Grenfell Tower
Inquiry

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REPORT of the PUBLIC INQUIRY into the FIRE at GRENFELL TOWER on 14 JUNE 2017

Chairman: The Rt Hon Sir Martin Moore-Bick

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This report contains images and content which some may find distressing.

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Chapter 1
Introduction

1.1 In the early hours of Wednesday 14 June 2017 a fire broke out in the kitchen of Flat 16 Grenfell Tower, a high-rise residential building in North Kensington, West London. Grenfell Tower was owned by the Royal Borough of Kensington and Chelsea (RBKC) and managed by the Royal Borough of Kensington and Chelsea Tenant Management Organisation (the TMO). Kitchen fires are not uncommon and in terms of its origin and magnitude this one was nothing out of the ordinary. However, the fire, which should have been contained within the confines of Flat 16, escaped from the kitchen into the external envelope of the building. The building was constructed of reinforced concrete, to which there had recently been added a cladding system comprising insulation boards attached to the outside of the concrete structure and protected from the weather by aluminium composite material rainscreen panels. The rainscreen panels contained a polyethylene core. Polyethylene is a highly combustible substance. The material from which most of the insulation boards were made, polyisocyanurate foam, is also combustible.[1]

1.2 Firefighters from the London Fire Brigade (LFB) attended the fire and within minutes of their arrival had extinguished the fire within the kitchen of Flat 16, but by that time the fire had already escaped into the cladding where they were unable to fight it successfully. Once established within the cladding the fire spread rapidly up the outside of the building. Within 20 minutes a vertical column of flame had reached the top of the building on the east side from where it progressed around the rest of the structure, so that within a few hours it had engulfed almost the whole of the building.

1.3 The fire claimed the lives of 71 people who were present in the tower that night, including the life of Logan Gomes, a child who was stillborn shortly after his mother had escaped and had been admitted to hospital. Another resident who had escaped from the building, Maria del Pilar (Pily) Burton, died seven months later. Although she had been seriously affected by smoke inhalation, her death was not directly caused by the fire, but she is mourned by her husband and friends as another victim of a terrible tragedy which affected the close-knit community living in and around the tower. A total of 227 people in all (residents and visitors) escaped from the tower.

1.4 On the morning after the fire the Prime Minister announced that there would be a public inquiry into the circumstances surrounding the fire and on 28 June 2017 I was appointed to act as its chairman. On 15 August 2017 the Inquiry was formally set up under the Inquiries Act 2005 (the Act); its Terms of Reference can be found in Appendix 1 to this report. As is clear from those Terms of Reference, the primary focus of my task was to investigate the cause and origin of the fire, the means by which it was able to spread throughout the building and how the building came to be in a condition which allowed that to happen. Related matters, such as the response of the LFB, the scope and effectiveness of building regulations and the response of central and local government to the disaster also form part of my Terms of Reference.

1.5 A senior civil servant, Mr Mark Fisher, was appointed Secretary to the Inquiry. Ms Caroline Featherstone, a senior solicitor from the Government Legal Department was appointed Solicitor to the Inquiry and Mr Richard Millett QC was appointed Counsel to the Inquiry. They

[1] A small number of insulation boards were made of phenolic polymer foam, which is also combustible.

have been ably supported by the members of their teams and I cannot speak highly enough of their dedication to the work of the Inquiry and the assistance I have received from every one of them. It has been, and continues to be, a great pleasure to work with them.

1.6 Pursuant to section 11 of the Act I appointed three assessors to advise me, Ms Joyce Redfearn, a highly respected former local authority Chief Executive, having served with Monmouthshire County Council, Gloucestershire County Council and Wigan Metropolitan Borough Council; Mr Joe Montgomery, an experienced housing professional who has more than 30 years' experience leading large-scale housing, infrastructure and regeneration programmes in both the public and private sector; and Professor David Nethercot, a distinguished engineer and former Head of the Department of Civil Engineering at Imperial College, London. Other assessors may be appointed as the Inquiry progresses. I have had the benefit of discussing the evidence and my findings with the assessors and have found their contributions very helpful, although responsibility for the findings and conclusions rests entirely with me.

1.7 Although there was much public speculation at the time about the origin of the fire and the role played by the cladding in its spread, it seemed to me that the first step must be to find out as far as possible exactly what happened during the early hours of 14 June 2017. Only when that had been done would it be possible to focus attention on the underlying causes and the decisions that gave rise to them. I therefore decided that the Inquiry should be conducted in two phases. Phase 1 would identify exactly how the fire started, how it escaped from the flat of origin and how fire and smoke was able to spread throughout the building in a manner and at a speed that prevented many people from escaping, despite the prompt attendance of the emergency services. Phase 1 would also examine the response of the emergency services so far as it bore on the decisions made and actions taken on the night of the fire. Phase 2 would ascertain the underlying causes of the disaster, including the decisions made in relation to critical aspects of the design and construction of the cladding system, the adequacy of the regulatory regime and the response of central and local government.

1.8 The Inquiry is proceeding concurrently with an investigation by the Metropolitan Police Service (MPS) into whether any criminal offences have been committed by (among others) those who were responsible for the design, maintenance or construction of the building. The Inquiry's task is to find out what happened and why. Section 2 of the Inquiries Act specifically precludes me from determining any person's civil or criminal liability, but it also provides that I am not to be inhibited in the discharge of my functions by any likelihood of liability being inferred from the facts I find or the recommendations I make. The role of the Inquiry is, therefore, different from that of the police, but to the extent that each is carrying out an investigation into the same events, the two may be seen as complementary. The MPS have provided the Inquiry with every assistance and will no doubt continue to do so. In so far as there was concern on the part of the police that the Inquiry's investigations might interfere with their own investigations, I believe that we have managed to find ways in which we can assist each other without compromising our respective functions. I am certainly very grateful for the way in which we have been able to work together in the public interest.

1.9 Between 20 June and 22 November 2017 Her Majesty's Senior Coroner for London (Inner West), in whose jurisdiction Grenfell Tower is situated, opened 70 separate inquests into the deaths of those who perished in the fire. She subsequently suspended those inquests pending the outcome of this Inquiry and, if necessary, that of the police investigation. I decided that, in discharging my Terms of Reference, I should carry out, as far as I properly could, an investigation into the deaths caused by the fire corresponding to that which the coroner would be required to undertake in order to discharge her responsibilities. By doing

so I hoped to minimise as far as possible the need for her to re-open any of the inquests and thereby to spare the relatives of those who died the need to endure further proceedings in relation to the deaths of their family members.

1.10 The Inquiry is unusual in the number of its core participants. I have received applications for core participant status from 768 individuals, companies and institutions, most of which have been granted. Applications continue to be made from time to time, but at the end of September 2019 the number of core participants stood at 619. Most of the individuals who have been granted core participant status had either lived in the tower or were related to someone who had died in the fire, or had lived in one of the buildings adjacent to the tower known as "the walkways", which were evacuated during the fire. Most of the applications were considered and determined during the latter part of 2018, but further applications have been received at intervals up to the present day. The bulk of the corporate and institutional core participants were involved in one way or another in the refurbishment or maintenance of the tower between 2012 and the present day, but they also include the LFB and three government departments, the Ministry of Housing, Communities and Local Government (MHCLG), the Home Office and the Cabinet Office. A current list of core participants is published on the Inquiry's website.

1.11 In keeping with the public nature of the Inquiry, arrangements were made for the hearings to be accessible to all who wished to follow them. All witness statements and documents put in evidence during the course of the hearings were published on the Inquiry's website. For the convenience of those who live in the area surrounding the tower the proceedings were streamed live to the Methodist Church in North Kensington by kind permission of the minister, the Reverend Dr Michael Long. They were also streamed live on the internet. In addition, arrangements were made for the proceedings to be video-recorded and transcribed and for access to both the video-recording and the transcript to be available through the Inquiry's website.

1.12 The Inquiry was formally opened on 14 September 2017 in the Connaught Rooms, London WC2. Although I had hoped to be able to begin hearing evidence in late 2017 or early 2018, it soon became apparent that the volume of material that had to be collected, assimilated and digested would make that impossible. In the event, I was able to begin taking evidence on 21 May 2018 at the Millennium Gloucester Hotel in Kensington, when over a period of two weeks those who had lost friends and relatives in the fire described the people they had known and loved. This was above all a human tragedy which affected not only the lives of those who lived in the tower and its immediate surroundings but also many who lived at a greater distance, not only in this country but also abroad. The moving and dignified descriptions of the lives and personalities of those who had died, and of the community to which they belonged, brought the human dimension to the fore and ensured that it will never be lost to sight amid the many issues of a technical nature with which the Inquiry inevitably has to grapple.

1.13 Between 4 June and 23 November 2018 the Inquiry sat for a total of 88 days at Holborn Bars, London WC2, during which I heard evidence from many of those who had been directly involved in the fire or the circumstances surrounding it. They included former residents of the tower who had survived the blaze, firefighters, control room officers and senior officers from the LFB, two officers of the MPS, one of whom was on duty at the scene during much of the night, the Director of Operations of the London Ambulance Service (LAS), many of whose members attended to treat casualties, and employees of RBKC and the TMO.

1.14 The evidence of the survivors and the firefighters has been of particular importance, not least because they were able to describe conditions within the building at different times and in different places. In that way they provided an important part of the foundation on which the expert witnesses instructed to assist the Inquiry were able to base their opinions. No less important was the evidence given by the survivors of their experiences as the fire developed. In many cases they escaped due to their courage and determination in the face of daunting conditions and many provided statements describing their experiences in detail. A list of those who provided statements is set out in full in Appendix 2. Their testimony, which has proved to be of great assistance, stands as a permanent record of their individual and collective response to an overwhelming tragedy. The accounts given by many of the firefighters demonstrate that they displayed a remarkable degree of courage and devotion to duty. In many cases individual firefighters entered the burning building on several occasions in disregard of their own safety in an attempt to rescue those who were trapped. I am grateful to all those who gave evidence, both those called to give evidence in person and those who provided written statements but were not called. All the statements received by the Inquiry have been published on its website and form part of its formal record. As such they will be permanently available to those who may wish to read them.

1.15 The Inquiry was fortunate in obtaining the assistance of a number of leading experts in a wide range of fields, whose evidence is referred to in detail later in this report. Some of them gave initial presentations in June 2018 in order to provide a context for the subsequent evidence of the firefighters and survivors, but their formal evidence was reserved until after the close of the factual evidence. Between 20 and 29 November 2018 I heard evidence from the experts, which has proved invaluable in helping me to understand the nature and characteristics of the building, the development of the fire and the wider course of events surrounding it.

1.16 Given the complexity of the disaster, it is unlikely that it will ever be possible to establish with complete certainty some of the details of what occurred at Grenfell Tower during the early hours of 14 June 2017. Many of the experts who have given evidence to the Inquiry have indicated that they intend to carry out further research of one kind or another to validate or refine the conclusions they have reached at this stage. However, I am satisfied that there is enough information already available to enable findings to be made about the central events of the night with sufficient confidence to make recommendations at this stage and to set the direction for the investigation which the Inquiry will undertake in Phase 2. On the whole there have been fewer significant conflicts of evidence than might have been expected and most of those that have arisen can be attributed to differences in individual judgement, perception or recollection. It has been necessary to resolve such differences in the relatively few cases in which a definitive finding is required, but in many cases the differences can be noted without the need for me to decide which of two or more competing accounts is to be preferred.

1.17 Since the Inquiry is inquisitorial in nature, there is no burden of proof and no fixed standard by reference to which findings of fact must be made. I have therefore adopted the flexible approach that has been followed in many other inquiries. That allows me to express my conclusions in terms of the likelihood that an event did or did not occur. In some cases I have been left in no doubt that an event occurred; in others, I think it more likely than not that it did; in others, that it is possible, and so on. In my view that is likely to be more helpful and to assist the reader to understand the complex factual circumstances which the Grenfell Tower fire presented.

1.18 Some areas of investigation have given rise to clear conclusions, sometimes without any serious dispute. In such cases I have generally not thought it necessary to describe the evidence in great detail, since I do not think there is anything useful to be gained by doing

so. That is particularly so in cases where the evidence is of a highly technical nature and has been explained by one of the expert witnesses. All the evidence on which my conclusions are based has been published on the Inquiry's website, where it remains available to anyone who is interested in examining it. In some cases, however, public interest in the matter under consideration is such that a fuller description of the evidence is required, even though the conclusion to be drawn is clear and relatively uncontroversial. Other areas of investigation have given rise to more complex questions and in those cases I have examined the evidence in greater detail in order to explain clearly the basis of my conclusions. Again, the relevant evidence is available on the Inquiry's website.

1.19 One purpose of this report is to set out in definitive terms, as far as is currently possible, the course of events at Grenfell Tower between 00.54 when the fire in Flat 16 was first reported to the LFB and 08.07 on 14 June 2017 when the last survivor escaped from the tower. That can best be done by providing a chronological narrative of events. Part II of the report contains that narrative. However, in order to enable the narrative to be properly understood, it is necessary first to describe certain aspects of the background to the events of the night, principally the building itself and the organisation of the LFB. My report therefore adopts that approach.

1.20 In Part III of the report I set out my analysis and conclusions in relation to the origin and development of the fire and the response of the emergency services, principally the LFB, to the disaster. In the course of doing so I identify a number of serious shortcomings in the response of the LFB, both in the operation of the control room and on the incident ground, and to a lesser extent in that of the MPS, the LAS, RBKC and the TMO. My criticisms are inevitably grounded in my findings about how various individuals acted during the course of that night, but it is right to recognise that those shortcomings were for the most part systemic in nature. I am acutely conscious that those who were on duty that evening were faced with an unprecedented situation for which they were not properly prepared and that both personnel and systems were overwhelmed by the scale of the disaster. It is right to say at the outset that those in the control room and those deployed on the incident ground responded with great courage and dedication in the most harrowing of circumstances.

1.21 I have also kept in mind the danger of judging with the benefit of hindsight the actions of those who were confronted on the night with a situation none of them had previously encountered. It is important to remember that they could only make use of the equipment and information available to them and were forced to respond to a situation with which, in many cases, they were ill-equipped to deal. I have been careful, therefore, to examine their response from the perspective they had of an unexpected and rapidly developing situation of a kind which none of them had previously encountered.

1.22 Part IV of this report is a summary of the evidence I heard in May 2018 at the commemorations of the lives of most of those who died at Grenfell Tower. As a summary it self-evidently can never do them full justice, but it is right that the memories of those who knew and loved them stand as a permanent public record of who each of them was in life.

1.23 Phase 2 of the Inquiry will involve investigating the underlying causes of the tragedy, but as is the case with any analysis of complex events, the distinction between the tragedy and its underlying causes is not easy to identify with precision. Much depends on the level of generality adopted. For that reason I have recognised throughout the hearings that the boundary between Phase 1 and Phase 2 should be kept flexible and, in particular, that it should be understood that much of the evidence given in the course of the Phase 1 hearings is likely to be as relevant, if not more relevant, to the issues that fall for consideration in Phase 2. That evidence has, however, been captured and will be considered in the context of the

Phase 2 investigations. In this report I have tried not to trespass more than necessary on the issues that will fall for consideration in Phase 2 and I have therefore refrained from making findings on some of the matters on which evidence was given during the hearings.

1.24 Rule 13(3) of the Inquiries Rules 2006, which govern the procedure to be adopted in conducting public inquiries, prevents me from including any explicit or significant criticism of a person in my report unless I have sent that person a warning letter and he or she has been given a reasonable opportunity of responding to it. The rules do not explain what is meant in this context by the expression "explicit or significant", but I have taken the view that it should be interpreted generously in order to ensure that anyone whose conduct might be considered to have been the subject of criticism should have a chance to respond. Accordingly, in July 2019, the Inquiry's solicitors wrote to 41 individuals and organisations informing them of the specific criticisms that I proposed to make of them and providing them with the relevant sections of the draft report which identified the evidence on which they were based.

1.25 In August 2019 the Inquiry received responses from all those to whom warning letters had been sent. I have considered each of those responses with care and whenever appropriate I have reconsidered the evidence on which the particular criticism was based. In many cases I have modified my provisional conclusions in the light of the responses I received, in order to avoid any unfairness. I have not, however, taken into account fresh evidence or new arguments that could have been, but were not, put forward during the hearing. It is not the purpose of rule 13 to provide those who may be criticised with an opportunity to re-open the proceedings in order to justify their conduct. Although a public inquiry is an investigative, rather than an adversarial, process, which at one level must always be open to new insights, there must be a degree of finality if the process is to reach a conclusion within a reasonable time. Rule 13 itself recognises that in so far as it provides an opportunity to respond to criticism based on the material already before the Inquiry. I hope that this will be borne in mind as the Inquiry moves into Phase 2.

1.26 I am conscious that the Inquiry's hearings have been followed closely by commentators in the media as well as the public at large. Some of my conclusions are therefore likely to come as no surprise to many, although others may be more unexpected. In either case, however, I hope it will be clear that this stage of the Inquiry's investigations has been detailed and thorough and that every avenue of inquiry relevant to this stage of the process has been fully explored. A tragedy of these dimensions deserves no less.

Chapter 2
Executive Summary

Overview

2.1 This first report of the Grenfell Tower Inquiry is divided into six parts. **Part I** contains a broad introduction to the events that took place during the early hours of 14 June 2017. It contains a description of Grenfell Tower itself and of the organisation of the London Fire Brigade (LFB) and sets the scene for **Part II**, which contains a detailed narrative account of the fire and the steps taken in response to it. **Part III** contains my conclusions about the origin and development of the fire and my analysis of the response of the LFB and the other emergency services which attended the incident. The hearings commemorating those who died constituted an important part of the Inquiry's proceedings. A summary of the tributes paid to their loved ones by their families and friends is contained in **Part IV**. **Part V** contains recommendations arising out of the findings made earlier in the report and **Part VI** looks ahead to identify some matters of particular importance on which the Inquiry will concentrate its attention in Phase 2.

2.2 I am grateful to all those who gave evidence, both those called to give evidence in person and those who provided written statements but were not called. I am very conscious that many of those who gave evidence found it a challenging and emotional experience.

Part I: Background matters

2.3 **Chapter 1** of the report contains a general introduction to the Inquiry. In it I explain why I decided to conduct the Inquiry in two phases and how the Phase 1 hearings were organised, beginning with commemorations of those who lost their lives in the disaster. I draw attention to the fact that the Inquiry is being conducted in parallel to investigations being carried out by the Metropolitan Police Service (MPS) and Her Majesty's Coroner for Inner London (West), Professor Fiona Wilcox.

2.4 **Chapter 3** describes Grenfell Tower itself, completed in 1974, and the changes that were subsequently made to the building and its immediate surroundings, culminating in the tower's most recent refurbishment, which was completed in 2016. It explains the mix of rental and leasehold properties in the tower, the community which lived there, and the different functions of the Royal Borough of Kensington and Chelsea (RBKC) as owner of the building and the RBKC Tenant Management Organisation (TMO) as its manager.

2.5 In **Chapter 4** there is an explanation of the principles underpinning fire safety in high-rise residential buildings, such as Grenfell Tower, which have led to the adoption of the "stay put" strategy in response to fires occurring within individual flats.

2.6 A summary of the primary and secondary legislation relevant to the original construction and the later refurbishment of Grenfell Tower is to be found in **Chapter 5**, together with a reference to certain aspects of the relevant guidance on methods of complying with the legislative requirements.

2.7 **Chapter 6** provides an overview of the refurbishment. It contains a description of the new cladding system, associated changes to the windows and their surrounds, and the addition of an architectural crown, as well as other features of the building that were intended to promote safety in the event of a fire.

2.8 The structure and organisation of the LFB, including its statutory responsibilities, the principles which govern its operations (particularly in relation to fighting fires in high-rise buildings) and the equipment at its disposal, are described in **Chapter 7**. That chapter also contains a description of the control room and its method of working. The chapter concludes with a description of some of the equipment used by the LFB to which reference is made in subsequent chapters.

2.9 **Chapter 8** refers to the Lakanal House fire, which represents an important aspect of the background to the Grenfell Tower fire. On 3 July 2009 a fire broke out on floor 9 of Lakanal House, a 14-floor building in Southwark. The fire spread rapidly to other floors and smoke affected large parts of the building. Six people died. The coroner made a number of recommendations for change following the fire, some of which were directed at the LFB. The LFB undertook a detailed internal review of its practices and policies relating to 999 call-handling in general and to those calls requiring potentially life-saving fire survival guidance (FSG calls) in particular. The review questioned whether the control room should assume that fire crews would reach FSG callers quickly and whether in general it correctly balanced the risk of staying put against the risk of attempting to escape. Despite changes in policy, similar shortcomings were displayed by the control room when responding to callers from Grenfell Tower.

Part II: The events of 14 June 2017

2.10 **Chapters 9 – 20**, which make up **Part II** of the report, contain a detailed narrative of the events organised into 11 separate periods between 00.54, shortly before the control room received the first call concerning a fire at Grenfell Tower, and 08.10, when the last survivor left the tower. The account relies on the evidence of survivors and firefighters, source material such as records of 999 calls, and the evidence of expert witnesses called to assist the Inquiry. Each period covers the behaviour of the fire, the events at the incident ground and in the control room, the conditions in the tower itself, the movement of the occupants, and the actions of the MPS, the London Ambulance Service (LAS), RBKC and the TMO. Annex A to Part II contains a list of those who were present in the tower as at 00.54 and the times at which they left the building.

2.11 The following key events form the backbone of the Narrative:

00.54 Behailu Kebede calls 999 to report a fire in Flat 16, floor 4 Grenfell Tower.

00.59 First firefighters reach the tower.

01.09 Fire breaks out of Flat 16 into exterior cladding and starts to climb the east facade rapidly.

01.14 Firefighters enter the kitchen of Flat 16 for the first time.

01.21 First 999 call to the control room from an occupant in the tower (Naomi Li, Flat 195, floor 22).

01.25 First 999 call to report smoke coming into flat from lobby (Denis Murphy, Flat 111, floor 14).

01.26 MPS declares a Major Incident.

01.27 Fire reaches the roof and starts to spread horizontally.

01.29 WM Michael Dowden, the LFB incident commander, makes pumps 20 (having made up from 4 to 6, to 8, to 10 and to 15 between 01.13 and 01.28).

01.30 First 999 call reporting fire penetrating a flat (Mariem Elgwahry, Flat 196, floor 22).

01.31 WM Dowden makes pumps 25. By this time 110 out of 297 occupants have escaped; the fire starts to spread to the north elevation of the tower.

01.42 The LAS declares a Significant Incident.

01.45 First NPAS (police) helicopter arrives at the scene.

01.50 WM Dowden hands over incident command to SM Andrew Walton. By this time 168 of 297 occupants had escaped.

01.58 SM Walton hands over incident command to DAC Andrew O'Loughlin.

02.00 Flames travel across the north and east elevations of the tower, and start to spread around the crown and diagonally across the face of the building, affecting flats in the south-east and north-west corners.

02.04 GM Richard Welch declares himself incident commander, not knowing that DAC O'Loughlin has already assumed command.

GM Welch makes pumps 40.

02.06 GM Welch declares a Major Incident.

02.11 DAC O'Loughlin takes handover from GM Welch.

02.15 SOM Joanne Smith arrives at the control room.

02.17 Bridgehead moves from floor 2 up to floor 3.

02.20 Flames start to spread to south elevation.

02.26 The LAS declares a Major Incident

02.35 Control room decides to revoke the "stay put" advice and tell all occupants calling 999 to leave the tower.

02.44 AC Andrew Roe takes over incident command from DAC O'Loughlin.

02.47 AC Roe revokes the "stay put" advice.

02.50 Fire spreads horizontally across the south elevation at the crown.

Commissioner Dany Cotton arrives at Grenfell Tower.

03.00 Fire starts to spread across the west elevation of tower, from north to south.

03.08 Bridgehead relocates to ground floor lobby.

03.20 First Tactical Co-ordination Group (TCG) meeting.

03.30 Flames continue to spread across the south and west elevations of the tower.

04.02 Fires on the south and west elevations start to converge at the top of the southern corner of the west face.

08.07 Elpidio Bonifacio, the last survivor to leave the tower, is evacuated.

Part III: Conclusions

The cause and origin of the fire and its escape from Flat 16

2.12 In **Chapter 21** I consider the cause and origin of the fire and find that it was started by an electrical fault in a large fridge-freezer in the kitchen of Flat 16, for which Behailu Kebede bears no blame. I have not been able to establish the precise nature of the fault in the fridge-freezer, but consider that to be of less importance than establishing how the failure of a common domestic appliance could have had such disastrous consequences. That question is pursued in **Chapter 22**, in which I find that:

a. The fire is most likely to have entered the cladding as a result of hot smoke impinging on the uPVC window jamb, causing it to deform and collapse and thereby provide an opening into the cavity between the insulation and the ACM cladding panels through which flames and hot gases could pass. It is, however, possible (but less likely) that flames from the fire in the fridge-freezer passed through the open kitchen window and impinged on the ACM cladding panels above.

b. The fire had entered the cladding before firefighters opened the kitchen door in Flat 16 for the first time at 01.14.

c. A kitchen fire of that relatively modest size was perfectly foreseeable.

The subsequent development of the fire

2.13 The progress of the fire after it had entered the cladding is considered in **Chapter 23**. Once the fire had escaped from Flat 16, it spread rapidly up the east face of the tower. It then spread around the top of the building in both directions and down the sides until the advancing flame fronts converged on the west face near the south-west corner, enveloping the entire building in under three hours. I find that:

a. The principal reason why the flames spread so rapidly up, down and around the building was the presence of the aluminium composite material (ACM) rainscreen panels with polyethylene cores, which acted as a source of fuel. The principal mechanism for the spread of the fire horizontally and downwards was the melting and dripping of burning polyethylene from the crown and from the spandrel and column panels, which ignited fires lower down the building. Those fires then travelled back up the building, thereby allowing the flame front to progress diagonally across each face of the tower.

b. The presence of polyisocyanurate (PIR) and phenolic foam insulation boards behind the ACM panels, and perhaps components of the window surrounds, contributed to the rate and extent of vertical flame spread.

c. The crown was primarily responsible for the spread of the fire horizontally, and the columns were a principal route of downwards fire spread.

The loss of compartmentation and the spread of fire through the tower

2.14 In **Chapter 24** I consider the evidence relating to the penetration of the building by fire and smoke and the rapid loss of compartmentation. The fire on the outside of the building quickly entered many flats and smoke spread rapidly through the interior of the building. As a result, effective compartmentation was lost at an early stage. Compartmentation failed because:

a. The intensity of the heat was such that the glass in the windows inevitably failed, allowing the fire to penetrate flats.

b. Extractor fan units in the kitchens had a propensity to deform and become dislodged, providing a point of entry.

c. A number of key fire protection measures inside the tower failed. Although some fire doors held back the smoke, others did not. Some were left open and failed to close because they lacked effective self-closing devices; others were broken down by firefighters or wedged open with firefighting equipment.

2.15 The spread of fire and smoke within the tower is described in **Chapter 25**. Many lobbies had started to fill with smoke by around 01.20 and some were significantly smoke-logged by 01.40. By 02.00 a significant number were heavily smoke-logged. Until around 01.50 there was less smoke in the stairs; by then 168 people had been able to escape. After that time the stairs started to fill with smoke, particularly at lower levels. At some levels the smoke was thick and the heat considerable. By 02.20 the smoke in the stairs did pose a risk to life, but the stairs were not absolutely impassable to all even after that time.

Compliance with the Building Regulations

2.16 It was not my original intention to include in Phase 1 of the Inquiry an investigation into the extent to which the building complied with the requirements of the Building Regulations. However, as I have explained in **Chapter 26**, there was compelling evidence that the external walls of the building failed to comply with Requirement B4(1) of Schedule 1 to the Building Regulations 2010, in that they did not adequately resist the spread of fire having regard to the height, use and position of the building. On the contrary, they actively promoted it. It will be necessary in Phase 2 to examine why those who were responsible for the design of the refurbishment considered that the tower would meet that essential requirement.

The LFB: planning and preparation

2.17 Planning and preparation by the LFB for fires in high-rise buildings is examined in **Chapter 27**. National guidance requires fire and rescue services to draw up contingency evacuation plans for dealing with fires in high-rise buildings that spread beyond the compartment of origin causing a "stay put" strategy to become untenable. They should understand, for any given high-rise building in their area, when a partial or full evacuation might become necessary and provide appropriate training to incident commanders.

2.18 The LFB's policy for fighting fires in high-rise buildings, PN633, envisages that evacuation of a high-rise residential building may be necessary and suggests that during familiarisation visits officers consider evacuation arrangements. However, the LFB's preparation and planning for a fire such as that at Grenfell Tower was gravely inadequate. In particular:

a. The otherwise experienced incident commanders and senior officers attending the fire had received no training in the particular dangers associated with combustible cladding, even though some senior officers were aware of similar fires that had occurred in other

countries, and of the fact that construction materials and methods of construction were being used in high-rise building facades with a limited understanding of their behaviour and performance in a fire.

b. LFB incident commanders had received no training in how to recognise the need for an evacuation or how to organise one.

c. There was no contingency plan for the evacuation of Grenfell Tower.

d. Although the LFB purports to maintain an operational risk database (ORD) for buildings in London and has a risk assessment policy (PN800) accessible by all operational firefighters at an incident, the entry on the ORD for Grenfell Tower contained almost no information of any use to an incident commander called to a fire. Such information as was contained in the ORD was many years out of date and did not reflect the changes made by the refurbishment.

e. In some cases, basic information relating to the tower held by the LFB was wrong and in others it was missing altogether.

The LFB: at the incident ground

2.19 My findings about operations on the incident ground are to be found in **Chapter 28**. The firefighters who attended the tower displayed extraordinary courage and selfless devotion to duty, but the first incident commanders, although experienced, were of relatively junior rank. They were faced with a situation for which they had not been properly prepared. In particular:

a. None of them seem to have been able to conceive of the possibility of a general failure of compartmentation or of a need for mass evacuation; they neither truly seized control of the situation nor were able to change strategy.

b. Once it was clear that the fire was out of control and that compartmentation had failed, a decision should have been taken to organise the evacuation of the tower while that remained possible. That decision could and should have been made between 01.30 and 01.50 and would be likely to have resulted in fewer fatalities. The best part of an hour was lost before AC Roe revoked the “stay put” advice.

c. The LFB continued to rely on the “stay put” strategy in place for Grenfell Tower which was not questioned, notwithstanding all the early indications that the building had suffered a total failure of compartmentation.

d. No systematic arrangements were made for information about the number and source of FSG calls to be communicated to the incident commanders. Similarly, information about the internal spread of the fire and the results of rescue operations was not effectively shared with incident commanders; pictures from the police helicopter were not available to them.

e. There were serious deficiencies in command and control. Although additional resources arrived swiftly, some senior officers failed to give sufficient practical support or inform themselves quickly enough of conditions and operations within the building.

f. Many of the physical or electronic communication systems did not work properly, such as the command support system (CSS) on the command units.

The LFB: in the control room

2.20 **Chapter 29** contains my findings about the operation of the control room. The control room staff faced an unprecedented number of 999 calls relating to the fire which posed a challenge wholly outside their long experience and training. Control room staff undoubtedly saved lives, but a close examination of the control room's operations has revealed shortcomings in practice, policy and training. In particular:

a. LFB policy on handling FSG calls requires control room operators (CROs) to stay on the line with callers until they are rescued or can otherwise leave the building, but the number of FSG calls received during the fire far exceeded the number of CROs available, putting them in an invidious position.

b. Neither the application of the "stay put" policy nor the specific requirements that have to be followed if an FSG caller is to escape from a burning building are properly set out in the LFB policy documents.

c. CROs did not always obtain necessary information from callers, such as flat numbers, the number of people present, or whether people were disabled; nor did they always assess conditions at the callers' locations and hence the possibility of their escape.

d. CROs had not been trained to handle numerous simultaneous FSG calls, on the implications of a decision to evacuate, or on the circumstances in which a caller should be advised to leave the building or stay put. They were not aware of the danger of assuming that crews would always reach callers, which was one of the important lessons that should have been learnt from the Lakanal House fire. As a result, they gave assurances which were not well founded.

e. When the "stay put" advice was revoked and occupants were to be told to leave the building, the CROs did not all understand that they had to give that advice in unequivocal terms so that the caller would know that they had no choice but to leave the building.

f. Channels of communication between the control room and the incident ground were improvised, uncertain and prone to error. CROs did not therefore know enough about conditions in the tower or the progress of responses to individual FSG calls, so they lacked a sound basis for telling callers whether help was on its way.

g. Those on the incident ground did not have access to valuable information from the control room. The very fact that CROs had to terminate FSG calls in order to answer new calls ought to have alerted more senior control room officers to the fact that it had become impractical to give proper FSG advice.

h. There was no organised means of sharing information obtained from callers among the CROs, and little access to information from other sources. As a result, CROs had no overall picture of the speed or pattern of fire spread. Early on in the incident CROs told occupants that the fire was still confined to floor 4 when in fact it had reached the top of the tower.

i. Although the LFB has arrangements in place for handling a large number of 999 calls, routing them to other fire and rescue services, they do not provide for sharing information about conditions at the incident itself. Differing advice was given at important moments.

j. There were weaknesses in the supervision of control room staff. Supervisors were under the most enormous pressure, but the LFB had not provided its senior control room staff

with appropriate training on how to manage a large-scale incident with a large number of FSG calls.

k. Mistakes made in responding to the Lakanal House fire were repeated.

The response of the other emergency services, RBKC and the TMO

2.21 The response of the other emergency services, RBKC and the TMO is considered in **Chapter 30**, which describes the standing arrangements and protocols for joint operations between London's emergency services. It is clear that although in some respects they were implemented successfully (for example, the management of the security cordon by the MPS), the response was unsatisfactory in other respects. The evidence does not show that any death or injury resulted from these failures but they contain important lessons for future major disasters in London. In particular:

a. The MPS declared a Major Incident at 01.26 without telling the LFB or the LAS. The LFB declared a Major Incident at 02.06 without telling the MPS or the LAS; and the LAS declared a Major Incident at 02.26 without telling the LFB or the MPS. RBKC was not told about any of these declarations until 02.42. This lack of communication was a serious failure to comply with the joint working arrangements and protocols designed for major emergencies in London.

b. The consequence of failing to share the declarations of a Major Incident meant that the need for a properly co-ordinated joint response between the emergency services was not appreciated early enough. That in turn led to a lack of shared understanding of the nature and effect of the fire. The conversations that should have taken place between the supervisors of the different control rooms did not happen.

c. Communication between the emergency services on the night of the fire, both remotely and on the incident ground itself, did not meet the standards required by the protocols. A single point of contact in each control room and direct communication between control room supervisors should have been established.

d. The heli-tele downlink (the communication link with the police helicopter overhead) failed to function, which adversely affected LFB operations.

2.22 RBKC is subject to certain obligations under the Civil Contingencies Act 2004 and had a formal "Contingency Management Plan" setting out what needed to be done in the event of an emergency. The TMO had no obligations under that plan. It had its own emergency plan, but it was not activated and was in any case fifteen years out of date. As RBKC's response to the fire relied on key information held by the TMO, its plan was in certain respects ineffective. One particular cause for concern is the delay in obtaining the attendance of a Dangerous Structures Engineer (DSE), despite numerous requests from the LFB; another is the delay in obtaining plans of the building, which were not on site, not on the LFB's ORD and not available to the LFB until around 08.00.

Shutting off the supply of gas to the tower

2.23 **Chapter 31** describes the steps taken to isolate the tower from the main gas supply. Gas was supplied to the tower by Cadent Gas Ltd (Cadent). Cadent had a legal obligation to help the LFB, and had reported to the incident ground before 05.00. Fortunately, a key Cadent engineer, Jason Allday, who knew the area well, subsequently arrived unprompted, took charge, and stayed for 24 hours. Shutting off the gas to the tower ultimately involved Cadent's

cutting and capping off three substantial pipes under nearby streets supplying gas to the whole area. The work was completed by 23.40 and the remaining flames in the tower died down almost immediately.

Part IV: Remembering those who died

2.24 **Chapter 32** contains a summary of the tributes paid to those who died in the fire at the commemoration hearings with which the Inquiry opened. The Inquiry started its Phase 1 hearings at the Millennium Gloucester Hotel in Kensington with commemorations of all those who died and a celebration of their lives. This part of the report names each of those who died and, drawing on the evidence given by loved ones and friends, provides a brief summary of their lives.

Part V: Recommendations

2.25 Although Phase 1 of the Inquiry has been limited to investigating the course of events during the night of 14 June 2017 and much work remains to be done, it has already become clear that some important steps need to be taken to improve fire safety, including the response of the LFB and other fire and rescue services to major disasters, including fires in high-rise residential buildings. **Chapter 33** therefore contains recommendations arising out of the evidence heard in Phase 1 and the findings of fact based on it. It would not be appropriate to make recommendations at this stage in relation to matters that have not been the subject of investigation, such as the regime surrounding the testing and certification of building materials, even though there are grounds for thinking that changes may need to be made.

2.26 Chapter 33 does not lend itself to being summarised. It should be read in full, because it sets out my recommendations in detail and explains the basis on which they are being made (or in some cases why certain recommendations are not being made). In summary, however, I make recommendations for change in relation to the following matters:

a. The information made available to fire and rescue services about the materials and methods of construction used in the external walls of high-rise residential buildings.

b. The arrangements made by the LFB to discharge its duties under section 7(2)(d) of the Fire and Rescue Services Act 2004.

c. The availability of plans of high-rise residential buildings to local fire and rescue services and the provision of premises information boxes in high-rise residential buildings.

d. The regular inspection and testing of lifts designed for use by firefighters.

e. Communication between the LFB control room and the incident commander.

f. The way in which fire and rescue services handle emergency calls.

g. The LFB's command and control procedures and use of resources, in particular the capture of information from crews returning from deployments and the sharing of information between the LFB control room, the incident commander and the bridgehead.

h. The communication equipment available to the LFB for use by crews deployed in firefighting and rescue operations in high-rise buildings.

i. The evacuation of high-rise residential buildings, including the provision of equipment enabling firefighters to send an evacuation signal to the whole or a selected part of the building.

j. The provision of fire safety information to residents of high-rise residential buildings and the marking of floor levels in lobbies and staircase landings.

k. The inspection of fire doors and self-closing devices.

l. Aspects of co-operation between the emergency services.

Part VI: Looking ahead to Phase 2

2.27 In Phase 2 the Inquiry will seek to answer the various questions set out in the List of Issues which appears on its website, but as a result of what has been learnt from the work done in Phase 1, some questions have assumed greater prominence than had previously been thought and others have receded in importance. Accordingly, in the final chapter of the report, **Chapter 34**, there is a pointer to those aspects of the Inquiry's investigations on which, in the light of Phase 1, particular attention will need to be focused in Phase 2.

2.28 The first matter concerns the deceased. An important element of Phase 2 will be to complete the investigation of the circumstances in which those who died in the fire met their deaths. Many of the findings that are required by the coroner have been made in this report, but there remains the need for an investigation into the wider circumstances that can only be satisfied by the evidence that will emerge during the proceedings in Phase 2. In due course there will be an opportunity for the bereaved to draw together the threads of the evidence relating to those who died in order to enable the necessary findings of fact to be made.

2.29 Other matters of particular concern include:

a. The decisions relating to the design of the refurbishment and the choice of materials.

b. The regime for testing and certifying the reaction to fire of materials intended for use in construction.

c. The design and choice of materials.

d. The performance of fire doors in the tower, in particular, whether they complied with relevant regulations, their maintenance and the reasons why some of the self-closing devices do not appear to have worked.

e. The organisation and management of the LFB, in particular in relation to the formulation of policy in the light of experience, the arrangements for training firefighters and control room staff, and the arrangements for sharing information about the particular problems associated with fighting fires in high-rise buildings.

f. The warnings of potential fire hazards given by the local community.

g. The authorities' response to the disaster.

2.30 It has now become clear that some aspects of the building which were at one time thought to require careful investigation did not play a significant role in the disaster and will not therefore require further examination. They include:

a. The width of the stairs.

b. The supply of gas.

c. The supply of electricity and the history of electrical surges.

Chapter 3
Grenfell Tower and the Surrounding Area

The tower

3.1 Grenfell Tower is a residential tower block built in 1974. It is located in the Lancaster West Estate in North Kensington, London W11. The Lancaster West scheme was designed by the architects Clifford Wearden & Associates in the late 1960s and consisted of Grenfell Tower itself and three low-rise residential blocks, sometimes referred to as "finger blocks", but known locally as "the walkways". The tower was built by contractors A. E. Symes of Leyton, London; building work commenced in 1972 and was completed by 1974. Grenfell Tower is owned by RBKC.

The walkways

3.2 The walkways extend 150 metres south from the tower and enclose two green spaces. They are Testerton Walk, Hurstway Walk and Barandon Walk. The original design concept for Grenfell Tower was to keep vehicle and pedestrian access separate and hence there was a walkway level running above the ground level and linking the low-rise blocks to the tower. However, in the early 1990s the estate was changed to create a series of independent blocks, each with their own secure entrance and the walkway connection to Grenfell Tower was closed off by the construction of an office. Thereafter, the only access to the tower for residents was through the entrance at ground level on the south side.[1]

The surrounding area

3.3 RBKC is an inner London Borough providing the majority of local government services. Although geographically one of the smallest boroughs in London, it is one of the most densely populated areas in Europe.

3.4 Grenfell Tower is located at the northern end of the Lancaster West estate. Grenfell Road runs up from the south and along the east side of Barandon Walk, towards the south-east corner of the tower. As Grenfell Road approaches the tower it turns to the west and runs towards the entrance to the tower, underneath the elevated concrete walkway which runs above the roadway. To the immediate east of the tower is Lancaster Green. To the north of the tower is Silchester Road running east-west, which joins Lancaster Road heading north-east. To the west there is a pedestrian walkway, Station Walk, which runs parallel to the underground railway line (70 metres from the tower) running south-west to north-east. Blechynden Street is also to the west and runs east-west, beyond the railway line. Latimer Road tube station is to the south-west on Bramley Road, which runs north-south and is approximately 200 metres' walking distance from the entrance to the tower.

3.5 This is a map of the area around Grenfell Tower at the time of its construction:

[1] Stage D Design Report Studio E, August 2013 [CCL00000028] paragraph 4.2.

Figure 3.1

The residents of the tower

3.6 The vast majority of the residential flats in the tower were part of RBKC's provision of social housing within the borough. As at 14 June 2017 there were 14 leaseholders of flats within the tower; the remaining flats were home to social housing tenants.

3.7 The occupants of the tower were a diverse group of people of all backgrounds, ages, ethnicities and origins. Some had grown up in North Kensington and had lived there all their lives. Others had come to this country as refugees, in many cases from North Africa, the Middle East, Afghanistan or further afield. Yet others had come to this country from Europe to enjoy living and working in London. Many were employed in the surrounding area or elsewhere in the capital and some had built up their own thriving businesses. No one who was present at the commemoration hearings or who read or heard their evidence to the Inquiry could fail to be impressed by their courage, their resilience and their regard for their neighbours. Together they formed a vibrant community with a strong sense of identity and considerable social cohesion.

Management of the tower

3.8 The TMO is a company limited by guarantee, incorporated on 20 April 1995. On 28 February 1996 RBKC entered into a Management Agreement with the TMO, under which it appointed the TMO to carry out certain housing management functions. Thereafter further agreements were entered into between RBKC and the TMO,[2] including Modular Management Agreements in 2006 and 2015. At all relevant times the TMO's housing management functions extended to Grenfell Tower.

[2] A Deed of Variation dated 7 November 2002; a Modular Management Agreement entered into on 12 June 2006; a Deed of Variation dated 1 April 2010 and a Modular Management Agreement entered into on 26 November 2015; RBKC's position statement dated 9 February 2018.

The tower on completion of construction

3.9 Grenfell Tower is just over 67 metres tall and has 25 storeys, including a basement and ground floor to floor 23.[3] It has a plan floor area of approximately 22 metres by 22 metres. It has a central reinforced concrete core, reinforced concrete floors and perimeter reinforced concrete columns. These columns appear at each corner of the building, with two internal columns on the east and west faces and three internal columns on the north and south faces. The perimeter columns have been rotated by 45 degrees and appear as diamonds in plan. On their outer surface the columns have a ridged facing, which is a pre-cast concrete "biscuit". This facing is permanently connected to the columns through the provision of metal wires embedded in the concrete of the columns.[4]

3.10 At the time of construction the exterior of the building comprised horizontal structural concrete spandrel panels, sliding aluminium-framed windows and a number of non-structural white window infill panels.[5] The spandrel panels were solid concrete with no cavities and had an outer surface of washed aggregate. This is a photograph of the external wall of the tower before the 2012-2016 refurbishment project:[6]

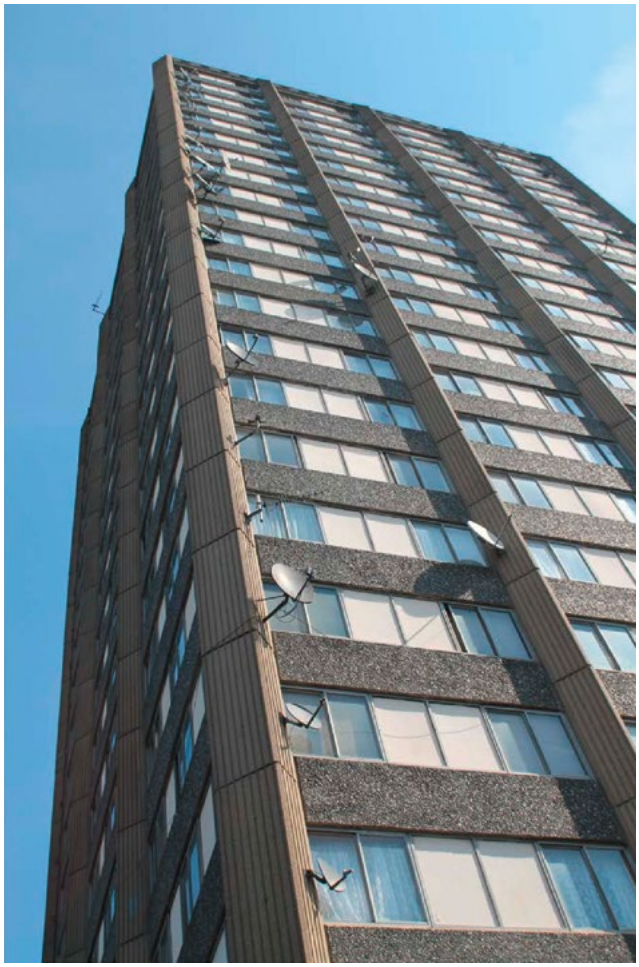

Figure 3.2

3 The original building elevations appear at Fig. 4.14 of Dr Lane's supplemental report [BLAS0000004] p. 16.
4 Dr Lane supplemental report at 3.1.13 [BLAS0000003] p. 4.
5 The material for these infill panels is currently unknown, but possibly consisted of asbestos bearing cementitious materials: Dr Lane supplemental report at 8.4.7 [BLAS0000008] p. 6.
6 Dr Lane supplemental report [BLAS0000008] p. 6 Fig. 8.2 (and Stage D Report by Studio E, August 2013 [RBK00018840]).

