residents - Action: Local authorities

13.4 LRG also undertook an internal review of its response to the Grenfell Tower fire and the other declared 'Major Incidents' that occurred in 2017. As a result of that review the following actions were undertaken:

- A review of the capacity requirements to respond to the scale of incidents like the Grenfell Tower fire through a combination of full time London Resilience staff and further Fire and Rescue Service (FRS) volunteers;
- Further FRS volunteers were recruited from across the LFB to supplement the London Resilience on-call rotas. This filled vacancies that had arisen over the course of the summer of 2017 and provides a greater pool of volunteers and ensure the Brigade maintain a full compliment of 36 trained responders comprising of London Resilience staff and FRS volunteers;
- A review of internal training delivered to the on-call teams and an increase in frequency of training to staff;
- Increasing the number of on-call response staff trained in senior roles. LRG have increased the number of supervisors from four to eight with a total of nine staff trained in that role. LRG has also increased the number of strategic advisors from three to four with five staff trained in that role. This has increased the availability of senior staff and the flexibility to perform these roles across the full time members of London Resilience;

- Further investment has been made in remote working and the ability to establish a coordination function in a remote location to LFB facilities. All full time staff have been issued with 4G enabled laptops and additional laptops have been purchased for use in a response by volunteers. Additional stand alone printing capability has also been procured. This enables the entire team to work remotely in circumstances such as the sustained response to the Grenfell Tower fire.

13.5 A multi agency strategic debrief was arranged by LRG on behalf of the resilience partnership. The suite of debriefs were focussed against the seven capability frameworks and plans that were invoked as a result of the Grenfell Tower Fire. These were:

- Strategic Coordination Protocol;
- Recovery Management Protocol;
- London Resilience Gold Communications Emergency Plan;
- Mass Fatalities Plan;
- Humanitarian Assistance Framework;
- Scientific and Technical Advice Cell Plan;
- Structural Collapse and Site Clearance Framework.

13.6 As per the learning and implementation protocol the debriefs were facilitated by independent staff from Public Health England's National Training Team who are trained in the same methodology as debriefing that has been used for other Major Incidents in London since the Croydon Tram Derailment in 2016. The debriefs were conducted between 10 July 2018 and – 19 July 2018. The report of the debrief is scheduled to be presented to the London Resilience Forum on 18th October 2018 and the lessons identified consolidated into the London Resilience Partnership Lessons database and allocated to the relevant working group for further action.