3.11 The following figure shows Grenfell Tower during construction, including the craning-in of the pre-cast "biscuit" cladding to the columns, the reinforced concrete columns and the horizontal structural spandrel panels:[7]

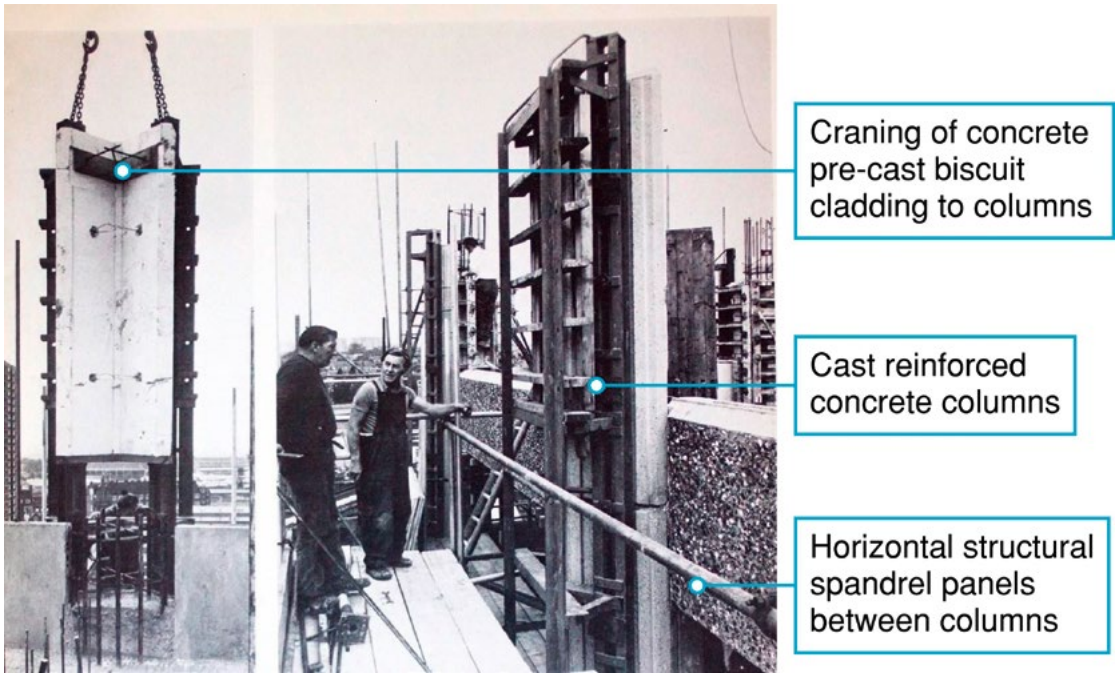

Figure 3.3

3.12 At the top of the building is a pre-cast architectural "crown" which consists of tapered pilasters at the tops of the columns and a ring of perforated freestanding concrete beams.[8]

3.13 Floors 4 to 23 were designed to accommodate residential flats, with six flats on each floor. Separating each flat at these levels are reinforced concrete cross-walls.[9] The lower levels of the building were designed to provide more flexible community spaces, which subsequently accommodated a nursery, offices and a community health centre on the ground floor and floors 1 and 3.[10] Floor 2 was originally left open as a continuation of the walkway connecting to the adjacent finger blocks.

3.14 The basement is a large, open plan space, 5.3 metres high, which extends over the whole footprint of the building. It also has five small blockwork inner rooms and a central concrete core area.[11]

3.15 Each storey in Grenfell Tower is 2.6 metres high (floor to floor), except for floor 2, which is 4.3 metres high, and floor 3, which has a height of 3.9 metres.

3.16 The structural stability of the tower is achieved in a manner common to most conventional concrete buildings, with a lateral stability core in the middle of the building and concrete columns around the perimeter supporting gravity loads. Each floor has a flat, reinforced concrete slab transferring the floor loading directly to the core. At the outside of the building

7 Dr Lane supplemental report at 8.4.1 [BLAS0000008].
8 The original perforated concrete beams around the crown can be seen in Fig. 35 of Professor Bisby's supplemental report [LBYS0000001] p. 63.
9 The original plan for residential levels 4-23 appears at Fig. 4.13 of Dr Lane's supplemental report [BLAS0000004] p. 15.
10 The original plans for levels 1-3 appear at Figs. 4.10-4.12 of Dr Lane's supplemental report [BLAS0000004] pp. 12-14.
11 The original basement plan appears at Fig. 4.8 of Dr Lane's supplemental report [BLAS0000004] p. 10.

loads are transferred into the columns directly by the floor and by the pre-cast perimeter spandrel panels. Additional support to the floor is provided by the concrete cross-walls between the flats.[12]

3.17 The original windows were aluminium-framed and were single glazed with a sliding opening. The metal window frames were fixed directly to the concrete structure on three sides and to the window infill panel on the fourth side. The original window sills, jambs and heads were lined in timber. Above and below the windows were panels of "Purlboard", a product manufactured by ICI, which comprised a layer of plasterboard and a layer of polyurethane foam bonded to the rear. The strip of Purlboard above the windows extended the full perimeter of the external wall in each flat. This is a picture of the original interior finishes and windows:[13]

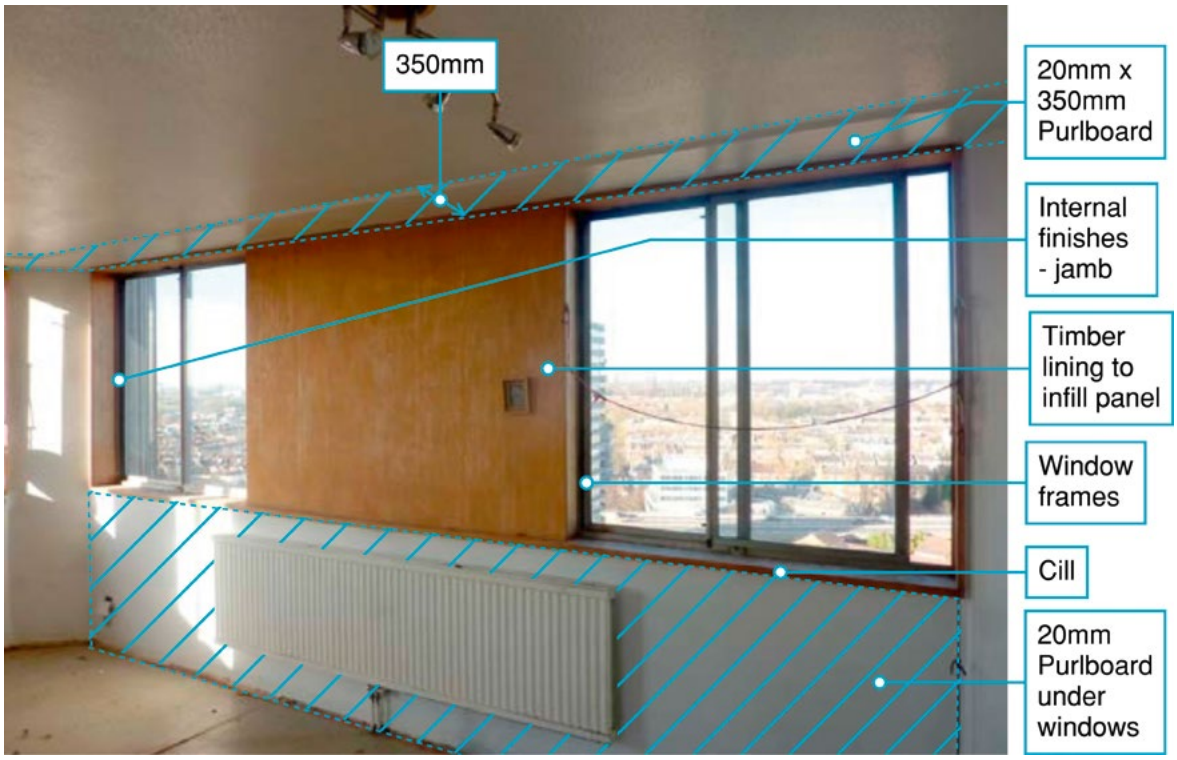

Figure 3.4

3.18 Within the central core of the building was a single staircase and two lifts serving each floor of the tower and opening onto a central lobby surrounded by six individual flats. This floor plan shows the layout of the floors between floors 4 and 23, which was uniform throughout those levels.[14]

12 Dr Lane supplemental report at 3.1.18 [BLAS0000003] p. 4.
13 Dr Lane supplemental report [BLAS0000008] p. 7 Fig. 8.4.
14 Dr Lane supplemental report [BLAS0000004] p. 15 Fig. 4.13.

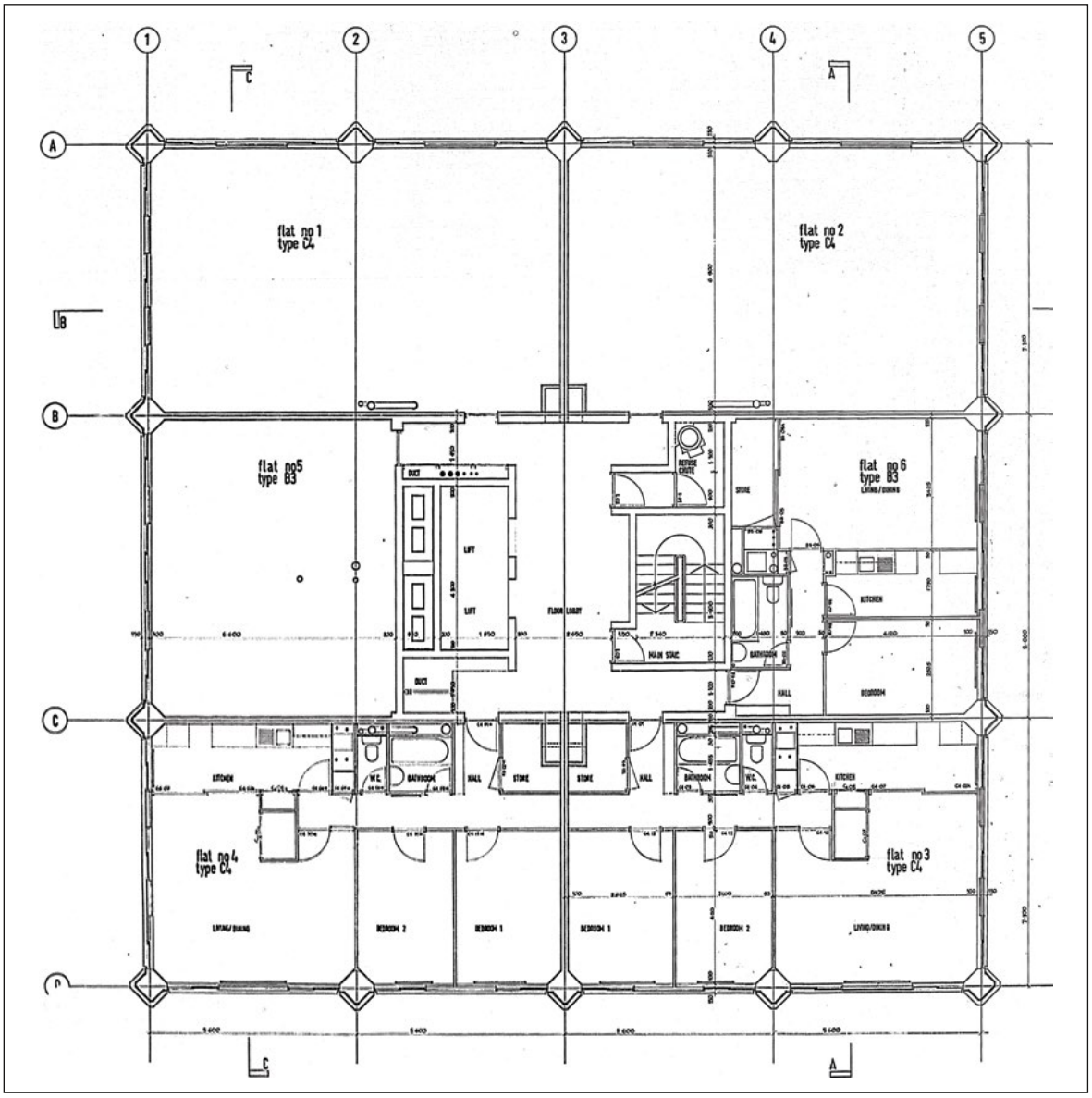

Figure 3.5

3.19 The building was provided with a dry rising fire main[15] which could be charged or pressurised with water during firefighting operations. On floors 4 to 23 dry riser outlets were provided in the lobbies on every floor. The common lobbies in the tower were also provided with a smoke control system.

Later modifications

3.20 Apart from the refurbishment carried out between 2012 and 2016, a number of major works were carried out on the tower by the TMO that are relevant to the work of the Inquiry.

3.21 In 1985 the front doors of the flats were replaced. An application under the Building Regulations for the fitting of new self-closing, fire-resisting flat doors was made in 1985,[16] but no further details are known about that work at this time.

[15] This means that the pipe is not filled with water and is only charged or pressurised with water during firefighting operations. This is in contrast to a "wet" fire main where the pipe is constantly kept pressurised with water: Dr Lane supplemental report at 15.8.8 [BLAS0000015] p. 32.

[16] [RBK00000275].

3.22 Between 2005 and 2006 both lifts were refurbished. The work appears to have included the "like for like" replacement of the two lift cars and the renovation of the lift motor room and associated equipment. It was carried out by Apex Lift & Escalator Engineers Ltd; Butler & Young Lift Consultants were the Planning Supervisors.

3.23 Between 2011 and 2013 the TMO carried out a programme of replacing the entrance doors to the flats on floors 4 to 23 occupied by RBKC tenants. The purpose of the work was to replace 106 flat entrance doors with fire doors which complied with relevant fire safety standards.[17] The manufacturer of the doors and contractor which carried out the work was Manse Masterdor.

3.24 Between 2016 and 2017 a new tenant gas supply was installed to serve the "Flat 2s" in the tower (i.e. the flats in the south-east corner). The work was required because corrosion within one of the existing gas risers had led to a small leak in September 2016. The riser was isolated and a new riser was installed. The new riser enters the building on the south-east side at the basement level and rises vertically through the central staircase between floors 2 and 23. At certain floors it was necessary to install a new lateral gas pipe which passes out through the stair wall, across the lobby and into Flat 2.[18] The boxing-in of this pipework in the lobbies had not been completed at the time of the fire on 14 June 2017. The work to replace this riser was commissioned by Cadent Gas Ltd, the relevant gas transporter. The new riser and laterals were designed and installed by tRIIO, a gas design, engineering and delivery business.

Changes to the surrounding area

3.25 One of the most significant changes to the area immediately surrounding Grenfell Tower occurred between 2012 and 2015 when a new Leisure Centre and Academy School were built to the east and north of the tower respectively. This was known as the "Kensington Academy and Leisure Centre Project". Studio E were the architects for the project; the building contractor was the Leadbitter Group.

3.26 To the east of Grenfell Tower there had been a sports centre on the Lancaster Green area. It had been built in the 1970s as a swimming pool and was further developed in the mid-1980s to include a sports hall and squash courts. Between 2012 and 2015 the existing sports centre was demolished and a new leisure centre was built which included two swimming pools and a multi-use sports hall.

3.27 In September 2014 the Kensington Aldridge Academy opened to the north of the tower, on Silchester Road. This was part of the "Building Schools for the Future" government investment scheme. The lead sponsor was Aldridge Education; RBKC was a co-sponsor.[19] The Academy has a capacity of over 1,000 students and is recognised as one of the top academies in the UK.[20] After the fire at Grenfell Tower, the school had to relocate for the academic year 2017-2018 and was unable to return to its original buildings until September 2018.

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17 Dr Lane supplemental report at 4.6.9-4.6.10 [BLAS0000004] p. 29. The remaining flat entrance doors which were not listed for replacement in 2011 were the doors for Flats 56, 61, 86, 92, 105, 112, 142, 154, 156, 165, 166, 185, 195 and 206. Of these flats, 12 were leasehold flats and two were tenanted flats (Flats 154 and 166).

18 No laterals were required at floors 7, 15, 18, 19, 20, 22 and 23 and hence those compartment walls were not penetrated by these risers.

19 Kensington Aldridge Academy is recognised as one of the top academies in the UK. In 2017, Ofsted graded the school not only "outstanding" in all areas but "exceptional" and in 2018 it was awarded TES Secondary School of the Year.

20 In 2017, Ofsted graded the school not only "outstanding" in all areas but "exceptional".

3.28 Due to the presence of the Academy and Leisure Centre and the railway line to the west of the tower, the primary access route to Grenfell Tower for vehicles is Grenfell Road, that being the only route to the tower with unrestricted vehicle access. Although there are secondary access routes for vehicles via Bramley Road and Silchester Road, both of those are through pedestrianised areas, either Station Walk or a paved pedestrian area between the Leisure Centre and the Academy School which contains rising bollards.[21]

3.29 This is a plan view of the area after completion of the Kensington Academy and Leisure Centre Project:

Figure 3.6

[21] Dr Lane supplemental report 17.5.20 [BLAS00000017] p. 50.

Chapter 4
Fire Safety Design and the "Stay Put" Strategy

1 Compartmentation and the "stay put" strategy

4.1 High-rise residential buildings pose particular difficulties for effective firefighting because their upper floors are beyond the reach of established means of external rescue and firefighting. In order to ensure the safety of those within the building, therefore, it has been necessary to include features that will enable the occupants to remain safe until a fire has been extinguished or they can be evacuated. For some time it has been the practice to incorporate many different active and passive safety measures into a high-rise building in order to provide layers of protection that reinforce each other and are capable of maintaining a safe route by which the occupants can leave the building. In most cases that will be a protected stairway.

4.2 The principle of the design known as "compartmentation" lies at the heart of these safety features. In essence it involves creating within the building a series of self-contained living spaces (usually individual flats) which are separated from all other similar spaces and from the common parts by fire-resisting barriers (walls, floor and ceiling), so that if a fire breaks out within one space it can be contained within that space for long enough to enable the fire and rescue service to extinguish it before it spreads to other parts of the building.

4.3 The concept of compartmentation, combined with other supporting fire safety provisions, has given rise to the "stay put" strategy, under which, in the event of a fire elsewhere in the building, the occupants are advised to remain within their own flats unless they are directly affected by fire, heat or smoke. This safety strategy reflects the assumption that where traditional construction methods are used, a fire in such a building will usually be contained within the flat of origin and that it is safer for the occupants of other flats to remain where they are rather than leave the building.

4.4 In its original form the design and construction of Grenfell Tower fully reflected these principles, which can be traced back at least as far as the beginning of the construction of high-rise residential buildings in the post-war years. The 1962 British Standard Code of Practice 3, Chapter IV, Precautions Against Fire, Part 1 (precautions in flats and maisonettes over 80 feet), provided that:

> "The assumption should no longer be made that buildings must be evacuated if a fire occurs, and high rise residential buildings should, therefore, be designed so that the occupants of a floor above a dwelling which is on fire may, if they choose, remain safely on their own floor. It may be necessary to evacuate the floor on which the fire occurs, and in some circumstances those floors which are in the immediate vicinity of the fire, but the occupants of these floors should be free to reach safety in any other part of the building via the staircase."

4.5 In 1971, at around the time that Grenfell Tower was being designed, the British Standard Code of Practice CP3, Chapter IV Part 1 Flats and Maisonettes (in blocks over two storeys) stated that:

> "It has become apparent, and generally agreed, that external rescue by the fire service may not always be possible from blocks of flats and maisonettes, even when the dwellings are in reach of escape ladders … Also, the assumption should no longer be made that entire buildings, or even adjoining dwellings, need to be evacuated if a fire occurs. Owing to the high degree of compartmentation provided in dwellings in modern blocks, the spread of fire and smoke from one

> dwelling to another and the need to evacuate the occupants of adjoining dwellings are unusual. The occupants should be safe if they remain where they are. Nevertheless the possibility that individuals may seek to leave the building cannot be overlooked and provision should therefore be made for the occupant of any dwelling to do so by his own unaided efforts, using adequately protected escape routes within the building without outside assistance."

4.6 As Dr Barbara Lane said, this expression of the "stay put" strategy in CP3 1971 was a building safety condition, but it was dependent on the proper installation and operation of active and passive fire protection measures, such as fire-resisting construction around front doors, lobbies and the protected stairway.[1]

4.7 In order to understand the actions of the LFB on the night of the Grenfell Tower fire, and in particular the decisions and actions of those on the incident ground and in the control room, it is necessary to consider how the "stay put" strategy was reflected in the guidance and policy documents in circulation at the time of the fire.

2 Guidance for building owners

4.8 Following the fire at Lakanal House in July 2009, to which I refer in more detail below, the Local Government Association published guidance for building owners entitled Fire Safety in Purpose-Built Blocks of Flats ("the LGA guidance"). It was commissioned by the DCLG and published after wide consultation, including among the DCLG itself and the Chief Fire Officers' Association. It included the following passage:

> "18.2 Compartmentation requires a higher standard of fire resistance than that normally considered necessary simply to protect the escape routes. This is to ensure that a fire should be contained within the flat of fire origin. Accordingly those in flats remote from the fire are safe to stay where they are. Indeed, in the majority of fires in blocks of flats, residents of other flats never need to leave their flats.
>
> 18.3 This is the essence of the "stay put" principle. It has underpinned fire safety design standards from even before the 1960s, when national standards were first drafted. It is still the basis on which blocks of flats are designed today. In the majority of existing blocks, it remains entirely valid."

4.9 Compartmentation has thus been an essential feature of the design of high-rise residential buildings for over 50 years and the "stay put" strategy, which is integral to that, has in general proved to be sound (although there have been important exceptions, such as the Lakanal House fire).

4.10 Paragraph 19 of the LGA guidance points out that the alternative to a "stay put" strategy is one that involves simultaneous evacuation, which requires a means of alerting residents to the need to leave the building. Purpose-built blocks of flats are not normally provided with general fire detection and alarm systems because experience has shown that most residents do not need to leave their flats when there is a fire elsewhere in the building. Indeed, in some circumstances they might place themselves at greater risk if they were to do so.

4.11 Paragraphs 18 and 19 of the LGA guidance suggest that the risk inherent in the absence of a fire-detection and alarm system in high-rise blocks is acceptable because it is very rare for there to be an extensive failure of compartmentation. That view is consistent with the absence from Approved Document B of any suggestion that high-rise residential buildings should be fitted with a means of communicating with all occupants simultaneously in order to facilitate a total evacuation. Indeed, total evacuation of a high-rise residential building is inconsistent with the principle underlying Approved Document B, which is that proper

[1] Dr Lane supplementary report 3.2.15, 3.2.27, 3.2.28 [BLAS0000003].

compliance with the guidance will achieve effective compartmentation and render total evacuation unnecessary. That balance of risk is carefully set out in Part A of the LGA guidance (particularly paragraphs 12 to 14) and is based on historical statistics. It appears to have been endorsed by central and local government and by fire and rescue services.

3 Guidance for fire and rescue services

4.12 Guidance for fire and rescue services on fighting fires in high-rise residential buildings was published by the DCLG and the Chief Fire and Rescue Adviser in February 2014 in the form of Generic Risk Assessment 3.2 entitled “Fighting fires in high rise buildings (GRA 3.2)”. For present purposes, it is sufficient to note that it clearly contemplated the possibility that total or partial evacuation of a high-rise building might be necessary if compartmentation failed and required contingency plans to be formulated and training to be provided to enable fire and rescue services to take appropriate action in such an eventuality.

Chapter 5
The Regulatory Context

5.1 When Grenfell Tower was built in the early 1970s, London had its own system of building legislation, comprising the London Building Acts 1930-39 and associated by-laws which imposed technical requirements in relation to the performance of roofs, walls and other parts of buildings when exposed to fire.[1] It was not until 1985 that building work in inner London was brought within the scope of the general Building Regulations. Section 34 of the London Building Acts (Amendment) Act 1939 (the 1939 Act) set certain requirements in relation to the means of escape in case of fire and section 20 imposed additional fire safety requirements for tall buildings. Designers of buildings could obtain assistance in discharging the relevant statutory obligations from guidance published by the London County Council and the Greater London Council[2] and national guidance, in particular from British Standard Code of Practice CP3.[3] According to Dr Barbara Lane, certain features of the building suggest that the architect was looking primarily to British Standard Code of Practice CP3 1971 when designing the building. In particular, CP3 1971 permitted the construction of high-rise residential buildings with a single stairway and a cross-ventilated single lobby on each floor. Travel distances up to 15 metres between residential apartments and the entrance to the escape route were permitted. In addition, section 20 of the 1939 Act and the associated Code of Practice required certain provisions to be made in the stairs for firefighting.[4]

5.2 By the time the main refurbishment of Grenfell Tower was carried out between 2012 and 2016, the Building Act 1984 (the 1984 Act) and the Building Regulations 2010 made under it governed the construction of such buildings. Pursuant to section 1 of the 1984 Act, the Secretary of State has power to make Building Regulations for a number of broad purposes, including securing the health, safety, welfare and convenience of persons in or about buildings and of others who may be affected by buildings or matters connected with them. The Building Regulations 2010 do not contain technical requirements, but set out in Schedule 1 a series of functional requirements which must be achieved, thereby allowing flexibility in the means by which the requirements are satisfied.[5]

5.3 Regulation 4(1)(a) of the Building Regulations 2010 requires building work to be carried out so that it complies with the applicable functional requirements in Schedule 1. "Building work" for these purposes includes the material alteration of an existing building, i.e. an alteration that would result in its ceasing to comply with a relevant requirement or becoming more unsatisfactory in relation to a relevant requirement than it was before (regulations 3(1)(a) and (2)).

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1 [CTAR00000001] pp. 8-10 at 2.2-2.18; [BLAS0000003] pp. 8-10; [BLAS0000004] pp. 17-22.

2 The key London guidance was contained in (1) the London County Council (LCC) Guide "Means of Escape in case of Fire 1954" (amended in 1967 by the Greater London Council (GLC)), (2) the GLC section 20 "Code of practice for buildings of excess height" (1970).

3 National guidance for fire precautions (and particularly means of escape) was contained in either the 1962 or 1971 versions of a British Standard Code of Practice CP3, Code of basic data for the design of buildings, Chapter IV, Precautions against fire. This national guidance was relevant to the Public Health Act 1961 and the Building Regulations 1965.

4 The concrete depth to the stairs suggests e.g. that the higher standard of fire resistance required in the section 20 Code was, in fact, provided. Refer to Dr Lane [BLAS0000004] pp. 20-21 4.2.23-4.2.39, Appendix H [BLAS0000029] for a comparison of the section 20 Code and CP3 1971 requirements and also her oral evidence at Day 79/16/9-19/6.

5 Todd [CTAR00000001] pp. 10-12 at 2.19-2.34.

5.4 Requirement B3(4) of Schedule 1 is that the building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited. Requirement B3(3) requires measures to be taken, to an appropriate extent where reasonably necessary, to inhibit the spread of fire within the building and to subdivide the building with fire-resisting construction. Requirement B4(1) is that the external walls of the building shall adequately resist the spread of fire over the walls.

5.5 Section 6 of the 1984 Act provides for publication by the Secretary of State of documents providing practical guidance with respect to the requirements of the Building Regulations. That practical guidance is contained in a series of Approved Documents issued by the Secretary of State which refer to British Standards and other guidance material. Approved Document B (ADB) provides that practical guidance in relation to fire safety by setting out methods which, if correctly followed, can be expected to result in compliance with the Building Regulations.

5.6 The current version of ADB is that published in 2006 as amended in 2007, 2010 and 2013.[6] A person designing a building is not obliged to follow its recommendations relating to methods of compliance and may choose to adopt other methods or materials provided that the building when completed complies with the functional requirements of the Building Regulations.[7]

5.7 Paragraph B3(3) of Schedule 1 to the Building Regulations requires measures to be taken, to an appropriate extent where reasonably necessary to inhibit the spread of fire within the building, to subdivide the building with fire-resisting construction. Such measures are likely to include the provision of fire-resisting partitions and doors. Table B1 of ADB 2010 (the version in force at the time the front doors to the flats in the tower were fitted) sets out the guidance on the standards to be met by fire doors. It recommends that if a door is in a compartment wall which separates a flat from a space in common use, it should have a minimum performance of "FD 30S" when tested in accordance with BS 476-22 (i.e. be capable of resisting fire under test conditions for a minimum of 30 minutes and limit the leakage of smoke to a prescribed extent). Paragraph 2 of Appendix B also recommends that (with certain limited exceptions) all fire doors should be fitted with self-closing devices. Similar provisions were contained in ADB 2013 current at the time of the fire.

6 Todd [CTAR00000001] p. 15 at 2.51.
7 Todd [CTAR00000001] p. 11 at 2.25.

Chapter 6
The Refurbishment

1 An overview

6.1 The most significant development, both in terms of the history of the building and relevance to the fire on 14 June 2017, was the refurbishment carried out between 2012 and 2016 (the main refurbishment). During that period Grenfell Tower underwent substantial change. The work affected both the outside and the inside of the building. Most significantly, it incorporated the over-cladding of every storey of the existing building with a new insulation and rainscreen cladding system.

6.2 Planning permission was first sought in 2012 and a lead contractor, Leadbitter Construction Ltd, was appointed. However, after a further procurement process, in June 2014 Rydon Maintenance Limited (Rydon) was eventually appointed the design and build contractor.

6.3 The architect for the main refurbishment was Studio E; the Employer's Agent and Quantity Surveyor was Artelia Projects UK Limited (Artelia). The cladding subcontractor to Rydon was Harley Facades Ltd (Harley) (which succeeded Harley Curtain Wall Ltd). Some specialist fire engineering services were provided during the project by Exova Warringtonfire.

6.4 The client for the refurbishment works was the TMO. The works were funded by RBKC which released the funds for the project in May 2012. The Department of Building Control at RBKC acted as building control authority, conducting a number of inspection visits between August 2014 and July 2016. The Building Certificate for completion of the works was signed by RBKC on 7 July 2016.

6.5 In addition to the over-cladding of the building, there was a full refurbishment internally of the very lowest floors from the ground floor to floor 3 inclusive, including structural works. This included the creation of nine new flats on these lower floors and the relocation and refurbishment of the existing nursery and boxing club. Soft and hard landscaping works were also carried out in the area immediately surrounding the tower.

6.6 Building services works were carried out within every floor and within every flat. The mechanical and electrical services (M&E) engineer was Max Fordham (appointed by the TMO); Rydon also engaged JS Wright & Co. Ltd (JS Wright) to carry out detailed designs and installation of the M&E works. These internal building services works included the fitting of a new heating system to all areas, the provision of a new boosted cold water distribution system and the refurbishment and extension of the existing environmental ventilation and smoke control system, together with some alterations to the lifts and dry riser system.

2 The cladding system – design and materials

6.7 A central part of the main refurbishment was the addition to the tower of a ventilated rainscreen insulation and cladding system. Effectively a new external wall was created by attaching a number of components to the existing concrete facade. At floors 4 to 23 they comprised insulation materials, new windows, new window infill panels and outer aluminium composite material (ACM) rainscreen panels.

6.8 At floors 1 to 3 the outer wall was re-clad with glass-reinforced concrete castings on the columns and other types of rainscreen panels.[1] In this report, and in what appears immediately below, it is appropriate to focus on floors 4 to 23 of the tower, because the lower external walls were not involved in the fire.

6.9 This is a close-up picture of the tower at the higher floors after the external cladding works had been completed:[2]

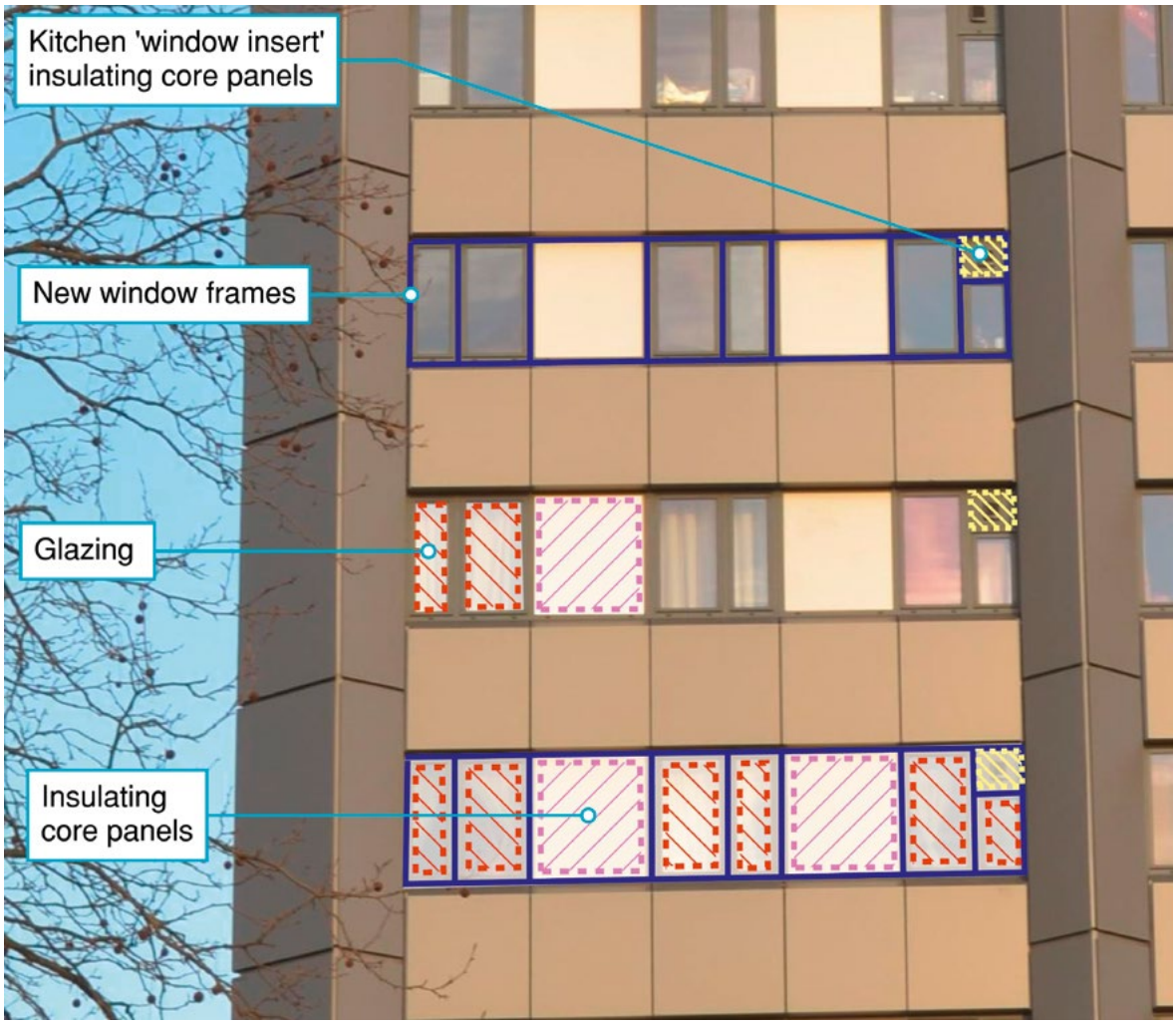

Figure 6.1

6.10 It will be necessary to examine in Phase 2 the precise reasons why it was decided to undertake the cladding work; no conclusions can be drawn about that at this stage. What follows below is a description of the cladding system, its design and geometry and the materials used.

The rainscreen ACM panels

6.11 The outer layer of the new external facade, which covered the existing concrete spandrel panels and the columns, comprised ventilated rainscreen panels made of aluminium composite material. Before being fitted to the building the panels were fabricated into "cassettes", i.e. three-dimensional shapes which can be hung on steel or aluminium supports fixed to the

[1] Including Reynobond PE Aluminium Composite Panel RAL9010; refer to Professor Bisby at [LBYS0000001] p. 78 and CGL Wallplank (a type of ventilated rainscreen system): Dr Lane supplemental report [BLAS0000004] p. 33 Fig. 4.21.

[2] Dr Lane supplemental report [BLAS0000004] p. 35 Fig. 4.22.

concrete structure.[3] In general this kind of system is called a "ventilated rainscreen system" because it is designed to shelter the building from the majority of direct rainfall but has gaps which are designed to permit the ventilation of the cavity behind the panels and ensure that water is collected and drained away.[4]

6.12 The rainscreen panels were manufactured as plain sheets by Arconic Architectural Products SAS (Arconic) and were fabricated into cassettes for use at Grenfell Tower by CEP Architectural Facades Ltd (CEP). The panels used on the columns and for the spandrels at floors 4 and above were known as "Reynobond 55 PE" Aluminium Composite Panels (ACP) and had an external finish referred to as "Smoke Silver Metallic Duragloss 5000 Satin". Each panel consisted of a 3mm thick core of polyethylene bonded between two 0.5mm thick sheets of aluminium. To date, two different coloured PE cores have been found in panels fixed to the tower, one black and one translucent. Testing is being undertaken to establish whether there are any significant differences between the properties of these materials in terms of their reaction to fire.[5] The results of those tests will be examined at Phase 2.

6.13 Polyethylene is a combustible synthetic thermoplastic polymer which melts and drips on exposure to heat. It can flow whilst burning and generate burning droplets. It has a high calorific value compared with other common construction materials and will provide a fuel source for a growing and spreading fire.[6] It melts at 130-135°C and ignites at around 377°C.[7] On exposure to heat aluminium melts at approximately 660°C.[8] It has a comparatively high coefficient of thermal expansion, which means that it can be expected to warp and deform under the influence of heat.[9]

6.14 In the spandrel locations, the panels were formed with a 30° sloping return to the bottom of the window, and a 90° horizontal return to the top of the window.[10] On all of the cut edges of the panels the polyethylene core was exposed and the polyethylene core was also exposed along the fold lines on the inside of each cassette.[11] At the head of the window the design incorporated a 20mm gap between the panel and the window frame.[12] The spandrel panels were hung on vertical cladding rails at approximately 1150mm centres; they were fixed to the building using steel angle pieces (at the window head and sill), brackets and cladding rails on which the panels were hung.[13] The spandrel panels were of varying sizes depending on their locations. This is a close-up photograph of the panels on the tower:[14]

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3 This is in contrast to a "riveted" system, where the panels are flat and are cut into pieces and are riveted or screwed onto the building through the face of the panel itself into the supporting bracket rail: Dr Lane oral evidence Day 79/118-12-119/25 and diagram [ARC00000368] p. 3, and Dr Lane supplemental report [BLAS0000008] pp. 52-53 Figs. 8.57-8.58.

4 A useful definition of a ventilated rainscreen system and its components appears in the British Standard Code of Practice for the design and installation of natural stone cladding and lining: Rainscreen and stone on metal frame cladding systems, BS 8298-4: 2010. It explains that such systems should include: a) an outer layer (the rainscreen) intended to shelter the building from the majority of direct rainfall, b) a cavity which can include insulation, intended to collect any water which passes through the joints and to permit such water to be collected and drained from the system, and c) a backing wall, intended to provide a barrier to air infiltration and water ingress into the building.

5 Professor Bisby supplemental report [LBYS0000001] p. 77.

6 Professor Bisby supplemental report [LBYS0000001] p. 178 paragraph 860.

7 Professor Bisby supplemental report [LBYS0000001] p. 101 Table 3; Professor Torero supplemental report [JTOS0000001] p. 37 Table 1.

8 Professor Bisby supplemental report [LBYS0000001] pp. 104-105 4.12 paragraph 461.

9 Professor Bisby supplemental report [LBYS0000001] p. 105 4.12 paragraph 462.

10 Dr Lane supplemental report [BLAS0000008] p. 49 Fig. 8.53.

11 Professor Bisby supplemental report [LBYS0000001] p. 47 Fig. 20; Dr Lane supplemental report [BLAS0000008] p. 59 Fig. 8.65; Professor Bisby oral evidence Day 78/70-75. As explained by Professor Bisby in oral evidence, the sample ACM cassette which he was provided with had a bevelled edge (i.e. at an angle of approximately 45°), along one of its inner edges (all other edges were cut at 90°), but it was not possible to know if that was the case for other cassettes used in the refurbishment (Day 78/70/12-72/25).

12 Dr Lane supplemental report 8.10.7 [BLAS0000008] p. 50.

13 Dr Lane supplemental report 8.10.9-8.10.10 [BLAS0000008] p. 51.

14 Dr Lane supplemental report [BLAS0000008] p. 51 Fig. 8.56.

Figure 6.2

6.15 On the columns, the cassette panels were longer in shape, each one extending from halfway up the spandrel panel below the window, to halfway up the spandrel panel above the window, as can be seen from the image above. This meant that there was a continuous panel at the junction between the windows and the column.[15] The column panels were also fixed to the face of the concrete columns using steel angle pieces and cladding rails.[16] The columns were clad with one panel per face, i.e. two panels for the internal columns and three panels on the corner columns. There were gaps of between 15mm and 30mm between the panels, both on the spandrels[17] and the columns,[18] some of which can be seen in the image above.[19]

6.16 Dr Lane has compared the cassette panels installed at Grenfell Tower with Arconic's standard details for modular cassette panels. There are a number of differences between the Grenfell Tower panels and standard Arconic cassette panels, including the return depth of the panel, which is significantly greater on the cassettes used on Grenfell Tower.[20] It appears that both the shape of the cassettes and the method of fixing were designed specifically for the refurbishment project.

Spandrel and column insulation

6.17 Behind both the spandrel and the column ACM panels was a layer of insulation fixed directly to the building. On the spandrels this consisted of two 80mm layers of insulation board, either Celotex RS5000 polyisocyanurate (PIR) polymer foam or (in very limited quantities) Kingspan K15 phenolic polymer foam, depending on the particular location. On the columns, the insulation consisted of one 100mm layer of Celotex RS5000 PIR. A small number of Kingspan K15 insulation boards have also been found on the columns.[21] In some instances an additional

15 Professor Bisby [LBYS0000001] p. 55 Fig. 27.
16 Dr Lane supplemental report at 8.10.10 [BLAS0000008] p. 51 and the section view at [BLAS0000008] p. 49 Fig. 8.54.
17 Dr Lane supplemental report [BLAS0000008] pp. 58-59 Figs. 8.66 and 8.10.30.
18 Dr Lane supplemental report [BLAS0000008] p. 59 Fig. 8.65.
19 During her site investigations Dr Lane noted that the gaps between the panels ranged from 15mm to 30mm.
20 117mm on the spandrel panels compared to 50mm in the standard details: Dr Lane supplemental report at 8.10.16-8.10.27 [BLAS0000008] pp. 52-58.
21 Dr Lane supplemental report [BLAS0000008] 8.9.18 p. 34; Professor Bisby supplemental report [LBYS0000001] p. 84 paragraph 344; BRE Global Client Report dated 20 February 2019 [MET00039807] p. 46 paragraph 66.

piece of insulation board was located adjacent to the windows, alongside the columns,[22] but that varied across the building.[23] The insulation was fixed to both the spandrels and the columns by means of 180mm stakes screwed into the face of the existing concrete.[24]

6.18 Between the inside face of the rainscreen panel and the outer face of the insulation there was a space or cavity, the width of which varied from 139mm on the columns to 156mm on the spandrels. These cavities were an integral part of the design, their purpose being to allow ventilation and the drainage of any water that penetrated the gaps between the rainscreen panels. Smaller cavities, which had no design function, were also created between the flat surfaces of the insulation boards and the ridged pre-cast biscuit facing of the columns.[25] This is a horizontal section detail taken from Professor Bisby's report, which shows the refurbished system at the junction between the concrete spandrel beam and the concrete column:[26]

22 Professor Bisby supplemental report [LBYS0000001] p. 44 Fig. 17.
23 Professor Bisby oral evidence at Day 78/82/16-83/14.
24 Dr Lane supplemental report [BLAS0000008] p. 28, 8.9.4.
25 Dr Lane supplemental report [BLAS0000008] pp. 32-33 Figs 8.35, 8.36 and 8.9.13.
26 Professor Bisby supplemental report [LBYS0000001] p. 43 Fig. 16.

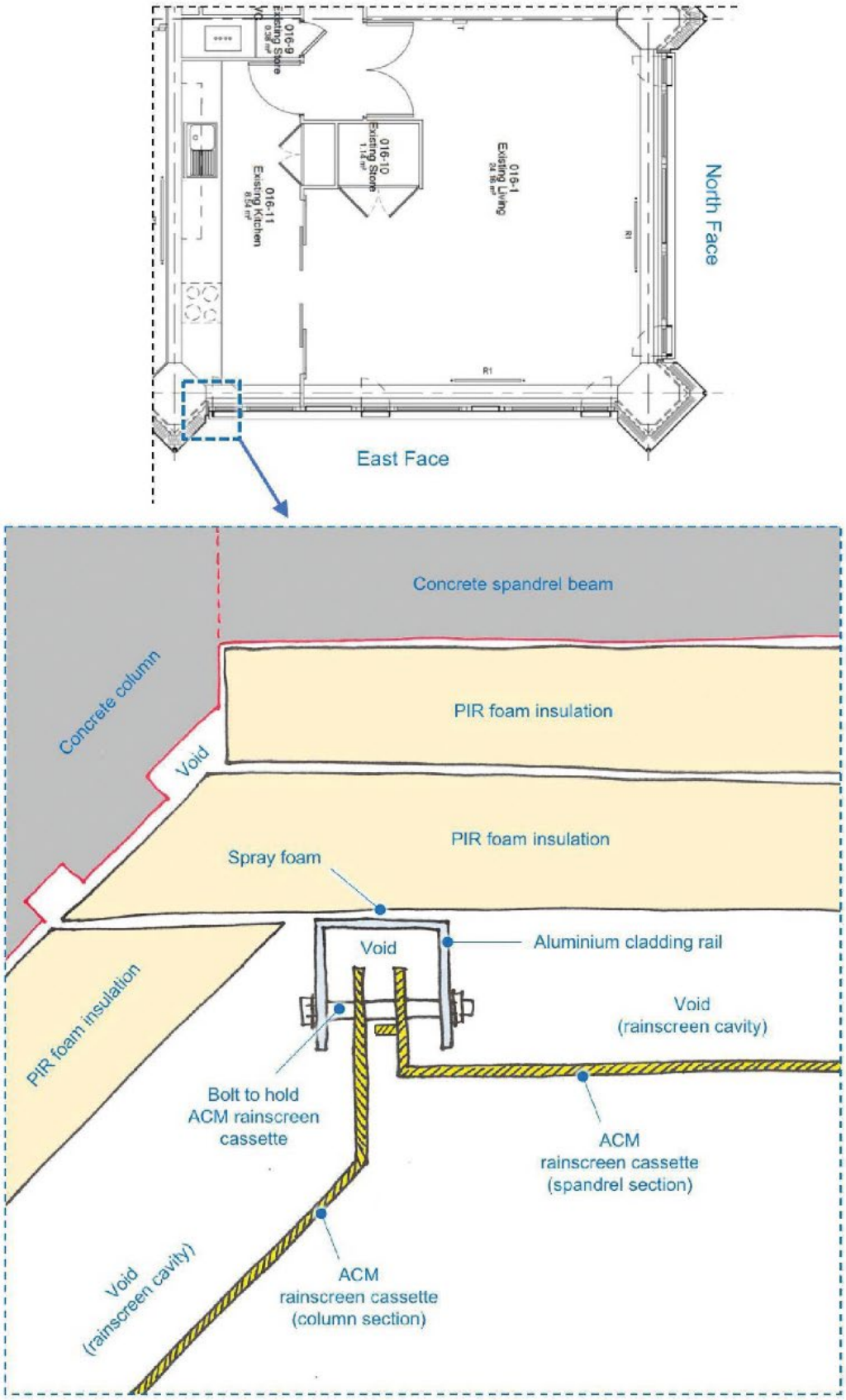
016-9
Existing Store
016-10
Existing Store
016-1
Existing Living
016-11
Existing Kitchen
North Face
East Face
Concrete spandrel beam
Concrete column
PIR foam insulation
Void
PIR foam insulation
Spray foam
Void
Aluminium cladding rail
Void
(rainscreen cavity)
PIR foam insulation
Bolt to hold
ACM rainscreen
cassette
ACM
rainscreen cassette
(spandrel section)
Void
(rainscreen cavity)
ACM
rainscreen cassette
(column section)

Figure 6.3

6.19 The front and rear faces of the insulation boards on both the spandrels and the columns were covered by aluminium foil with a thickness of less than 0.1mm.[27] However, the edges of the insulation boards were exposed to the atmosphere.[28] Although there is some evidence that foil tape was used to cover the joints between insulation boards, as shown in the photograph below,[29] there is currently no evidence that foil tape was used to protect the edges.

Figure 6.4

6.20 PIR and phenolic foam are both synthetic thermosetting polymers, which have surface temperatures at ignition in the range of 306-377°C and 429°C respectively.[30] Both have a low thermal inertia. (The surface temperature of a material with low thermal inertia increases rapidly when heated.) As a result, they have a comparatively low time to ignition and can support rapid flame spread. They can also accelerate the spread of flame on adjacent materials by insulating the cavity and preventing energy from being lost from the system.[31]

27 Professor Bisby supplemental report [LBYS0000001] p. 80 paragraph 325.
28 Dr Lane supplemental report [BLAS0000008] 8.9.24 p. 34; Professor Bisby supplemental report [LBYS0000001] p. 147 paragraph 708 and p. 179 paragraph 871 and also Figs. 21, 25 and 84.
29 Dr Lane supplemental report [BLAS0000008] p. 35 Fig 8.37.
30 Professor Bisby supplemental report [LBYS0000001] p. 101 table 5 and p. 102 table 6.
31 Professor Bisby supplemental report [LBYS0000001] p. 101 paragraph 438.

6.21 An expanding polymeric spray foam was used to fill some of the gaps created at joints between insulation boards and more widely throughout the cladding system.[32]

Cavity barriers

6.22 Siderise RH "Open State" Horizontal Cavity Barriers were installed in the facade system in both the horizontal and vertical positions.[33] These cavity barriers incorporate an intumescent strip which is designed to expand in the event of a fire and seal the gap between the barrier and the rear of the cladding.[34] In the horizontal position they were installed approximately 700mm below the level of the windowsills and extended over the columns at that level.[35] On both the columns and the spandrels they were mechanically fixed using metal support brackets which pierced the full depth of the barrier at 400mm centres.[36] Cavity barriers were not provided for all the columns, however,[37] and no cavity barriers were present at the nose of the columns,[38] or at the head of the rainscreen cladding (i.e. the top of the building).[39]

6.23 Inspections of the cavity barriers have shown that:

a. they were not continuous, because the cladding rails supporting the ACM panels broke through them at least every 1100mm;[40] and

b. in many cases they were poorly fitted, with gaps between them instead of being tightly abutted.[41]

3 Windows – design and materials

6.24 The main refurbishment also brought about significant changes to the windows of Grenfell Tower. New windows were installed on every floor. During the refurbishment the windows were moved outwards so that they no longer sat flush with the concrete but flush with the new cladding system.[42] They were also smaller in size than the original windows. Repositioning the windows outside the line of the concrete structure without providing a non-combustible barrier between the interior of the building and the cavity within the cladding system undermined the effective compartmentation of the building.

6.25 These changes to the size and placing of the windows created gaps in what had as a result become part of the internal walls, as follows:

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32 Dr Lane supplemental report [BLAS0000008] 8.9.6 p. 28; Professor Bisby supplemental report [LBYS0000001] pp. 89-90 paragraphs 370-372.

33 No cavity barriers designed to be used vertically were identified on site: Dr Lane supplemental report [BLAS0000008] 8.9.53 pp. 46-47.

34 Dr Lane supplemental report [BLAS0000008] 8.9.37 pp. 41-42 and Fig. 8.45; Dr Lane Day 79/143/3-15.

35 Dr Lane supplemental report [BLAS0000008] p. 12 Fig. 8.8 and [BLAS0000008] pp. 38-39 Fig 8.41 and paragraph 8.9.29; Professor Bisby [LBYS0000001] p. 57 Fig. 29.

36 Dr Lane supplemental report [BLAS0000008] 8.9.29 pp. 38 and 40 and Fig. 8.43.

37 Dr Lane supplemental report [BLAS0000008] 8.9.54-8.9.56 p. 47 and also [BLAS0000011] 11.20.83-11.20.87 p. 83 and p. 86 Fig. 11.31.

38 Dr Lane [BLAS0000010] 10.3.40 p. 21.

39 Dr Lane supplemental report [BLAS0000011] pp. 87-88 Figs. 11.32 and 11.33.

40 Dr Lane [BLAS0000008] 8.9.48 pp. 41-44 and Figs. 8.44, 8.47 and 8.48; Professor Bisby [LBYS0000001] p. 52 paragraph 243 and Figs. 25 and 29.

41 Dr Lane supplemental report [BLAS0000008] 8.9.49-8.9.51 p. 45 and Figs. 8.49 and 8.50, and also Lane Day 79/149-150. Dr Lane has also identified that horizontal cavity barriers were installed with the green manufacturer's tape on the bottom (although this does not appear inconsistent with the manufacturer's instructions) and she has indicated that she wishes to consider this further at Phase 2 [BLAS0000008] pp. 42-43.

42 Dr Lane supplemental report [BLAS0000008] p. 9 Fig. 8.6 for section views of the original and refurbished windows.

a. Vertical gaps had previously existed between the outer corner of the concrete spandrels and the edges of the columns where the two abutted, but before the refurbishment they had formed part of the exterior wall. One result of repositioning the windows was to incorporate those gaps into the interior behind the new window frames.[43] In some places the gaps were filled with an expanding polyurethane foam; in others they remained open.[44]

b. Before the refurbishment there had been a sloping lip on the outside of the building beneath the windows. Another result of repositioning the windows beyond the outside line of that lip was to create a horizontal gap below the windows.[45]

Spaces between windows and columns – EPDM membrane

6.26 The reduction in the size of the windows created a gap of between 30mm and 120mm between the sides of the windows and the adjacent columns.[46] (The variation in the size of the gap was due to the fact that the columns were not all precisely aligned vertically.[47]) The gap was covered with a black EPDM (Ethylene Propylene Diene Monomer) synthetic rubber weatherproofing membrane of 1mm thickness.[48] EPDM is combustible and is thermally thin, which means it will burn quite rapidly.[49] (The best indication available at present is that it has an ignition temperature of between 180°C and 378°C, but the precise figure does not matter for present purposes.[50]) The EPDM was bonded to the window frame and the face of the concrete column,[51] but in some places it was bonded between the two layers of spandrel insulation.[52] Around the columns the EPDM membrane covered the cavity between the insulation and the rainscreen panels without any additional protection.[53]

uPVC window surrounds

6.27 New uPVC (unplasticised polyvinyl chloride) window sills, jambs and heads were installed around each of the windows on top of the existing timber window surrounds, which were left in place.[54] They had a uniform thickness of 9.5mm and a smooth white finish. No specific manufacturer has yet been identified. uPVC is a solid combustible polymer which begins to lose its stiffness at around 60°C and loses it entirely at about 90°C.[55] It has an ignition temperature of between 318°C and 374°C.[56] It chars when exposed to heat and generally displays limited surface spread of flame due to its high chlorine content.[57] The uPVC window surrounds were glued partly to the pre-existing timber window sills, window heads and window jambs, and

43 Dr Lane supplemental report [BLAS0000009] pp. 12-13 and Figs. 9.8-9.10.
44 Dr Lane supplemental report [BLAS0000009] pp. 12-13 and Figs. 9.8-9.10.
45 Dr Lane supplemental report [BLAS0000009] p. 9 Fig. 9.6.
46 Dr Lane supplemental report [BLAS0000008] p. 10 Fig. 8.7 and p. 17 Fig. 8.15.
47 Dr Lane oral evidence Day 79/30/23-79/32/6.
48 Dr Lane supplemental report [BLAS0000009] pp. 20-25; Professor Bisby supplemental report [LBYS0000001] p. 90 paragraphs 373-376.
49 Professor Bisby oral evidence Day 78/133/10-13; Professor Torero oral evidence Day 77/137/3-11.
50 Dr Lane supplemental report [BLAS0000008] 8.8.2 p. 21; Professor Bisby oral evidence Day 78/64/1-22.
51 Dr Lane supplemental report [BLAS0000008] 8.8.5 p. 22.
52 Dr Lane supplemental report [BLAS0000008] 8.9.7 pp. 28-29 and Fig. 8.31.
53 Dr Lane supplemental report [BLAS0000008] pp. 22-23 Figs. 8.22 and 8.23.
54 Dr Lane supplemental report [BLAS0000008] 8.7.1-8.7.11 pp. 14-16.
55 Professor Torero [JTOS0000001] p. 36 lines 1104-1105 and p. 37 Table 1 and Professor Torero Day 77/54. Refer also to Professor Bisby's presentation on 20 June 2018 where he stated that typical day-to-day upper service temperature limits for uPVC are in the range of about 50°C and its melting temperature is between 75-105°C. Refer also to Professor Bisby oral evidence Day 78/59/6-60/19.
56 Professor Torero [JTOS0000001] p. 37 Table 1.
57 Professor Bisby supplemental report [LBYS0000001] p. 91 paragraph 379.

partly to 25mm insulation boards which were used to close off the opening into the cavity in the cladding caused by the repositioning of the windows. No mechanical fixings appear to have been used.[58] The new window arrangement is illustrated in the following photographs:[59]

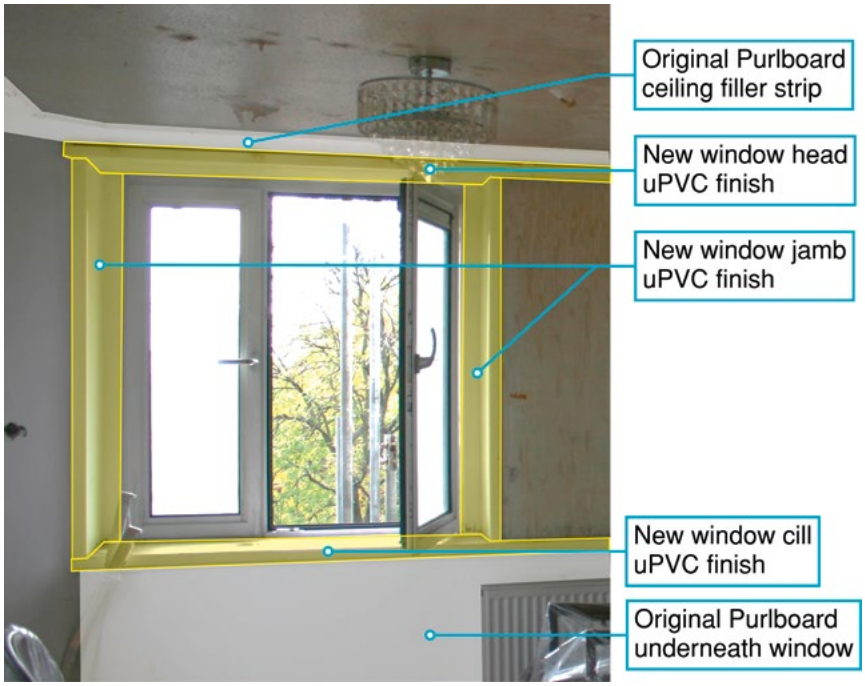

Figure 6.5

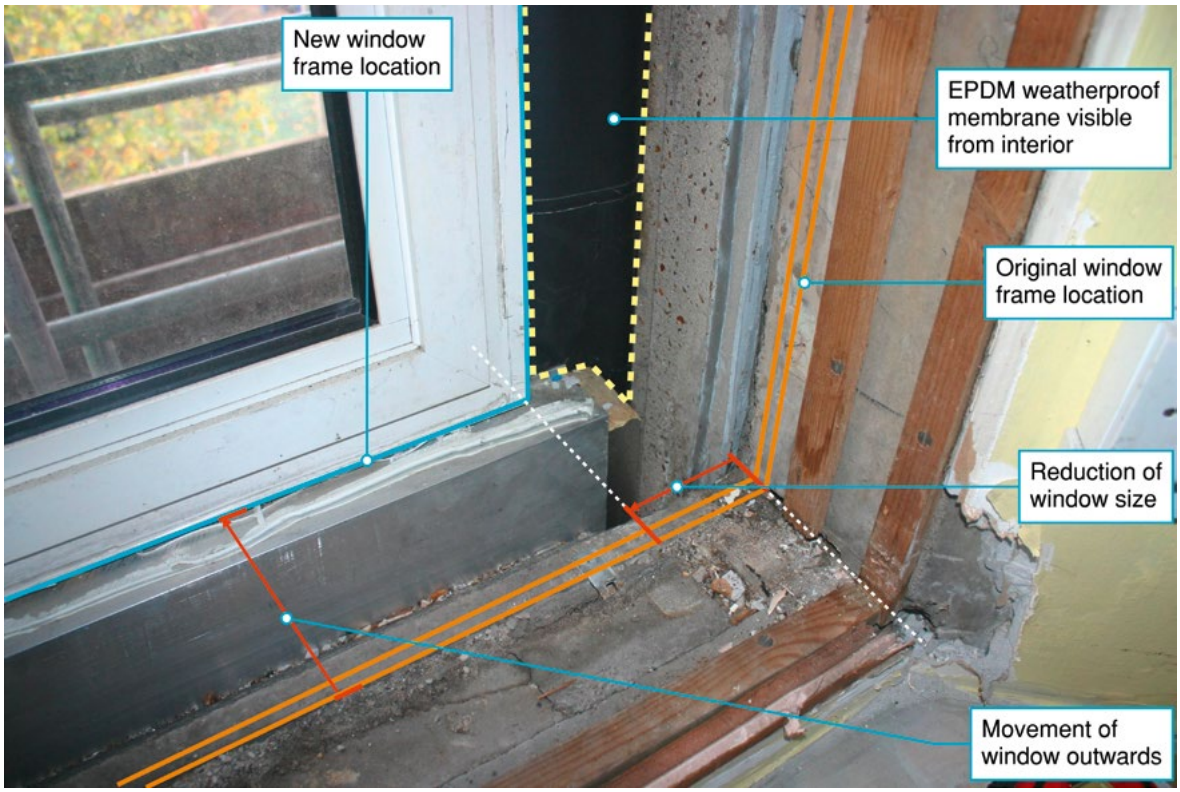

Figure 6.6

[58] Professor Torero supplemental report [JTOS0000001] p. 42 Fig. 55; Professor Bisby's supplemental report [LBYS0000001] p. 93 paragraph 384; Dr Lane Day 79/47/1; Professor Bisby Day 78/61/17-62/19.

[59] Dr Lane supplemental report [BLAS0000008] p. 16 Fig. 8.14 and p. 24 Fig. 8.25.

Window insulation

6.28 On both jambs and also at the head and sill of the windows, beneath the uPVC, was a 25mm layer of PIR insulation,[60] either Celotex TB4000 or Kingspan Thermapitch TP. These are both types of PIR insulation, but were much thinner products than those used on the spandrels and the columns. The position of the insulation boards around the windows can be seen from these two photographs:[61]

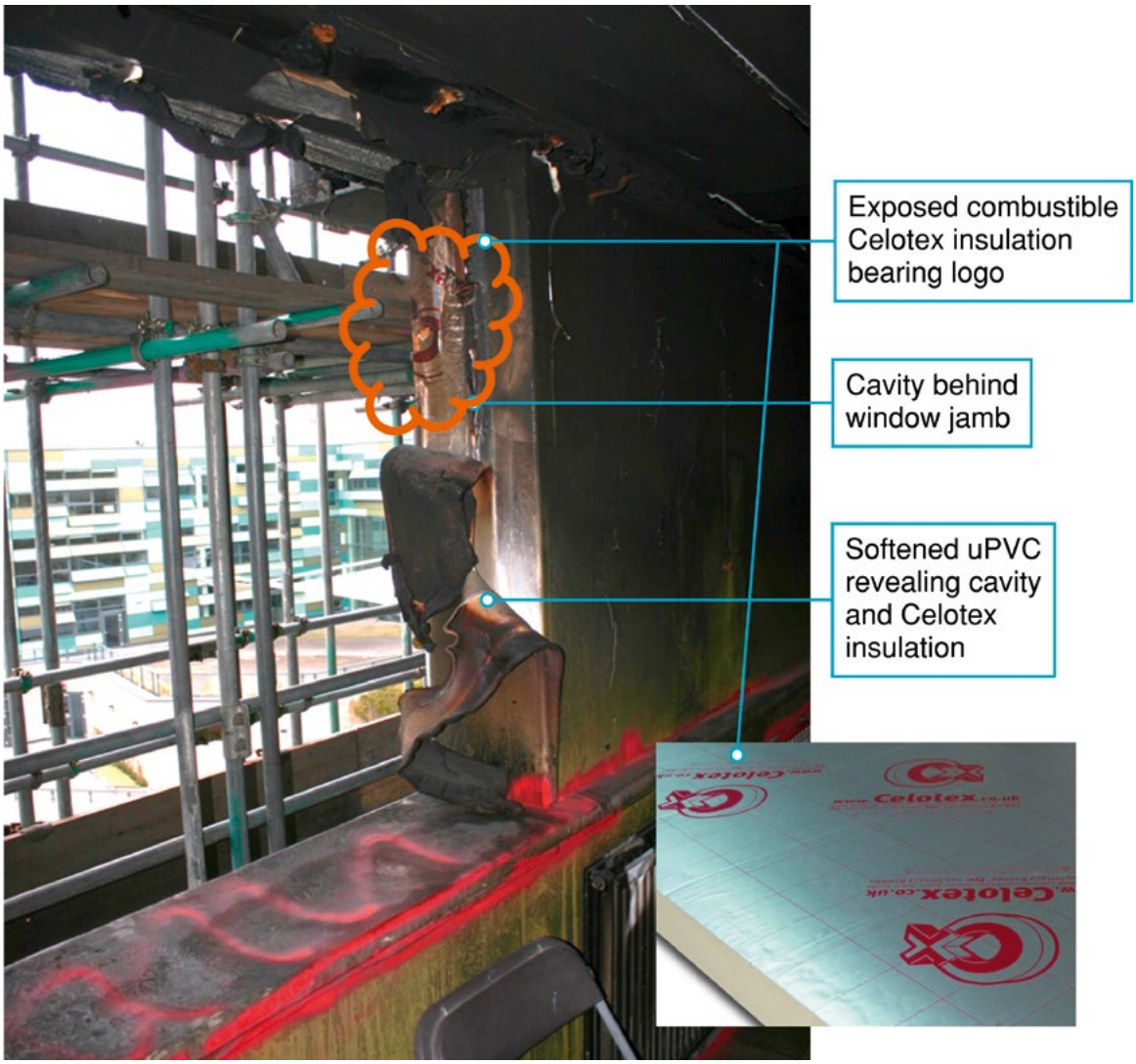

Figure 6.7

[60] Dr Lane supplemental report [BLAS0000008] p. 19 Fig. 8.18 and [BLAS0000009] p. 20 Fig. 9.13.
[61] Dr Lane supplemental report [BLAS0000008] p. 19 Fig. 8.18 and [BLAS0000009] p. 6 Fig. 9.3.

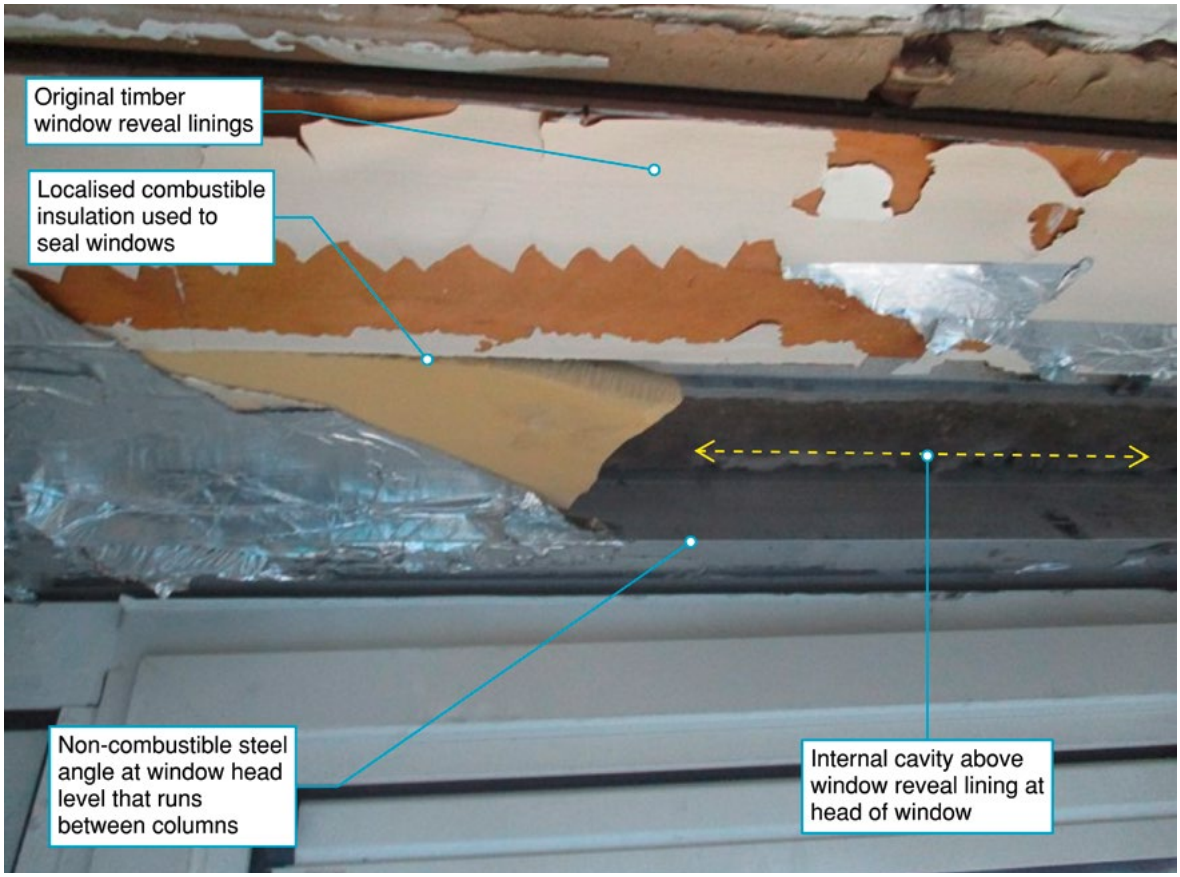

Figure 6.8

Window infill panels

6.29 New white "window infill panels" were installed to close the spaces between the windows. These were approximately 1318mm in height and varied in width between 820mm and 1375mm.[62] They were also installed flush with the outer face of the new cladding system. The original window infill panels were left in place, creating a cavity between the old and the new panels.[63] These new panels were manufactured by Panel Systems Limited under the product name "Aluglaze". They consisted of an insulating core of 25mm (blue) Styrofoam (extruded polystyrene, often referred to as "XPS") between two sheets of 1.5mm thick aluminium finished with polyester powdered coating on both surfaces.[64] Such panels are sometimes referred to as "sandwich panels" or "insulation core panels".[65] Extruded polystyrene is a closed cell rigid foam. It is a low thermal inertia thermoplastic polymer and therefore it rapidly melts at its surface when exposed to fire. When heated it is likely to form burning droplets or burn as a liquid pool.[66] It has an ignition temperature of 356°C.[67]

62 Dr Lane supplemental report [BLAS0000008] p. 61 8.10.33.
63 Dr Lane supplemental report [BLAS0000008] p. 20 Fig. 8.19.
64 Dr Lane supplemental report [BLAS0000008] p. 61 8.10.32-8.10.36; Professor Bisby supplemental report [LBYS0000001] pp. 389-402 paragraphs 95-97.
65 Dr Lane oral evidence Day 79/137/7-10.
66 Professor Bisby supplemental report [LBYS0000001] p. 101 paragraph 436.
67 Professor Bisby supplemental report [LBYS0000001] p. 101 Table 4.

Aluminium windows

6.30 The windows themselves were manufactured by Metal Technology Limited and sold under the name "5-20 Hi+ Tilt and Turn Polyester Powder Coating Aluminium Thermally Broken Windows". They are made mainly of extruded aluminium. The aluminium alloys used in the production of these windows have a melting temperature of around 660°C and will not directly contribute to fire development.[68]

Extractor fan and infill panel

6.31 Extractor fans set in an insulating core panel were incorporated into the new kitchen windows. The insulation material was again extruded polystyrene.[69] The extractor fans themselves were manufactured by Nuaire as part of its CYFAN product range.[70] The body and main structural components of these fans appear to be made primarily from polycarbonate-acrylonitrile butadiene styrene (PC-ABS) plastic, which is a blended, combustible, thermoplastic polymer. The properties of that material are still being investigated.[71]

Method of fitting windows

6.32 Parts of the original window detailing were left in place, despite the installation of new windows as part of the refurbishment. In particular, the original wooden sills and wood joinery were retained beneath the new uPVC heads, sills and jambs and existing Purlboard panels above and below the windows were left untouched.[72] The original white window infill panels were retained behind the new infill panels.

6.33 The following figures show the position of the original window frames together with other features of the new window arrangement, including the windows themselves, the EPDM membrane and the gaps created by the reconfiguration of the windows:[73]

68 Professor Bisby supplemental report [LBYS0000001] pp. 94-95 paragraph 387.
69 Dr Lane supplemental report [BLAS0000008] pp. 62-63 8.10.39-8.10.42 and Figs. 8.72-8.73.
70 Professor Bisby supplemental report [LBYS0000001] p. 98 paragraph 415.
71 Professor Bisby supplemental report [LBYS0000001] p. 98 paragraph 417.
72 Dr Lane supplemental report [BLAS0000008] p. 16 Fig. 8.14.
73 Dr Lane supplemental report [BLAS0000008] p. 24 Figs. 8.24 and 8.25.

Figure 6.9

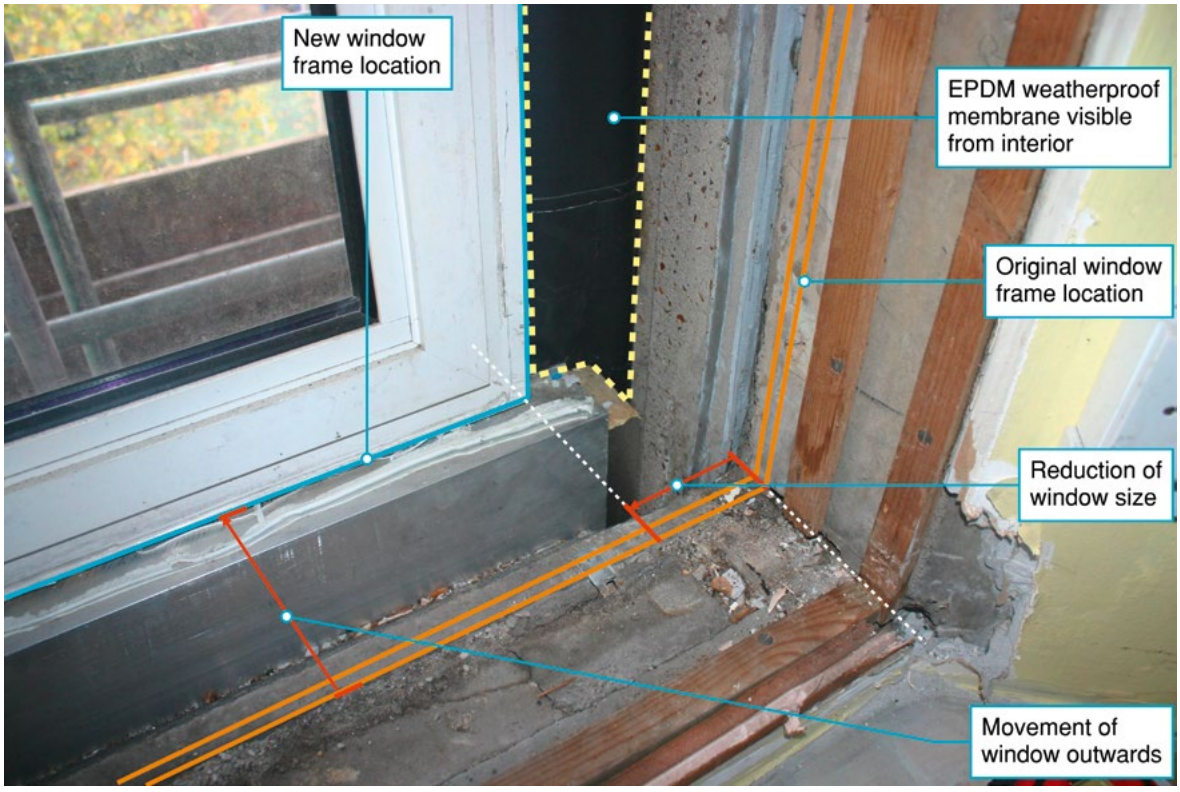

Figure 6.10

6.34 No cavity barriers were installed around the windows.[74]

[74] Dr Lane supplemental report [BLAS0000011] p. 74 11.20.22-23.

4 The architectural crown

6.35 The refurbishment of the building also involved changes to the pre-cast concrete architectural "crown" described earlier in this report. The concrete columns and beams at the top of the tower were wrapped in a band of tall, narrow Reynobond 55 PE ACM cassettes or "fins" which extended around the perimeter of the building above level 23. The "C"-shaped fins were fixed into reverse oriented "C"-shaped aluminium channels. In addition, the tops of the columns were provided with tapered detailing using the same material. The fins and the associated structure at the crown had no functional purpose and were purely aesthetic.[75]

6.36 Below is a design drawing of the architectural crown at roof level and showing the new "C"-shaped ACM fins and the new detailing at the top of the columns.[76]

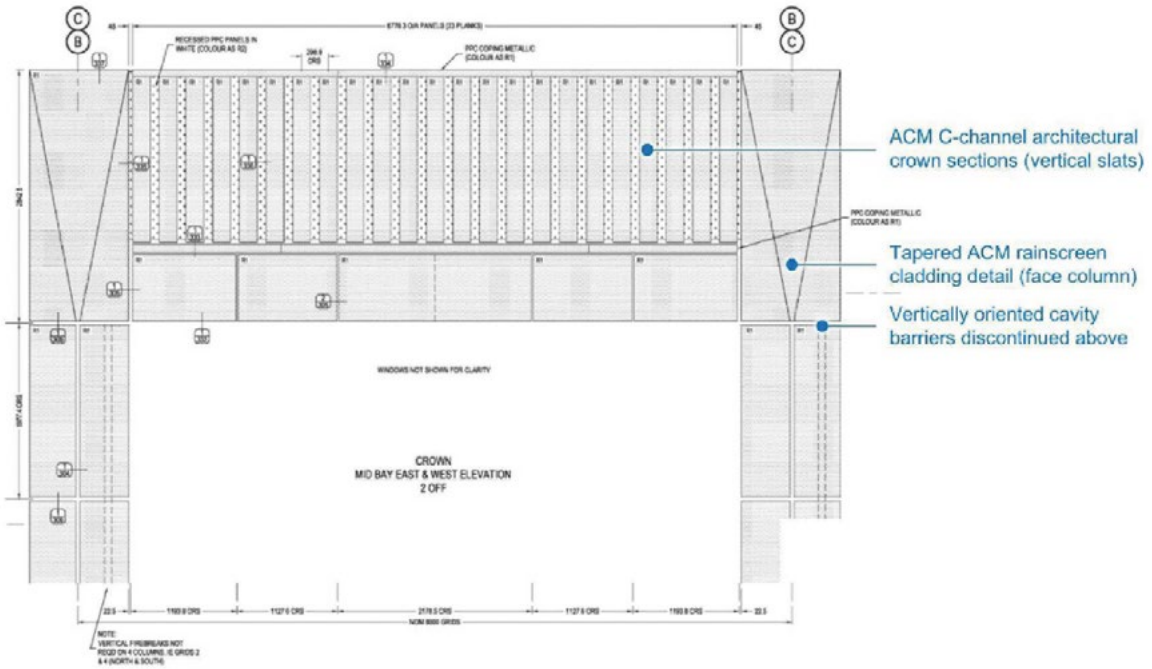

Figure 6.11

[75] Dr Lane oral evidence Day 79/87/14-23.
[76] Professor Bisby supplemental report [LBYS0000001] p. 61 Fig. 32.

6.37 In the following picture of the crown taken after the fire it is possible to see the remains of the ACM fins and aluminium rails, together with the original concrete behind.[77]

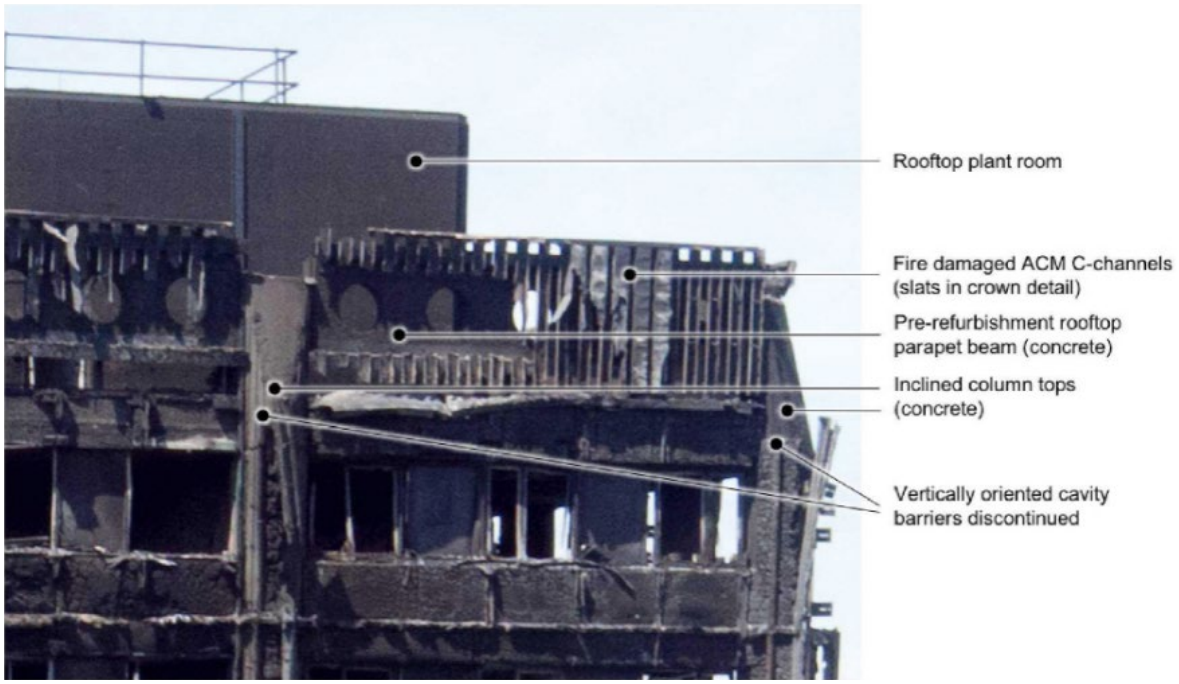

Figure 6.12

5 Other modifications

Floors 1-3: stairs and new flats

6.38 The main refurbishment involved significant works at the lower floors of the tower. On the ground floor an original access stair was demolished and the nursery was relocated and refurbished. A new entrance lobby was created. At floor 1 a bridge connection was made to serve that floor and at floor 2 a new access route was created to the stairs in the core of the building. At floor 2 the boxing club was reduced and refurbished and an additional flat was inserted into the south-west corner of the building. At floor 3 the stairs that originally served the floor from the ground floor were removed and new residential flats were constructed. In total nine new residential flats were created in these levels.

Lifts

6.39 In order to accommodate the new flats, the hydraulic lift that had served the non-residential lower floors of the building was removed and new door openings into the two lift shafts serving the main building were created at floors 1 and 3. As at the date of the fire in June 2014, there were two fire control switches; one on the ground floor between the lifts and one on the second floor.

Heating and hot and cold water systems

6.40 A new heating system was created for the whole of the tower as part of the main refurbishment. The existing boilers were retained to continue serving the walkways and a new central gas-fired boiler to serve the tower was installed in the basement. Six new risers were put in to

[77] Professor Bisby supplemental report [LBYS0000001] p. 63 Fig. 35.

carry hot water to all floors and a new service cupboard was created in the lobbies on every level from level 4 upwards to accommodate the risers and return piping.[78] In each lobby the pipes left the service cupboard and were concealed above a new plasterboard ceiling. They entered the individual flats through holes drilled through the concrete walls above the front door. Each existing residential flat was served by an individual heat interface unit (HIU), which was electrically operated and enabled the residents to control their heating and hot water. New pipework and radiators were installed in each flat.[79] A new boosted cold water system was also installed which distributed cold water from a plant room at roof level. This also involved installing additional pipework in each of the lift lobbies which entered flats through holes drilled through the concrete walls.[80]

Environmental and smoke ventilation system

6.41 The environmental and smoke ventilation system was overhauled and modified as part of the main refurbishment. The original smoke control system had been designed as a "corridor smoke dispersal system" and was intended to serve one floor at a time. It was a natural ventilation system with fans providing smoke extraction in the event of a fire. There were a pair of smoke extraction shafts on the north side of the building and a pair of fresh air inlet shafts on the south side of the building. In each lift lobby there were two pairs of Automatically Opening Vents (AOVs) serving these shafts which were designed to open automatically when smoke was detected by sensors in a lobby. This allowed the extraction fans to pull smoke up the shafts on the north side of the building to the outside at roof level and fresh air to enter through the south shafts. There was also an override switch to enable firefighters to operate the system on the fire floor manually. This is a basic diagram of the original smoke control system:[81]

Operation of original smoke control system

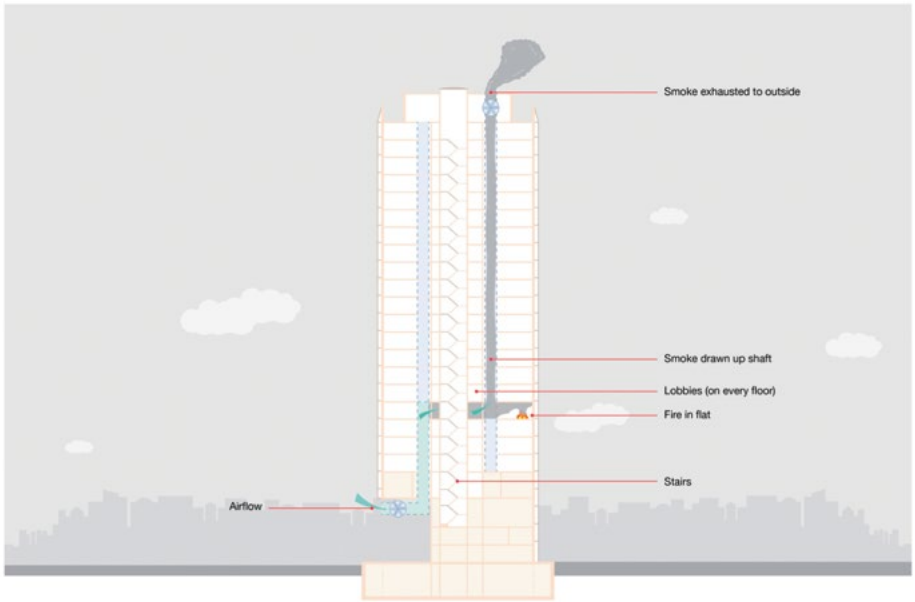

Figure 6.13

78 Dr Lane supplemental report [BLAS0000004] pp. 42-49.
79 Dr Lane supplemental report [BLAS0000004] pp. 47-48 4.7.60-4.7.63.
80 For a full description of these works refer to Dr Lane supplemental report [BLAS0000004] pp. 49-53 4.7.64-4.7.73.
81 Dr Lane presentation 18 June 2018 slide 173.

6.42 During the refurbishment it became apparent that it would be necessary to provide environmental air control in the common parts of the tower because the new services installed in the lobbies could cause them to become uncomfortably warm under normal conditions. As a result, the existing smoke control system was modified to become a combined environmental and smoke control system. It was designed and commissioned by PSB UK Ltd. Under normal circumstances the new system was designed to provide ventilation to the lift lobbies by drawing fresh air up the south shafts and expelling warm air up the north shafts, but, in the event of smoke being detected in a lift lobby, it was designed to act as a means of smoke control only by drawing smoke both up the north shafts and down the south shafts with replacement air being drawn from the stairs.[82] As in the case of the original system, it was designed to operate on only one floor at a time. In order to clear smoke, the AOVs on the floor affected would all open and those on all other floors would all close. Fans at roof and second floor level would then draw smoke out of the lobby both through the north shafts to the top of the building and through the south shafts to louvres sited above the entrance at level 2. Below is a basic diagram of the new system.[83]

Operation of the combined lobby environmental and smoke control system

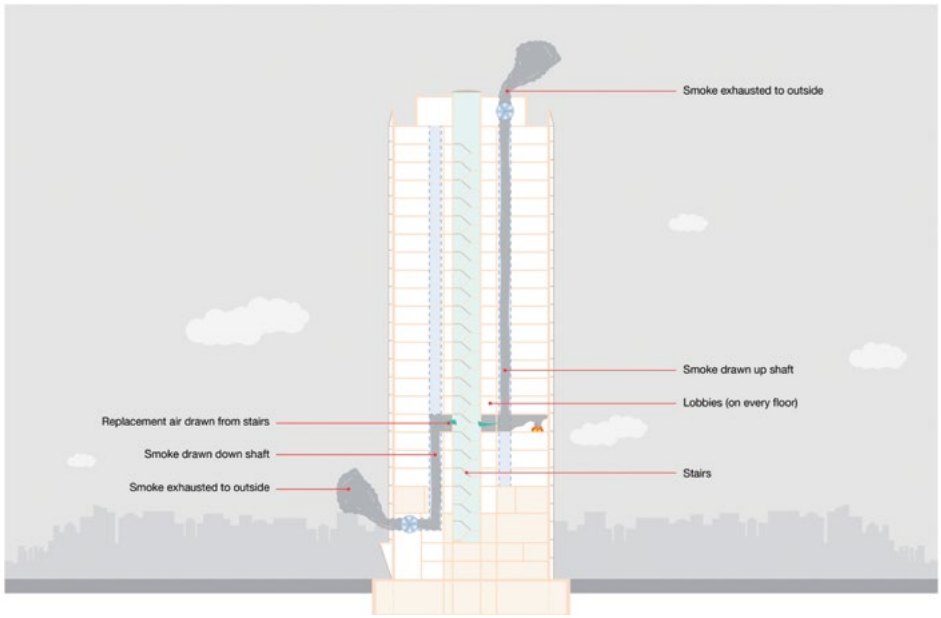

Figure 6.14

6.43 In order to provide for this new combined environmental and smoke control system, new features were introduced into the existing system including: new AOVs at floors 4 to 23, new exhaust fans and outlet on the roof, new exhaust fans at level 2, new ductwork at level 2 (connecting the south smoke shafts to louvres outside the building via smoke extraction fans), new builders' work shafts (linking the bottom of the existing smoke shafts to each of the lift lobbies), a new environmental fan on floor 2, new fan shut-off dampers, a permanently open vent head at the head of the stairs and on the ground floor, and new control panels and detectors.[84] These new control panels and detectors included a human machine interface panel ("HMI panel") located in the ground floor lobby, smoke detectors in the lobbies and

82 Dr Lane Day 81/129/13-22.
83 Dr Lane presentation 18 June 2018 slide 179.
84 Dr Lane supplemental report J6.5.2 [BLAS0000031] pp. 52-53.

yellow smoke vent key panels in each lobby. The latter were provided in order to enable firefighters to override the system if they wanted it to operate on a floor other than that which had been automatically selected.

6.44 It will be necessary to return to the design and operation of the smoke control system later in this report.

Dry rising main

6.45 At ground floor level the main refurbishment included provision of a new dry riser inlet to serve the existing dry rising main in the core of the building. This required new pipework on the lower floors of the tower in order to connect with the existing pipework at floors 4 and above. The original inlet valve at ground level had been located opposite the entrance, inside the building. It had served floors 4 to 23, but not floors 1 to 3. During the main refurbishment, that inlet valve was relocated to the outside of the tower to the left of the entrance on the south side. New landing valves were created at floors 1 to 3 and new branches were installed at floors 1 and 2. A new drain for the system was also created at basement level.

Landscaping

6.46 As part of the main refurbishment, soft and hard landscaping works were carried out around the immediate perimeter of the tower, including new areas of hardstanding and soft landscaping. To the east of the tower there was an area of hardstanding immediately adjacent to the building, with trees, grass and soft landscaping beyond. To the north was another area of hardstanding and a grassy slope which was steep enough to impede vehicle access. To the west was a children's playground and to the south was the main entrance. An extended area of hardstanding was created to the south of the building linking up with the top of Grenfell Road.

Chapter 7
The London Fire Brigade

7.1 In Part II of this report I set out in narrative form my conclusions about the origin of the fire, its development, the attempts made by the LFB to extinguish it and rescue those who were trapped in the building, and the steps taken by those in the control room to handle emergency calls relating to the incident. In order to provide the context for those Parts it is necessary to describe the organisation and structure of the LFB, the principles which govern its operations and the equipment at its disposal.

1 Statutory responsibilities

7.2 Since 1 April 2017 the London Fire Commissioner (the Commissioner) has been the fire and rescue authority for Greater London. Part 2 of the Fire and Rescue Services Act 2004 (the 2004 Act) imposes certain obligations on the Commissioner as Greater London's fire and rescue authority. They include the promotion of fire safety (section 6(1)) and making provision for extinguishing fires and the protection of life and property in the event of fires within Greater London (section 7(1)). In order to fulfil her obligations under section 7(1), section 7(2) requires the Commissioner (among other matters) to secure the provision of the personnel, services and equipment necessary efficiently to meet all normal requirements, to secure the provision of training for personnel, to make arrangements for dealing with calls for help and for summoning personnel, and to make arrangements for obtaining information needed for extinguishing fires and protecting life and property. This last obligation, imposed under section 7(2)(d), is of particular importance in relation to preparations for fighting fires in high-rise buildings.

7.3 The Commissioner is appointed by,[1] and accountable to, the Mayor of London (the Mayor).[2] The Mayor may also give guidance and directions (both general and specific) in relation to the manner in which the Commissioner's functions and duties are to be performed.[3] Under the Greater London Authority Act 1999 (the 1999 Act) the Mayor must approve the final text of the London Safety Plan.[4]

7.4 The LFB is the fire and rescue service for Greater London. For the purposes of the 1999 Act, it comprises the personnel, services and equipment secured by the Commissioner for the purposes of carrying out her obligations, including those under sections 6 and 7 of the 2004 Act. The Commissioner is also responsible under section 327D(5) of the 1999 Act for ensuring that the LFB is "efficient and effective".

2 Structure and organisation

7.5 The LFB has some 5,500 employees, of whom 4,600 are full-time operational firefighters and officers. For organisational purposes it divides Greater London into four geographical areas, North East, North West, South East and South West. Each area comprises a number of London Boroughs.

1 Subsection 327A(3) of the 1999 Act.
2 Subsection 327A(7) of the 1999 Act.
3 Subsections 327D(1) and (3) of the 1999 Act.
4 Subsections 327G(2) and (3)(b) of the 1999 Act; and also the Mayor's Direction of 21 March 2017.

7.6 The Commissioner is the highest-ranking officer and is ultimately responsible for the running of the LFB. Immediately below the Commissioner are the following supporting ranks:[5]

a. eight Assistant Commissioners (AC), who are responsible for managing a range of departments and services within the LFB;

b. 12 Deputy Assistant Commissioners (DAC), four of whom are responsible for the day-to-day management of the four geographical areas and eight of whom are responsible for operations or policy matters; and

c. a number of Group Managers (GM), who, if they are Borough Commanders, manage groups of fire stations or, if they are not Borough Commanders, carry out day-to-day work in specific policy areas.

7.7 The LFB's operations involve two principal spheres of activity: the control room and the incident ground. In the control room the LFB takes emergency calls from the public, despatches fire appliances to incidents and maintains communications with the incident ground. At the incident ground firefighters acting under the direction of the incident commander and other officers take steps to extinguish the fire and, if necessary, carry out rescue operations.

7.8 Ultimate responsibility for the control room and its operations lies with the DAC for Operations; reporting to them is the Principal Operations Manager (POM). The POM is responsible for "ensuring that Brigade Control,[6] emergency calls and the mobilising of resources are managed efficiently and effectively".[7] Supporting the POM are two Senior Operations Managers (SOMs) and supporting them, in descending order of seniority, are the Operations Managers (OM), the Assistant Operations Managers (AOMs) and the Control Room Officers (CROs). The SOMs have overall responsibility for the management of the control room, its staff, policies, training and procedures.[8]

7.9 Firefighting operations are organised around fire stations located in the various London boroughs, each under the direction of a Group Manager. At the time of the fire at Grenfell Tower there were 103 operational fire stations in London. Every fire station is on duty every day of the year. North Kensington is the nearest fire station to Grenfell Tower; the next nearest is Kensington.

7.10 Individual fire stations are staffed by the following personnel:

a. a Station Manager (SM), who is responsible for the overall management of the station;

b. Watch Managers (WM), who are in charge of individual "watches";

c. Crew Managers (CM), who are in charge of the crews of fire appliances; and

d. Firefighters (FF), who carry out firefighting and fire safety work.

7.11 Some fire stations are equipped with two appliances and some with only one. Fire stations with two fire appliances have nine firefighters on each watch and those with one fire appliance have five firefighters on each watch. Each watch is under the direction of a Watch Manager. Watch Managers are divided into two categories, "A" and "B" (the latter being the more senior). A Watch Manager B is in charge of each watch at fire stations with two fire appliances

5 LFB's Glossary of Terms (Sept 2017) [LFB00000008] p. 9.
6 I.e. the control room.
7 Control Report p. 177.
8 Smith Day 21/3/19-25-4/1-6.

(such as North Kensington);[9] a Watch Manager A is in charge of each watch at fire stations with one fire appliance (for example, Kensington).[10] Watch Managers carry out day-to-day firefighting and fire safety work as well as junior work in policy areas.

7.12 Each appliance has a crew of three or four firefighters under the direction of a Crew Manager (or Watch Manager A in the case of stations with only one appliance). Crew Managers carry out routine firefighting and fire safety work. At fire stations with two fire appliances, each watch has two Crew Managers; at fire stations with one fire appliance, each watch has one. Each fire station operates a two-shift, four-watch system. The watches are denoted Red, Blue, Green and White. Each watch works a two-day shift followed by two night shifts. Each series of shifts is followed by four days off. The change between the day and night shifts occurs at 09.30 and 20.00 each day.

3 The control room

Staffing, layout and equipment

7.13 OMs, AOMs and CROs constitute the day-to-day staff in the control room. They are divided into watches. The Deputy Commissioner, POM and SOMs work ordinary office hours.[11] They are not a part of a watch and are not routinely required to work from the control room.

7.14 The OM and AOMs (who are also referred to as supervisors or "Officer of the Watch" (OOW) when on duty) manage the control room. The OM has overall responsibility for the watch on duty and he or she is required to manage all the control room functions and staff.[12] The OM is also responsible for the assessment of control room performance against agreed service levels and quality standards.[13] The AOMs support the OM by overseeing the emergency call-handling and incident management activities of the CROs. They provide guidance to the CROs to ensure that service level standards are achieved at all times.[14] They are also required to maintain the reliability and readiness of relevant control and operations equipment and to work closely with the supervisory structure to ensure effective co-ordination of activities.[15] An AOM can perform the role of an OM in times of sickness or annual leave and can also take calls in the role of a CRO during busy times.[16]

7.15 The CROs are the frontline control room staff. In any shift they can be assigned to one or two of the three core roles of call-taker, paging operator and radio operator. All CROs are trained to perform all these roles.

7.16 The control room, known colloquially within the LFB as "Brigade Control", is usually located at the London Operations Centre in Merton, South West London. It is a large, modern purpose-built facility completed in 2012 which superseded the old Docklands-based control room. It also hosts the LFB's Resource Management facility and the London Resilience Group, a London-wide organisation independent of the LFB.[17] On the night of the Grenfell Tower fire, the control room was operating from its fallback facility in Stratford, East London because routine maintenance was taking place at Merton. The control room at Stratford is set up in

9 LFB organogram [LFB00000017].
10 LFB organogram [LFB00000016].
11 Control Report p. 176.
12 Control Report p. 176 and Norman witness statement [MET000080589] p. 2.
13 Control Report p. 177.
14 Control Report pp. 177-178.
15 Control Report p. 178.
16 Real witness statement [MET000080589] p. 2.
17 Control Report p. 174.

the Stratford Fire Station. It is not permanently staffed and is only used occasionally when planned maintenance is being carried out at Merton.[18] It can also be brought into operation for a spontaneous or unplanned event that significantly affects the operation of the main facility.[19] The photographs on the following pages show the two control rooms.[20]

7.17 The facilities at the two sites are intended to replicate each other,[21] so that the staff can carry out their roles in the same way wherever they are located. In most respects the facilities at the two sites are the same. CROs sit at banks of desks with three computer screens each and a headset. The layout enables at least two CROs to sit near to each other on each bank of desks.

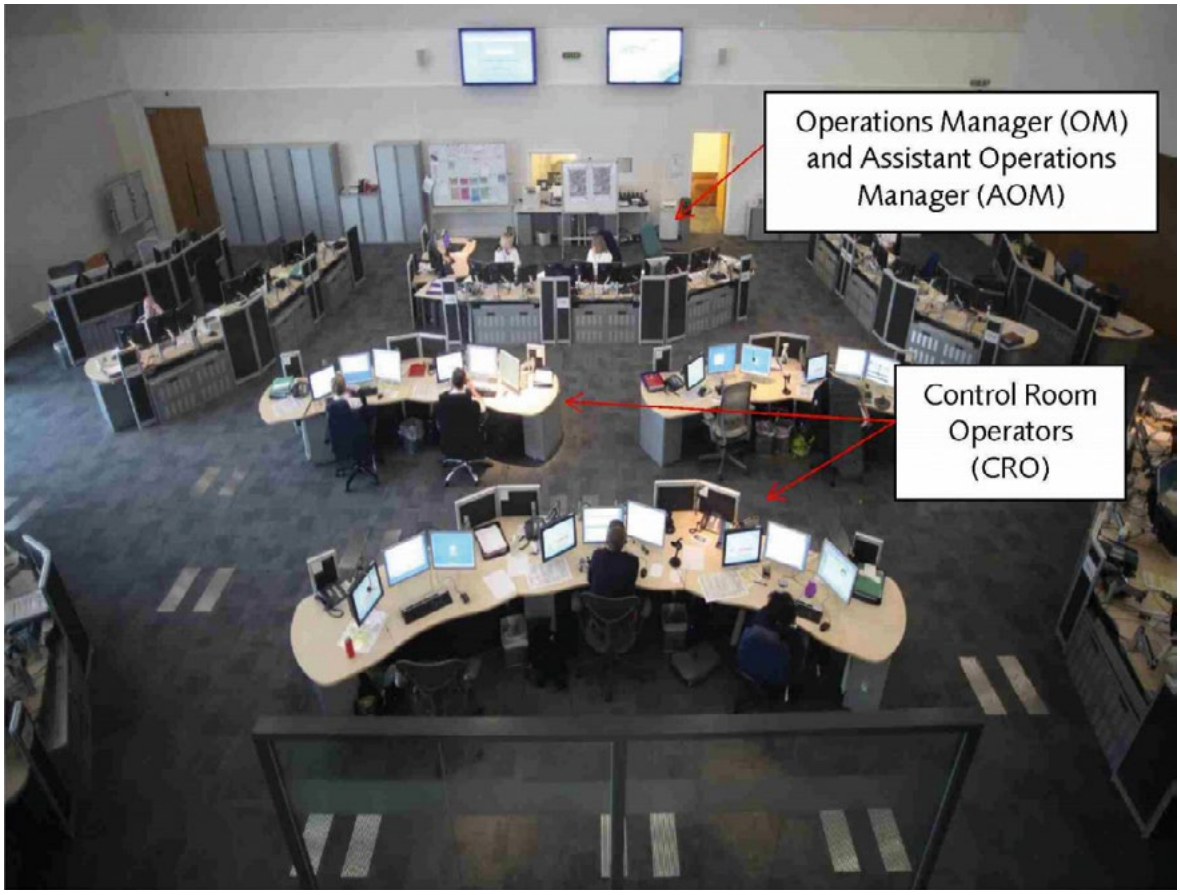

Figure 7.1 The Merton Control Room

18 LFB Organisational Overview Report [LFB00001905] paragraph 7.3. To CRO Heidi Fox's knowledge, it was used twice in 2017 by the time she made her statement on 5 October 2017 [MET00007764] p. 4.
19 LFB Organisational Overview Report [LFB00001905] paragraph 7.3.
20 Control Report pp. 173-174.
21 LFB IMP Incident Report [LFB00003114] p. 1.

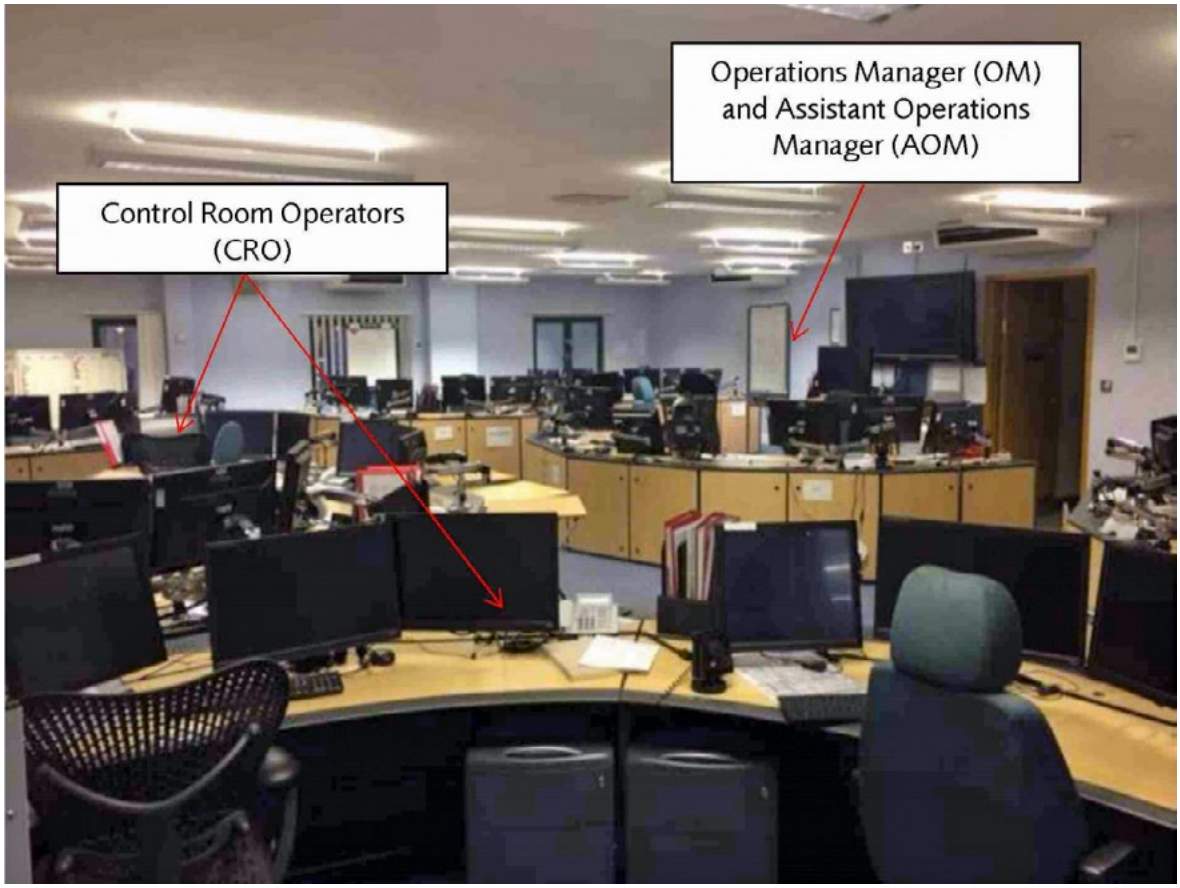

Figure 7.2 The Stratford Control Room

7.18 The senior control room staff, namely the OM and AOMs, sit at their own bank of desks (known colloquially as "the head table")[22] from which they can see the whole of the room. They also have three computer screens and a headset each and are able to listen in to calls taken by the CROs. A "red phone" is located on their desk. That is the critical information line that is usually connected to the command units at the incident ground to allow communication of "risk critical" or "life risk critical" information by a direct line.[23] It is also the line by which other control rooms can contact the LFB control room when they are assisting the LFB with calls and by which BT can also contact the control room. SM Jason Oliff explained that on the supervisors' desk there is also a dedicated direct link to the National Police Air Service (NPAS) helicopter via an intercom radio system which has a tannoy-like microphone and speaker.[24]

7.19 At each terminal a member of staff has access to the following computer and communications systems:

a. On the first computer screen is the Integrated Control and Communications System (ICCS), which is the means by which members of staff, predominantly the CROs, access telephone and radio communications comprising incoming telephone calls, such as 999 calls and radio messages transmitted from an incident. It works by way of a touchscreen.[25]

b. The second computer screen is the VISION terminal. This is the LFB's mobilising system and is the means by which CROs record calls coming in and mobilise the LFB's appliances.[26]

[22] Oliff Day 23/28/7-19.
[23] Oliff Day 23/61.
[24] Oliff Day 23/61, 64, 65.
[25] Control Report p. 174.
[26] Control Report p. 174.

The VISION system also contains a dynamic incident log of all the actions entered on the system associated with one event. Everyone in the control room is able to access the log of an incident, if they wish to do so.[27] I was provided with copies of two documents based on this log which describe in different degrees of detail the events of the Grenfell Tower fire, the short incident log[28] and the End of Incident Report.[29]

c. A third computer screen gives the CRO access to a standard desktop computer, which is connected to the LFB's intranet.[30]

7.20 It is evident from the photographs above (and was confirmed by a number of witnesses) that the two control rooms differ in size. Stratford is not only physically much smaller than Merton, but has only 16 mobilising positions as opposed to Merton's 29 positions (22 positions in the main control room and seven in the training suite).[31] OM Alexandra Norman described the Stratford control room as "a third of the size" of the Merton control room.[32] Some of the CROs who gave evidence said that they felt that the smaller room enabled them to hear more easily what was going on around them and communicate better with colleagues.[33] OM Norman said that the smaller size of the Stratford control room "helps to get a general overview of what is happening during a shift" and she believed that on the night it helped her to hear the conversations going on around her and to understand the nature of the calls.[34]

7.21 Although much of the equipment in the two control rooms is the same, on the night of the fire the Stratford control room lacked certain key facilities. In Merton, as can be seen from the photograph, the control room staff would usually have access to two 70-inch television screens, one showing a 24-hour news channel, which is normally switched on, and one which can show the NPAS downlink when it is in use at an incident.[35] The NPAS downlink transmits images from the NPAS helicopters. This is sometimes known as the "heli-tele".[36] SM Oliff said that the purpose of these screens is for the staff in the control room to have a "physical picture of the actual incident that's being dealt with" and to give the senior control room officers an overview of the development of the incident.[37]

7.22 The Stratford control room has a single television screen, which can be seen in the top right-hand corner of the photograph above, but it is smaller. The Stratford control room does not have access to the NPAS downlink, and so staff working there could not view images from a police helicopter if they were available.[38] Nor does it have access to the Dynamic Cover Tool (DCT), a computer program providing interactive maps designed to assist CROs in moving appliances between locations during large incidents or at periods of peak demand.[39]

27 Norman Day 42/45/-46/1-11.
28 [MET00013830].
29 [LFB00004496].
30 Control Report p. 175.
31 Smith Day 21/40/15-21.
32 Norman witness statement [MET000080589] p. 2.
33 For example, Duddy witness statement [MET00007787] p. 5 and Norman witness statement [MET000080589] p. 2.
34 Norman witness statement [MET000080589] p. 2 and Norman Day 42/56/13-17.
35 Smith Day 21/94/8-19.
36 IMP Incident Report p. 2.
37 Oliff Day 23/35/1-25/35.
38 IMP Incident Report p. 2.
39 Control Report p. 175; Norman witness statement [MET000080589] p. 2 and Day 42/58-59.

Duties and rostering

7.23 As call-takers, CROs answer emergency (999) calls and other operationally urgent calls from other parts of the LFB and partner agencies, such as the MPS, the LAS or other control rooms outside London.[40] They advise callers and mobilise resources appropriate to the type of incident. They respond to and process requests for resources and information coming from the incident ground. They are also responsible for updating the VISION mobilising system, which includes amending the system to show when officers and appliances are available, assigned to an incident, en route to an incident and in attendance at an incident.[41]

7.24 One CRO on each shift is assigned as paging operator responsible for notifying LFB officers and staff about an incident using a paging system. The paging operator should follow Policy No. 412 (Mobilising Policy),[42] which sets out when appliances, officers, equipment and external agencies are to be notified of an incident and of a need to attend. Most officers and staff who have been paged are required to acknowledge the alert by calling the paging operator. At that point the paging operator provides further details about the incident and updates the VISION mobilising system as appropriate, for example, to show that the officer is on their way to the incident.[43] A CRO assigned as paging operator can also take calls.

7.25 Two CROs are assigned as radio operators on each shift. A radio operator receives and transmits messages on the LFB's "main-scheme" radio. One radio operator handles the radio communications for North London (on channel 4, also known as "RT4"); the other handles communications for South London (on channel 2, also known as "RT2"). A third CRO provides cover for the radio operators when they take a break, although they will perform other roles as well.[44] In periods of high demand it is possible for one radio operator to operate both channels, thereby allowing the other radio operator to take calls.[45] A radio operator can also update the status and availability of appliances and senior officers on VISION.[46]

7.26 Each 24-hour period is divided into four shifts. There are six teams, known as "watches"; each watch works on a six-day shift rota.[47] The shift pattern is set out below:[48]

Shift name	Start time	Finish time
Days	08:00 hrs	20:00 hrs
Early short	08:00 hrs	16:00 hrs
Late short	14:00 hrs	22:00 hrs
Nights	20:00 hrs	08:00 hrs

7.27 In any 24-hour period, three watches are rostered to work. One watch takes the day shift, one watch takes the "short" shifts by splitting the team into two so that a team member will either work on the early shift or the late shift, and one watch takes the night shift.[49] The day shift and the night shift are the core shifts; staff on the shorter shifts usually undertake administrative work or relieve those on the core shift throughout the day when they take a break.[50]

40 Control Report p. 178.
41 Control Report p. 178.
42 Ref. Issue date: 26 October 2005. Reviewed as current 15 July 2016.
43 Control Report p. 178.
44 Darby witness statement [MET00013961] p. 2.
45 Control Report p. 178.
46 Control Report p. 178.
47 Norman witness statement [MET000080589] p. 2 and Smith witness statement [MET00007766] p. 2.
48 Control Report p. 176.
49 Control Report p. 176.
50 Darby witness statement [MET00013961] p. 2.

7.28 Each watch is composed of 16 members, but the minimum number required to be on duty in any shift is 11[51] (two supervisors and nine CROs).[52] However, it is usual to have three supervisors and eight CROs present.[53] OM Norman explained that if there were a fourth supervisor present, they would act as a CRO, but it would not be normal for a supervisor to act in that capacity in any other situation.[54] She explained that, provided a minimum of 11 staff members were present, there was some flexibility in relation to the ranks involved.[55]

7.29 When the watch is split across the short shifts, and the minimum number of staff are on duty, six will be allocated to the early short shift and five to the late short shift.[56] Using the minimum number of staff required in accordance with the LFB's Control Report, one can deduce that the following number of staff required to be on duty during each period is as follows:

a. from 08:00 to 14:00: 3 supervisors and 14 CROs;

b. from 14:00 to 16:00: 4 supervisors and 18 CROs;

c. from 16:00 to 20:00: 3 supervisors and 13 CROs;

d. from 20:00 to 22:00: 3 supervisors and 13 CROs;

e. from 22:00 to 08:00: 2 supervisors and nine CROs.

7.30 During a 24-hour period, either the POM or one of the SOMs will provide cover to the control room on a rotational basis as the Brigade Control Senior Manager.[57] In this role the Brigade Control Senior Manager has oversight of operations, providing a monitoring and supporting role to the OM on duty and undertaking the liaison role between the control room and the LFB's principal management team.[58] The POM or SOM is not required to be present in the control room outside normal working hours, but they must respond to pager communications and call the control room to assess the situation and decide whether it is necessary to attend.[59]

7.31 The POM or SOM will automatically be mobilised to attend the control room in various circumstances, including:[60]

a. when an incident occurs requiring between 9 and 12 appliances ("pumps");

b. when a Major Incident is declared by the LFB;

c. when there is a major loss or degradation of the control room's communications or computer systems or the primary control centre has to be evacuated to the fallback site; or

d. when several lengthy fire survival guidance (FSG) calls are in progress.

51 Smith witness statement [MET00007766] p. 2 and Control Report p. 176.
52 Control Report p. 176.
53 Smith Day 21/7/4-8; Norman Day 42/66/17-20.
54 Norman Day 42/62/1-42/66/17.
55 Norman Day 42/67/2-4.
56 Control Report p. 176.
57 Control Report p. 176.
58 Control Report p. 177 and Smith Day 21/34/20-25-21/36/8.
59 Smith witness statement [MET00007766] p. 1.
60 Control Report p. 177.

7.32 During a large operational or multi-agency incident, the LFB will set up a Brigade Coordination Centre.[61] The purpose of the centre is to provide support to, and implement the decisions of, the duty AC.[62] It also ensures that the LFB continues to provide the usual service and response across the whole of London.[63] The centre will usually be located at one of the LFB's facilities, either Merton or its headquarters at Union Street,[64] but on 14 June 2017 it was set up in the same building as the Stratford control room. It is set up and managed by a duty DAC as Brigade Co-ordinating Manager.[65]

7.33 When an incident requires eight or more pumps (fire appliances), a Station Manager[66] is mobilised to the control room to act as duty Officer of the Day (OOD).[67] The role of the OOD is to provide additional oversight and support to the Operations Manager in the control room and the duty Brigade Co-ordinating Manager in the Brigade Coordination Centre.[68] The OOD will also resolve resourcing problems, carry out resource planning and provide a link between operational staff at fire stations and senior duty officers on call.[69] The OOD does not advise control room staff about the advice they should give callers.[70]

VISION and other control room systems

7.34 The VISION terminal is the LFB's mobilising system. For each incident, a log is created on VISION which is updated as the incident progresses.[71] The information included is varied and includes items such as the resources and officers requested and deployed, any messages received from the incident ground, such as increasing the number of pumps (e.g. make pumps 10), or informative messages describing the progress of an incident for the benefit of the control room and those monitoring it.[72] The incident log can also include details of whether other agencies have been informed.[73] It will also contain an action plan for the incident, if one exists.[74] There is a live feed from the VISION system to an electronic viewing platform called BOSS.[75] Senior officers and fire stations are able to access BOSS remotely in order to find out what is happening at an incident.[76]

7.35 The ICCS is the means by which CROs access telephony and radio communications. It works by way of a touchscreen. VISION and ICCS are integrated. The two systems enable the CROs to manage emergency calls and to mobilise the LFB's operational resources and officers.

Handling emergency calls

7.36 The LFB issues policy documents containing instructions about the way in which its personnel are expected to carry out their various duties. In June 2017, the two principal policies governing the handling of emergency calls by the control room were Policy No. 539 (Emergency Call Management) (PN539) and Policy No. 790 (Fire Survival Guidance Calls) (PN790). In addition,

61 Fenton witness statement [MET000080569] p. 3.
62 ORR v 0.7 p. 490.
63 Fenton witness statement [MET000080569] p. 3.
64 Fenton witness statement [MET000080569] p. 2.
65 ORR v 0.7 p. 490.
66 ORR v 0.7 pp. 34, 505.
67 Control Report p. 177.
68 Control Report p. 177 and Oliff Day 23/17/16-24.
69 Control Report p. 177 and Oliff Day 23/17/16-18/24.
70 Oliff Day 23/19/1-4.
71 Smith Day 21/46-47.
72 Smith Day 21/46/4-19, 21/74/1-16.
73 Smith Day 21/46/4-19, 21/74/1-16.
74 Smith Day 21/46/4-19.
75 Smith Day 21/46/21-25-21/47/1-17.
76 Smith Day 21/46/21-25-21/47/1-17.

two Reference Information Files (RIFs) were available to the control room to assist call-handling, the RIF for Operators and the RIF for Supervisors. Taken together, the policies and RIFs described in some detail how the LFB expected CROs and senior officers in the control room to conduct operations. PN790 had both been drafted in the light of national guidance on fire safety contained in *Generic Risk Assessment 3.2* (GRA 3.2) published by the Department for Communities and Local Government in February 2014 with a view to helping fire and rescue services identify the significant hazards and risks likely to be encountered when fighting fires in high-rise buildings. PN539 had been updated in the light of that guidance. Neither policy is concerned solely with incidents in high-rise buildings.

7.37 The policies to which I have referred are generally implemented in the following way. When a 999 call comes into the control room, a flashing red box appears on all the ICCS screens.[77] The first available CRO responds by touching an icon on the screen, which opens a new entry on the call collection form (CCF) and enables details of the call to be entered on the system.[78] As the ICCS and the VISION system are integrated, some details, such as the caller's telephone number, are automatically entered on the CCF.[79] The CRO then starts to gather information from the caller.

7.38 Usually, a CRO first asks for the postcode or a road name to establish the location and obtain the relevant address.[80] If the person is living in a flat, the usual practice is to ask how many floors the building has so that the CRO can determine if the building is a high-rise block.[81] The CRO then obtains information from the caller in order to determine the type of incident that is taking place (e.g. a fire or a person trapped in a lift) in order to mobilise the appropriate appliances and officers and give the caller any necessary advice.[82]

7.39 Once the CRO has determined what type of incident is taking place, they enter the "Incident Type Code" on the VISION system (e.g. A1 is for fire, A1HR is for a high-rise fire) which generates a pre-determined attendance (PDA).[83] The PDA is the minimum level of response that the LFB is required to mobilise to a particular kind of incident.[84] At the time of the Grenfell fire, a general fire had a PDA of three fire appliances; a high-rise fire had a PDA of four appliances, comprising three pumps and a pump ladder, under the direction of a Watch Manager.[85] (The distinction between a pump and a pump ladder is explained below.) On the VISION screen the CRO can see which fire stations are nearest to the incident and, while speaking to the caller, can mobilise the nearest (in this case North Kensington).[86] A live display shows the appliances mobilising. Once the CRO has mobilised the required appliances and officers, it is the responsibility of the incident commander to determine whether any additional resources are required. The incident commander requests whatever resources he or she considers necessary by radio message to the control room, which then sets about mobilising them.[87]

77 Duddy witness statement [MET00007787] p. 1.
78 Smith Day 21/42/20-25-21/43/1-5.
79 PN539 paragraph 4.4 [LFB00000737] p. 4; Smith Day 21/43/9-15.
80 Duddy witness statement [MET00007787] p. 1.
81 A building of more than five floors is classified as high-rise: Smith Day 21/44/12-25.
82 Duddy witness statement [MET00007787] p. 1.
83 Duddy witness statement [MET00007787] p. 1 and section 7 and Appendix 1 of PN412 [LFB00001531].
84 Duddy witness statement [MET00007787] p. 1 and section 7 and Appendix 1 of PN412 [LFB00001531].
85 The management of the LFB's operational response to incidents is set out in PN412 (Mobilising Policy), and particularly Appendix 1 of PN412 (issue date 26 October 2015, reviewed as current 15 July 2016) [LFB00001531].
86 PN412 paragraph 2.9 [LFB00001531] and Smith Day 21/45/9-20.
87 PN412 paragraph 2.10.

7.40 During a call, a CRO provides advice to a caller depending on the situation in which they find themselves. CROs can obtain assistance from the RIFs available on their computer terminals; they can also seek help from a supervisor.[88] Supervisors can monitor calls through the ICCS system or can speak directly to CROs at their desks.[89]

7.41 In the course of speaking to a caller a CRO may find that they need to communicate with the radio operator in order to send a message to the incident ground. The CRO sends the message to the radio operator by creating a "service request" on VISION.[90] That is done by opening a service request box on the VISION terminal and entering the details.[91] The CRO directs the message to the attention of the appropriate radio operator by adding a reference to the channel by which it is to be sent. Thus, a message will carry the prefix "RT4" if it is to be sent by the North London radio operator.[92] The message will be displayed on VISION with the label "Service Request Created". Once the message has been saved, it is added to a list of service requests which everyone in the control room with access to the VISION system can see. The radio operator responsible for the relevant channel is expected to pick up the message and transmit it.[93] If a message has priority, such as an FSG message, the CRO may call out to the radio operator to alert them to it, saying something like "Message on 4".[94] The message can be amended by the CRO, in which case the system will show "Service Request Updated". The status of the message can also be changed on VISION by a CRO or a supervisor to show that it is "In Progress", meaning that the radio operator has picked it up and is dealing with it.[95]

7.42 When the radio operator has completed the request, they tick a box on the screen, thereby generating the message "Service Request Completed", which is recorded on VISION.[96] It is important to note that the radio operator does not change the details of the original service request and only ticks a box to indicate that it has been completed.[97] The terms of the original service request become, in effect, a label by which to identify any subsequent actions taken in response to it. An example of how a service request message appears on VISION is shown below.[98]

88 Norman witness statement [MET000080589] p. 1, Reference Information File (RIF) Fire Survival Guidance (Supervisor) [LFB00003541]; Reference Information File (RIF) Fire Survival Guidance (Operator) [LFB00003542].
89 Norman Day 42/43/23-42/44/3; Smith Day 21/36/12-19.
90 Darby Day 33/145/1-16.
91 Darby Day 33/145/1-16.
92 Darby Day 33/145/1-16.
93 Darby Day 33/145/1-16.
94 Darby Day 33/152/1-13.
95 For example, SIL p. 20, 01:53:52; Duddy Day 42/194/11-15; Smith Day 21/83/15-22.
96 For example, SIL p. 20.
97 Darby Day 33/159/2-7.
98 SIL p. 20.

01:51:13	HJF		Service Request Service Request Created: RT4 TO G271 INFO REC FROM SRY POLICE CALLER IN FLAT 111 ON THE 14TH FLOOR IS IN THE BATHROOM AREA WITH SMOKE ENTERING ROOM HE IS HAVING DIFFICULTIES IN BREATHING
01:51:16	AG		Service Request Service Request Created: TO CH4 G271 PEOPLE ON 10 TH FLOOR ARE ASKING TO TO LEAVE FLATS - CAN YOU CHECK THEM
01:52:59	PM	BC04	User Comment Acknowledged receipt of incident 076029-14062017
01:53:52	SAD		Service Request Service Request InProgress: RT4 TO G271 INFO REC FROM SRY POLICE CALLER IN FLAT 111 ON THE 14TH FLOOR IS IN THE BATHROOM AREA WITH SMOKE ENTERING ROOM HE IS HAVING DIFFICULTIES IN BREATHING
01:53:57	DR	BC02	User Comment Acknowledged receipt of incident 076029-14062017
01:53:59	SAD		Service Request Service Request Completed: TO CH4 G271 PEOPLE ON 10 TH FLOOR ARE ASKING TO TO LEAVE FLATS - CAN YOU CHECK THEM
01:54:03	DR	PR6	User Comment Acknowledged receipt of incident 076029-14062017
01:54:04	AN		Agency F4 NOW EN ROUTE TO BRIGADE CONTROL AS DUTY DAC
01:54:05	SAD		Service Request Service Request Completed: RT4 TO G271 INFO REC FROM SRY POLICE CALLER IN FLAT 111 ON THE 14TH FLOOR IS IN THE BATHROOM AREA WITH SMOKE ENTERING ROOM HE IS HAVING DIFFICULTIES IN BREATHING

Figure 7.3

7.43 The radio operator is primarily responsible for transmitting messages to and from the incident ground; they are the essential link between the two.[99] Once a firefighting crew has been assigned to an incident, there should be a constant flow of information passing between them.[100] The radio operator transmits messages passed to them by the CROs or the supervisor[101] and the crews transmit messages from the incident commander to the control room. That may be a request for additional resources or what is known as an "Informative Message", which is intended to provide the control room and officers not in attendance at the incident with an accurate description of the incident and the progress being made.[102] All radio messages received from the incident ground are logged through VISION by the radio operator.[103] They are then picked up by another CRO who takes the necessary action, e.g. by mobilising the required resources. The paging operator alerts senior officers to ensure their attendance, if necessary.[104]

7.44 The radio used by the radio operator is the main-scheme radio. The main-scheme radio uses the Airwave Network, a commercial radio network, and is usually referred to simply as Airwave. The channels used by the LFB are designated Fire London Operations (FLONOPS) with code names for individual channels available. "M2FN" is the code name for the channel

99 Darby witness statement [MET00013961] p. 2.
100 Darby witness statement [MET00013961] p. 2.
101 Darby witness statement [MET00013961] p. 2.
102 ORR v 0.7 p. 503. SOM Smith provided a definition of "informative message" at Day 21/29/12-13.
103 Darby witness statement [MET00013961] p. 4. Time marks on the SIL may appear later in time than the action to which they refer, given that the radio operator updates the incident log only once the action has been taken or, for example a message has been received.
104 Darby witness statement [MET00013961] p. 4.

that covers North London.[105] The channels are also known as "RT4" etc., shorthand for "radio transmission, channel 4".[106] These names are used interchangeably.[107] Channel 1 is a spare channel, which can be used to transmit a large number of FSG calls or for communications relating to a single incident, if staffing numbers allow.[108] Anyone who possesses a portable handheld Airwave radio can listen to the communications on any of these channels. Senior LFB officers of Station Manager rank and above are issued with Airwave radios and one is fitted in every appliance.[109] The control room can therefore transmit messages to appliances by Airwave radio and senior officers can listen in, which may be necessary if they have been notified of the incident and need to monitor its progress in order to decide whether they need to attend. Senior officers can communicate with each over the Airwave radio but these communications are not recorded.[110]

4 The incident ground

The incident commander: role and responsibilities

7.45 At every incident it is necessary for an officer to assume the role of incident commander and direct operations on the ground. Policy No. 431 (Incident Commander) describes the role and responsibilities of the incident commander, who is the person responsible for discharging fire service functions at the incident.[111] The general rule is that the commander of the first fire appliance to attend an incident undertakes the role of incident commander unless and until relieved by a more senior officer.[112]

7.46 The responsibilities of the incident commander are described in paragraph 6 and Appendix 2 of PN431. For present purposes it is sufficient to say that they include:

a. assessing the incident and deciding upon an operational plan;

b. making dynamic risk assessments, which involve striking a balance between ensuring firefighters' safety and discharging the responsibility of the fire and rescue service to extinguish fire and to save life and property;

c. assessing the need for additional resources; and

d. establishing an effective incident command structure and communications network.

However, PN342 recognises that the incident commander may need to adapt or move away from operational policy if it is justifiable in terms of risk and benefit, but advises that any such move should be kept to the minimum necessary to achieve the desired objective in order to minimise exposure to the increased levels of risk.[113]

105 Darby witness statement [MET00013961] p. 2 and Day 33/134/20-23.
106 Darby Day 33/157/10-13.
107 Darby Day 33/135/4-6.
108 PN790 paragraph 5.13; Darby Day 33/134/14-23, 33/135/7-15.
109 Smith Day 21/65/24-25-21/66/1-8, 21/68/17-22.
110 Smith Day 21/136/4-8.
111 PN431 paragraph 5.1 [LFB00000174].
112 PN431 paragraph 3.1 [LFB00000174].
113 PN342 [LFB00000236] p. 3.

7.47 Communications on the incident ground and between the incident ground and the control room are of the utmost importance. Paragraph 7 of PN431 requires the incident commander to establish and maintain clear lines of communication throughout the incident, to ensure that communications are maintained between the incident ground and the control room, and to establish and maintain effective lines of communication with other services and agencies.[114]

7.48 In many cases the initial incident commander is likely to be a Watch Manager, but if the incident increases in scale or seriousness, a more senior officer is required to attend to ensure that the incident commander holds a rank appropriate to the gravity of the incident. If the number of appliances required to attend is increased, the seniority of the incident commander increases. As one would expect, the outgoing incident commander is expected to give their successor a full description of the operational situation when handing over command.[115]

The monitoring officer: role and responsibilities

7.49 When the number of pumps required at an incident reaches 15, the LFB's practice is to appoint a monitoring officer, whose role and functions are described in Policy No. 424 (Monitoring Officer). The monitoring officer's primary function is to measure the efficiency, effectiveness and, where possible, the economic performance of individuals and the organisation as a whole at an incident[116] by applying the decision-making model and comparing their own conclusions with those of the incident commander.[117] The monitoring officer and the incident commander are expected to discuss any differences between their assessments and decide what action is required to ensure safe systems of work. The monitoring officer is also expected to tour the incident ground, evaluate the operational plan and report back to the incident commander,[118] and, if the incident escalates or its management is beyond the experience or ability of the incident commander, to assume command immediately.[119]

Sectors

7.50 At larger or more complex incidents the incident commander may divide the incident ground into sectors, each under the command of a sector commander, to enable a practicable span of control to be maintained. There are two types of sector: an operational sector, which is defined by reference to a physical area of the incident ground, and a functional sector, which is defined by reference to a support role and the resources it commands. The incident commander may also appoint one or more operations commanders to take responsibility for a number of sectors on the incident ground, thereby maintaining an effective span of control and providing a greater level of command.

Incident command support

7.51 The LFB provides a variety of command support arrangements based on the size and nature of the incident. At smaller incidents, command support is provided by the Initial Command Pump (ICP),[120] which provides the communications link between the control room and the incident ground. The ICP's means of communication with the control room is the main-scheme radio, with its transmitter and receiver fixed in the front cab at head height where the

114 Paragraphs 7.1-7.3 respectively [LFB00000236] p. 10.
115 PN431 Appendix 1 [LFB00012840] p. 6.
116 PN424 paragraph 4.1 [LFB00004944].
117 PN424 paragraph 4.5 [LFB00004944].
118 PN424 paragraph 4.6 [LFB00004944].
119 PN424 paragraph 4.7 [LFB00004944].
120 PN238 (incident command procedures) paragraph 7 [LFB00013472] p. 5.

driver and officer in charge sit.[121] The ICP continues to perform its communications role until the incident is concluded or it is relieved by a command unit[122] (a mobile control room), if the incident requires one. On arrival at the incident ground commanders of appliances and senior officers alike report to the ICP or the command unit, hand in their nominal roll boards and are given information about the incident. The nominal roll board is a physical plate carried on all LFB vehicles that provides details about the type of appliance, its call-sign and the names and rank of its crew. Senior officers also carry a nominal roll board which, in their case, records the officer's name, call-sign, vehicle registration number and any specialist qualifications.

7.52 A command unit is mobilised to provide a dedicated and enhanced level of command support at larger incidents (typically those involving four or more appliances). It is staffed by at least two Watch Managers who provide command support for the incident commander. The command unit carries the Command Support System (CSS), together with other systems which are designed to provide the incident commander with access to the ORD, the primary purpose of which is to record significant hazards and risks, as well as what the LFB calls "less obvious hazards and any unique control measures in place",[123] and any particular tactical plans or command and control procedures that may be required. The CSS also carries other relevant information, such as data on water supplies and maps.

7.53 The officers on the command unit perform a number of important functions. These include recording preliminary details of the incident on the CSS, transmitting messages to and from the control room and maintaining the plan of the incident, including a record of the duties and location of senior officers and operational crews committed at the incident. The command units also play an important role in ensuring that the incident commander can communicate with the various parts of the incident ground. They should maintain radio contact with the incident commander if they leave the command unit; they also co-ordinate and maintain radio contact with the operations and sector commanders. Command units can also be used for logistical functions, such as marshalling and hosting tactical co-ordination group meetings.

7.54 At larger incidents additional command units will automatically be mobilised but they can, if necessary, be requested by the incident commander. When the control room is receiving FSG calls, an additional command unit will automatically be mobilised, together with a senior officer, to collate and manage FSG information. Each command unit is equipped with a Casualty Information Sheet, a laminated template which enables information to be recorded in respect of up to seven FSG calls.[124]

Provision of basic information to fire crews

7.55 The primary purpose of the Operational Risk Database (ORD) is to alert crews to risks and hazards at a particular building additional to those that are normally encountered, together with any less obvious hazards and unique control measures that may be in place. The ORD also contains any particular plans or command and control procedures required.[125]

7.56 The "tip sheet"[126] is a document which is printed off in the watch room and gives the mobilised crews basic information regarding the incident, including the address, classification of the incident and the number of appliances attending, as well as the information about the relevant building recorded in the ORD.

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121 Dowden Day 10/38/21-39/7.
122 PN238 paragraph 7.4 [LFB00013472] p. 5.
123 LFB Organisational Overview [LFB00001900] p. 20.
124 PN820 Appendix 1 (Forward Information Board) [LFB00000188] pp. 8-9.
125 Policy No. 800 (Information gathering/contingency plans) (dated 16 July 2012) [LFB00000705] pp. 7-8.
126 Dowden Day 9/147-148/11.

7.57 Once mobile and on their way to the incident, the initial incident commander (as well as other attending crews) have access to the Mobile Data Terminal (MDT). This is a vehicle-mounted fixed tablet computer which has a 12-inch touch screen. It is fitted to most operational vehicles.[127] The MDT sits in the front of an appliance, between the driver and the officer commanding the crew. It provides the crew with access to the information recorded on the ORD in relation to the relevant building, including the tactical and any operational contingency plans.[128]

5 Equipment

7.58 When describing the response of the LFB to the fire at Grenfell Tower it is necessary to refer to some of the equipment in use, including, for example, the means of providing basic information about the relevant building, fire appliances and breathing apparatus. It may be useful at this stage, therefore, to provide a brief description of the more important pieces of equipment available to the LFB.

Fire appliances

7.59 There are two basic types of basic fire appliance: a pump appliance (known simply as a "pump") and a pump ladder. A pump carries a crew of up to six firefighters. It is equipped with an internal pump designed to supply water for firefighting operations and a 9-metre ladder. The pump carries several lengths of hose, nozzles (known as "branches") for controlling the water, and other equipment, including breathing apparatus. A pump ladder is very similar. It can carry the same number of firefighters and similar equipment, but has a 13.5-metre ladder.

7.60 In addition to pumps and pump ladders some fire stations are equipped with Fire and Rescue Units (FRUs), which carry specialist rescue equipment for use at complex incidents.[129]

7.61 The LFB has 11 aerial appliances of which two types are relevant: turntable ladders (TLs) and aerial ladder platforms (ALPs). A turntable ladder is a vehicle equipped with a ladder that can reach 32 metres in height, i.e. to about the tenth floor of a modern high-rise building. An aerial ladder platform can reach the same height, but the ladder has a cage at its head, which can hold up to four people. The ladder may be operated from ground level or from the cage.

Breathing apparatus

7.62 Given the nature of their work, firefighters need to use a variety of protective equipment, including breathing apparatus (BA). BA allows firefighters to breathe whilst working in an oxygen-deficient atmosphere (such as smoke) and is standard equipment when fighting fires or attending incidents involving an acute respiratory hazard. BA consists of a full-face mask, a cylinder containing compressed air with associated air tubes and a pressure gauge, body harness straps, a hand lamp and radio communications. BA sets also have a "bodyguard" distress signal unit which monitors the breathing rate of the wearer and the time the set was first activated.

7.63 The LFB uses two types of BA set: Standard Duration Breathing Apparatus (SDBA) and Extended Duration Breathing Apparatus (EDBA). SDBA is carried on all frontline appliances. It is a single-cylinder system, weighing approximately 15 kilograms, which provides a working

[127] Refer to the definition in the LFB's ORR v 0.7 p. 504.
[128] Dowden Day 9/157/2-159/5.
[129] Dowden Day 11/41.

time of 31 minutes, assuming a consumption rate of 50 litres per minute. The actual working time available, however, depends upon a range of factors, including the wearer's workload and the physical and environmental conditions (for example, the extent of smoke-logging and the temperature that firefighters are experiencing) as well as the wearer's own physical fitness. The safety margin is 12 minutes. An alarm sounds when the pressure in the cylinder falls to 84 bar. When using BA, a firefighter is sometimes said to be operating "under air".

7.64 EDBA is carried only on FRUs and is intended to give an enhanced capability at incidents involving long distances or conditions which make SDBA less effective. Specialist training is required to wear EDBA and is typically provided only to FRU crews. EDBA is a double-cylinder system, which weighs about 23 kilograms and provides a working time of 47 minutes, assuming a consumption rate of 56 litres per minute. As with SDBA, the actual duration of the set is determined in part by the circumstances confronting the firefighter. The safety margin is 18 minutes and, as with SDBA, an alarm will sound when the pressure in the cylinders falls to 84 bar.

Ground monitor

7.65 In the following section of the report there are references to a piece of equipment called a "ground monitor", a piece of equipment which allows a jet of water to be directed against a building without the need for constant attendance by firefighters. It consists of a nozzle fed by a hose and supported by a metal frame anchored to the ground. Once set up, it can be left unattended to maintain a constant stream of water.

Radio equipment

7.66 The LFB uses two principal types of communications equipment. One is the digital Airwave radio system described earlier, which is generally used for communications between the control room and fire appliances and between senior officers; the other is an ultra-high frequency analogue radio system for use on the incident ground. Senior officers can communicate with each over the Airwave radio, but they do not use them on the incident ground and any communications between them using that method are not recorded.[130]

7.67 All operational firefighters, including senior officers, have their own handheld analogue UHF radios (sometimes known as "fireground radios"), which have eight channels:

a. Channels 1 and 2 are dedicated to incident command. Channel 1 is the default channel for all initial incident command communications and remains the primary command channel until circumstances, or the incident commander, require additional radio capacity. If additional capacity is required, channel 2 is used.

b. Channels 5 and 6 are used by breathing apparatus crews.

c. Channel 3 is for firefighter crew communications.

The main drawback of the fireground radios is that on any given channel they can transmit or receive only one voice transmission at a time.

7.68 The LFB's fleet of command units also carries portable UHF radio repeaters and what is known as "leaky feeder" equipment. A leaky feeder is a coaxial cable, 175 metres long, which is normally connected to a radio repeater and extended as required. The radio repeater technology can be deployed to supplement or enhance communications.

[130] Smith Day 21/136/4-8.

7.69 Some BA sets are fitted with a dedicated UHF Breathing Apparatus Radio Interface Equipment analogue radio known as a "BARIE set". As breathing apparatus crews can be asked to operate in potentially explosive atmospheres, all BARIE sets must be intrinsically safe. In order to meet that requirement, they are limited to a power output of 1 watt per channel, which can affect their operational range.

BA entry control equipment

7.70 When BA is in use, an entry control officer is appointed to manage the deployment of firefighters entering the relevant area under air by means of an entry control board (ECB). An ECB is an electronic telemetry board which displays real time information in relation to each BA wearer whose set has been logged on to it.

7.71 The ECB is a rechargeable, battery-powered unit incorporating a digital radio transmitter and receiver with integral antennae. Each ECB has 12 BA tally channel slots, each able to accept the encoded tally of one BA set. The data transmission link between the ECB and each BA set is activated by the insertion of the tally, which has a built-in encoded transponder, into one of the available sockets on the ECB. The ECB identifies the associated BA set and the individual BA wearer's telemetry signal radio icon illuminates (green) continuously, confirming that a successful telemetry signal is established between the ECB and the BA set. The entry control officer is then able to monitor air consumption rates for each BA wearer and, therefore, the remaining time available to them. The individual BA tally channel LED display shows the end of the working duration of the cylinder used by that wearer. The ECB stores data that can be downloaded after an incident.[131]

6 Firefighting

7.72 The Narrative refers to various technical terms and certain equipment which was used by the LFB to support firefighting and search and rescue deployments on the night. It may assist if two of those terms and equipment are explained here.

The bridgehead

7.73 The bridgehead is the forward command post, from which firefighters are committed to fight the fire and where the ECB is maintained. It must be established in safe air. When fighting a fire in a high-rise building, it is standard operating procedure to establish the bridgehead two floors below the fire floor, unless it is possible for safe air to be reliably maintained at a position closer to the fire.[132] Crucially, when positioning the bridgehead, consideration should be given to the spread of smoke through doors that will be opened to enable hoses to be put in to the riser and which will have to remain open for firefighting purposes.[133]

Forward Information Board

7.74 Forward Information Boards (FIBs) are used by those in command of the bridgehead to record important information. An FIB consists of a Perspex back board and two double-sided laminated sheets, printed with four templates and is designed for gathering and recording

[131] As it was for the Grenfell Tower incident. The data are contained in the evidence of AC Andrew Bell (Day 9/114/5-125/3 and [LFB00003588]) and Malcolm Stanton ([LFB00003587 and LFB00023330] and summarised in the LFB telemetry schedule [LFB00023326]).

[132] PN633 paragraph 7.19 [LFB00000178] p. 11.

[133] PN633 paragraph 7.20 [LFB00000178] p. 11.

information. The use of FIBs is covered by Policy No. 820 (Forward Information Board),[134] Appendix 1, figure 3 of which is a casualty information template with space for up to seven people. A record of people rescued and areas searched or partly searched should be made to share information generally, to assist with prioritising further rescues and to avoid repeated searches being made of the same areas.

[134] Introduced in 2013 as part of the LFB's response to the Lakanal House fire.

Chapter 8
Before Grenfell: the Lakanal House Fire

1 The Lakanal House fire and the ensuing inquests

8.1 Lakanal House, Havil Street, Camberwell, London SE5 is a high-rise residential block containing 98 flats and maisonettes spread over 14 floors. On 3 July 2009 a fire broke out in a maisonette on floor 9 and despite the prompt attendance of firefighters, spread rapidly beyond the compartment of origin upwards to floors 10, 11 and 12 and downwards to floors 5 and 7. Within 30 minutes smoke had spread to involve floors 6 to 12 and smoke-logging affected large parts of the building, including the communal staircase, corridors and many of the flats. Six people died in the fire, three of whom were children. Fifteen people were taken to hospital suffering from the effects of smoke inhalation and one firefighter was admitted for treatment for heat exhaustion. A total of 38 people were assisted out of the building or were rescued by the LFB. At its height, more than 100 firefighters were in attendance at the scene, with 18 pumps, nine FRUs and other specialist appliances and officers.

8.2 Following an investigation by the MPS and the Health and Safety Executive (with the involvement of the LFB), the Crown Prosecution Service decided in May 2012 that no prosecutions should follow. Thereafter dates were set for the inquests, which were heard by Assistant Deputy Coroner, Her Honour Frances Kirkham CBE, between 14 January and 28 March 2013. A full transcript of the coroner's summing up to the jury of 20 and 21 March 2013 can be found at https://www.lambeth.gov.uk/elections-and-council/lakanal-house-coroner-inquest.

8.3 On 28 March 2013, at the end of the hearings, the coroner made a number of recommendations under rule 43 of the then current Coroners' Rules, some of which were directed at the LFB. So far as concerned the LFB control room, the coroner said that, in the light of the "extensive work [already] undertaken to learn from the experience with the fire at Lakanal House", the introduction of new policies and the review of existing policies, she would make no recommendations in relation to communications between the control room and the incident ground, guidance on the handling of FSG calls or training for officers dealing with such calls.

8.4 The Lakanal House fire was an important event in the history of the LFB's response to firefighting in a high-rise residential block and to emergency call handling. It is no exaggeration to say that the Lakanal House fire is etched into the consciousness of the LFB as an institution and into the memories of those officers who attended it. Of the CROs on duty in the control room on the night of the Grenfell Tower fire, four (CROs Debbie Real, Heidi Fox, Angie Gotts and Peter May) had been on duty during the Lakanal House fire and had handled calls from people inside the building.

2 The LFB's response to the Lakanal House fire

8.5 As a result of the Lakanal House fire, the LFB undertook a detailed internal review of its practices and policies relating to call management in general and FSG calls in particular. In November 2012 it produced a detailed report entitled "Fire at Lakanal, Havil Street, SE5 on 3 July 2009 – Role and Actions of the LFB Control" (the LFB Lakanal Report).[1]

[1] [HOM00001124].

8.6 The LFB Lakanal Report examined the historic frequency of FSG calls received by the control room, the training and experience of the CROs in providing fire survival guidance and the nature of the essential advice to be given to callers. The statistics for the five years to 2009 revealed that the number of emergency calls in response to which fire survival guidance had been given was very small compared with the overall number received by the control room.[2] In the five years to 2009 there were 77 FSG calls out of a total of 728,770 calls received, or 0.0101%, and a yearly average of 15.4 FSG calls out of 145,754 calls received (0.0105%). Of these, there was only one call where any fatalities (in that case two) had been recorded.[3]

8.7 There is no evidence to suggest that the picture changed materially in the years between the Lakanal House fire (2009) and the Grenfell Tower fire (2017). It is also important to observe that, of the total of 60 emergency calls handled by the control room during the Lakanal House fire, only four were FSG calls.[4] Even that number of FSG calls from a single incident and the pressure they created were described by one officer who assisted the LFB's Lakanal House investigation as "unique".[5]

8.8 The other important aspect of the LFB Lakanal Report for present purposes was the examination of how the control room handled FSG calls during that fire. The report arrived at its conclusions at section F6. Paragraphs 290 and 293 to 296[6] are worth setting out in full here:

> "*290.* **Information gathering:** The quality of the information gathered by [CROs] during the incident varied dependent on the type and length of call. Some calls only required the confirmation of the address to confirm it was a 'duplicate' to the Lakanal fire, whereas the FSG calls involved detailed information gathering. [CROs] often found out about the caller's flat number, which floor they were located on, if they were on their own and their specific location in the flat. However, in the various source documents (e.g. MobIS report, FI report, recordings) there is reference to floor numbers being gathered from callers but these were not always passed to the incident ground in every instance.
>
> …
>
> *293.* **Expectations that callers would be rescued and 'stay put' advice:** [CROs] had a clear expectation that fire crews would reach the callers quickly. Their experience was that fire appliances arrive quickly and that people are rescued by the Brigade. This is borne out by the fact that only rarely, where FSG is given, do people die in fires (see section E3). As rescues by crews were not immediate there is a question whether the [CRO] and/or callers, could have assessed the risk of attempting to escape from the flat and whether the risk of moving closer to the fire (but escaping) was less than staying put and awaiting rescue. [CROs] relied on advising callers to 'stay put' expecting that this would keep callers safe from the fire.
>
> *294.* **Escape/alternative escape routes:** Many callers mentioned that there was smoke outside their flat or that there was smoke in the corridor preventing escape. This may have caused [CROs] to move straight into the 'protect' phase of FSG and not explore alternative escape routes with the callers. There is a real risk in attempting a self-evacuation from a building on fire that the occupant will move themselves into a position of greater harm rather than waiting in a safe location for rescue.
>
> *295.* **Assessment/re-assessment of the call/caller:** Some [CROs] did repeat questions to find out what was happening at different stages of the call, including trying to find rooms with less smoke. National guidance (FSC 54/2004) suggests a model which has review of assessment/ initial decisions built into it [sic], although this was not included in LFB training materials. Moving to protect advice with the intent of keeping the caller safe may not always be the

2 Table 1 and paragraphs 149-152 [HOM00001124] p. 28.
3 LFB Lakanal Report paragraph 168 [HOM00001124] p. 31.
4 LFB Lakanal Report paragraphs 182, 185 and Chart 2 [HOM00001124] p. 37.
5 LFB Lakanal Report paragraph 287 [HOM00001124] p. 49.
6 Repeated at paragraphs 313 and 316-319 [HOM00001124] p. 54.

best solution and the call should be continually re-assessed. There may be a tendency to limit re-assessment due to the protect ethos, although there is evidence that some pro-active call handling techniques did take place.

296. **Effective communication between Control and incident command:** There is evidence of information passing from Control to the incident ground and only one occasion when the details of a flat with people trapped were not passed in a timely way. Control supervisors regularly tried to obtain information about the progress with the incident particularly in relation to callers being given FSG. In line with practice at the time, there was much less information being passed from the incident ground to Control about the progress of firefighting and rescue efforts. It is not clear that if [CROs] had been given information about progress that it would have influenced the advice given to callers."

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This report contains images and content which some may find distressing.

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Part II
The events of 14 June 2017

Chapter 9
Introductory Note

9.1 This section sets out what happened at Grenfell Tower on the morning of 14 June 2017 between 00.54, when Behailu Kebede made his 999 call from Flat 16, and 08.10, just after the last survivor, Elpidio Bonifacio, had left the tower at 08.07.20. It is designed to be read as a single narrative and to provide the factual findings and conclusions in the light of which all the Phase 1 issues fall to be determined. The Narrative does not purport to recount every event and every detail, nor does it set out to resolve every issue of fact or divergence of recollection; it forms the basis of my conclusions which are set out later in the report.

9.2 Many of those who have been affected by the fire, both former occupants of the tower and firefighters, gave evidence to the Inquiry, some in the form of written statements and others in the form of both written statements and oral testimony. For many, giving evidence in public was a daunting, and in some cases emotional, experience. They all gave evidence with courage and dignity, doing their best to provide as accurate an account as they could of what they had seen, heard and smelled and, particularly in the case of those living in the tower, of what they had done in response to a very frightening and challenging situation. The significance of the evidence given by the witnesses and the importance to them of telling their stories in their own words make it appropriate in this Narrative to record what they said. As was to be expected, their recollections differed in some respects and some people's memories were more reliable than others, but all those who gave evidence did their best to provide as much help as they could. Save in a few instances I do not think it necessary to resolve the inconsistencies between them and, unless I have indicated otherwise, it can be assumed that I accept the evidence recorded in the following paragraphs as reliable.

9.3 For ease of reading this Narrative section has been divided into 11 periods (Periods 1 to 11) following the stages in the spread of the fire as it developed through the night. Each Period has then been subdivided into five broad themes so that the reader can follow what was happening within each Period in the various different aspects of the incident from the viewpoint of those involved in each of them. Those themes are:

a. the initial outbreak of the fire and the spread of fire across the exterior of the building;

b. events on the incident ground;

c. conditions in the tower and the movement of occupants;

d. events in the control room; and

e. the actions of the MPS, the LAS, RBKC and the TMO.

9.4 Although this approach has resulted in certain events being covered more than once, it has made it easier to reach conclusions about what was known and done, or should have been known and done, at the end of each period. It also enables the reader to understand the evidence about the same event from different but simultaneous viewpoints. For example, in any given period a 999 call may be covered in both sections (3) and (4), because it provides evidence both about the conditions in the tower at a particular time and place and the

movement of occupants and also about the advice that was given by CROs to callers, which forms the background to the subsequent actions of the CROs in response to the information gathered during the call.

9.5 Some of the events, such as some of the longer 999 calls, straddle more than one period. It is often difficult to be precise about which parts of those events fall into which period, but in each case a best estimate has been made on the available information.

9.6 Most of the times and events set out in this Narrative section have been derived from the following principal sources and records:

- the LFB's short incident log (SIL);[1]
- the LFB's Operational Response Report (ORR), v.7 (7 February 2019);[2]
- the LFB's Report "Actions by Control in Response to Grenfell Tower" (the Control Room Report);[3]
- the MPS's computer-aided dispatch record (CAD 482);[4]
- the LAS's computer-aided dispatch record (CAD 247);[5]
- the LAS chronology set out at table 1 to the rule 9 witness statement of Paul Woodrow;[6]
- the log created by AC Andrew Roe's loggist (the Roe Log);[7]
- the LFB telemetry schedule;[8]
- the CCTV images from the tower;
- transcripts of emergency calls; and
- the various witness statements, firefighters' contemporaneous notes and oral evidence of witnesses as identified;
- the reports of Professor Luke Bisby, Dr Barbara Lane, Professor Niamh Nic Daéid and Professor Jose L. Torero.

9.7 Where possible, the times set out in this Narrative section have been taken from evidence that has been or is capable of being corroborated (for example, CCTV footage and mobile telephone footage, emergency calls and BA telemetry). There are, however, many instances where precise times cannot be reliably ascertained. The preeminent example concerns the times of firefighting activities within the tower during the period between firefighters tallying out from, and tallying back into, the bridgehead. In relation to activities of those kinds the Narrative can only provide approximate times or periods of time.

9.8 The times given are normally to the second, save where that degree of precision cannot be attained or is clearly immaterial.

1 [MET00013830].
2 [LFB00032988].
3 [LFB00004790].
4 [MET00023294].
5 [MET00019931].
6 [LAS00000009].
7 [MET00005404].
8 [LFB00023326].

9.9 Annex A to this Narrative section is a list of all those present inside the tower at 00:54 on 14 June 2017. The times, between 00:54 to 08:07, when survivors left the tower or when the deceased were carried out are taken from a schedule of CCTV exit times prepared by the MPS.[9] The times recorded in that schedule are those shown on CCTV cameras located in the tower. They have not been adjusted to reflect the correct time. I am satisfied that the time recordings on the CCTV cameras on the ground floor of the tower were fast by 36 seconds. The exit times recorded in Annex A show the last time at which the person concerned was recorded on the cameras according to the MPS schedule, adjusted to take account of the 36-second discrepancy. Some people listed in Annex A were not in their own flats on the night but were visiting other flats in the tower. In those cases, the flats where they lived are shown in brackets. In some cases, survivors did not leave by the ground floor. Their exit times have been derived from other sources, as explained in the Narrative.

[9] [MET00016072].

Chapter 10

Period 1: 00.54-01.30

1 The initial fire, the development of the exterior fire and the LFB's initial response

Introduction

10.1 This section of the Narrative deals with the first stages of the fire and the firefighting response. These early stages included not only fighting the initial fire in Flat 16 but also:

- the mobilisation of the pre-determined attendance of three, then four, appliances;
- the initial assessment of the fire and implementation of the tactical plan;
- the setting up of the bridgehead;
- the organisation and deployment of the first BA crews;
- the implementation of the initial external firefighting measures and the rapid escalation in the call for additional resources; and
- the increasing number of 999 calls from those within the tower, those in the neighbouring area and others.

10.2 To provide a clear narrative through the complexities of the evidence in these early minutes of the fire, this section is divided into four subsections:

a. Subsection (1) describes Flat 16 and the evidence of its residents in relation to the night of 13/14 June 2017 before the fire started and, thereafter, the evidence regarding the early stages of the fire.

b. Subsection (2) sets out the evidence in relation to the attendance of the first four appliances and the initial command decisions.

c. Subsection (3) deals with firefighting in Flat 16 itself.

d. Subsection (4) summarises the relevant evidence relating to firefighting activities within the tower as well as external firefighting measures.

Flat 16 Grenfell Tower

Flat 16: a description

10.3 Flat 16 was in the north-east corner of floor 4 of the tower.

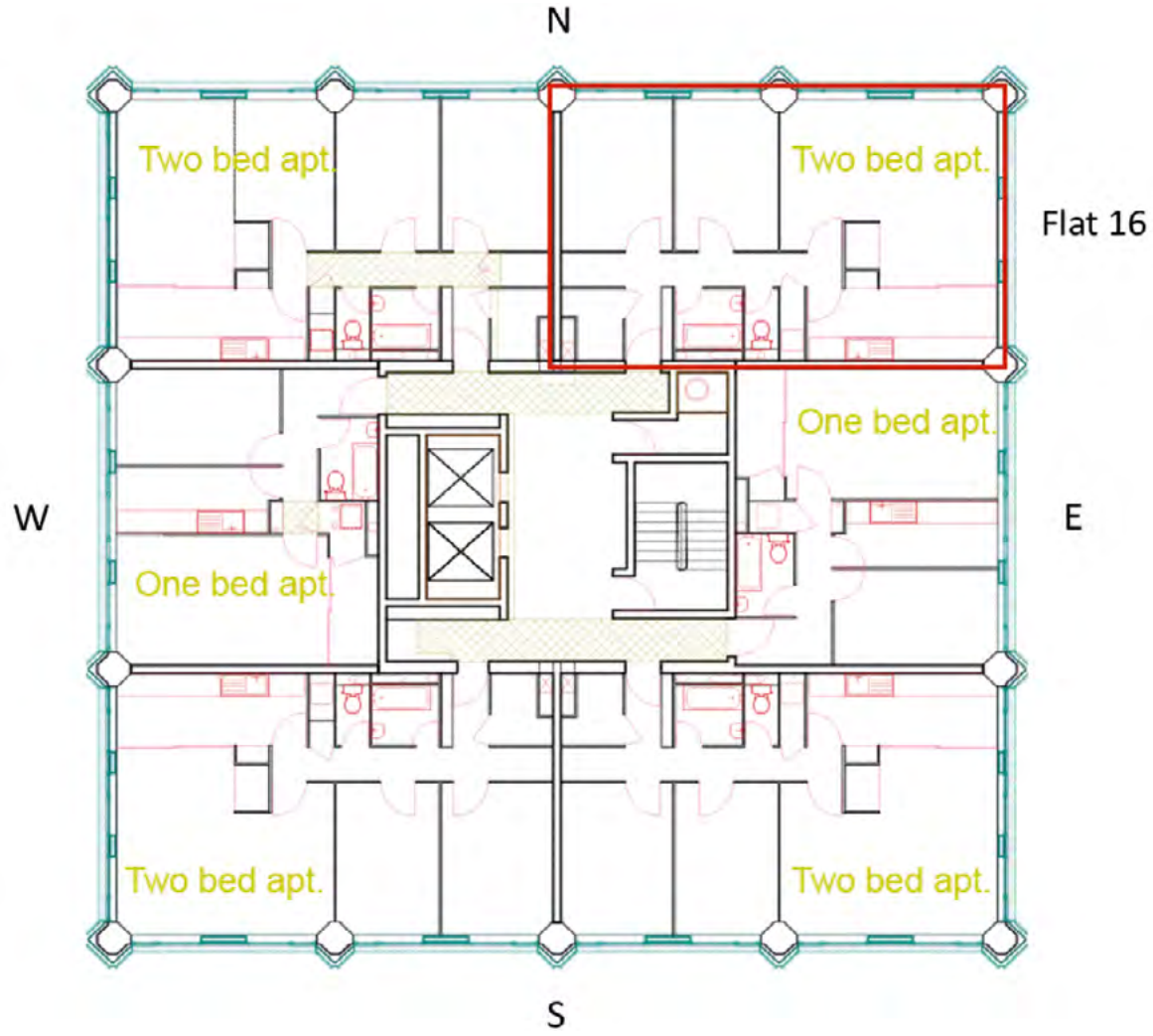

Figure 10.1

10.4 A floor plan is contained in figure 10.2 below.

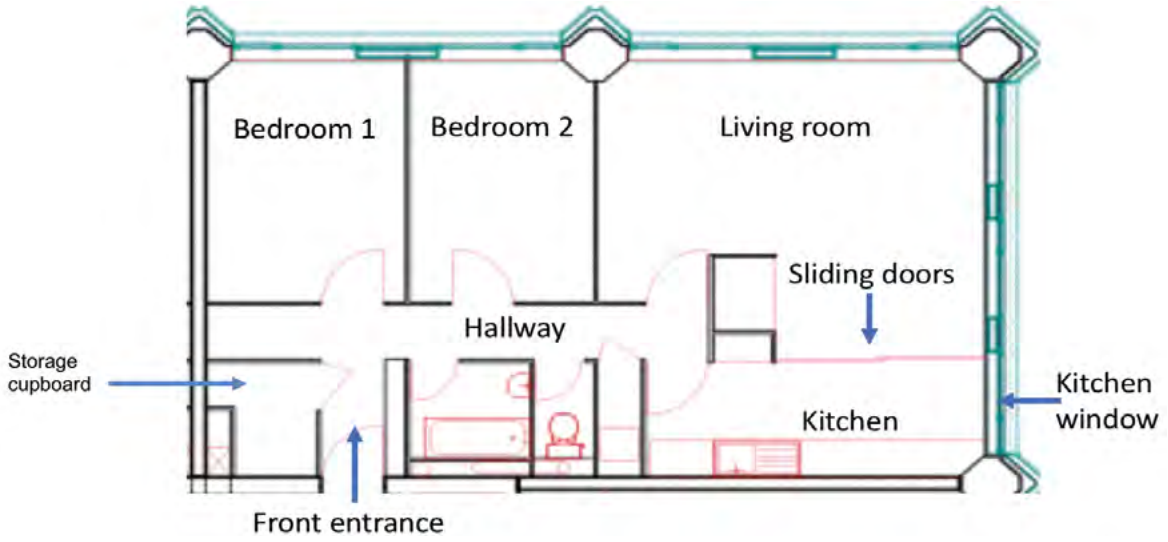

Figure 10.2

10.5 Behailu Kebede was the tenant of Flat 16, which at the time of the fire was also occupied by Almaz Kinfu and Elsa Afeworki. Almaz Kinfu slept in bedroom 1 and Elsa Afeworki slept in bedroom 2.[1] Behailu Kebede slept on a mattress in the sitting room.

10.6 The flat's galley-style kitchen was on the east side of the tower. It was approximately 4.8 metres long, 1.9 metres wide and 2.35 metres high.[2] Figure 10.3 contains a sketch plan of the kitchen based on evidence given by Behailu Kebede. It shows the internal layout of the kitchen before the fire, including the window which contained an extractor fan.

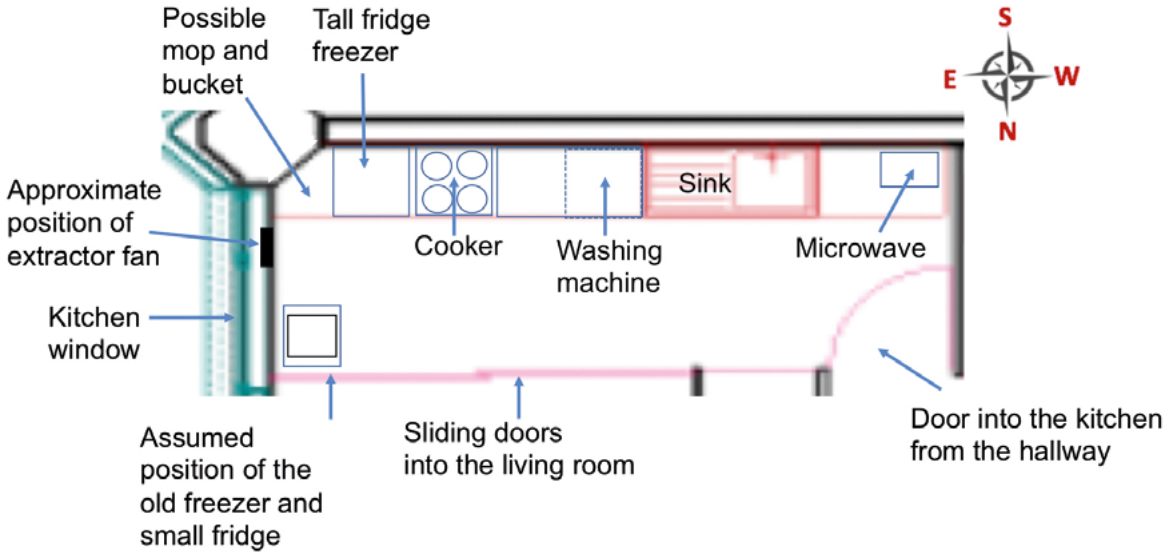

Figure 10.3

10.7 The following electrical appliances were located along the southern wall of the kitchen: a large fridge-freezer (also referred to as the "Hotpoint fridge-freezer"), which was close to the kitchen window, a cooker, a washing machine and a microwave oven. Based on the evidence of Behailu Kebede I am satisfied that there was a toaster and a kettle on the kitchen work

[1] Afeworki witness statement (dated 21/5/18), paragraph 4 [IWS00000280] p. 1.
[2] Torero report, paragraph 3.2 1011-2 p. 31.

surface between the washing machine and the microwave. There was also an old freezer, stacked on top of a small fridge, underneath the kitchen window next to the sliding door to the sitting room.

10.8 Both Behailu Kebede and Elsa Afeworki said that there was a small space between the large fridge-freezer and the window. Elsa Afeworki said that, at the time of the fire, a mop and a red plastic bucket were stored there, but nothing else.[3] Behailu Kebede also recalled that a mop and bucket were kept in this space.[4] There is also evidence that a mitad (a griddle for making injera bread) was in the kitchen. Behailu Kebede said that the mitad was usually kept by the microwave or on top of the cupboard by the sink,[5] but that it had not been used since 2015. Elsa Afeworki said that the mitad was stored on top of the cupboard, above the sink, but that she had never used it.[6] Although Almaz Kinfu was apparently unaware of the existence of the mitad,[7] I think it more likely than not that Behailu Kebede's evidence is correct.

The night of 13/14 June 2017

10.9 Elsa Afeworki and Almaz Kinfu were both in the flat on the night of 13/14 June. They had gone to bed by the time Behailu Kebede arrived home at around 23.30.[8] Neither Elsa Afeworki nor Almaz Kinfu recalled seeing or hearing anything unusual in the kitchen or elsewhere in the flat before they went to bed. Behailu Kebede's evidence was that, when he returned home, neither Elsa Afeworki nor Almaz Kinfu was awake. The kitchen door was closed, as were the sliding doors between the kitchen and the sitting room. Behailu Kebede did not see or smell anything unusual.[9] He showered, changed for bed and went to sleep on the mattress in the sitting room.

10.10 Behailu Kebede was later woken by an "unusual beeping sound" that he did not initially recognise.[10] The "beeping sound did not stop. It kept beeping". He realised that it must be the smoke alarm in the kitchen because the smoke alarm in the hallway was not sounding. Behailu Kebede left the sitting room and entered the kitchen from the hallway. He looked inside. His evidence was that he did not think he had gone into the kitchen but that, if he had, it was no more than a step. From that point he could see smoke. In his words:

> "[i]t seemed to be coming from behind my Hotpoint fridge-freezer. The smoke was approximately two-thirds of the height of the fridge-freezer and had reached about where the cooker was."

10.11 In an exhibit to one of his witness statements, Behailu Kebede sketched the extent of the smoke he had seen when he looked into the kitchen. The area is shown hatched on the plan set out in figure 10.4 below and is at the south-east end of the kitchen next to the large fridge-freezer (marked "A" on the plan), the cooker ("B"), the small freezer ("H") and the small fridge ("I").

3 Afeworki witness statement (dated 21/5/18), paragraph 9 [IWS00000280] p. 1.
4 Kebede witness statement (1/6/18), paragraph 49(f) [IWS00000490].
5 Kebede (1/6/18), paragraph 49(g) and (h) [IWS00000490].
6 Afeworki witness statement (21/5/18), paragraph 11 [IWS00000280].
7 Kinfu (24/5/18), paragraph 8 [IWS00000457].
8 Kinfu, pp. 2-3 [MET00006350]; Afeworki witness statement (21/5/18), paragraph 13 [IWS00000280].
9 Kebede witness statement (1/6/18), paragraph 62 [IWS00000490] p. 11.
10 This paragraph is a summary of Kebede witness statement (1/6/18), paragraph 66 [IWS00000490].

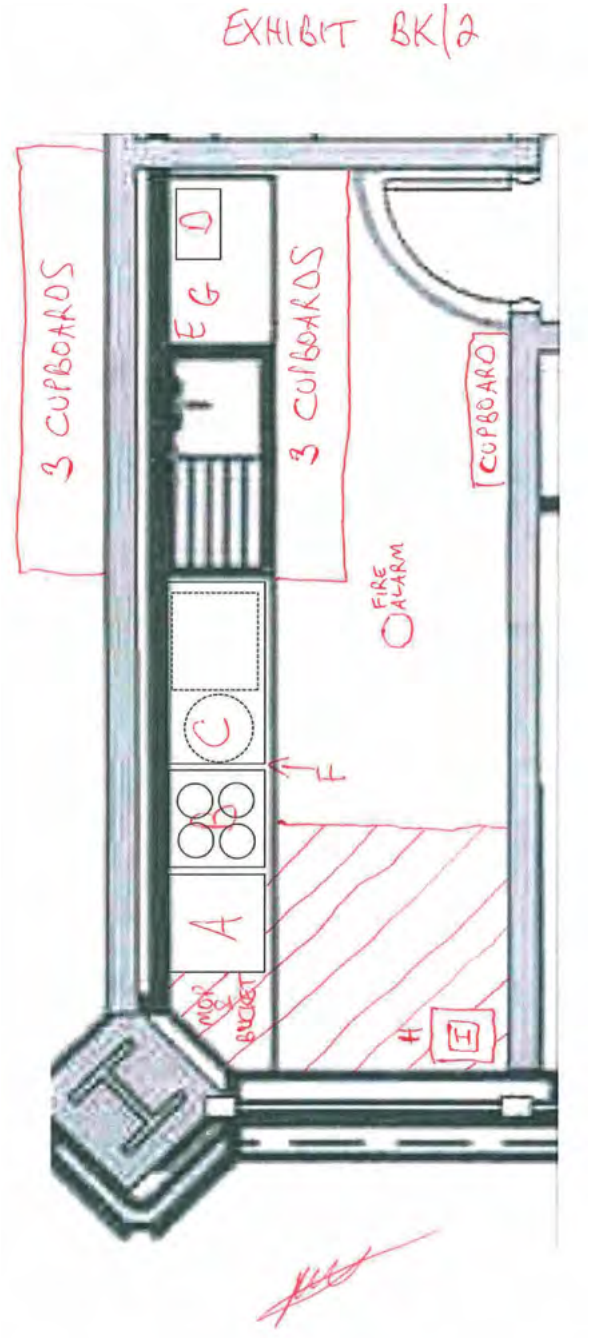

Figure 10.4

10.12 The smoke Behailu Kebede said he saw was "light and white in colour". Although in an early statement to the MPS he had described the smoke as "dark", he later explained in his evidence to the Inquiry that what he had meant was "thick".[11] In his various statements he gave different evidence about the position of the kitchen window, but looking at the matter overall, I think it is likely that the small window below the extraction fan was partly open, perhaps by as much as 10 inches.[12]

10.13 Behailu Kebede went back to the sitting room to get one of his mobile telephones to call the LFB. He could not remember whether he had closed the kitchen door. While he was calling 999 he banged on the bedroom doors to wake Almaz Kinfu and Elsa Afeworki and alert them

[11] Kebede witness statement (1/6/18), paragraph 68 [IWS00000490].
[12] Kebede witness statement (16/6/17), pp. 2-5 [MET00006339].

to the fire.[13] Almaz Kinfu remembered Behailu Kebede having said words to the effect of "Fire! Fire! Fridge! Fridge!".[14] Elsa Afeworki recalled Behailu Kebede as having shouted "Fire! Fire! Come out!".

10.14 Elsa Afeworki said that she did not see any smoke or fire,[15] but Almaz Kinfu recalled a distinctive smell when she opened her bedroom door. She described it as "like a burning smell and like a chemical smell and I could taste it". Both Elsa Afeworki and Almaz Kinfu left the flat. Almaz Kinfu said that as she went into the hallway she had seen smoke near to the front door at the other end of the corridor from the kitchen.[16] On that question, however, I prefer the evidence of Elsa Afeworki and Behailu Kebede, who both said that by the time he left the flat smoke had not spread beyond the kitchen.

Behailu Kebede's 999 call (00.54.29)

10.15 The LFB's records confirm that at 00.54.29 on 14 June 2017 Behailu Kebede made a 999 call to the fire brigade. The call was received by CRO Pam Jones in the Stratford control room. The transcript of the call included the following exchange:

"OPERATOR:	Fire Brigade.
MR KEBEDE:	Yeah, hello, hi. In the fire is flat 16, Grenfell Tower.
OPERATOR:	Sorry, a fire where?
MR KEBEDE:	Flat 16, Grenfell Tower. In the fridge.
OPERATOR:	Right, hang on.
MR KEBEDE:	Flat 16, Grenfell Tower.
...	
OPERATOR:	The fire brigade are on their way. Are you outside?
MR KEBEDE:	Yes, yes, I'm outside.
OPERATOR:	Yeah, well the fire engines are on their way, just tell me how many floors you've got there.
MR KEBEDE:	It's the fourth floor.
OPERATOR:	Right, okay.
MR KEBEDE:	Quick, quick, quick.
OPERATOR:	They're on their way already.
MR KEBEDE:	It's burning.
OPERATOR:	Yes, I know it's burning but they are on their way. You've only just called. As long as you're okay, yeah?
MR KEBEDE:	Okay.
OPERATOR:	Yeah, as long as you're –
MR KEBEDE:	(inaudible) fridge side, yeah.
OPERATOR:	Pardon?
MR KEBEDE:	By the fridge side, okay, coming quick."

13 Kebede witness statement (1/6/18), paragraph 70 [IWS00000490].
14 Kinfu witness statement (24/5/18), paragraph 10 [IWS00000457] and witness statement [MET00006350].
15 Afeworki witness statement (21/5/18), paragraph 17 [IWS00000280].
16 Kinfu witness statement (24/5/18), paragraph 10 [IWS00000457].

10.16 He confirmed that he was "outside", that is, outside Flat 16 in the lobby on floor 4, as opposed to outside the tower itself. This call must have occurred after Behailu Kebede had woken up Almaz Kinfu and Elsa Afeworki.[17]

10.17 After calling the fire brigade, Behailu Kebede alerted his neighbours on floor 4 to the fire. He then returned to Flat 16 to put on some trousers. As he left his flat for the last time, Behailu Kebede switched off the main red electricity switch at the fuse box in the hallway of his flat, because he thought the problem might have been electrical.[18]

The initial firefighting response

Deployment of the pre-determined attendance

10.18 In accordance with PN412, the control room initially mobilised three appliances in response to Behailu Kebede's 999 call, and a fourth appliance shortly afterwards once the control room realised that the fire was in a high-rise building. The LFB's records indicate that two appliances (call signs G271 and G272) were mobilised from North Kensington Fire Station at 00.55.14, one appliance (G331) from Kensington, also at 00.55.14, and the fourth (G362) from Hammersmith at 00.59.12.

10.19 The four appliances carried the following crew members:

a. G271: WM Michael Dowden, CM Charles Batterbee and FFs David Badillo, Daniel Bills and Daniel Brown.

b. G272: CM Christopher Secrett and FFs Thomas Abell, Alex De St Aubin, Christopher Dorgu and Justin O'Beirne.

c. G331: WM Brien O'Keeffe, CM Jamal Stern and FFs Benjamin Broderick, Charles Cornelius, Richard Hippel and Desmond Murphy.

d. G363: CM David Davies and FFs Wayne Archer, Nicholas Barton and John O'Hanlon.

10.20 The members of these four crews were all experienced firefighters. WM Dowden had joined the LFB in June 2003 and, at the time of the fire, had been a Watch Manager (either in a temporary or a substantive rank) for some seven years.[19] WM O'Keeffe had joined the LFB in 1993 and had been a Watch Manager for about six years.[20] Similarly, CMs Batterbee, Davies, Secrett and Stern had a combined service of 52 years as firefighters.

Information available to appliances attending the fire

10.21 While the crews of G271 and G272 (including WM Dowden) knew something about the building as a result of information gathered during the course of their section 7(2)(d) visits to the tower and attending previous incidents, there were two other sources of information available to attending crews, namely the "tip sheet" and the MDT. However, in some important respects, the ORD contained minimal information regarding the tower itself, and there were inaccuracies in such information as existed. In relation to a tactical plan there was no information at all.[21] In summary:

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17 The recording of the calls opened a video montage prepared by Professor Luke Bisby. The montage was played during the opening statement of Counsel to the Inquiry (Day 1/68/25). It is available on the Inquiry's website (https://www.grenfelltowerinquiry.org.uk/evidence/professor-luke-bisbys-expert-report-video-annex). It contains scenes and sounds which some will find distressing.

18 Kebede witness statement (1/6/18), paragraph 74 [IWS00000490].

19 Dowden Day 9/4-5.

20 O'Keeffe Day 17/125-126.

21 [LFB00003116].

a. There were no plans of the tower on the ORD.

b. The only photograph of the tower was an aerial image which gave little, if any, meaningful information to an attending crew regarding the building or access to the building.

c. The number of floors in the tower was incorrectly stated to be 20.

d. Under the heading "tactical plan", there was simply a blank box. As the Commissioner accepted in her oral evidence, no detail was provided of the objective or the basic elements of the tactical plan.[22]

e. There was no operational contingency plan.

First arrival of pumps at the tower

10.22 G271 and G272 arrived at 00.59.28 and 00.59.24 respectively. G362 arrived at 01.08.27 followed by G331 at 01.08.33. The four appliances arrived within the targets set by the 2017 London Safety Plan.[23]

10.23 On arrival, G272 parked behind G271 under Grenfell Walk, beneath the covered walkway at the southern face of the building and directly outside the main entrance of the tower. They parked there in order to be close to the dry rising main, the inlet for which can be seen in the photograph below, to the left of the main entrance.[24]

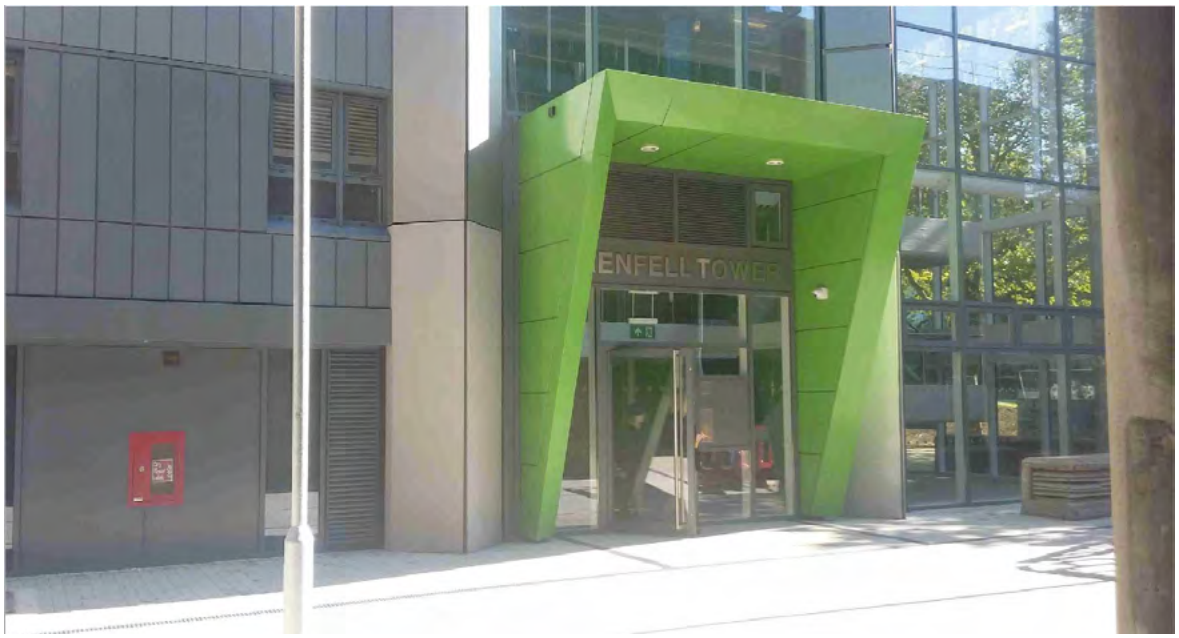


Figure 10.5

10.24 WM Dowden was the senior officer at the scene so he became the incident commander. As the appliances arrived, it was obvious that a flat on floor 4 was involved in a fire. From outside WM Dowden remembered having seen an orange glow in a room on floor 4.[25] CM Secrett saw a smoke-free fire with a bright orange flame covering the window.[26]

22 Cotton Day 50/89.
23 [LFB00000225] p. 36.
24 Dowden Day 10/14/2-21.
25 Dowden Day 10/15/1-4.
26 Secrett Day 16/181 [MET00010105] p. 3.

10.25 In his evidence, WM Dowden described his three immediate actions on arrival: first, confirming water supplies and setting into the dry rising main so as to allow the crews to fight the fire in Flat 16; secondly, as incident commander, to gather information regarding the fire; and, thirdly, to gather together and deploy the necessary equipment.[27]

Securing the initial water supply

10.26 On arrival, FF Abell located the nearest hydrant to secure the water supply.[28] The hydrant used by FF Abell was under Grenfell Walk. FF Abell set a hose from G271 into the hydrant and at about the same time FF Bills started to set a hose into the dry rising main inlet. Hoses were then set into the DRM within the tower itself. This task appears to have been completed by 01.06.[29] FF Bills remained in the vicinity of G271.

WM Dowden's plan to fight the initial fire

10.27 On arrival, WM Dowden carried out what he described as an initial dynamic risk assessment in order to plan how to fight the fire in Flat 16.[30] His first step was to find out from the residents of Flat 16 where the fire was, how long it had been burning and whether anyone was still inside. On the basis of that information, WM Dowden formulated his plan to fight the fire within Flat 16.[31] At this stage, he considered that the best source of information regarding the fire was the residents as opposed to a representative of the responsible person.[32]

10.28 Roughly a minute or so after the first appliances had arrived (at 01.01 or thereabouts), Behailu Kebede came up to WM Dowden and told him that the fire had started in his flat, Flat 16 on floor 4, that no one remained inside, that the fire was in his kitchen and it was "the fridge" that was on fire.[33] On the basis of Behailu Kebede's information, WM Dowden instructed CM Secrett[34] to set up a bridgehead two floors below the floor of the fire from which to direct operations and commit resources to fight the fire[35] "and let me know how you get on".[36]

10.29 In order to ensure that he remained in control of the overall situation WM Dowden decided to stay outside the tower.[37] While he described himself as "quite mobile",[38] he confirmed that he had therefore remained for most of his time as incident commander on or near the grass verge below the tower's eastern elevation.[39]

SM Walton, as Monitoring Officer, notified of the fire

10.30 At 01.00.28, in accordance with the LFB's standard procedures, SM Andrew Walton, as the nearest officer of his rank to the tower, was paged by the control room and notified of the fire.[40] At 01.02.43 he responded to the pager message and telephoned the control room, where he

27 Dowden Day 10/7-8.
28 Abell witness statement [MET00005700].
29 ORR v 0.7 p. 16.
30 Dowden Day 10/28-29.
31 Dowden Day 10/30.
32 Dowden Day 10/17.
33 Dowden Day 10/30, and refer also to SAI [LFB00004392] pp. 18-19/151.
34 LFB interview notes [LFB00004392] p. 19/151.
35 Dowden Day 10/31-32; Dowden Day 10/40/5-10.
36 LFB interview notes [LFB00004395] p. 12/127.
37 Dowden Day 10/31/18-25.
38 Dowden Day 10/97/11-17.
39 Dowden Day 10/155/20-23, 10/54/8-12.
40 SIL, p. 13; ORR v 0.7 p. 11.

spoke to CRO Yvonne Adams.[41] During the course of the conversation she confirmed that four appliances had been mobilised and that three 999 calls had been received. SM Walton asked for the details, but, as CRO Adams had not taken the calls, she was unable to provide them. SM Walton confirmed that he would monitor the situation remotely and listen for the first informative message.

Gaining entry to the tower

10.31 The crews on G271 and G272 did not have an electric fob with which to open the main entrance to the tower or the lift lobby doors on the ground floor. Maria de Fatima (Fatima) Alves, a resident of Flat 105 on floor 13, was by the main entrance to the tower when the firefighters arrived. She spoke to CM Batterbee who advised her to stay on the ground floor and to tell her family to remain in their home. Fatima Alves used her fob to allow the firefighters access through three doors including the door to the lift lobby and a door upstairs next to the boxing club.[42] She also used the tower's intercom system to call her family in Flat 105. The intercom panel was located at the main entrance. A person seeking entry would press the number of the relevant flat and then a button labelled "call", causing an intercom phone in the flat to ring. The occupant of the flat could speak to the caller and, if they so wish, press a release button to open the front door and the door leading to the ground floor lift lobby. Manuel Miguel Ferreira (Miguel) Alves confirmed that he had heard the intercom while in Flat 105 and had answered it, but that no one had been present at the other end. It appears that by that time Fatima Alves had moved away from the intercom.[43]

10.32 The CCTV camera in the lobby records CM Batterbee and FFs Badillo, Brown, De St Aubin and Dorgu entering the tower at 01.01 and making their way to the ground floor lift lobby.[44] Both CM Batterbee and FF Brown were wearing BA and each was carrying a length of hose. The others were carrying various kinds of firefighting equipment.

Operation of the lift

10.33 The nature and mode of operation of the lift is considered elsewhere in this report. CM Secrett tried to secure control over the lifts using an express-type drop key. This attempt failed, but he was able to call the lift to the ground floor using the button on the lift control panel. He took the lift to floor 2 together with CM Batterbee and FFs Badillo, Brown, De St Aubin and Dorgu. He left the lift and entered the lobby on floor 2 at 01.02.59.[45]

Setting up the bridgehead

10.34 The bridgehead was established on floor 2. FF De St Aubin set up and operated the entry control board until he was relieved later in the night. CM Secrett instructed FFs O'Beirne and Badillo to set a hose into the dry rising main on floor 3 and then take it up to floor 4.[46] In fact, they went directly to floor 4 and set in the hose there.[47] Once he had received confirmation that the dry riser was supplied with water, CM Secrett ordered CM Batterbee and FF Brown

41 [INQ00000207].
42 Alves Day 52/104/18-107/8, 52/110/18-117/5; Batterbee Day 12/36/4-22.
43 Alves Day 52/104/25-106/10, 53/14/18-16/12.
44 [INQ00000108].
45 [INQ00000113]. Note: CM Secrett could not remember who was in the lift (Day 16/200-201) generally.
46 Secrett witness statement [MET00010105] p. 4 (4th paragraph).
47 Secrett witness statement [MET00010105] p. 4 (4th paragraph).

to gain entry to the flat on floor 4 where the fire had been reported. The LFB's telemetry records confirm that at 01.04 CM Batterbee and FF Brown tallied out at entry control and went to floor 4.[48]

Discussions between WM Dowden and WM O'Keeffe

10.35 At around 01.05 WM O'Keeffe, who was in charge of the crew on G331, radioed WM Dowden to seek confirmation of the location of the fire and the resources that would be needed from G331. WM Dowden confirmed that the fire was on floor 4 and that two BA wearers would be required. He later explained in evidence that this request was a precautionary measure.[49]

Fighting the fire in Flat 16

Mobile telephone footage of the fire in Flat 16

10.36 After he had alerted his neighbours, Behailu Kebede left the tower and stood outside its east face beneath his flat. From that position he filmed the development of the fire using his mobile telephone. The footage provides a shockingly vivid picture of the speed and extent of the external fire spread, but it also provides valuable evidence of the development of the fire in the kitchen of Flat 16 while the firefighters were preparing to enter the flat. These are stills taken at 01.05, 01.06, 01.08 and 01.09 from that footage.[50]

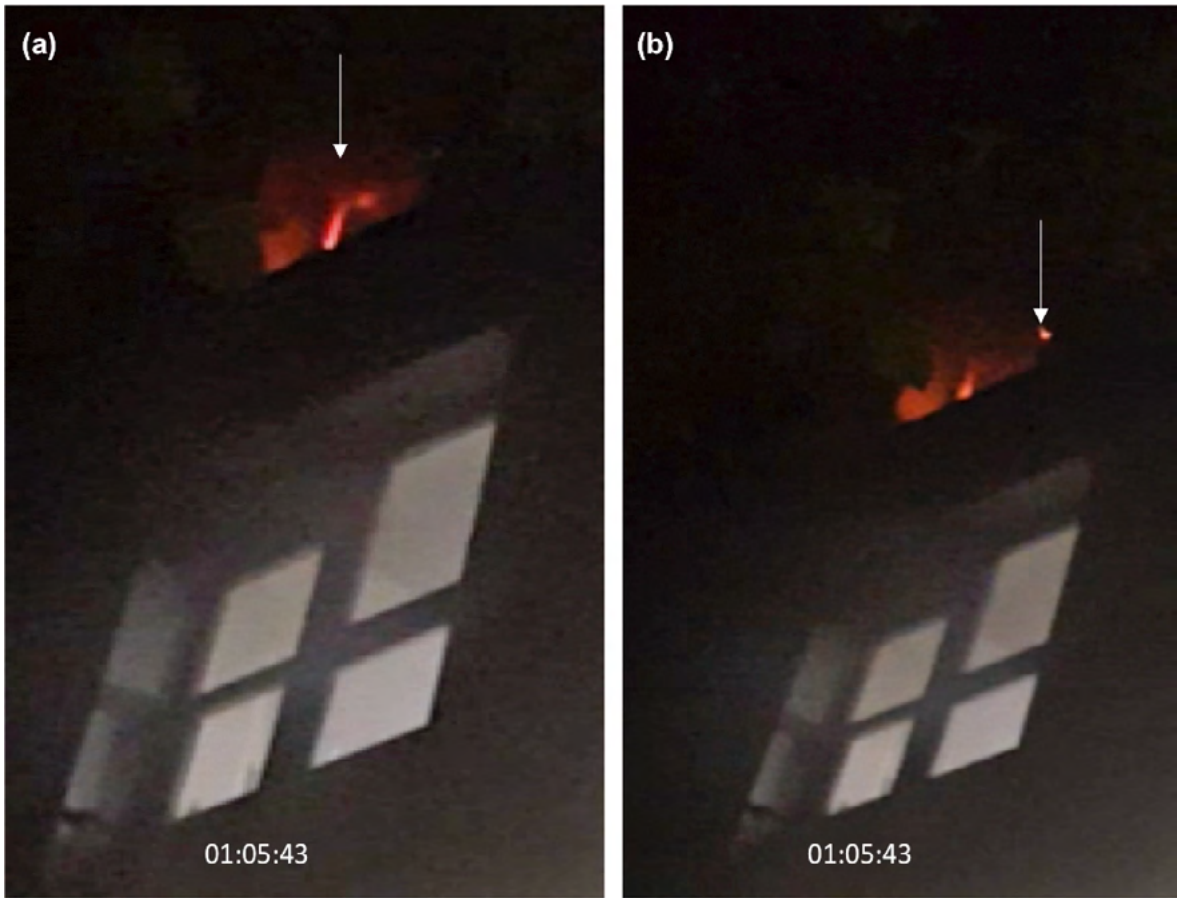


Figure 10.6

[48] [LFB00023326].
[49] Dowden Day 10/51/5-52/9.
[50] Taken from Professor Nic Daéid's supplementary report, Figs. 23-26. The external fire spread has been addressed in more detail as a separate sub-topic below.

Figure 10.7

Figure 10.8

Figure 10.9

The first crew enters Flat 16

10.37 When the firefighters reached floor 4 they found the visibility "very good".[51] CM Batterbee carried a thermal imaging camera.[52] Using it, he checked the front door of Flat 16, which was not shown to be hot. While they were waiting for the dry rising main to be charged with water, CM Batterbee and FF Brown laid out the hose. Once it had been charged with water, CM Batterbee used the thermal imaging camera once again to check the heat of the front door. Again, it was not hot. CM Batterbee then directed a brief jet of water at the door but no steam came off.

[51] [MET00005674] p. 2 (2nd paragraph).

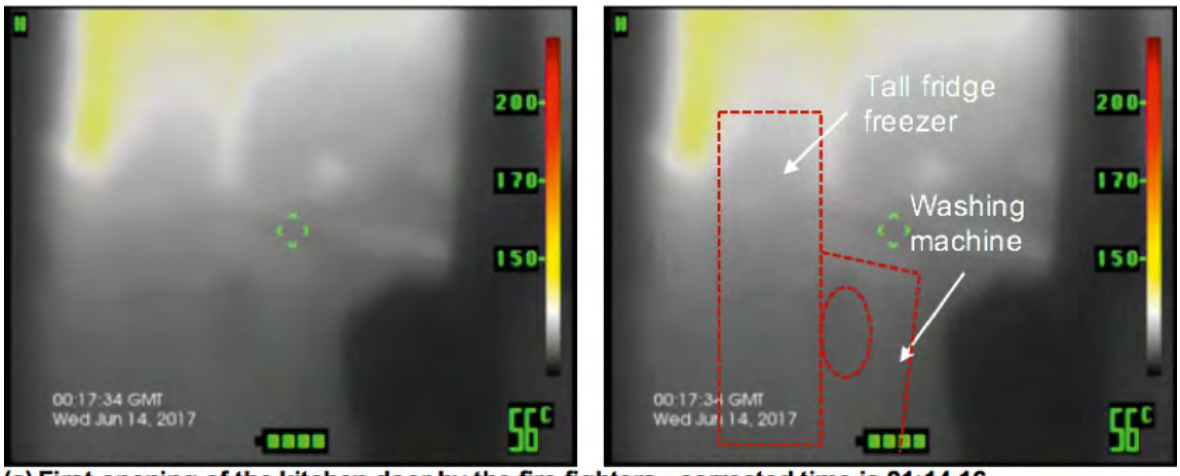
[52] This is a camera that detects heat and identifies the temperature of items being observed by the operator. It can also capture still and video footage: ORR v 0.7 p. 515.

10.38 FF Brown forced the flat entrance door with one blow of the enforcer. With CM Batterbee holding the hose and FF Brown following closely behind holding the thermal imaging camera, they entered Flat 16. According to the times recorded on the thermal imaging camera footage, CM Batterbee first entered bedroom 1 directly opposite the entrance at 01.09[53] followed by FF Brown. Once bedroom 1 had been searched and no evidence of fire had been found, the crew changed positions so that FF Brown was the first to enter and search bedroom 2, followed by CM Batterbee. Once the search of bedroom 2 had been completed and no sign of fire had been found, they re-entered the hallway and opened the door on their left-hand side which led to the sitting room. The thermal imaging camera revealed no evidence of fire in the sitting room, so they returned to the hallway.

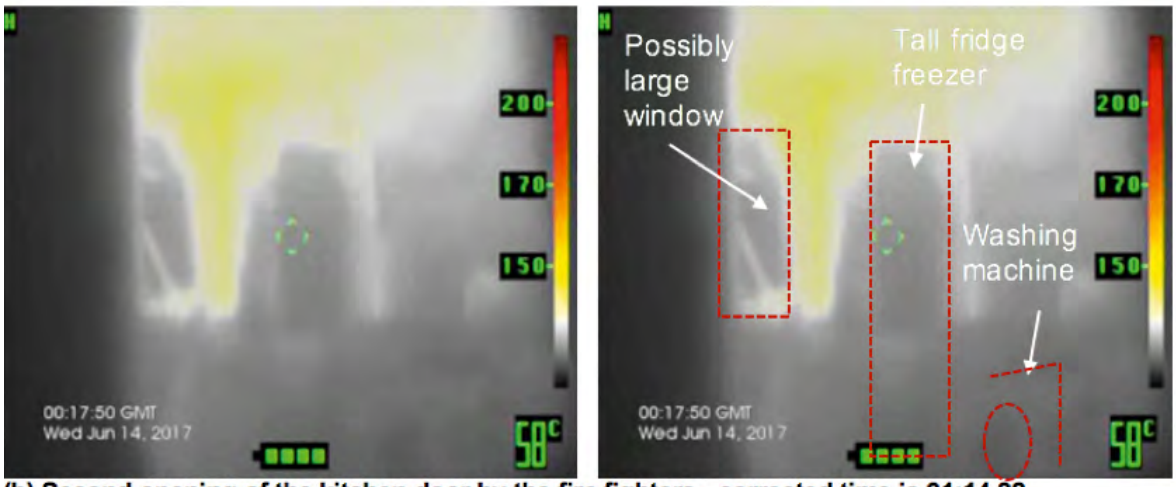
10.39 At this point CM Batterbee and FF Brown changed positions once again. The former now held the thermal imaging camera while the latter held the hose. They opened the door on the right-hand side which led to the kitchen. As the kitchen door was opened, CM Batterbee remembered sensing a significant increase in temperature.[54] He recalled that as a jet of water was directed into the kitchen it turned to steam.

10.40 Images taken from the footage recorded by the thermal imaging camera show that the kitchen door was opened four times: at 01.14.16; 01.14.32; 01.15.33 and 01.18.58.[55] For present purposes, it is useful to show the location and extent of the fire, as identified by that footage, between 01.14 and 01.15.

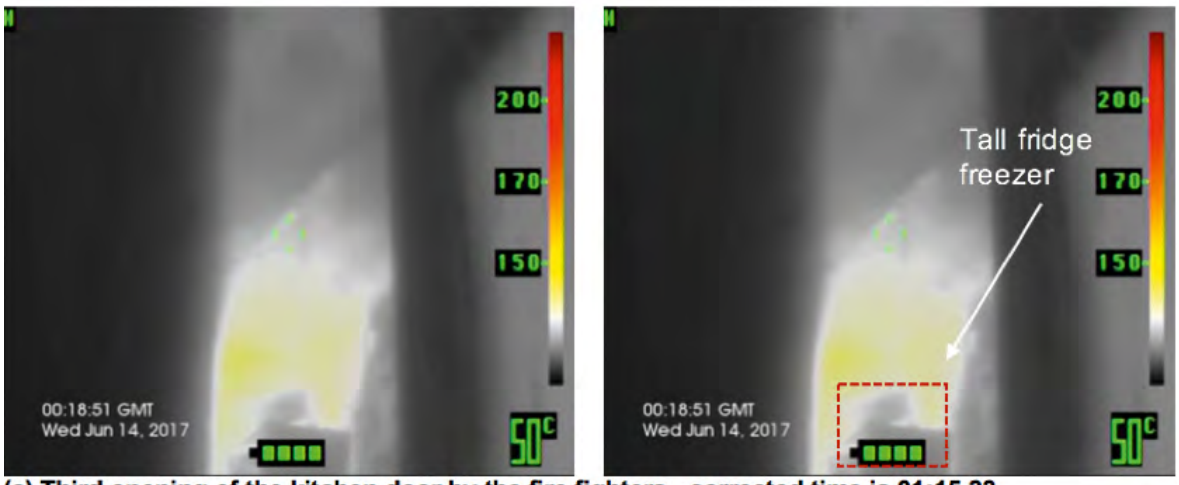
[53] ORR v 0.7 p. 19.
[54] Batterbee witness statement [MET00005674] p. 2, 5th paragraph, 4th line.
[55] Professor Nic Daéid supplementary report, paragraph 8.5.14 p. 31.



(a) First opening of the kitchen door by the fire fighters - corrected time is 01:14.16



(b) Second opening of the kitchen door by the fire fighters - corrected time is 01:14.32



(c) Third opening of the kitchen door by the fire fighters - corrected time is 01:15.33

Figure 10.10

10.41 At 01.14.16 the thermal imaging camera shows an area of elevated temperature in the form of a yellow glow in the corner of the kitchen above the large fridge-freezer. In paragraph 8.5.16 of her final report Professor Niamh Nic Daéid observed that the image suggested that hot fire, gases and flames had spread across the window space by the time CM Batterbee and FF Brown had first opened the kitchen door.[56] Another image, timed at 01.14.32, indicated that the yellow

[56] Professor Nic Daéid supplementary report p. 33.

glow had spread further above and to the side of the large fridge-freezer. A third image, timed at 01.15.33 and taken in the direction of the south-east end of the kitchen, shows a yellow glow at ceiling level immediately above the large fridge-freezer and to the immediate right-hand side of the kitchen window.

10.42 At this stage, some five minutes before CM Batterbee and FF Brown first entered the kitchen, it is useful to summarise the extent of the external fire spread (of which they were unaware). The available video footage (including that taken by Behailu Kebede's mobile telephone) provides clear evidence that, by 01.15.52,[57] the external flames were extending approximately two floors above Flat 16 to floor 6 and a large amount of burning debris was falling off the building.[58] It was at around 01.15 when CM Batterbee and FF Brown were opening the kitchen door for the third time.

10.43 CM Batterbee recalled that when they opened the kitchen door for the fourth time he had seen a fire at the top left-hand corner of the kitchen,[59] but that at that stage it had been too hot for them to enter.[60] He said that he had started to feel a burning sensation in his arms and particularly on the back of his neck and head due to the heat. CM Batterbee also remembered telling FF Brown that he could see what he thought was the large fridge-freezer alight. At this time FF Brown recalled seeing an "isolated curtain of flame 2-3 feet in the air to the ceiling".[61]

10.44 CM Batterbee described the deteriorating conditions in the kitchen and the ineffectiveness of his firefighting efforts thus:

> "It felt like the temperature kept on rising and it was at this stage that I started to become very concerned. We were doing all the right things, gas cooling above us, gas cooling into the compartment using door procedure and it was getting hotter and hotter. The heat then felt like it was all around us.
>
> We took a gauge check and then swapped back round. I started again with our attempts to get in there. I then thought to myself, this plan isn't working. I spoke with FF Brown and my thinking was that maybe both doors lead to an open plan room and that we were getting the steam and heat from the left as well. Based on this we carried out another door procedure to the left, but again no signs of fire. It didn't make sense and it felt like there was something else going on. I did another door procedure on the door to the right and at this stage conditions were still very hot but I thought, I can get in there, so we did."[62]

10.45 Holding the branch, he and FF Brown (who was holding the thermal imaging camera) entered the kitchen at around 01.20. Once inside, he saw the large fridge-freezer alight.[63] He applied water on to the flames and, in his words, "knocked it right out".[64] Having extinguished the fire, CM Batterbee aimed the jet out of the kitchen window to draw the smoke out of the room.[65] Once the kitchen had been cleared of smoke he handed the branch to FF Brown and at 01.21 contacted entry board control to provide an update. As he was doing so, both he and FF Brown noticed a flame outside the kitchen window. FF Brown directed the hose at the flame but failed to extinguish the external fire. Both firefighters then looked out of the kitchen window and CM Batterbee thought that the flat immediately above Flat 16 must have caught

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57 Analysis of external flame spread below with reference to Professor Bisby's supplemental report [LBYS0000001] p. 131 Fig. 73 and also Fig. 27 Professor Nic Daéid's supplementary report, p. 41 which refers to a time of 01.15.38 and 01.15.54.
58 Professor Bisby supplemental report [LBYS0000001] p. 158 at sections 801-803.
59 Batterbee witness statement [MET00005674] p. 2, 6th paragraph on page, 2nd line.
60 Batterbee witness statement [MET00005674] p. 2, penultimate paragraph on page, 2nd-3rd lines.
61 Brown witness statement [MET00010867] p. 8, 1st substantive paragraph.
62 Batterbee witness statement [MET00005674] pp. 2-3, final paragraph on p. 2 and top paragraph on p. 3.
63 Batterbee witness statement [MET00005674] p. 3, 2nd paragraph.
64 Batterbee witness statement [MET00005674] p. 3, 3rd paragraph, line 1.
65 Professor Bisby supplemental report [LBYS0000002].

light.[66] He then sent a "priority" message to the entry board control officer to tell him that the fire had jumped a floor. Control confirmed that they were aware that it was alight outside.[67]

10.46 At around 01.21 the thermal imaging camera captured not only debris falling outside the kitchen window but also signs of elevated temperature or flame above the sliding doors separating the kitchen from the sitting room.[68]

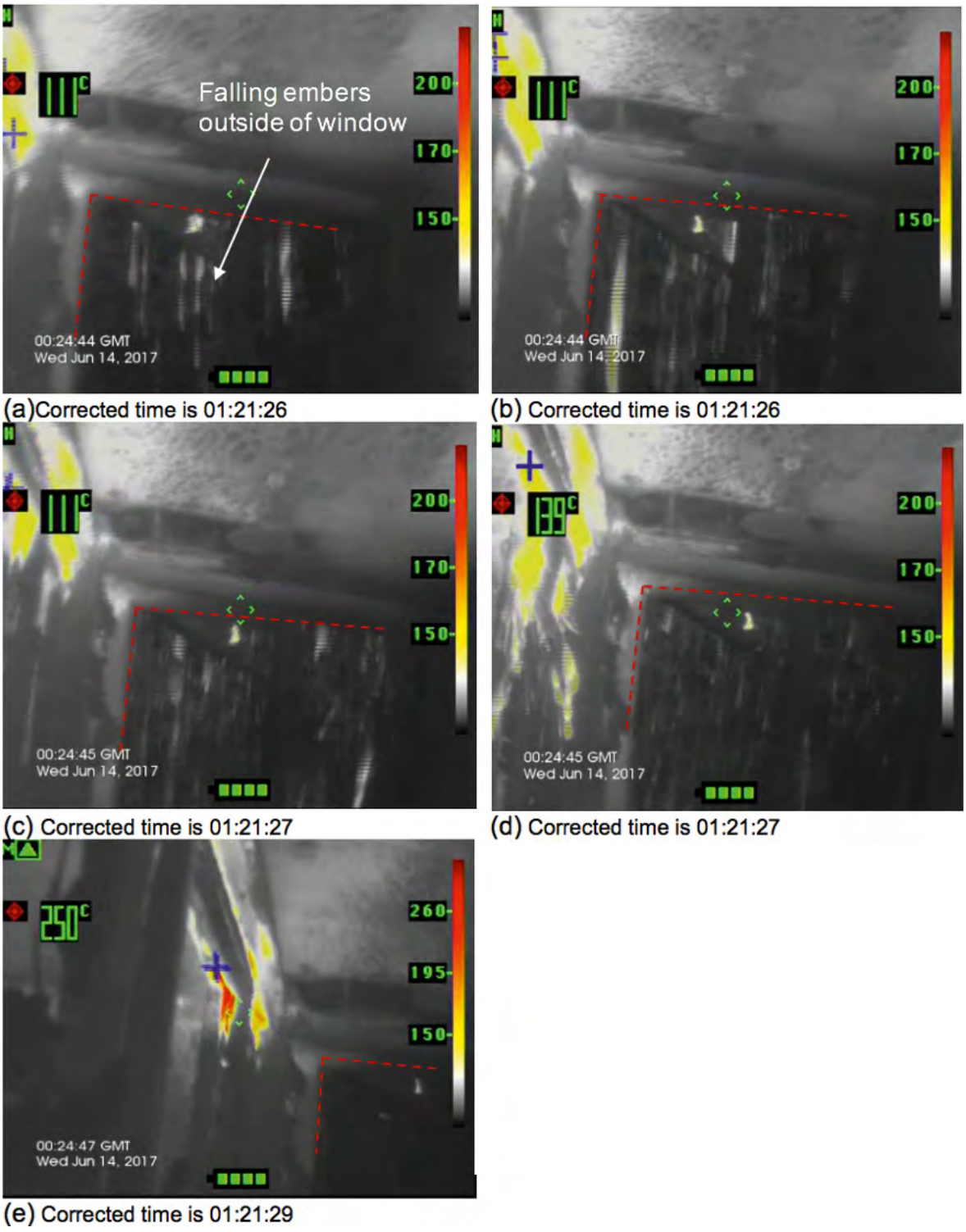

Figure 10.11

66 Batterbee witness statement [MET00005674], p. 3, 3rd paragraph generally.
67 Batterbee witness statement [MET00005674], p. 3, 3rd paragraph, last line.
68 Professor Nic Daéid supplementary report p. 34, Fig. 21.

10.47 FF Brown continued to direct the jet at the external fire but without success. As CM Batterbee observed:

> "[i]t then became clear that [the fire] was going up the building or at least higher than just the flat above. I remember the intensity of the flame what I can only describe as huge balls of flame falling down along with debris, it didn't stop. We kept hitting it but again, it was having no bearing on the fire."[69]

10.48 By that stage, the alarm had sounded on their BA sets, so CM Batterbee and FF Brown left the flat and handed over to the back-up crew, FFs John O'Hanlon and Nicholas Barton, who by then had also entered Flat 16. The LFB's telemetry records confirm that CM Batterbee and FF Brown stopped wearing their BA sets at 01.29 and 01.28 respectively.[70] On returning to the bridgehead, CM Batterbee confirmed his earlier message and told WM O'Keeffe (who had arrived at 01.08 on G331 (Hammersmith) and had by then taken command of the bridgehead), that the fire in Flat 16 had been extinguished.[71]

10.49 FFs O'Hanlon and Barton also searched the bedrooms, the bathroom and the sitting room of Flat 16. They found no evidence of fire in any of those rooms. At around 01.20[72] they entered the kitchen as CM Batterbee and FF Brown were extinguishing the fire. FF O'Hanlon said that when he entered the kitchen:

> "[t]he fridge was on the right, quite close to the window. You wouldn't recognise it as a fridge, just a charred rectangle with a bit of melted stuff at the bottom that was still alight. The flame was around 30 cm high."

10.50 FF O'Hanlon swiftly extinguished the remaining flame in the large fridge-freezer. Having done so, he noticed that the kitchen window had "gone" and that smoke was pouring out of the kitchen, thereby improving visibility within.[73] The firefighters were then able to see that the window surround was on fire.[74] FFs O'Hanlon and Barton started to spray the window frame with water but they failed to extinguish the external fire. FF O'Hanlon then sat on the window sill and leant out so as to direct water towards what he thought was the window surround. In his words, the water "was doing absolutely nothing at all, it didn't seem to be having any effect at all".[75] FFs O'Hanlon and Barton were running low on air and the alarms sounded on their BA sets, so at that point they left Flat 16. The LFB's records confirm their "end of wear times" as 01.35 and 01.36 respectively.[76]

Firefighting activities within and outside the tower

Breach of Flat 16's kitchen window

10.51 Although it is not possible to be precise, it was at or soon after 01.06 that CM Secrett was informed, by WM Dowden by radio, that the hose had been set into the dry rising main and that water was available to fight the fire.[77] During this exchange, WM Dowden said that the fire had breached Flat 16's kitchen window and that he wanted a covering jet directed at that

69 [MET00005674] p. 3, paragraph 4.
70 [LFB00023326].
71 O'Keeffe Day 18/25/5-13.
72 O'Hanlon witness statement [MET000080592] final paragraph at bottom of p. 4/top of p. 5.
73 O'Hanlon witness statement [MET000080592] p. 5, 2nd paragraph.
74 O'Hanlon witness statement [MET000080592] p. 5, 2nd paragraph, penultimate line.
75 O'Hanlon witness statement [MET000080592] p. 5, 3rd paragraph, last two lines.
76 [LFB00023326].
77 ORR v 0.7 p. 16 suggests 01.06.47 but the evidence does not support that.

window. CM Secrett advised him against doing that because CM Batterbee and FF Brown were about to enter Flat 16. He thought there was a risk that if water from the covering jet entered the fire compartment it would turn to steam and scald the firefighters inside.

Preparation of a covering jet outside the tower

10.52 At around 01.07 FFs Abell and Bills started to establish a covering jet. FF Abell was holding the jet and FF Bills was on the pump. Photographs taken at 01.10 do not show a covering jet yet in operation as it would have taken some time for it to be charged with water.

FF O'Beirne's investigation of the internal extent of the fire

10.53 At around 01.07 FFs O'Beirne, Badillo and Dorgu left the lobby on floor 4 for the stairwell due to the smoke. They closed the stair door so as to prevent smoke escaping from the lobby into the stairwell.

10.54 FF O'Beirne, who was not wearing BA and had therefore not tallied out from entry control,[78] went to floor 5 to see whether the fire had spread there and, if so, to what extent. In the course of doing so he met a family of four who had just left Flat 26 directly above Flat 16. They told him that Flat 26 was on fire but was locked. FF O'Beirne went up to Flat 26. He looked through the letterbox and saw that the lights were still on, but he could see no smoke.

Arrival of WM O'Keeffe and G331

10.55 G331 arrived at 01.08. Its commander, WM O'Keeffe, said that he saw "flames" issuing from what he had then thought was a balcony and "a significant amount of smoke issuing from the building lobby". In evidence, he described the presence of smoke in the ground floor lobby as a "mild concern", which, while not unusual, did indicate the extent of smoke spread within the tower at this relatively early stage.[79] I should, however, note that no other witness recalled smoke in the ground floor lobby at this early stage of the fire.

The decision to make pumps 6

10.56 Soon after his arrival, WM O'Keeffe reported to WM Dowden. WM O'Keeffe's view was that the fire had "a lot of energy" and could grow in size.[80] Accordingly, he advised that further resources were needed. WM Dowden agreed and WM O'Keeffe was asked to send an assistance message to the control room asking for further resources, including an aerial appliance. The thrust of WM Dowden's evidence was that, at the time the decision was made to make pumps 6, the fire had not taken hold and the fire was still contained within Flat 16. Effectively, it was for this reason that, when he decided to make pumps 6, WM Dowden did not consider whether it was appropriate to continue giving "stay put" advice.[81] WM Dowden's evidence was that:

> "at the point I made it pumps 6, I was still quite comfortable, it was more of a contingency thing. That was my point. That's how I remember it on the night".[82]

[78] Therefore the exact time at which he left the bridgehead to ascend the tower is unknown.
[79] O'Keeffe Day 18/12.
[80] O'Keeffe Day 17/194/25.
[81] Dowden Day 10/80-81.
[82] Dowden Day 10/79-80.

WM O'Keeffe's assumption of command of the bridgehead

10.57 During their conversation WM Dowden also asked WM O'Keeffe to assume command of the bridgehead. At 01.10 WM O'Keeffe entered the tower by the main entrance and went to the bridgehead on floor 2. He described the scene on arrival as calm. He was briefed by CM Secrett who told him that there was a fire in the kitchen of Flat 16, which was being fought by a BA crew with one line of hose.[83] At that stage, CM Secrett did not know the extent to which Flat 16 was alight, but said that the BA crew was making progress. Having assumed command, WM O'Keeffe instructed CM Secrett to secure a second BA crew (FFs O'Hanlon and Barton) and an additional hose to provide back-up for the crew fighting the fire in Flat 16. He also ordered a third BA crew (CM Stern and FF Hippel) to deal with hose management.[84] For this purpose, CM Stern and FF Hippel went under air and tallied out at 01.17.[85] WM O'Keeffe also asked for an immediate emergency care (IEC) pack to treat casualties.[86]

10.58 WM O'Keeffe tested communications with WM Dowden and found them to be good.[87] Thereafter, CM Secrett stayed at the bridgehead in order to assist WM O'Keeffe until he was redeployed as part of a BA crew. At this stage, FF De St Aubin continued to run the entry control board.

Communication of the decision to make pumps 6

10.59 At 01.12.59 FF Broderick, at the direction of WM O'Keeffe, sent a message from G331 to the control room to make pumps 6 and to send a hydraulic platform.[88] At 01.13.41 another message was sent which asked for an aerial appliance instead of a hydraulic platform.[89] The request for "an aerial" meant that the nearest aerial appliance (irrespective of type) would be mobilised.[90]

10.60 The additional resources were mobilised at 01.15.28.[91] For present purposes, the practical effect of the decision to make pumps 6 was as follows:[92]

a. A total of six appliances would attend the fire. As four appliances were already at the tower, the result of the request was to send two additional appliances.

b. Three additional Watch Managers would be sent.

c. One Fire Investigation Unit (FIU) would be sent.

d. Two command units (CU7 and CU8) would be despatched.

e. Two Station Managers would be directed to attend.

f. One Group Manager would be required to attend as the Monitoring Officer.

g. One Press Liaison Officer would be sent.

h. One Fire Safety Officer would be sent.

i. A Deputy Assistant Commissioner (DAC) would become the remote Monitoring Officer.

83 O'Keeffe Day 18/18/21, 19/11.
84 O'Keeffe Day 18/21/2-21.
85 [LFB00023326]; O'Keeffe Day 18/34/6-13, 37/1-25.
86 O'Keeffe Day 18/19/6; defined in ORR v 0.7, p. 499.
87 O'Keeffe Day 18/17/21, 18/5.
88 [LFB00002906].
89 [LFB00002587].
90 ORR v 0.7 p. 24.
91 SIL pp. 8, 13.
92 PN412 (Mobilising Policy) App. 1 [LFB00001531].

Development of the external fire

10.61 The extent of the external fire spread around the window of Flat 16 at 01.13 is shown in this image.[93]

Figure 10.12

[93] Professor Bisby supplemental report [LBYS0000001] p. 123 Fig. 66(a).

Informative message

10.62 An informative message was sent at 01.14.21 from G272.[94] Its purpose was to inform the control room (and anyone such as SM Walton who was monitoring the airwave radio) of the nature and extent of the incident and provide relevant information regarding the building. The informative message stated:

> "… residential block of flats of 20 floors 25 metres x 25 metres, five roomed flat on fourth floor, 7 per cent alight, high rise procedure implemented MDT in use, tactical mode Oscar."

Exterior firefighting

10.63 The video footage shows that, at 01.15.53, a covering jet, operated by FFs Cornelius and Murphy, was directed at the outside of the building below the kitchen window of Flat 16.[95] Although there is some reference in the evidence to a jet being applied earlier, it is plain from the video evidence that the covering jet applied at 01.15.53 was the first application of water to the outside of the tower.

WM Dowden's assessment of the developing fire

10.64 While he could not be certain of timings, WM Dowden's evidence was clear: after the informative message had been sent, he started to feel uncomfortable about the rapid development of the external fire.[96] In his statement, he recalled the following:

> "I noticed that the fire had now breached the window of the flat on the 4th floor and was starting to affect the external facia of the building. It was at this point that I noticed the situation was beginning to turn because the fire wasn't behaving in a way that I would have expected from previous experience. It was sparking and spitting in a similar way to when magnesium burns and was making me feel uncomfortable. I contacted CM Secrett on the radio and checked that the BA crew were tackling the fire to which he replied that they were making good progress. However, I did not feel reassured due to the way the fire was developing on the outside of the building."[97]

10.65 Notwithstanding his growing feeling of unease, WM Dowden appears to have considered that the covering jet would be sufficient to contain and suppress the fire within and around the outside of Flat 16,[98] despite the clear and rapid development of the fire and his understanding that the covering jet's maximum reach was four floors[99] (whatever an untrained observer might think, as evidenced by a shout from a member of the public recorded on video footage that the jet was not aiming high enough to deal with the spread of fire up the building).[100]

10.66 At 01.16 a still from video footage taken by a member of the public shows the extent of the external flame spread on the eastern elevation.

94 [LFB00002619]; [LFB00002949].
95 [LBYS0000002].
96 Dowden Day 10/99/110/21-111/3.
97 Dowden witness statement [MET00010915] p. 5.
98 Dowden Day 10/103/4-9.
99 Dowden Day 10/102/17-22.
100 Dowden Day 10/101.

Figure 10.13

Firefighters' activities inside and outside the tower at around 01.16

10.67 At around 01.16, the following firefighting activity was taking place inside and outside the tower:

a. At 01.16.02 G272 sent a message to the control room to confirm that it was the incident command pump (ICP).[101]

b. FF Badillo, who by this stage was on floor 3, met a group of people who appeared to be suffering from exposure to smoke. He said that their eyes were streaming, they were coughing and they looked panicked. They told him that they had come from floors 5 and 6.

c. For his part, FF O'Beirne recalled entering the lobby on floor 5, which was clear of any smoke, and encountering a family of three who had come from the flat directly above Flat 16. They told him their kitchen was alight and the flat was locked. FF O'Beirne thought it might just be smoke. He looked through the letterbox but could not see or smell any

[101] [LFB00002997].

smoke inside, although he accepted that he had no recollection of smelling anything that night. Using channel 1, he spoke by radio to WM Dowden to tell him that the kitchen was alight and that they needed a BA crew and breaking-in gear. WM Dowden did not recall having received the message. FF O'Beirne did not contact the bridgehead on channel 6 but believed that everyone on the fire ground would have heard the message. FF O'Beirne said that he did not speak to any other occupants while on floor 5 or knock on any doors on that floor.[102]

d. FFs Cornelius and Murphy continued to apply the covering jet to the outside of the tower below the kitchen window of Flat 16. The jet was directed below the window because firefighters were in the flat.

10.68 At 01.17 CM Stern and FF Hippel, the third BA crew to enter the tower, tallied out at the bridgehead for the purposes of managing the hoses. While they were carrying out that task, they heard communications over the radio to the effect that there was fire and smoke on floor 5.[103] WM O'Keeffe told them to go to floor 5 and tell him what was happening.[104] As their purpose was reconnaissance, not search and rescue, they carried neither breaking-in equipment nor any firefighting media.

10.69 At around this time FF O'Beirne had reached the lobby on floor 6, which he described as a little bit smoky. Oscar Millan Gonzalez, Ramiro Urbano and Claudia Montes had left Flat 36, two floors directly above Flat 16. They told FF O'Beirne that their flat was alight but that no one was still inside. FF O'Beirne went into Flat 36 and saw a wall of black smoke from floor to ceiling.

10.70 No arrangements had been put in place to count the number of residents leaving the tower. By 01.18 a total of 35 people had left the tower. Although most of them lived on or below floor 8, it is notable that 10 of them had left either floor 12 or floor 13 by that time.[105]

The decision to make pumps 8

10.71 At 01.19.08 WM Dowden sent a message to the control room to make pumps 8.[106] The decision appears to have been prompted by the extent and speed at which the fire had spread on the outside of the building.[107] In his evidence, WM O'Keeffe's clear recollection was that he had radioed WM Dowden and advised him to make pumps 8 as a result of information he had received from CM Stern about the amount of smoke on floor 6.[108] However, CM Stern and FF Hippel had tallied out under air at 01.17 to manage the hoses. The message to make pumps 8 was sent two minutes later at 01.19.08. It is unlikely that they could have started working on the hoses, returned to the bridgehead to tell WM O'Keeffe about the message they had overheard about conditions on floor 5, made their way to floors 5 and 6 in response to his request and then reported back to him by radio, all in the space of two minutes. I do not think, therefore, that WM O'Keeffe can have told WM Dowden about conditions on floor 6 just before 01.19, but he was an impressive witness and he clearly recalled telling WM Dowden about conditions on floors 5 and 6 at some time. I am satisfied that he did so, but I think the conversation is likely to have taken place shortly before 01.24, when WM Dowden made pumps 10.

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102 O'Beirne first statement [MET000083321] p. 10 and Day 14/145/15-152/14.
103 O'Keeffe Day 18/37/8-38/21.
104 O'Keeffe Day 18/38/14.
105 Annex A.
106 [LFB00002899].
107 Dowden Day 10/137/22-25.
108 O'Keeffe Day 18/39-61.

10.72 In response to WM Dowden's request, two more appliances were sent to the incident, making eight in all, as well as Paddington's FRU (A216). The despatch of an FRU was an important development because only FRU crews were permitted to carry EDBA. As a result of making pumps 8, DAC Andrew O'Loughlin was appointed to act as monitoring officer. Ealing's Breathing Apparatus Unit (G25) and Finchley's Damage Control Unit (A39) were also ordered to the incident.

10.73 In evidence, WM Dowden said that he thought that it was at that time, or just after, that he had first realised that the outside of the tower was on fire.[109] The extent of the external fire at this stage is usefully illustrated by the following stills at 01.19.04:[110]

Figure 10.14

10.74 He said:

> "… this is the point where I'm starting to become very consumed in terms of what was happening in front of me. I think the way it was increasing and developing, I've never seen anything like that before and it was almost that I was consumed by that in terms of the sensory overload …"[111]

10.75 Despite that sense of overload, the swift development of the fire and the ineffectiveness of the covering jet, WM Dowden's evidence was that even at that stage he believed the fire could be brought under control.[112] He said he had not given any real thought at that time to the risk of fire breaking back into the building and had not received any information about conditions on floors 5 or 6 generally or in Flat 26 in particular.[113] I accept what he said about that.

[109] Dowden Day 10/121/4-13.
[110] Professor Bisby supplemental report, compilation east face [LBYS0000002].
[111] Dowden Day 10/138/20-139/2.
[112] Dowden Day 10/143/2-7.
[113] Dowden Day 10/139/9-17.

10.76 WM Dowden did not consider evacuating the tower at that time or changing the advice to residents to remain in their flats.[114] The fire was developing rapidly and he plainly felt out of his depth. He had no reliable information about conditions inside the building and felt very uncomfortable.[115] Although he was standing at or near the grass verge under the tower's east face, he seems not to have noticed residents leaving the building.[116]

10.77 WM O'Keeffe thought that, with the additional resources attending the incident, he would be able to flood the tower with BA crews to carry out both rescues and firefighting.[117] At that point he remained confident that the fire could be extinguished or contained.

10.78 Although WM O'Keeffe did not consider mass evacuation, his evidence was that he had discussed a strategy for multiple rescues with WM Dowden. WM O'Keeffe recalled that, by this stage, the bridgehead was receiving calls from the control room relating to people concerned for members of their families who were either trapped or affected by smoke. These calls were, for WM O'Keeffe, the trigger for seeking to implement a rescue strategy. According to WM O'Keeffe, that is the advice he gave WM Dowden who confirmed that those outside the tower were also receiving similar calls.[118]

Firefighters' activities within the tower

10.79 Although there are few reliably accurate timings, in the 10-minute period after 01.19, the following firefighting activities occurred inside the tower:

a. CM Stern and FF Hippel had made their way to floor 5. In their evidence, each confirmed that floor 5 was heavily smoke-logged. They saw smoke emerging from Flat 26, but without breaking-in equipment they were unable to enter it.

b. FF Badillo had returned to the bridgehead. He briefed CM Secrett on the conditions and CM Secrett assured him that WM Dowden was aware of the extent and rate of fire spread. FF Badillo later left the tower by the main entrance at 01.25. At 01.26 he met Melanie Urbano Ramirez, who gave him the keys to Flat 176 on floor 20 and told him that her sister, Jessica Urbano Ramirez, was still there. FF Badillo told Melanie Urbano Ramirez that he would go and rescue Jessica Urbano Ramirez. He was seen re-entering the tower and at 01.27 sought to make his way to floor 20 using the lift.

c. FF O'Beirne had gone from floor 6 to floor 7. When he reached floor 7, he went to Flat 46 (the flat three floors directly above Flat 16). CCTV footage on floor 7 suggests that he entered Flat 46 at 01.21.27.[119] The CCTV footage does not show any visible signs of smoke in the lobby on floor 7 at this time. The residents (Carmen and Jose Vieiro) told him that their flat was on fire. FF O'Beirne attempted to contact WM Dowden by radio to tell him that the fire had spread to floor 7, but received no response. FF O'Beirne then decided to go to floor 8, where he found that the lobby was heavily smoke-logged. At that stage, he wondered why the lift lobbies were smokier higher up the tower. He left straight away and went to floor 9 where there was no smoke at all. At about that stage FF O'Beirne heard a scream or a shout from somewhere between floors 10 and 12. FF O'Beirne stood at the door to the lobby and, after a few seconds, a woman crawled into

114 Dowden Day 10/147/15-22.
115 Dowden Day 10/138/8-14.
116 Dowden Day 10/139/18-22, 140/11-12.
117 O'Keeffe Day 18/40/14-18.
118 O'Keeffe Day 18/44/11-22.
119 [INQ00000173].

the stairwell on her hands and knees. From this point, FF O'Beirne recalled seeing thick black smoke from floor to ceiling of the lobby from which she had come.

Flat 26

10.80 FFs Archer and Abell, having stopped operating the external covering jet, were instructed by CM Davies to put on their BA equipment and go to the bridgehead. They would be the fourth BA crew to enter the tower. At the bridgehead, FFs Archer and Abell were deployed by WM O'Keeffe to floor 5 to help CM Stern and FF Hippel. They tallied out at 01.21.07.[120]

10.81 When they got to floor 5, they advised the residents of Flat 25 to leave. They then forced their way into Flat 26. In his evidence, FF Abell described the conditions they found as follows:

> "Almost immediately a thick plume of smoke came out of the flat. I could see thick black smoke, this was to floor level, and visibility was zero. I was very surprised by this and I started to feel concerned. At this point I was only aware of fire on the fourth floor and fire within a tower block should not spread in this way, however it was obvious to me that this was a fire compartment due to the smoke and poor visibility."

10.82 FF Abell could not identify the source of the fire and the various firefighting techniques he used (pulsing and "painting" the fire with water) had no effect. As the temperature in Flat 26 had become very hot, he left Flat 26. Once back in the lobby on floor 5, visibility had deteriorated to the point where it was almost as bad as in the flat. FF Abell estimated that he had been in the flat for about 10 minutes or so. Both he and FF Archer returned to the bridgehead; their respective "end of wear times" were 01.39 and 01.40.[121]

Flat 36

10.83 While FFs Archer and Abell were fighting the fire in Flat 26, CM Stern and FF Hippel had gone to floor 6. Both described the lobby on floor 6 as heavily smoke-logged. Having helped a number of residents to the stairway, they made their way to Flat 36. The door was closed but unlocked. As they entered they found the flat also heavily smoke-logged. They called the bridgehead by radio to brief them on the conditions and left the flat, closing the door behind them.

10.84 It is likely that it was around this time that CM Stern informed WM O'Keeffe about conditions on floor 6. WM O'Keeffe's clear recollection was that CM Stern had told him that it was completely smoked out.[122] It is also probable that WM O'Keeffe immediately contacted WM Dowden, who told him that he could see the fire jumping up the outside of the building.

Development of the external fire spread (01.21)

10.85 An image captured at 01.21.15 shows the extent of the external fire spread on the east elevation of the tower at that time.[123]

120 [LFB00023326].
121 [LFB00023326].
122 O'Keeffe Day 18/39/1-8.
123 Professor Bisby supplemental report [LBYS0000001] p. 168 Fig. 96 (left-hand image 01.21.15).

Figure 10.15

First call from a resident within the tower

10.86 Although the control room had received calls from members of the public, it was not until 01.21.24 that it received the first call from a resident since Behailu Kebede's original 999 call.[124] The caller, Chia-Yuan (Naomi) Li, a resident of Flat 195 on floor 22, reported a smell of smoke but no smoke within the flat. She was advised to stay inside and keep her door shut.

Thames Water notified of the incident

10.87 At 01.23.22 the control room notified Thames Water of the incident. It asked them to send a water services technician and to increase the pressure remotely.[125]

[124] [LFB00000303].
[125] [INQ00000187].

Decision to make pumps 10

10.88 WM O'Keeffe advised WM Dowden to make pumps 10.[126] He said he was prompted to do so by two things: the knowledge that calls for help had been received from within the tower and the sight of flaming debris falling off the building.[127]

10.89 At 01.24.09 a message to make pumps 10 was sent from pump G272 to the control room.[128] It was followed at 01.24.33 by a further message asking for the police to attend for the purpose of crowd control.[129] The decision was again prompted by the rapid development of the external fire.[130] However, WM Dowden did not consider at that stage whether the advice to residents to stay put should be changed.[131] As soon as the request to make pumps 10 had been made, the radio traffic increased to the point at which WM O'Keeffe found it impossible to continue transmitting.

Further calls from residents within the tower

10.90 At 01.24.57 the control room received the second call from a resident.[132] The caller, Damiana Louis, who lived in Flat 96 on floor 12, 8 floors directly above Flat 16, said that there was a fire in her kitchen and she could not breathe. At 01.25.16 the third call from a resident was received.[133] The caller, Denis Murphy, who lived in Flat 111 on floor 14, said that he could smell smoke but that there was no smoke in his flat. Towards the end of the call he reported that there was smoke coming into his flat from the lobby.

10.91 At 01.25.36 the control room received the fourth call from a resident.[134] The caller, who gave Flat 91 as his location but is likely to have been Abdeslam Sebbar, who lived in Flat 81, said he was scared.

Development of the external fire (01.26)

10.92 At 01.26.37 video footage taken by a member of the public shows the extent of the external fire spread on the eastern face of the tower.[135]

126 O'Keeffe Day 18/61/7-12.
127 O'Keeffe Day 18/61/13-62/23.
128 [LFB00002720]. The SIL (at p.17) records the message as sent from G272.
129 [LFB00002974].
130 Dowden Day 10/155/9-23.
131 Dowden Day 10/161/14-25.
132 [LFB00000304].
133 [LFB00000308].
134 [LFB00000305].
135 Professor Bisby supplemental report [LBYS0000001] p. 168 Fig. 97 (far right-hand image at 01.26.37).

Figure 10.16

Further calls from residents within the tower

10.93 At 01.26.54 the control room received the fifth call from a resident.[136] It was from Helen Gebremeskel, a resident of Flat 186 on floor 21, who said that the whole building was alight and that she was outside. Four seconds later, at 01.26.58, the control room received the sixth call from a resident.[137] The caller, Katarzyna Dabrowska, a resident of Flat 95 on floor 12 and a neighbour of Damiana Louis from Flat 96 on that floor, who had called at 01.24.57, reported fire coming through the window and smoke coming through the floor and the main door.

10.94 At around the same time, two residents (Rhea Rojo from Flat 91 on floor 12 and Nadia Jafari from Flat 86 on floor 11) stepped out of the lift on the ground floor. As they did so, black smoke billowed from the top of the lift door.[138]

136 [LFB00000306].
137 [LFB00000309].
138 ORR v 0.7 p. 50.

Call for an additional ALP; the decision to make pumps 15; the "persons reported" message

10.95 Less than three minutes after making pumps 10, at 01.27.02 a message was sent to the control room to make ALP x2 (i.e. asking for an additional aerial ladder platform).[139] Less than 30 seconds later, at 01.27.26, a further message was sent to make pumps 15.[140]

10.96 In WM Dowden's mind, the decision to make pumps 15 was a "pivotal change".[141] He had two reasons for calling for additional resources. The first was the rapid development of the external fire snaking its way up the eastern elevation by the tower's external column.[142] That is illustrated by the following image taken at 01.27.58:[143]

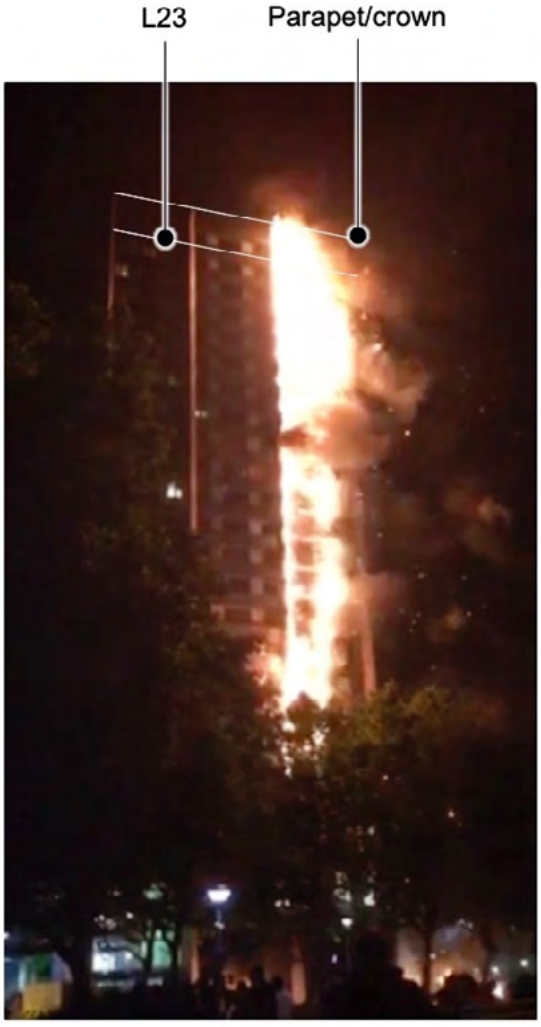

Figure 10.17

10.97 The second reason was the number of residents evacuating the tower who had been subject to smoke inhalation.[144] That caused WM Dowden to send a message to the control room at 01.28.12 confirming "persons reported", i.e. that people were involved in the fire.[145]

139 [LFB00002600].
140 [LFB00002698].
141 Dowden Day 11/11/16-12/2.
142 Dowden Day 11/8.
143 Professor Bisby supplemental report [LBYS0000001] p. 169 Fig. 98 (right-hand image only at 01.27.58).
144 Dowden Day 11/10/4-10.
145 [LFB00002375]; ORR v 0.7 p. 508.

10.98 It is clear that, having made pumps 15 and having sent the "persons reported" message, WM Dowden continued to hold the view that the incident could be contained and extinguished.[146] It is equally clear that during his time as incident commander, he could not remember receiving any information about whether fire was penetrating the interior of the tower.[147] In my view, these factors help to explain why WM Dowden gave no consideration to whether the advice to residents to stay put remained appropriate and, if not, how they should be evacuated.[148]

10.99 In the course of an investigation carried out later by the LFB WM Dowden was noted as having said that by the time he had made pumps 15 all his previous experience "had gone out of the window. Very daunting moment. I felt helpless".[149] In his oral evidence, he gave an honest insight into his perception of the difficulties of command he encountered that night:

> "There were probably moments where I did feel helpless. It's a very, very difficult place to be as an incident commander when it's just – it's just relentless. We can usually try and control and get a grip on the dynamic stage of an incident, but this was like nothing else I had ever experienced before. The ferocity, the way that fire was developing, it was just relentless."[150]

Further call from a resident within the tower

10.100 At 01.28.26, the control room received the seventh call from a resident.[151] The caller, Natasha Elcock, a resident of Flat 82 on floor 11, reported that she was stuck and did not know how to get out. Although there was no smoke in her flat at that time, there was smoke in the lobby.

Firefighters' operations within the tower

10.101 Between around 01.28 and 01.38 firefighters carried out the following operations within the tower:

a. As FF Badillo was making his way to floor 20, the lift stopped at floor 15. The doors opened and the lift filled with black smoke. He found his way to the lobby door, into the stairwell and down the stairs.

b. Somewhere between floor 10 and floor 14, FF O'Beirne met two adult males, one of whom said that his father was bed-bound in their flat on floor 16. FF O'Beirne radioed this information to the bridgehead, but he could not remember whether his message had been confirmed as received. FF O'Beirne's message was received by CM Stern and FF Hippel who, at this time, believed they were on floor 5 or 6.

c. CM Stern and FF Hippel went directly to floor 16 where they found a man by the lobby door and another man lying on the lobby floor but still conscious. They were able to help the latter to the staircase. They returned to the lobby and entered the first flat they found (most likely Flat 136) to locate and rescue the reported casualty. The interior was heavily smoke-logged and extremely hot. They found no one and, since they were now both low on air, they left floor 16. On their way down CM Stern and FF Hippel helped a number of residents down the stairs and out of the tower. CM Stern and FF Hippel's "end of wear time" was 01.38.[152] I deal with their debrief at the bridgehead in Period 2.

146 Dowden Day 11/16/24-17/10.
147 Dowden Day 11/30/3-9, 11/30/12-19.
148 Dowden Day 11/20/4-16.
149 Dowden Day 11/17/11-15.
150 Dowden Day 11/17/16-22.
151 [LFB00000307].
152 [LFB00023326]. The telemetry data recorded no tally-in time for this crew so "end of wear time" has been used instead.

10.102 It was at some time during this period that WM Dowden noted a large amount of debris falling from the tower and ordered FFs Murphy and Cornelius (who had been working the covering jet) to move to a safe area. Once they had moved back, WM Dowden realised that the covering jet had had no effect on suppressing the fire. Accordingly, he ordered FFs Murphy and Cornelius to turn off the jet and report to the bridgehead wearing BA.[153]

DAC O'Loughlin on his way to the incident

10.103 At 01.28.05 DAC O'Loughlin called the control room in response to a pager message alerting him to the fact that pumps had been made 8.[154] He was told that it was now a 15-pump fire and he confirmed that he was on his way to the incident.

London Ambulance Service called to the tower

10.104 At 01.29.06 AOM Debbie Real called the London Ambulance Service (LAS) and asked them to attend the tower.[155] She told them that there were a lot of people stuck in flats.

Decision to make pumps 20

10.105 At around 01.29 WM Dowden discussed resources with WM Paul Watson who had arrived at the incident at 01.25 on G361, Hammersmith's pump ladder.[156] Having just arrived and having seen the extent of the external fire, WM Watson's firm view was that this was a 20-pump fire and WM Dowden accepted his advice. Accordingly, less than two minutes after the decision to make pumps 15, at 01.29.11 his decision to make pumps 20 and to request two additional FRUs was communicated to the control room.[157]

10.106 WM Dowden had no clear plan of how he would deploy the full complement of 20 appliances and two additional FRUs when they arrived.[158] His plan remained as it always had been: to commit crews into the tower to conduct both search and rescue and firefighting operations.[159] He did not consider evacuation to be an option.[160] As the bridgehead was on floor 2, he told WM Watson to set up a staging area on the ground floor.[161] (A staging area acts as a holding zone for firefighters waiting to be sent to the bridgehead for deployment.)[162]

10.107 By 01.29 it was plain that the fire on the outside of the building had reached floor 23 and involved both the eastern and the northern elevations. Notwithstanding the extent, speed and ferocity of the fire, WM Dowden continued to believe that it could be brought under control.[163]

10.108 The only firefighting measure he had identified to extinguish the external fire was the deployment of Paddington's FRU crew to the roof of the tower to set up a line from which firefighters could apply a hose downward onto the flames. However, it is not clear whether he had given any thought to the possibility that the stairwell might be affected by smoke

153 Dowden witness statement [MET00010915] p. 7.
154 ORR v 0.7 p. 56.
155 [LAS00000009] p. 6; [INQ00000378].
156 [LFB00000002].
157 [LFB00002589]; Dowden Day 11/33/15-34/7.
158 Dowden Day 11/35.
159 Dowden Day 11/36/5-9.
160 Dowden Day 11/44/6-11.
161 Watson witness statement [MET00008044] p. 3; Dowden Day 11/35.
162 Watson witness statement [MET00008044] p. 4.
163 Dowden Day 11/40/3-19.

that would hinder the crew's progress. WM Dowden felt he had a professional and moral obligation to try something to bring the external fire under control.[164] At that time there were eight firefighters wearing BA equipment inside the tower.

10.109 Although the full severity of the fire had become plain by 01.30, WM Dowden did not declare the fire a Major Incident on behalf of the LFB because he was completely occupied by the task of managing the resources available to him. He accepted that the situation was more than he could cope with.

2 External fire spread

10.110 This section describes the spread of the fire on the outside of the tower during Period 1.

10.111 At 01.05 the first known video evidence of the fire was captured by Behailu Kebede showing flames at the far-left side of the window when viewed from outside the tower.[165] By 01.07 the window infill panel and mounting of the extractor fan appeared to be burning and the extractor fan unit appeared to be missing.[166] By 01.08 the flames extended further out of the left of the window and burning material was beginning to fall to the ground.[167] By 01.09 the fire had taken hold in the cladding and there was a regular flow of burning material falling from the window opening.[168]

10.112 By 01.13 intermittent flames could be seen extending from the top left-hand corner of the window between the column and the spandrel cladding panels above the window and flames could also be seen in the gaps between the cladding panels above the window.[169] By 01.14 the flames had grown longer in the corner between the column and the spandrel panels above the window[170] and the fire had also started spreading downward between the column and the spandrel panels below the window.[171]

10.113 At 01.15.06 a noise was heard which was likely to have been the breaking of at least one pane of glass in the kitchen window,[172] which was immediately followed by an increase in the length of the flames. Shortly after that the cladding could be seen burning with some intensity and external flames were extending approximately two floors above Flat 16 to between floors 6 and 7.[173] A large amount of burning, molten material was falling from the area of the fire and cascading down to the ground.[174] The following images were taken between 01.15.41 and 01.15.54:[175]

164 Dowden Day 11/43/5-9.
165 [LBYS0000002]; [MET000083355]; Professor Bisby supplemental report [LBYS0000001] p. 117.
166 Professor Bisby supplemental report [LBYS0000001] p. 118 Figs. 59 and 114 sections 551-555.
167 Professor Bisby supplemental report [LBYS0000001] p. 119 Figs. 60 and 114 sections 556-559.
168 Professor Bisby supplemental report [LBYS0000001] p. 120 Figs. 61, 62 and 114 section 560 to 115 section 563.
169 Professor Bisby supplemental report [LBYS0000001] p. 123 Figs. 66 and 115 section 578.
170 Professor Bisby supplemental report [LBYS0000001] p.115-116 sections 580-583.
171 Professor Bisby supplemental report [LBYS0000001] p. 128 Figs. 70, 71.
172 Professor Bisby supplemental report [LBYS0000001] p. 129 sections 605-608 [IWS00000050].
173 Professor Bisby supplemental report [LBYS0000001] p. 131 and Fig. 73.
174 Professor Bisby supplemental report [LBYS0000001] p. 158 sections 801-803.
175 Professor Bisby supplemental report Fig. 90 [LBYS0000001] p. 163.

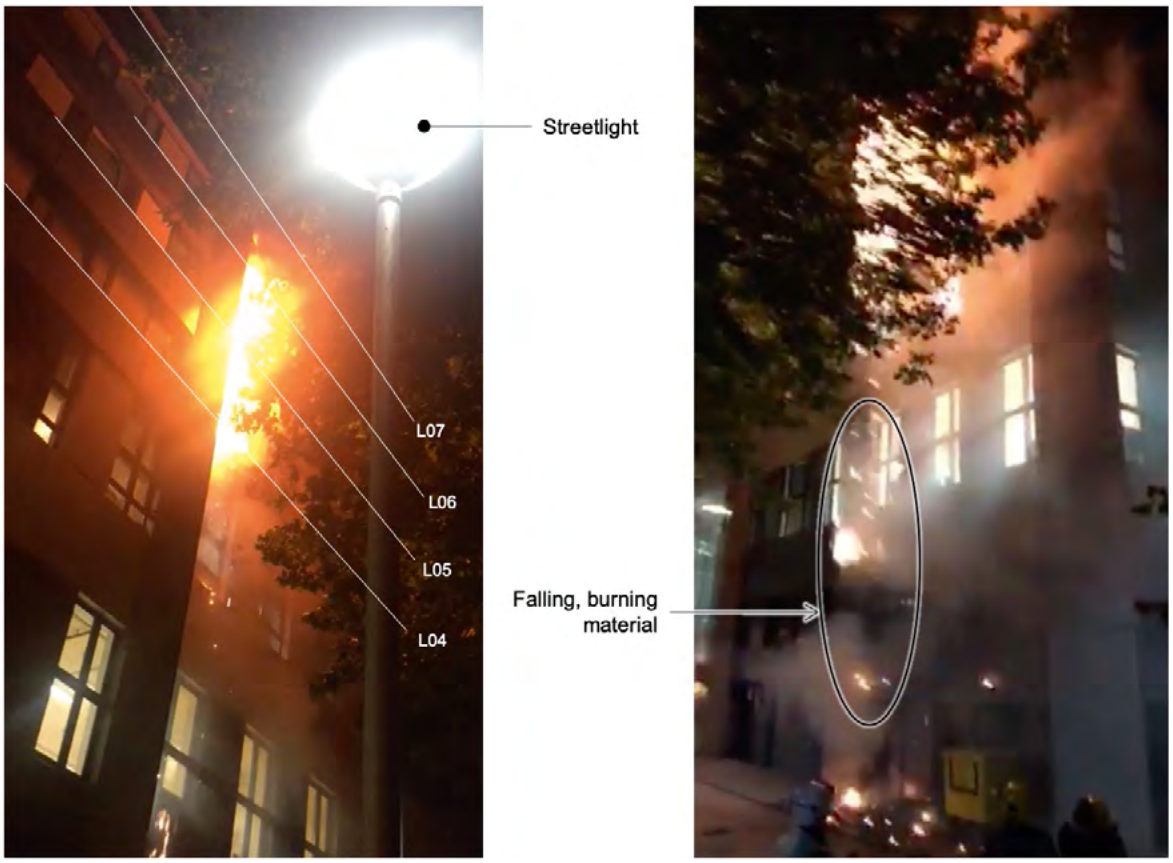

Figure 10.18

10.114 At 01.16 there was continuous flaming between floors 4 and 6 and intermittent flaming[176] between floors 6 and 8.[177] The flames were highest at the vertex of the junction between the column and the spandrel panels, as can be seen in this image:[178]

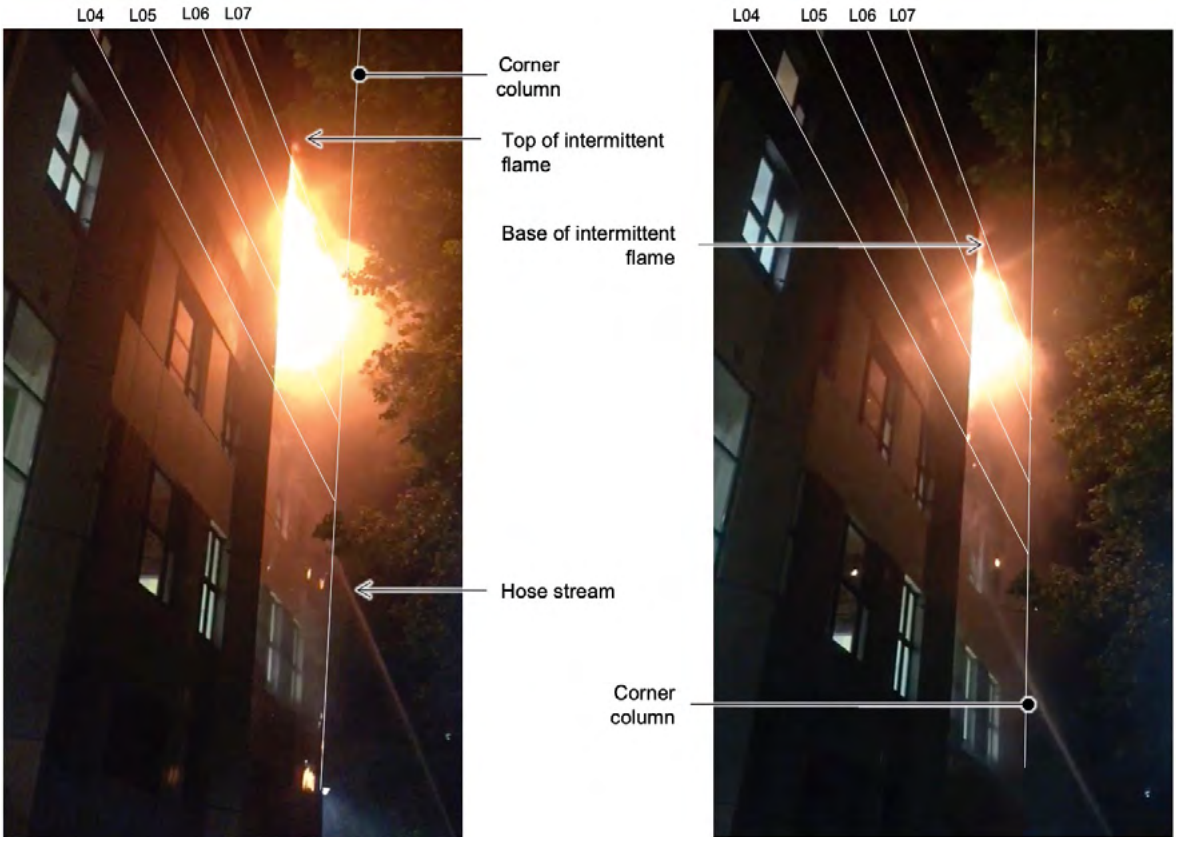

Figure 10.19

10.115 By 01.20 approximately seven "Flat 6s" located in the north-east corner of the tower were affected by the external flame front between floors 4 and 10,[179] with flames extending up column line B5.[180]

10.116 In the period between 01.20 and 01.30 the rate at which the flames spread accelerated considerably. Between 01.21.15 and 01.22.47 the rate of vertical flame spread was approximately 0.75 floors per minute (or 1.3 minutes per floor). At the beginning of that period the fire extended to the top of floor 10; after 45 seconds it had reached the top of floor 11; after 90 seconds it was at the top of floor 12, with intermittent flaming extending past the windows of floor 13.[181] The following images show the fire growth during that period:[182]

176 As explained at section 806 of Professor Bisby's supplemental report, in general, diffusion flames pulsate and are not continuous and hence the use of the word "intermittent" to describe the approximate flame extents.
177 Professor Bisby supplemental report [LBYS0000001] p. 158 sections 805-810.
178 Professor Bisby supplemental report [LBYS0000001] Fig. 92 p. 165. At this point a hose stream is applied onto the external cladding from ground level (for the first time, based on the available visual evidence) with firefighting water being applied to the cladding immediately below floor 4.
179 Flats 16, 26, 36, 46, 56, 66, 76. Dr Lane supplemental report [BLAS0000012] p. 8.
180 Column line B5 is shown in Chapter 4 of Dr Lane's supplemental report [BLAS0000004] p. 9 Fig. 4.7.
181 Professor Bisby supplemental report [LBYS0000001] p. 159 sections 816-820.
182 Professor Bisby supplemental report [LBYS0000001] p. 168 Fig. 96.

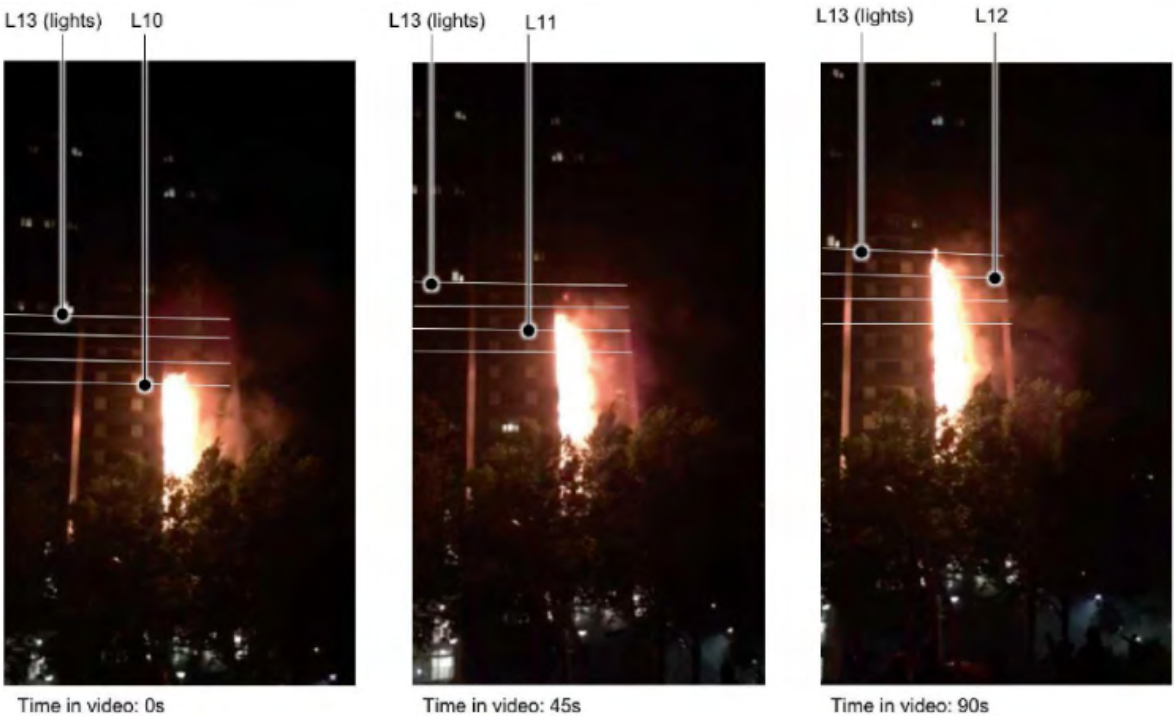

Figure 10.20

10.117 Between 01.22 and 01.24 large burning panels from the cladding system were detaching themselves from the building and spiralling down to the ground.[183]

10.118 Between 01.23.36 and 01.26.37 the rate of fire spread accelerated from approximately two storeys per minute to approximately four storeys per minute. At the start of this period the fire extended to the top of floor 15; after 60 seconds it had reached the top of floor 17; after 120 seconds it was at the top of floor 19; after 180 seconds it was in the middle of floor 23.[184] By 01.26 the fire had spread 19 floors in approximately 14 minutes. The following series of images captures that sequence:[185]

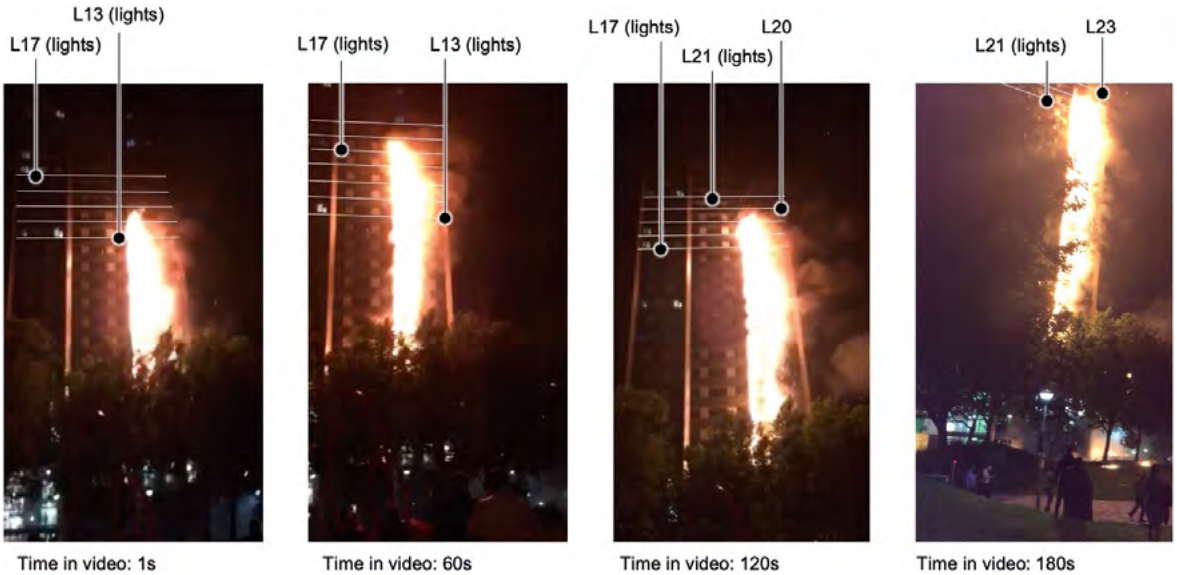

Figure 10.21

[183] [LBYS0000002] at 01.22-01.23 – in particular at 01.23.58ff.
[184] Professor Bisby supplemental report [LBYS0000001] p. 159 sections 821-826.
[185] Professor Bisby supplemental report [LBYS0000001] p. 168 Fig. 97.

10.119 By 1.27 the fire had spread to roof level and after 01.27.42 there was continuous flaming at the top of the architectural crown.[186] These images show that final vertical progression:[187]

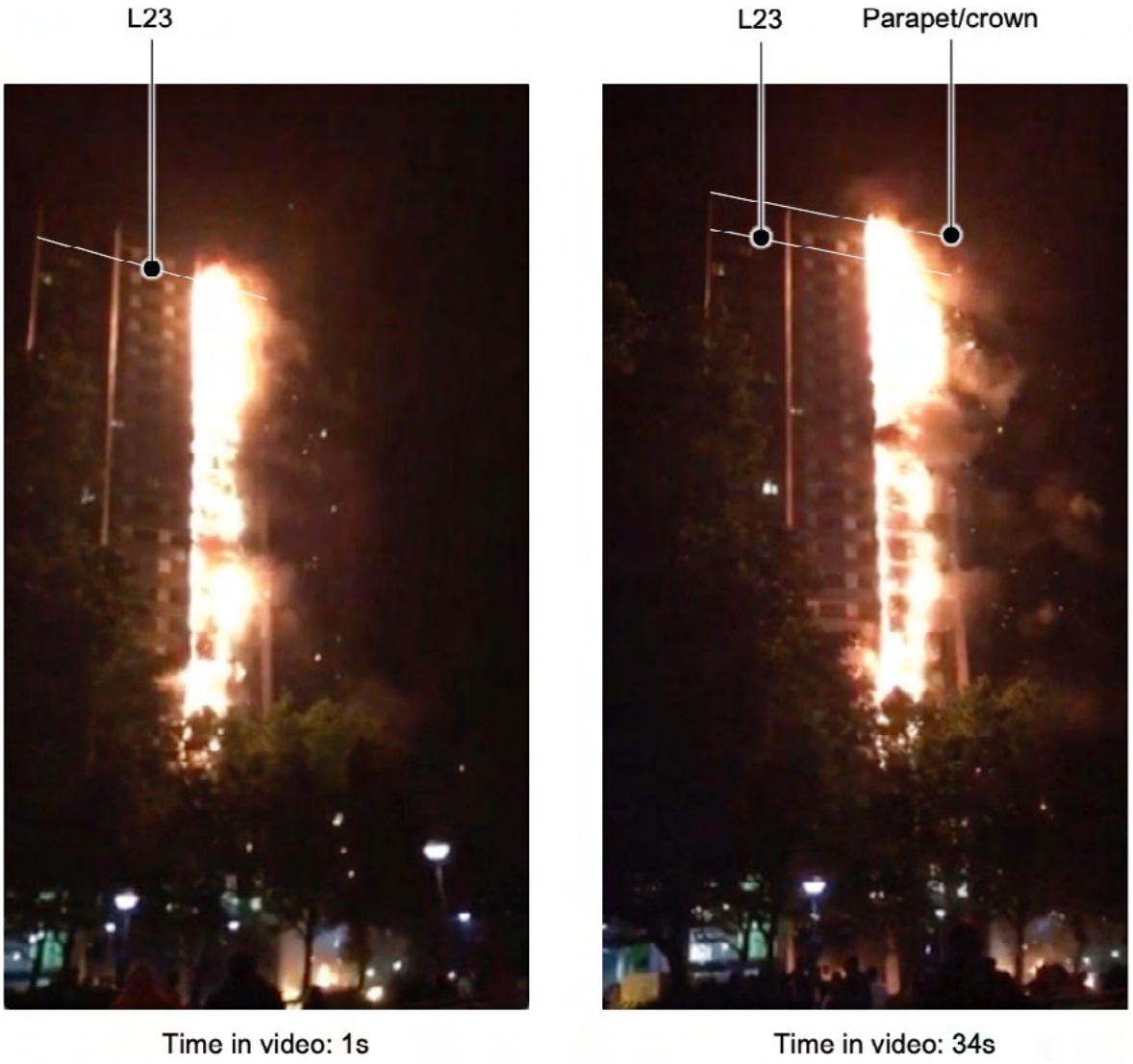

Figure 10.22

[186] Professor Bisby supplemental report [LBYS0000001] p. 159 sections 830-831.
[187] Professor Bisby supplemental report [LBYS0000001] p. 169 Figs. 98, 99.

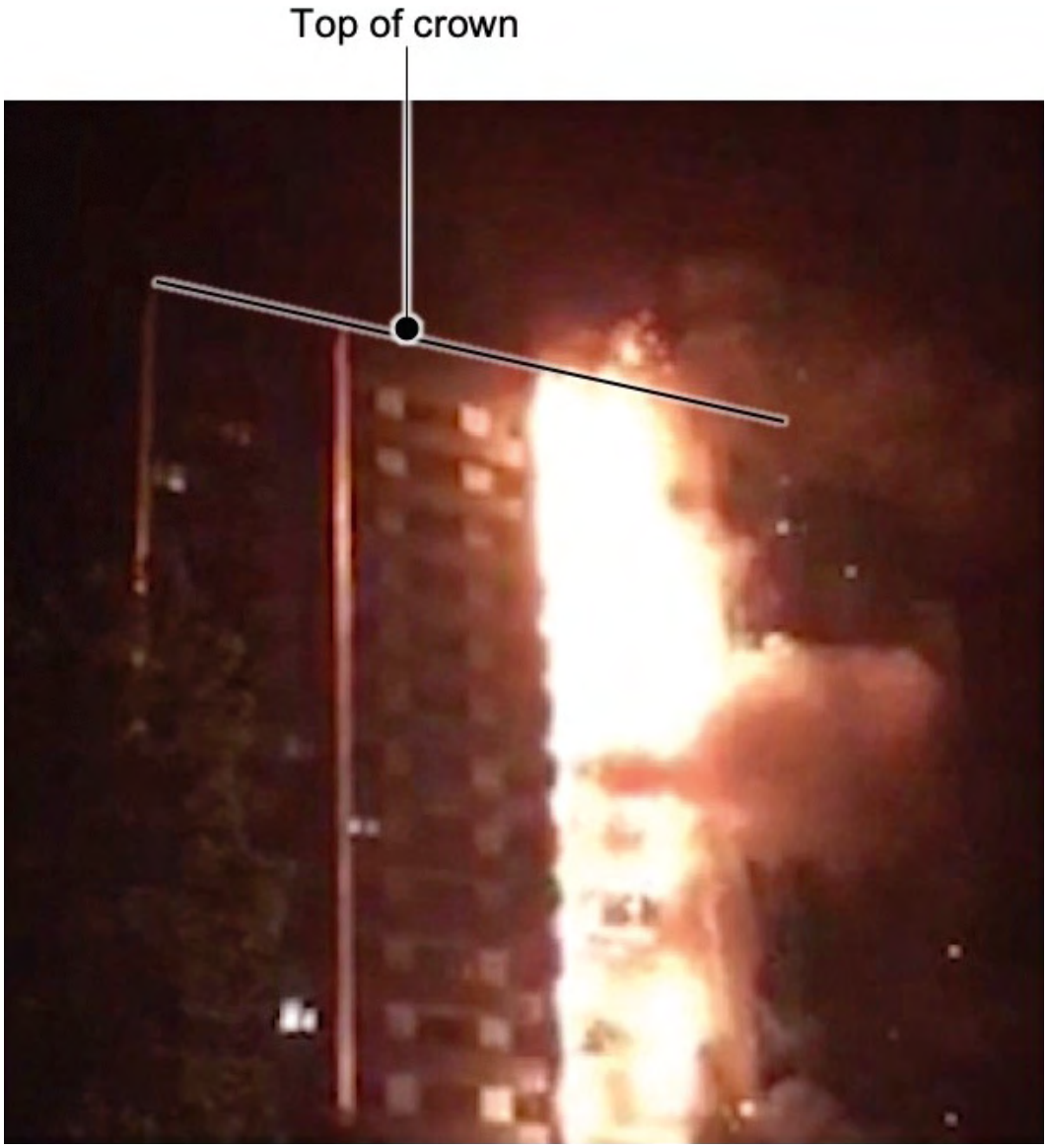

Figure 10.23

10.120 At 01.28 the fire was spreading horizontally between the joints of the ACM column panels to the south side of column B5 on the east face at floor 23 and at roof level.[188] That was the result of melting and burning polyethylene dripping and collecting on the ledge created by the column cassette joining detail.[189] Subsequently, the fire spread southwards around the architectural crown.[190] By this point it had also spread northwards towards column A5 on the north-east corner.

10.121 At approximately 01.29 the fire reached its maximum height at the top of the northernmost bay of the east face.[191]

10.122 In the period 01.20-01.30 the flame front extended to envelop all the "Flat 6s" between floors 10 and 23.[192]

188 Professor Bisby supplemental report [LBYS0000001] p. 204 section 980 and Fig. 122 p. 205.
189 Professor Bisby supplemental report [LBYS0000001] p. 46 Fig. 19.
190 Professor Bisby supplemental report [LBYS0000001] p. 204 section 982.
191 Professor Bisby supplemental report [LBYS0000001] p. 159 section 832 and 168 Fig. 100.
192 Those are Flats 86, 96, 106, 116, 126, 136, 146, 156, 166, 176, 186, 196 and 206. Dr Lane supplemental report [BLAS0000012] p. 8.

10.123 By 01.30 there were also flames on the south side of column B5 at lower levels of the building at about floor 8. The following images taken from Professor Bisby's report show the southerly progress of the fire at those lower floors and at the crown; they also show the northerly horizontal progress towards the north-east corner of column A5:

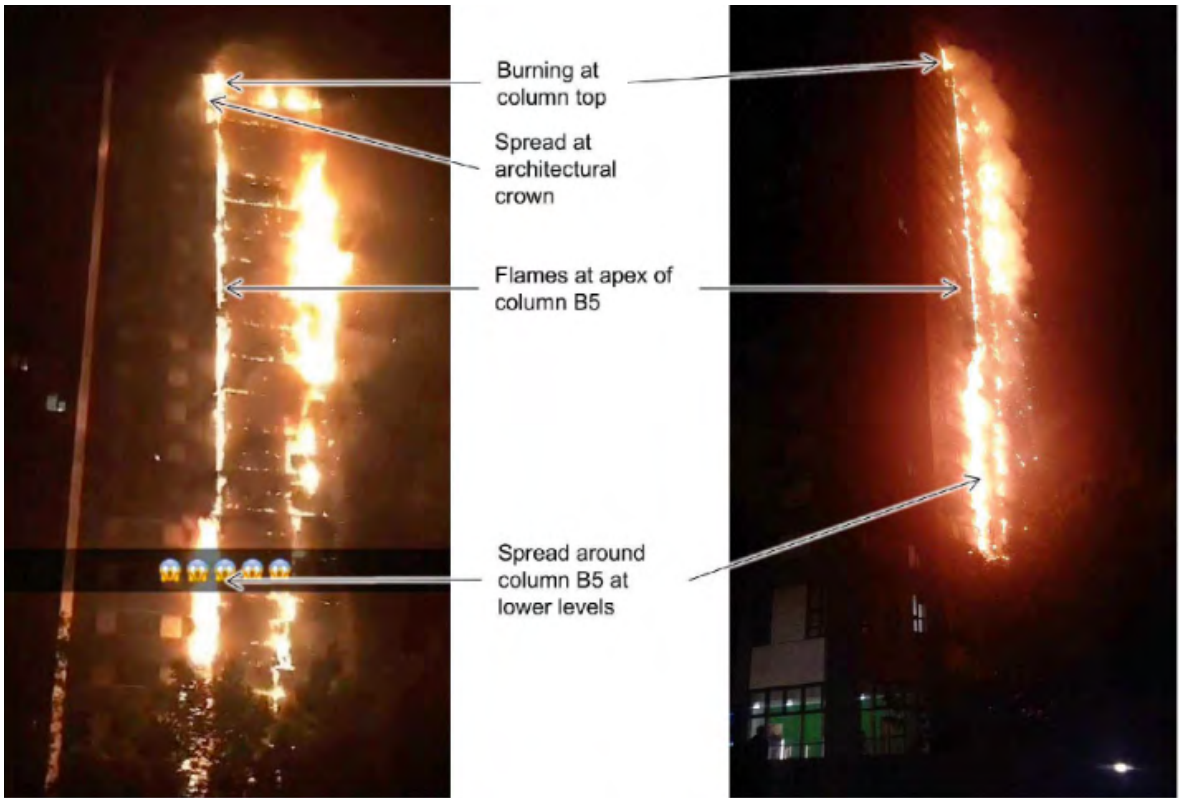

Figure 10.24

10.124 A number of firefighters and other local people gave descriptions of the early spread of fire within the cladding. FFs Murphy and Cornelius witnessed this from directly below Flat 16 as they attempted to apply a covering jet below and around the window of the flat. FF Murphy described what he saw as follows:

> "We saw flames move up the tower between the panelling and they lit up the building reminding me of neon lights being turned on in a vertical line between the panels, with bright white-hot glow of fire then spreading rapidly left and right."[193]

10.125 He also said that he had seen the fire travelling up through the column to the left-hand side of the kitchen of Flat 16.[194]

10.126 FF Cornelius described what he saw in similar terms:

> "It appeared as if the fire was spreading under the panelling and the cladding. It wasn't clear whether it was actually breaching any other compartments at that point. It looked to me as if it was more just under the actual cladding going up the side of the building."

[193] [MET00010820] p. 3.
[194] Murphy Day 38/55/10-25.

He went on to explain that:

> "It wasn't necessarily the actual cladding panels that I could see alight; it was the areas around it initially. As it developed, it seemed that the areas around it or whatever was behind the panels were falling off, sort of melting and dropping down to where me and FF Murphy were standing on the jet."[195]

10.127 Fatima Alves, who had let the first LFB crews into the building on their arrival, described the early stages of the fire on the east facade. She said that there had been "a sudden flash like lightning" which was orange and yellow in colour. The kitchen window of Flat 16 had exploded and its glass shattered. Fatima Alves then saw flames shoot out and up from the top of the space where the window had been. She heard crackling and saw drops of what looked like melting plastic falling on the floor. It was "like it was pieces of paper falling down".[196]

10.128 Tiago Alves, her son, was in the same area as his mother. He described seeing a fire inside behind the kitchen window of Flat 16. He then saw the window frame fall out and the fire "burst out". The window frame looked like it was "melting and bubbling". He watched the fire "come out of the flat and kind of roll under or slightly disappear under the grey cladding. As it did this the cladding caught fire". Tiago Alves saw a "faint flash of light which, sparked and then once alight, sparks started falling".[197]

10.129 Inspector Nicholas Thatcher also provided a vivid description of the intensity of the fire when he first saw the tower as he was approaching by car. That was around 01.26, when he declared a Major Incident.[198] In oral evidence he said:

> "I saw the fire for the first time. And it was the intensity; it was like a jet engine coming out of this window and starting to go up the side and just moving around in straight lines. … It was just like nothing I'd ever seen. The flame came out and went up the building."[199]

3 Conditions in the tower and movement of occupants

The occupants of Grenfell Tower on 14 June 2017

10.130 On the night of 14 June 2017 there were 297[200] people in 129 flats in the tower, including visitors. Seven flats were empty on that night.[201] Sixty-seven of those present were children under the age of 18.[202] Those who were in the tower when the fire began are listed in Annex A.

The detection of fire in Flat 16

10.131 The detection of fire in Flat 16, Behailu Kebede's first call to the LFB, and the immediate actions of Elsa Afeworki, Almaz Kinfu and Behailu Kebede himself have already been described.

195 Murphy Day 38/67/14-68/24.
196 Alves Day 52/119/15-124/7.
197 Tiago Alves first witness statement [IWS00000123] p. 9.
198 Thatcher Day 71 (Mon)/34/1-36/22.
199 Thatcher Day 71 (Mon)/36/18-37/2-3.
200 This figure is the result of the Inquiry's analysis of exit times as shown on CCTV footage together with the witness statements it has received.
201 Flats 24, 61, 63, 93, 101, 114, 185. Sharon Haley from Flat 24 on floor 5 was in Flat 13 on floor 4 when the fire started, and her own flat was empty.
202 This figure does not include Logan Gomes who was delivered stillborn on 14 June 2017 following his mother's escape from the fire.

10.132 It is likely that Behailu Kebede began knocking on the doors of other residents on floor 4 after he had finished his first 999 call.[203] They spoke of being alerted to a fire either by a man who must be Behailu Kebede or by another neighbour. Given that they left their homes within a short period of becoming aware of a fire on their floor, it is understandable that their recollection of the conditions varied.

10.133 Alison Moses lived alone in Flat 11 on floor 4, which faced east and was adjacent to Flat 16. She was still awake when she heard a knock on her front door. Opening it, she spoke to Behailu Kebede but could not smell anything and saw no sign of a fire. Returning to her living room she could smell smoke. Her living room and kitchen windows were open and remained so.[204]

10.134 In Flat 14, Abdulwahab Abdulhamid woke his pregnant wife, Maryam Adam, and told her they had to leave as there was a fire. The couple left with a friend, Amna Mohammed, who was staying with them. Maryam Adam recalled that the door to Flat 16 was open and there was "very little smoke on the landing" (i.e. the lobby). Her husband alerted the residents of Flat 15 and spoke to Mahad Egal who lived in that flat.[205]

10.135 Mahad Egal and his wife Jamie Murray had moved into Flat 15 a few months before the fire. On the night of the fire they were awake when Mahad Egal heard knocking on the front door. He opened it and "a large amount of dense, dark grey smoke came whooshing into the flat", its hallway filling with dense, black smoke. Mahad Egal took swift action, alerting his wife and wetting towels so that the couple and their two young children could leave. Mahad Egal's recollection was that, on leaving their flat, they found the lobby so full of dense black smoke that one could only see people in outline. The door to Flat 16 was open with smoke billowing from it. Mahad Egal saw Behailu Kebede in the lobby near to Flat 16. Jamie Murray remembered a smell of smoke in the hallway of Flat 15 and less smoke in the lobby. The lights were on and there was "light grey smoke hazing throughout". She could see through the smoke. She also saw light grey smoke coming through the open door of Flat 16. The only person she saw at that stage was Abdulwahab Abdulhamid standing by the closed door of Flat 14.[206]

The arrival of the lift at floor 4

10.136 I have already described how Fatima Alves assisted the firefighters to gain access to the tower initially. The tower's CCTV system shows her and her husband, Miguel Alves, outside the main entrance at 00.56.12, having returned from driving visiting relatives back to their hotel. They did not notice any signs of smoke or fire as they approached the main entrance. Once inside, they walked through the ground floor foyer to the lift lobby. One of the two lifts (the south lift) had a CCTV camera in it[207] and Miguel and Fatima Alves are seen on CCTV entering that

[203] The sound of knocking is not audible on the recording of the call nor are there voices in the background indicative of other residents being in the communal area.

[204] Moses first witness statement [IWS00000301] pp. 2-3.

[205] Adam first witness statement [IWS00000128] p. 10. In her first statement, Maryam Adam said her brother was in Flat 14 on the night of the fire. She has confirmed that this was not the case in a supplementary statement: Adam second witness statement [IWS00001204] p. 1.

[206] Egal first witness statement and accompanying exhibit ME1 [IWS00001010] pp. 1-6; Jamie Murray first witness statement and accompanying exhibit JM1 [IWS00001008] pp. 3-4.

[207] MPS report on "External Spread of Fire at Grenfell Tower" (v.4). The camera in question is identified as C18 [MET00012593] p. 89.

lift at 00.56.38.[208] Two men[209] also got into the lift on the ground floor and pressed the button for floor 4.[210]

10.137 The men got out of the lift when it reached floor 4. Fatima Alves said that when the lift doors opened she was able to see into the lobby clearly. Both she and her husband noticed a layer of white or light grey smoke at ceiling height in the area outside the lift doors. No smoke came into the lift when the doors opened and the smoke had no physical effect on either of them. The image below is taken from the camera in the lift. It shows Miguel and Fatima Alves leaving the lift on floor 4 at 00.57.24.[211] In oral evidence both said that the CCTV footage showed more smoke than they remembered. Smoke is indeed visible and does appear to enter the lift when the doors open. The couple did not spend long on floor 4. Miguel Alves immediately realised that there was a fire. Stepping out of the lift, the couple decided that Fatima Alves would leave to collect her husband's mobile telephone from their car while he went to floor 13 to wake their two children. Miguel Alves opened the closed door to the stairwell to allow them to leave floor 4.

Figure 10.25

[208] The clock on this lift camera is 40 seconds fast requiring the time stamped on any CCTV image to be adjusted accordingly.

[209] These men have been identified as John Beadle and Ishmael Boaitey (MPS CCTV schedule at [MET00016072]). John Beadle occupied Flat 13 (Benjamin first witness statement [IWS00000876] p. 2).

[210] Fatima Alves first witness statement [IWS00000443] pp. 1-3 and Day 52/91/3, 93/18-19; Miguel Alves Day 53/10/14-21; CCTV image [INQ00000394].

[211] CCTV image [INQ00000395]. There was also a call to LFB, timed at 00:57:44 from Tunstall Response, a remote monitoring company [LFB00000470]. The caller reported receiving a call "from a fire alarm" at Grenfell Tower. Tunstall had linked an autodialler unit to the smoke venting system so their remote centre would be alerted.

10.138 Miguel and Fatima Alves did not see anyone near the door to the stairwell, but residents had already begun to leave floor 4. CCTV footage shows that Elsa Afeworki had reached the ground floor lobby by 00.56.36. Behailu Kebede overtook Almaz Kinfu on the stairwell, reaching floor 2 by 00.57.59 and the ground floor by 00.58.20. The CCTV footage shows that Almaz Kinfu spent some time on floor 2 by the boxing club.[212] Fatima Alves encountered her there at 00.59.12. Having tried to assist Almaz Kinfu with her suitcase, Fatima Alves continued down the stairs, reaching the ground floor at 00.59.40.[213] By this time, 10 people, the majority of whom lived on floor 4, had left the tower.[214]

10.139 Of the residents of floor 4 who had left before 01.08, Alison Moses (Flat 11 immediately next door to Flat 16) was probably one of the last to go. She closed her front door on leaving and saw David Benjamin in the lobby. He was staying with his partner, Zoe Dainton, who lived in Flat 12. Alison Moses advised them to leave. She could not smell any smoke in the lobby at this time. David Benjamin recalled speaking to Alison Moses after he had heard banging on the front door and then walked into the lobby with Zoe behind him. Alison Moses told him that there was a fire in Flat 16. He saw light white smoke "well above head height" concentrated around Flats 15 and 16. Zoe Dainton remembered seeing Alison Moses in the lobby, but could not see or smell smoke at that time, although she thought she could smell gas. She and David Benjamin returned to Flat 12 and decided to follow the "stay put" advice in the safety notices displayed in the tower. Zoe Dainton said that on her return to Flat 12 she had seen Mahad Egal already outside the tower.[215]

The arrival of firefighters on floor 4

10.140 David Benjamin and Zoe Dainton opened the front door of Flat 12 for the second time. They saw firefighters by the dry rising main in the south-west corner of the lobby near to Flat 13. David Benjamin's impression was that they could not get the riser to work. He noticed that the front door of Flat 16 was shut but there was now more smoke, still white in colour, in the lobby. Zoe Dainton described smelling and seeing a thin layer of smoke, like cigarette smoke, above head height in the communal area. David Benjamin also heard a banging noise, which he assumed was a firefighter kicking down the front door of Flat 16.[216]

Alerting residents on floor 13

10.141 Meanwhile Miguel Alves had run up the stairs to floor 13. They were clear of smoke and he did not hear any noises or feel any movement of air in the stairwell. Miguel Alves did not come across anyone coming down. Having reached his flat, he woke his son Tiago Alves and daughter Ines Alves. While they were preparing to leave, Miguel Alves knocked on the front doors of all his neighbours on floor 13.[217] He estimated that around 10 minutes had elapsed between waking his children and leaving floor 13. There was no smoke in the floor 13 lobby at that time.[218] Notwithstanding the absence of any sign of a fire, those alerted by Miguel Alves took his advice and prepared to leave.[219]

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212 Reading of Flat 16 evidence Day 8/30/3; 8/51/23ff; 8/52/1-17; 8/52/18-25; 8/90/9-96/15; CCTV images [INQ00000015], [INQ00000060], [INQ00000028].

213 Alves Day 52/101/1-24.

214 Annex A. These were Mahad Egal, Jamie Murray and their two children, Elsa Afeworki, Maryam Adam, Abdulwahab Abdulhamid and Amna Mohammed (all from the fourth floor) and two visitors to the tower (Ishmael Boaitey and Jalal Chentite).

215 Moses first witness statement [IWS00000301] pp. 2-3; Benjamin first witness statement [IWS00000876] p. 9; smoke and flame descriptor [INQ00000406]; Zoe Dainton first witness statement [IWS00000806] p. 8.

216 Benjamin first witness statement [IWS00000876] p. 10; Zoe Dainton first witness statement [IWS00000806] p. 9.

217 Only one of the flats on this floor was unoccupied at the time.

218 Miguel Alves [IWS00000538] p. 4; Alves Day 53/13/12-14/14; Tiago Alves first witness statement [IWS00000123] p. 5.

219 Adriana Zymberaj first witness statement [IWS00000878] p. 2; Suarez-Chans first witness statement [IWS00000985] p. 4.

10.142 Before leaving, at around 01.05, Dorinda Suarez-Chans, who lived in Flat 103 on floor 13, decided to alert the Vieiro family, friends of hers who lived in Flat 46 on floor 7. When he got up Jose Vieiro could not see any signs of a fire and could not smell smoke in the flat. Although he was aware of the "stay put" policy, the training he had received at work was to leave at once, if it was safe to do so. Jose Vieiro checked the lobby outside his flat but saw no sign of smoke or fire. He and his wife decided to get dressed.[220]

10.143 Miguel Alves left floor 13 after his children had started to go down the stairs. He left the tower at 01.08.36. At the main entrance, he handed his fob key to WM Dowden. While he was there Miguel Alves heard a noise "like a fan pushing something". It came from a vent above the main entrance. He did not notice any smoke coming out, nor did he feel any movement of air when he was in the lobbies on floors 4 or 13, the stairwell or the ground floor lobby.[221]

10.144 At around 01.10 two flats on floor 4 were still occupied. Following a telephone conversation with Alison Moses, who by that time was outside the building, David Benjamin and Zoe Dainton decided to leave. However, they now found conditions in their lobby were very different. The smoke was so thick and black that it was almost impossible to see, although the lights in the lobby were just about visible. The lobby was hot and the smoke made it difficult to breathe. Zoe Dainton heard "crackling sounds in the communal area; it was like popcorn or a campfire with crackling wood". The couple reached the stairwell door and pushed it open. There were firefighters in the stairwell with hoses. David Benjamin remembered the stairwell door closing behind them.[222]

The smoke control system

10.145 Elizabeth Sobieszczak was still awake in Flat 43 on floor 7 when the first fire appliances arrived outside the tower. Her daughter, Florentyna Sobieszczak, had returned home at about half-past midnight; her husband, Michael Sobieszczak, was already asleep. The fire engines had arrived at about the time that Elizabeth Sobieszczak heard a noise from a ventilation grille on the outside of the building above the main entrance. She had heard a similar noise once before in 2016 when, approaching the main entrance from the outside, she had heard a sound like "a hoover on maximum power". On 14 June she heard that sound again, albeit not as loud as previously, before she saw any smoke. She was clear that the sound had not come from the grille of the smoke ventilation system on the landing by her front door.[223]

10.146 Elizabeth Sobieszczak decided to look out of her front door. The lobby was lit as usual. Elizabeth Sobieszczak could immediately smell smoke. It was "an irritating kind of choking smell". She could not see any smoke nor identify where the smell was coming from. Elizabeth Sobieszczak then went back inside her flat and spoke to her daughter. She did not recall meeting any neighbours on that occasion.

10.147 Betty Kasote lived in Flat 41 on the same floor. In her Inquiry witness statement she explained how, unable to sleep, she had heard a faint sound, which she thought was an alarm in the building. Betty Kasote looked at her clock, which said 12.45. She then heard noises outside and saw firefighters outside the tower. Betty Kasote got dressed so she could leave to find out what was going on. In the lobby Betty Kasote met Elizabeth Sobieszczak. Although she could

220 Jose Vieiro first witness statement [IWS00001122] pp. 1-3 and Day 60/123/15-126/12.
221 Miguel Alves Day 53/23/9ff, 53/17/9-21/2, 53/29/3-25, 53/13/3-3.
222 Benjamin first witness statement [IWS00000876] p. 10; Zoe Dainton first witness statement [IWS00000806] pp. 9-10.
223 Elizabeth Sobieszczak first witness statement [IWS00001105] pp. 2-3; Elizabeth Sobieszczak Day 69/10/14-17, 69/28/3-29/19, 69/35/17-36/22.

not see any smoke, she noticed "a faint smell of smoke". She recalled Elizabeth Sobieszczak telling her that "she had come out as she could hear a noise in her flat that sounded like a big fan turning on". Betty Kasote returned to her flat.[224]

10.148 Mohammed (Saber) Neda, his wife Flora (Shakila) Neda and their son Shekeb (Farhad) Neda lived in Flat 205 on floor 23. On 14 June 2017, the family had returned home at 12.52. Farhad Neda said that he did not hear the noise of fans or vents or smell anything when they were in the ground floor lobby. The family took the south lift up to their flat. On reaching their floor, they noticed that the vents of the extractor fans located on the north and south walls of the lobby[225] were making a noise, something which had happened before. Farhad Neda described the sound:

> "as if it was coming from the floors downstairs, just all shooting up towards the 23rd floor. And then every few minutes you could hear the fans sort of closing. So it had like - I think it was a mechanical sound of the fans opening and closing. But it didn't happen too much, it was like every 5 minutes, it would happen once."

The sound was as loud as a vacuum cleaner – loud enough to be heard clearly in the living room of the flat.[226]

10.149 At 01.10, Farhad Neda telephoned the TMO's out of hours service, operated by Pinnacle PSG.[227] He reported that "in the lift area in the communal area the air vents are making lots of noise and there's a kind of electrical burning smell". The call responder told Farhad Neda that the out of hours service had received a call about fire alarms and that the fire brigade was on its way.[228]

10.150 Farhad Neda was certain that the electrical smell he had described had been coming from the vents in the lobby on floor 23 and that it had grown stronger, to the extent that within five or ten minutes of the call to Pinnacle it had reached Flat 205. He said:

> "So it began off quite light and it started getting stronger and stronger. But what I clearly remember is that it was definitely coming from the vents."[229]

At that time he did not see any smoke coming from the vents.[230] He had never experienced this smell before. During the call, Farhad Neda also noticed that the lift closest to Flat 203 (the south lift which contained the camera) had stopped working.[231]

Analysis of fire on individual floors

10.151 As I have already explained, the fire broke out of Flat 16 into the cladding at around 01.09. The speed at which it developed up the outside of the building in the following 20 minutes caused conditions at different floors within the tower to differ at any one time, in some cases quite markedly. For that reason I think it is likely to be most helpful if I to refer to the events that occurred within the building between 01.09 and 01.30 by reference to individual floors.

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224 Kasote first witness statement [IWS00000768] pp. 6-7.
225 The typical layout of floors in Grenfell Tower from floor 4 up is shown in [MET00012593] p. 12. Flat 205 was in the north-west corner. Smoke vents were located on the north side of the lobby at the divide between Flats 205 and 206.
226 Neda Day 61/13/13-15/6.
227 The TMO has confirmed that Pinnacle PSG operated the out of hours service [PIN00000098].
228 Neda Day 61/25/22-61/26/25.
229 Neda Day 61/28/4-6.
230 Neda Day 61/28/15-17.
231 Neda Day 61/29/16-22.

The fire reaches floor 5

10.152 Hiwot Dagnachew lived in Flat 26. That night she had fallen asleep on the sofa; her partner, Wintom Temesgen, and children were already in bed. Woken by the sound of an alarm, Hiwot Dagnachew could smell smoke. There was no smoke in the living room and she could see nothing outside the living room windows. On opening the kitchen door, she saw that her kitchen was full of dark grey smoke. She could see through the smoke but could not tell where it was coming from. Her kitchen window had two casements and Hiwot Dagnachew confirmed that the smaller of these (located below the extractor fan fixed in the top right-hand corner of the window) had been left open. Within seconds fire came in through the window. Hiwot Dagnachew's recollection was that the flames covered the whole window, "instantaneously" flowing up to the ceiling. The kitchen blinds caught fire at once and dropped to the floor.[232]

10.153 Hiwot Dagnachew shut the kitchen door and woke up her family. Wintom Temesgen tried to see if he could deal with the fire. He found the kitchen full of smoke and recalled that:

> "the whole window area of the kitchen and the top part of the kitchen blinds [were] engulfed in flames, the bottom of the blinds were on fire on the floor. The kitchen window was open. The fire was an orange colour."

He shut the kitchen door. Hiwot Dagnachew estimated that the family left within a minute of her discovering the fire. They closed their front door, which she said had a working self-closing device. At that time, there was no smoke in the hallway of the flat. No one was in the lobby; the lights were on and the temperature felt normal. The stairwell door was shut and they had to open it. Hiwot Dagnachew assumed that it closed behind them because it was a door that shut automatically.[233]

Contact between the occupants of Flat 26 and FF O'Beirne

10.154 The stairwell was free of smoke when Hiwot Dagnachew, Wintom Temesgen and their two children entered it. They came across FF O'Beirne in the stairwell one floor down. Having told him of a fire in their kitchen they took FF O'Beirne back to Flat 26 at his request. The conditions on floor 5 had not changed. They were unable to open their front door, having rushed out without keys. While at the door, Hiwot Dagnachew did not see any smoke emerging around its frame or through the letterbox. Concerned for their children, she and Wintom Temesgen left FF O'Beirne outside Flat 26 and descended the stairs again. Although Hiwot Dagnachew said that she had little recollection of conditions in the stairwell on this second journey, Wintom Temesgen's recollection was that there were no signs of smoke or fire.[234]

Firefighters return to Flat 26

10.155 Three of the flats on floor 5 were unoccupied by 01.20 when firefighters returned. Residents remained in Flats 22, 23 and 25.

10.156 Gitiara Pahlavani was home alone in Flat 22.[235] She decided to leave the flat when, from an east-facing window, she saw "orange flames and dark smoke being blown down from above and towards the window …". She found the lobby on floor 5 to be dark and filled with strong-

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232 Dagnachew first witness statement [IWS00000845] p. 6 and Day 55/65/2-72/12. A photograph of the type of kitchen window fitted in Flat 26 is found in Dr Barbara Lane's report dated 12 April 2018 [BLAR00000003] p. 23.

233 Dagnachew first witness statement [IWS00000845] p. 7 and Day 55/76/17-79/11; Temesgen first witness statement [IWS00000382] p. 5.

234 Dagnachew first witness statement [IWS00000845] p. 8 and Day 55/80/16-55/87/2; Temesgen first witness statement [IWS00000382] p. 6.

235 Pahlavani first witness statement [IWS00000929] p. 7.

smelling smoke that made her cough. Visibility was poor, but she could see the shadows of what looked like firefighters. She then closed her front door and remained in her flat for a few minutes. No one knocked on the door and she again decided to leave. This time, she reached the already open stairwell door. There was less smoke in the stairwell. It was light grey in colour and thinned out as Gitiara Pahlavani descended.[236]

10.157 In Flat 25, Munira Mahmud woke on hearing that her father-in-law, Ahmed Abd El Rasoul, was up. Her husband and two children (a son aged five and a daughter aged one and a half years) were asleep. Munira Mahmud got up concerned because Ahmed Abd El Rasoul is elderly and in poor health. She then heard people outside shouting: "Get out! Fire!". The bedroom and living room windows were open that night. From her bedroom window, which faced north, she saw orange-coloured flames reflected in the glass of the Kensington Aldridge Academy, although she could not see or smell smoke. Munira Mahmud told her husband, Mohammed Rasoul. He explained that they did not need to evacuate the flat as no one had told them to do so. At this point, no one had knocked on their front door and there was no smoke in the flat or flames outside it.[237]

10.158 Still concerned, Munira Mahmud opened the front door with her husband behind her. She estimated that this was some three minutes after she had first woken up. There was dark smoke in the lobby. The lights were on, but it felt hotter than normal; it was still possible to see through the smoke. The front doors of other flats were closed. Munira Mahmud saw two firefighters wearing masks in the lobby, one with a hose and the other banging on flat doors telling people to leave. This firefighter told them they had two seconds to leave and that there was no time even for Munira Mahmud to put her daughter in a buggy. Within less than a minute she was ready to leave with her children. There was no smoke coming into the flat when they left. The smoke in the lobby was darker and getting thicker, but less so towards the floor. Munira Mahmud saw no other residents in the lobby. The stairwell door was open. This door was not one that would close automatically, although it was usually shut.[238]

10.159 Mohammed Rasoul thought that it had been between 01.15 and 01.30 when his wife spoke to him. He was already aware of an unusual but strong burning smell and a reflection in the windows of the Kensington Aldridge Academy. He followed his wife to their front door from where he could see dark grey smoke emerging from the sides and bottom of the closed door to Flat 26. Within 20 seconds, two or three firefighters wearing masks and carrying hoses arrived in the lobby. One told Mohammed Rasoul to get out and not to take anything. The family moved quickly to leave. Munira Mahmud went ahead with their children but Mohammed Rasoul was slower as he had to help his father. He recalled that he had slammed shut the front door of the flat on leaving.[239] According to both Mohammed Rasoul and his wife, that door lacked a self-closer.[240]

10.160 Three firefighters say they had contact with the family in Flat 25. FF Abell said that he had advised a family of four who had emerged from the flat to the left of the "fire flat" (i.e. Flat 26) to leave. It was a decision he took on the spur of the moment. The family, he said:

> "looked very willing to leave. They wanted to get out, and they were more or less coming out the door, so I thought I'll just -- I'd let them, make sure they got out."

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236 Pahlavani first witness statement [IWS00000929] pp. 7-8.
237 Mahmud first witness statement [IWS00000776] pp. 1, 4-5; Mahmud Day 54/77/3-23, 84/3-17, 90/15-92/24; Rasoul first witness statement [IWS00000670] p. 2.
238 Mahmud first witness statement [IWS00000776] pp. 5-6; Mahmud Day 54/84/20-85/5, 93/11-14, 102/7-103/11.
239 Rasoul first witness statement [IWS00000670] pp. 4-6.
240 Rasoul first witness statement [IWS00000670] p. 6; Mahmud Day 54/81/2-15.

FFs Dorgu and Hippel then assisted them.[241] FF Dorgu said he made it fairly clear that they could not use a pram; they had to move quickly.[242] FF Hippel said that he spoke to a man from what must have been Flat 25 and:

> "told him he needed to get out, and he said his wife was in there so I said he needed to go and grab his wife and leave."[243]

10.161 It is likely that Gitiara Pahlavani left floor 5 before the family from Flat 25. In Annex A she is recorded as having left the tower before Munira Mahmud, who was descending the stairs with two young children. Given that the firefighters had not entered Flat 26, it is likely that the lobby on floor 5 was less smoke-filled than Gitiara Pahlavani recalled and that the evidence of Mohammed Rasoul and Munira Mahmud is more reliable.

10.162 When he was asked if firefighters had knocked on doors on floor 5, FF Dorgu said he was "pretty sure" they had knocked on all of them, adding "Tom [Abell] was with me [and] Wayne Archer. They did that before they set in".[244] That is inconsistent with the evidence of FF Abell, but on balance I think the evidence of FF Dorgu, whose recollection appeared in general to be better, is more reliable. Rebin Sabir and his friend Milad Kareem were in Flat 23 on the night. Their recollection is that, when they had first opened the front door, there had been thick black smoke in the lobby, which made visibility very poor. They did not suggest that anyone had knocked on their door before that. They were eventually evacuated at around 2.20 through a window. That neither of them recalled having heard knocking might suggest that FF Dorgu's recollection is mistaken, but the fact that they did not hear anything does not necessarily mean that the firefighters did not make an attempt to rouse them.

The fire reaches floor 6

10.163 Daniel Griffin lived alone in Flat 31 on floor 6. At just before 01.00 he was woken by what he described as "a fizzing and a bang". He heard the sound of sirens. From his bedroom window, which faced east, Daniel Griffin saw not only a fire engine and firefighters below but also "yellow flames and smoke coming up towards me from the exterior of the building below me and to my left". The flames had reached the floor immediately below him. He decided to leave. Closing the bedroom window, he dressed and left the flat pulling the front door closed. The lights were on in the lobby and he noticed "puffs of light grey or greyish-white smoke" coming through the grille on a "riser" located on the south wall of the lobby, which was part of the smoke extraction system. Daniel Griffin took the lift down to the ground floor to leave the tower.[245]

10.164 That night, Ramiro Urbano and Claudia Montes were staying with Oscar Millan Gonzalez, the tenant of Flat 36 on floor 6. Oscar Millan Gonzalez was woken up by the sound of the smoke alarm in the kitchen. He saw "yellowish flames" coming through the open kitchen window from below. Ramiro Urbano joined Oscar Millan Gonzalez in trying to tackle the flames. He recalled that they were orange in colour. Ramiro Urbano saw the PVC around the window melting and "toxic-smelling smoke" beginning to come through the window. As their efforts were not succeeding, Oscar Millan Gonzalez decided they should all leave. Ramiro Urbano recalled that at the point they left, "the whole kitchen window was aflame and the wind was

241 Abell Day 14/61/6-9, 62/13-16, 63/8-13.
242 Dorgu Day 19/115/3-116/15.
243 Hippel Day 26/40/21-41/17.
244 Dorgu Day 19/116/2-9.
245 Griffin first witness statement [IWS00000173] pp. 1, 6-8, 13; MPS report on "External Spread of Fire at Grenfell Tower" (v.4) [MET00012593] p. 12. For a photograph of the grille located on the south-facing wall of floor 6 taken after the fire: [BLA00002514].

blowing flames into the kitchen. You could hear a cracking noise as the PVC melted". Claudia Montes did not go into the kitchen, but from the hallway she was able to see yellow flames on the right side of the kitchen window. She also noticed white smoke in the hallway.[246]

10.165 When the group left the flat, they saw firefighters in the lobby. Ramiro Urbano recalled that Oscar Millan Gonzalez told a firefighter, probably FF O'Beirne, that fire was coming "into our kitchen from downstairs". Claudia Montes recalled that the firefighters were directing people towards the open stairwell door. She remembered that there was "a very little bit of smoke" in the lobby. She noticed a similar level of smoke in the stairwell as they all descended, which she described as "very light and clear white". Oscar Millan Gonzalez and Ramiro Urbano's recollection was that the stairway was clear of smoke. It is not clear from the accounts of these three witnesses if the front door to Flat 36 was closed when they left, although Oscar Millan Gonzalez said that it was not a self-closing door.[247]

The fire reaches floor 7

10.166 There was a CCTV camera positioned in the lobby on floor 7, the only such camera on any residential floor. This faced in the direction of the north lift and gave a view of the front doors of Flats 44 and 45.[248] Although the footage available from this camera is not continuous, it is useful in understanding the sequence of events at about this time.

10.167 Jose and Carmen Vieiro lived in Flat 46. Their youngest daughter Vanessa Vieiro was still living with them in 2017, but was away on the night of the fire.[249] Having been told of a fire by Dorinda Suarez-Chans, Jose Vieiro opened the front door, but found nothing untoward in the lobby and then got dressed. Jose Vieiro then went into the living room, the two windows of which faced east. His recollection was that some of the windows were open that night. He looked out from the window closest to the kitchen and saw thick black smoke "moving upwards from below the window" and orange sparks below the kitchen window. He also noticed "the strong smell of plastic burning". There was no smoke or sparks or smell inside the flat.[250]

10.168 Jose Vieiro opened his front door for a second time. His wife was with him. He could hear some of his neighbours speaking. He confirmed that he is the person in the striped shirt shown in a CCTV still timed at 01.14.10. Although this is the first time that he is seen on the CCTV footage, it appears to show him in the lobby on this second occasion. The image indicates that Jose Vieiro moved out further into the lobby than he recalled. It confirms his recollection that at this time there was no smoke in the lobby. No one else can be seen in the image, which also shows the closed doors of Flats 44 and 45.[251] The CCTV recording shows Jose Vieiro walking back towards his flat.

10.169 The neighbours whom Jose Vieiro recalled overhearing are likely to have been Betty Kasote from Flat 41 and Elizabeth and Florentyna Sobieszczak from Flat 43. None of them appears on the CCTV footage at this point.

10.170 On returning to Flat 41, Betty Kasote had changed into a dress. Looking east from her kitchen or living room window she saw:

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246 Millan Gonzalez first witness statement [IWS00001234] pp. 4-5; Ramiro Urbano first witness statement [IWS00000495] p. 5; Montes [IWS00001229] pp. 2-3.

247 Millan Gonzalez first witness statement [IWS00001234] p. 5; Ramiro Urbano first witness statement [IWS00000496] p. 6; Montes [IWS00001229] pp. 2-3.

248 MPS report on "External Spread of Fire at Grenfell Tower" (v.4). The camera in question is identified as C15 [MET00012593] p. 94.

249 Vanessa Vieiro first witness statement [IWS00000874] p. 1; Jose Vieiro first witness statement [IWS00001122] pp. 1-2.

250 Jose Vieiro Day 60/126/11-128/3.

251 Jose Vieiro first witness statement [IWS00001122] p. 3; Jose Vieiro Day 60/128/4, 60/135/15-136/7; CCTV image [INQ00000461].

> "a very large fire coming around the corner of the building towards the far end of my living room" … The flames were huge and burning upwards. They were a very deep orange … There was very dark black smoke billowing away from the flames."

Betty Kasote quickly left her flat. Her written account records that she checked her watch which said 01.10.[252]

10.171 When she returned to her flat, Elizabeth Sobieszczak spoke to her daughter Florentyna Sobieszczak. Elizabeth Sobieszczak's recollection was that together they had looked out from a bedroom window facing south and had noticed first white smoke and then black smoke. They decided to go to the lobby where they encountered Betty Kasote. At that time, Elizabeth Sobieszczak noticed that there was some smoke in the lobby ("it was like coming slightly foggy"). She recalled that Betty Kasote had told them that there was a lot of smoke in her own flat. Florentyna Sobieszczak then went to Flat 41 with Betty Kasote.[253] Florentyna Sobieszczak found Flat 41 to be full of "heavy white smoke", thick enough to make her cover her face. From the kitchen window, she could see flames to the left side level with the window and travelling upward. Florentyna Sobieszczak decided that they needed to leave the building.[254]

10.172 On returning to his flat, Jose Vieiro walked towards the kitchen. The first thing he saw was the extractor fan located in the top right-hand corner of the kitchen window burning. "It gave in and it was hanging by the electric wire that support it", he said. Flames, bright orange in colour, came through the resulting gap setting fire to the kitchen curtains. Jose Vieiro pulled them down and stamped out the flames. Fire then began to come through the left side of the window, "more towards the top than the bottom". Suddenly, the left-hand side of the kitchen window fell inwards leaving the right-hand side in place. The entire window frame, including the sill, was melting. The fire was concentrated around the window; Jose Vieiro saw nothing burning inside the kitchen. Smoke, grey-black in colour, began to enter the kitchen. It smelt of plastic. Acknowledging that timing is difficult, Jose Vieiro estimated that he spent no more than two minutes in the kitchen before closing the door. He and his wife left the flat and he locked his front door, which did not have a self-closing mechanism. There were no signs of smoke in the lobby at that time.[255]

10.173 The CCTV footage shows Jose Vieiro and his wife walking towards the lift holding clothes over their mouths at 01.21.50. There is no visible smoke on the footage.

10.174 In her written account, Betty Kasote recalled that on leaving her flat at 01.10 she began to knock and ring on the doors of other flats. The CCTV footage shows her in the lobby at 1.20.16.[256] It is likely that she alerted her neighbours after Florentyna Sobieszczak had gone into Flat 41, because that is more consistent with the time at which the Vieiros left Flat 46 and with Betty Kasote's account that, before she reached their flat, Jose and Carmen Vieiro opened their door and "smoke started to pour out from the ceiling of their flat".[257]

Firefighters arrive on floor 7

10.175 Having seen smoke emerging from Flat 46, Betty Kasote opened the stairwell door to leave. She saw a firefighter coming up stairs, who told her to get out, as did a second firefighter further down.[258]

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252 Kasote first witness statement [IWS00000768] pp. 7-8.
253 Elizabeth Sobieszczak first witness statement [IWS00001105] pp. 4-5; Elizabeth Sobieszczak Day 69/21/18-24.
254 Florentyna Sobieszczak first witness statement [IWS00000831] p. 2.
255 Vieiro Day 60/129/9-134/16.
256 [INQ00010829]. The time on the CCTV still is recorded as 01.20.56. It has been adjusted by 40 seconds to reflect real time.
257 Betty Kasote first witness statement [IWS00000768] p. 7.
258 Kasote first witness statement [IWS00000768] p. 8.

10.176 Jose Vieiro's evidence was that a single firefighter (probably FF O'Beirne) had entered the lobby on floor 7 as he and his wife were walking towards the stairwell. The firefighter asked to check Flat 46. Unlocking his front door, Jose Vieiro followed the firefighter into the kitchen. Bright orange flames and black smoke outside the kitchen window were now reaching up to the higher floors. The whole of the plastic window frame had melted; the pane of glass on the right of the window was still in place but the whole window surround was aflame. Fire was beginning to burn the sliding doors between the kitchen and the living room. Smoke was gathering at ceiling level. The kitchen temperature was "a lot hotter than it had been before". Jose Vieiro's recollection was that the firefighter had said words to the effect of "there is nothing we can do with this" and told them they had to leave. Jose Vieiro believed the firefighter had then closed the kitchen door.[259]

10.177 Jose Vieiro left with the firefighter, but returned to collect his mobile telephone and glasses. On entering he was struck by the smell which he described as "pungent and particularly acrid" and stronger than before. There was smoke in the hallway. The conditions made his eyes hurt. He walked no more than two paces into the hallway of Flat 46 before leaving again to join his wife by the lifts. He did not see the firefighter at that time. There was no smoke outside Flat 46 but some between the lifts and the stairwell door (on the opposite side of the lobby). The couple opened the stairwell door and took the stairs. Jose Vieiro's last appearance on the floor 7 CCTV footage is timed at 01.21.38.[260] An image taken at that time shows no smoke in the lobby area and the open door of Flat 45.[261]

10.178 The occupants of Flat 45, Hannah West, her then partner Michael Paramasavian and Hannah West's five-year-old daughter were still in the flat at this time. They left shortly after. Neither Michael Paramasavian nor Hannah West describes seeing a firefighter on floor 7, although Hannah West recalls hearing a male voice saying: "Get out! Get out!" as they left the flat. Michael Paramasavian recalled that the door of Flat 45 did not close automatically.[262]

10.179 Although her parents do not mention it in their written accounts, Florentyna Sobieszczak records that, as they were getting ready to leave Flat 43, a firefighter knocked on their front door to tell them to leave.[263] While recalling the smell of smoke in the lobby, no member of the Sobieszczak family says that there was a significant amount of smoke there at that point. When they left, Michael Sobieszczak shut all the windows (including the window vents) and locked the bedroom doors. Their front door did not have a self-closing mechanism, but did lock automatically. Both Florentyna and Elizabeth Sobieszczak recall that the former banged on the door of Flat 42 as they were leaving.[264]

10.180 Hermine Harris lived in Flat 42. Her partner, Jean Lavine, was staying at her home on the night of the fire. Hermine Harris recalled that Florentyna Sobieszczak (whom she identifies as Florence) knocked on her door and warned her to leave. Florentyna Sobieszczak was with a fireman. Hermine Harris and Jean Lavine left quickly. The front door of Flat 42 had a self-closing mechanism. Hermine Harris described the lobby as clear and free of smoke. They pushed open the stairwell door and found the stairwell to be well lit and free of smoke.[265]

259 Jose Vieiro first witness statement [IWS00001122] pp. 3-4 and Day 60/136/9-138/23.
260 [INQ00010832]. The time on the CCTV still is recorded as 01.22.18. It has been adjusted by 40 seconds to reflect the correct time.
261 Jose Vieiro first witness statement [IWS00001122] p. 5 and Day 60/138/18-60/142/10.
262 West first witness statement [IWS00000021] p. 3; Paramasavian first witness statement [IWS00001003] p. 3.
263 Florentyna Sobieszczak [IWS00000831] p. 3.
264 Florentyna Sobieszczak first witness statement [IWS00000831] p. 3; Michael Sobieszczak first witness statement [IWS00001111] p. 2; Elizabeth Sobieszczak first witness statement [IWS00001105] p. 5; Elizabeth Sobieszczak Day 69/23/17-27/3.
265 Harris first witness statement [IWS00000087] p. 3.

10.181 FF O'Beirne said he came across a family on floor 7 coming out of Flat 46, who told him their flat on was on fire. There was a little smoke in the lobby but he had no difficulty with visibility and could see the flat door, which was open as he approached it. FF O'Beirne confirmed he was the firefighter who appears in a still from the camera on Floor 7 timed at 01.21.57 (with an adjusted time of 01.21.17). He could not remember clearly whether he had ushered the family to the stairs. He did recall asking them as they were on the half-landing between floors 6 and 7 if there was anyone else in the flat. The woman started to come back, but he told her to keep going down. He may then have gone back to the door of the flat but did not go inside because of the amount of smoke in the flat, which was dark in colour. FF O'Beirne said he was the last person to touch the door of Flat 46. He could not remember if he had closed it or left it ajar. He did not alert other residents of floor 7, but he did radio WM Dowden.[266]

10.182 The CCTV footage, which it must be remembered is not continuous, is more supportive of Jose Vieiro's account. It shows that at 01.21.17, he and FF O'Beirne apparently went towards Flat 46.[267] Jose Vieiro is not seen again until 01.21.38.[268] A firefighter wearing BA equipment can later be seen approaching Flat 46 at 01.24.55[269] and appearing to leave it at 01.25.01.[270] It is possible that this firefighter was FF Hippel, but his evidence is that he did not go to floor 7.[271] In any event, the firefighter seen at 01.25 cannot have been the one described by Florentyna Sobieszczak and Hermine Harris. It is likely that Florentyna Sobieszczak had left floor 7 by that time. She left the tower at 01.26.24 hours, having remained on the ground floor for a time directing other occupants towards the exits.[272]

The fire reaches floor 8

10.183 At around 01.10 Shantilal Patel in Flat 56 smelt something burning. Looking out of his living room window he saw a fire appliance. He woke his wife, Kiran Patel, and son, Chiraag Patel. As Shantilal Patel walked back into the living room, he saw flames outside the windows. All the windows in the flat were closed that night. Going to the kitchen window, Shantilal Patel noticed light grey smoke coming through the extractor fan in the window. Flames suddenly shot up outside the kitchen window and heavier smoke began to enter through the fan. At this point Shantilal Patel realised that the fire was just underneath his flat.[273]

10.184 Shantilal Patel saw the extractor fan in the kitchen window fall into the kitchen. The plastic housing had melted. Thick black smoke began to pour through the resulting gap in the window "as if shooting from a hose". It filled the kitchen quickly. The situation was frightening. Both smoke alarms had gone off and as the family hurried to leave their home, the lights in the flat went out. Shantilal Patel moved back to shut his kitchen and living room doors. He noticed that flames were covering the whole of the kitchen window area. When he left the flat, he saw hazy grey smoke in the lobby. It was still possible to see and he shut his front door to stop smoke entering the lobby from his flat. There were neighbours from other flats in the lobby.[274]

266 O'Beirne first witness statement [MET000083321] p. 14 and Day 14/186/17-194/10.
267 [INQ00000173]. The time on the CCTV still is recorded as 01.21.57. All the times recorded by this camera have been adjusted by 40 seconds to reflect the correct time.
268 [INQ00010832]. The time on the CCTV still is recorded as 01.22.18.
269 [INQ00000467]. The time on the CCTV still is recorded as 01.25.35.
270 [INQ00010835]. The time on the CCTV still is recorded as 01.25.41.
271 ORR v 0.7 p. 47; Hippel Day 26/50/12-52/7.
272 Florentyna Sobieszczak first witness statement [IWS00000831] p. 4; Elizabeth Sobieszczak [IWS00001105] p. 6 and Day 69/33/12, 35/8; CCTV image [INQ00000435].
273 Shantilal Patel first witness statement [IWS00000798] pp. 2-3.
274 Shantilal Patel first witness statement [IWS00000798] p. 3.

10.185 Having been alerted by his father, Chiraag Patel realised that there was enough light smoke in his bedroom to obscure vision. More smoke was travelling along the hallway. Leaving the bedroom he saw a bright red light through the opaque glass of the closed kitchen door. Smoke began to fill the flat, which became darker. As he was standing at the open front door waiting for his father, Chiraag Patel could feel smoke blowing into his face. It burnt his eyes and throat. He described the smoke in the lobby as coming from Flat 56 and said that once they had closed the front door it had stopped being a problem.[275]

10.186 Khalid Ahmed lived with his aunt, Amina Mohamed, in Flat 51. Alerted by the smell of what he thought might be something burning, he saw signs of a fire lower down the tower. At that time, Khalid Ahmed was unaware of what was happening inside Flat 56. He woke his aunt and they decided to leave. There was no smoke in their flat or in the lobby when he stepped into it. Starting with Flat 52 he began knocking on the front doors of the other flats on floor 8.[276] He recalled seeing a man come out of Flat 56 with his mouth covered. There was so much smoke spilling out of the flat that it filled the lobby within 30 seconds. The smoke was "very dark and greyish". It made it difficult to breathe and everyone was coughing. Amina Mohamed described the smoke that poured out of Flat 56 as "not very thick but it was black and there was a lot of it".[277]

10.187 William Thompson, of Flat 52 on floor 8, explained in his witness statement that, when he first opened the front door to Khalid Ahmed, there was no smoke in the lobby and he could hear no alarms. Khalid Ahmed told him that there was a fire and asked if they should evacuate. William Thompson reminded him of the "stay put" advice posted by the lifts. Within five minutes, he got up to answer the door again to Khalid Ahmed. This time he saw "black smoke drifting into the landing from the lift shaft". He continued:

> "I am pretty sure it was coming out of the bottom of the lift door and also coming out of the bottom of the right hand side of that door."

The lift in question was the north lift closest to Flat 56. The smoke smelt acrid. William Thompson decided that he, his partner and their daughter should leave. They closed the front door when leaving. The lobby was filling with black smoke.[278]

10.188 When Makrem Harzi and Rawda Said opened the front door of Flat 54 to Khalid Ahmed, they saw what Rawda Said described as "faint smoke". Makrem Harzi described it as grey or white in colour. They decided to leave with their young child. Both then recall seeing thick black smoke stream out from Flat 56 when the front door was opened.[279]

10.189 It is likely that when Khalid Ahmed first began to alert his neighbours there was no smoke in the lobby on floor 8. That remained the position until the door of Flat 56 was opened. The smoke that emerged at that time was black in colour and sufficient to fill at least the northern half of the lobby.

10.190 On leaving floor 7, FF O'Beirne went to floor 8. He found that there "was quite heavy smoke in the [floor 8] lift lobby". From his position he could not see the lift doors. He left immediately and went to floor 9. FF O'Beirne did not try to identify the source of the smoke he saw on floor 8. He thought that he had not sent a radio message about conditions on floor 8. FF O'Beirne did not describe seeing any other person on floor 8.[280]

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275 Chiraag Patel first witness statement [IWS00000855] pp. 2-3.
276 By this time, the occupants of Flats 53 and 55 had exited the tower (Annex A).
277 Khalid Ahmed first witness statement [IWS00000859] pp. 1-3; Amina Mohamed first witness statement [IWS00000857] pp. 2-3.
278 William Thompson first witness statement [IWS00000158] pp. 6-7, 12.
279 Makrem Harzi first witness statement [IWS00000952] pp. 6-7; Rawda Said first witness statement [IWS00000920] pp. 4-5.
280 O'Beirne witness statement [MET000083321] p. 14 and Day 14/196/4-198/14.

The fire reaches floor 9

10.191 Salah Chebiouni, Hanan Wahabi and their two children lived in Flat 66, which had three bedrooms. The family was home on the night of the fire. At some time, which he can only put as after 12.38, Salah Chebiouni woke up to use the bathroom. He could smell "a strong plastic burning smell" in the hallway. It was stronger when he checked the kitchen. Salah Chebiouni then heard crackling. He saw flames outside the kitchen window. He opened that window and straight away smoke came in and he felt an immense heat. He closed the window. He then looked out of the living room window and saw flames below his flat. He woke his wife and son, Zakariya Chebiouni. When Zakariya Chebiouni went into the kitchen he could see smoke coming through the extractor fan in the kitchen window. His recollection was that the kitchen window was closed.[281]

10.192 In her bedroom, Hanan Wahabi woke up to what she described as a "very strong, immediate smell". Her bedroom door was open and she described the smell as "like plastic burning". Hanan Wahabi candidly admitted that at that point panic had kicked in. She ran into the hallway and noticed white smoke and ash coming into it from the living room. She was still smelling plastic. The smoke was:

> "literally like a cloud just above, like the whole ceiling … I would say 30 centimetres from the ceiling down, I estimate. But the ash was coming down lower, so you could see."

10.193 Once Hanan Wahabi reached the living room, she could see small particles of ash blowing in from the only living room window left open. That was the window closest to the kitchen. She described the heat in the living room as similar to that which you feel when you take a cake out of the oven. She could see through the smoke in the living room. Both Hanan Wahabi and Zakariya Chebiouni recall going to the living room window. They both saw flames shoot up suddenly past the window and remembered feeling scared. Hanan Wahabi closed the window.[282]

10.194 Zakariya Chebiouni insisted on leaving the flat with his sister. He checked the lobby and stairwell. In his written account, he explained that he had not told his parents that he had seen white smoke in the lobby and stairwell. He then carried his sister down the stairs. The smoke got worse as they went down and although Zakariya Chebiouni does not remember having difficulty breathing he was "spitting black stuff" when he got out.[283]

10.195 Meanwhile Hanan Wahabi was moving between her living room and kitchen. She saw that ash and smoke, white-grey in colour, were coming in either through the right-hand window, which was ajar, or through the extractor fan above it. On her last visit to the kitchen she closed that window. The level of smoke in the living room and kitchen was increasing and the smell of plastic burning was getting stronger, but she could not see any flames outside the kitchen window. The temperature in the kitchen was still like an oven.[284]

10.196 Salah Chebiouni and Hanan Wahabi then left Flat 66 shutting their front door. It did not have a functioning door closer and so did not shut automatically. A smoke alarm went off just as they were about to leave. Hanan Wahabi said that there had been two smoke alarms in the property, one in the hallway and one in the kitchen, both of which were easily triggered. She was unsure which alarm had been triggered on this occasion. At that time there was smoke and ash all around in both the living room and the kitchen and it was beginning to move into

[281] Salah Chebiouni first witness statement [IWS00000945] p. 7; Zakariya Chebiouni first witness statement [IWS00001076] p. 4.
[282] Hanan Wahabi first witness statement [IWS00000074] pp. 11-12 and Day 70/138/10-149/12.
[283] Zakariya Chebiouni first witness statement [IWS00001076] p. 5.
[284] Hanan Wahabi first witness statement [IWS00000074] p. 12 and Day 70/151/5-157/25.

the hall. The lights were on in the lobby. Hanan Wahabi saw smoke in the lobby, which she said was like cigarette smoke. There was no one else in the lobby and it was not unusually hot. They had to open the door to the stairwell in order to begin to go down.[285]

The fire reaches floor 10

10.197 On the evening of 13 June 2017, Hoang Khanh Quang had gone to bed by 21:00. She had lived in Flat 76, as a tenant of the TMO, since 1990. It was where her two daughters had grown up. Her eldest daughter, Lucy Ho, was staying nearby, while her youngest daughter, Jenny Quang, was at university. Hoang Khanh Quang's former husband, Van Quang Ho, would stay at the flat occasionally.[286]

10.198 Hoang Khanh Quang gave oral evidence with the assistance of an interpreter. She confirmed the account set out in her Inquiry witness statement of being woken up in the early hours of 14 June by the sound of the smoke alarm located in the hallway outside her bedroom. All the windows in the flat were closed that night. Getting up, Hoang Khanh Quang switched on the lights in the hallway and walked towards her kitchen. As she did so she noticed flames outside the kitchen window on the left-hand side. The plastic internal cover over the extractor fan in the kitchen window fell down. Hoang Khanh Quang assumed this was because of the fire. She panicked and moved back calling out: "Fire! Fire!". It was then that she realised that Van Quang Ho was also in the flat. He emerged from the second bedroom and told her to call their daughter. Hoang Khanh Quang had not seen any smoke or smelt anything unusual at this stage. She went into her bedroom to collect her glasses and a jacket.[287]

10.199 Hoang Khanh Quang estimated she was in the bedroom for about a minute or so. On leaving, she found the hallway full of thick black smoke. She could not see any lights; nor could she see Van Quang Ho. He tugged on her clothes and Hoang Khanh Quang followed him out of the flat. The door did not close by itself and she did not think that she had closed it. Hoang Khanh Quang explained that at some time before the fire the TMO had removed the automatic closing mechanism from the door to enable it to close properly. If the door was shut and unlocked it could be opened again without a key.[288]

10.200 Hoang Khanh Quang recalled that, while there was always a light on in the lobby on floor 10, the area was very dark on this occasion. The lobby was full of smoke and she could not see anything. Van Quang Ho went ahead through the stairwell door, which closed after she had gone through it. The stairwell was lit and free of smoke. Hoang Khanh Quang recalled encountering a firefighter in the stairwell one floor down who was going up and then a second firefighter at the floor 8 level, who asked them to continue making their way down.[289]

10.201 Van Quang Ho did not give oral evidence, but he did provide a witness statement. That night he had gone to bed in the other bedroom in the flat. He recalled having been woken up by Hoang Khanh Quang calling out: "Fire!". There was no smoke in the bedroom. When he opened the bedroom door he found thick black smoke in the hallway, which made it impossible to see. He did not see any flames in the flat but saw a flickering light in the kitchen and flames reflected

[285] Hanan Wahabi first witness statement [IWS00000074] pp. 12-13 and Day 70/124/12-126/10, 70/159/4-163/25; Salah Chebiouni first witness statement [IWS00000945] p. 8.
[286] Lucy Ho first witness statement [IWS00000655] p. 2; Jenny Quang first witness statement [IWS00000766] pp. 1-2; Hoang Khanh Quang Day 67/80/20-81/10.
[287] Quang Day 67/88/19-95/12.
[288] Quang Day 67/95/13-97/20, 85/6-87/5.
[289] Quang Day 67/97/21-102/17.

through the open door of the kitchen. Van Quang Ho thought that the smoke was coming into the flat through the open kitchen window. He described Hoang Khanh Quang going into her bedroom and, when she came out, feeling for her hand and leading her to the front door.[290]

10.202 Van Quang Ho's perception of conditions in the lobby was rather different from that of Hoang Khanh Quang. He recalled that there had been no smoke in the lobby. He saw two or three firemen in the lobby, one of whom directed them to the stairs. Van Quang Ho did not shut the front door; instead he left it for the firemen to deal with. He did not see anyone else in the stairwell as he ran down and recalls that there was no smoke on the stairs.[291] The couple were leaving their flat at speed under difficult circumstances and the difference in their recollection of conditions in the lobby is probably no more than a reflection of that fact. Flat 76 appears to have filled rapidly with smoke and the smoke Hoang Khanh Quang recalled in the lobby must have come from there. Van Quang Ho and Hoang Khanh Quang left the tower at 01.26.[292]

10.203 At 01.28.01, Adam Supareogsanond dialled 999 and was put through to the police. He gave his address as Flat 73 and said that there seemed to be smoke seeping into his flat. He was not sure where it was coming from. His cousin, Ann Chance, who also lived in Flat 73, recalled having been woken up by her aunt at around 01.00. Her aunt had heard noises from the lobby and could smell smoke. Ann Chance walked out of her bedroom and noticed very thin smoke entering the flat from underneath the front door.[293]

The fire reaches floor 11

10.204 Flat 86 was a three-bedroom flat on floor 11 occupied by Ali Yawar Jafari, his wife and their two daughters, Maria and Nadia Jafari.[294] Nadia Jafari was in her parents' bedroom when her sister woke her to tell her of a fire. Her mother asked Nadia Jafari to wake her father and bring him outside. Fatima Jafari and Maria Jafari had already left the flat when Nadia Jafari went to her father. He was 82 years old and suffered from diabetes and a heart problem. They both moved to the living room, which faced east. Its windows were closed. The window closest to the kitchen felt hot to the touch. Nadia Jafari saw flames 2 inches below that window. Believing the fire would not come into the flat, she told her father to use the bathroom before they left.[295]

10.205 While waiting for her father, Nadia Jafari went into the kitchen, the window of which was closed. She saw flames push in the extractor unit located in the top-right corner of the kitchen window and come through the gap. There was a smell similar to burning plastic. Nadia Jafari left to alert her father. Standing together at the doorway into the kitchen, they saw the window frame "fall out" and the glass in the window smash. Nadia Jafari saw flames covering the entire window area and the plastic around the window burning. The curtains over the internal sliding doors between the kitchen and living room caught fire.[296]

10.206 Nadia Jafari closed the kitchen door and turned off the electricity before she and her father left the flat. In the lobby she met Natasha Elcock from Flat 82 and told her about the fire. Together they returned to the hallway of Flat 86, from which Nadia Jafari saw flames through

290 Van Quang Ho first witness statement [IWS00000925] pp. 4-5.
291 Van Quang Ho first witness statement [IWS00000925] pp. 5-6.
292 Annex A.
293 [INQ00000282]; Chance witness statement [IWS00000783] p. 4.
294 Maria Jafari first witness statement [IWS00000744] p. 1.
295 Nadia Jafari first witness statement [IWS00000683] pp. 3-4; exhibit NJ/1 [IWS00000681] p. 2; Nadia Jafari Day 54/19/11-25/13.
296 Jafari Day 54/25/16-31/10, 9/17-10/17, 41/12-42/18.

the glass panel of the kitchen door. The kitchen was "fully bright, something like very bright". There was some smoke in the hallway and the smoke alarm had been activated. She and Natasha Elcock then moved back into the lobby. Natasha Elcock returned to her flat.[297]

10.207 Nadia Jafari returned to her home to try to turn on the taps in an effort to counteract the fire. She was unable to do so, however, and saw that the flames were still inside the kitchen but now level with the closed kitchen door.[298] Back in the lobby, she and her father knocked on neighbouring doors. One neighbour, Youssef Khalloud from Flat 85, came to look through their front door. Nadia Jafari stood with him but did not go in. She could not close the front door properly as she did not have the keys. It was left partly open when she and her father left. She said that the door had not been self-closing.[299]

10.208 Nadia Jafari did not see or smell smoke in the time she and her father were in the lobby on floor 11. Concerned for his health and the effects of her own recent surgery, she suggested they use the lifts, only one of which was working. She remembered that a woman had entered the lobby on floor 11 from the stairwell and pressed the button for the lift. There was no smoke in the lift when it arrived on floor 11. Nadia Jafari was originally uncertain how many people had already been in the lift, but thought that there had been about six people in it once she, her father and the woman from the stairwell had entered. She was more confident that one of the occupants had been a "healthy and muscular man".[300]

10.209 Natasha Elcock remembered opening her flat door and seeing the Jafaris standing at the north end of the lobby close to their own front door. They were saying something about smoke but did not mention fire. Natasha Elcock's recollection is that she did not go into the lobby or Flat 86, but looked around a corner from her flat. She could not see the front door of Flat 86 but saw "a really thin wisp of smoke" where the Jafaris were standing. It was "a tiny bit of smoke. It was like a really light grey cigarettey-type smoke, but a little bit thicker than that". Natasha Elcock did not hear any alarms. The lobby was lit and one of the lifts, which had been working earlier, was by then out of service. Natasha Elcock was unsure of what was going on and not in a position to leave. She told the Jafaris to leave as they looked worried and returned to her flat.[301]

10.210 At 01.28.26, Natasha Elcock made a 999 call which was answered by CRO Duddy. When, in the course of that call, she told him that there was smoke in the lobby,[302] she was probably referring to the smoke she had seen when speaking to the Jafaris, since she had not opened her front door between that conversation and her call to CRO Duddy.

10.211 Youssef Khalloud did not recall meeting Nadia Jafari or going to the front door of Flat 86. Prompted by a friend's call telling him of emergency vehicles outside the tower, Youssef Khalloud had earlier left his flat to investigate. He had found nothing unusual in the lobby on floor 11. He went down the stairwell as far as floor 4, where he encountered firefighters. While in the stairwell, Youssef Khalloud did not see any smoke or smell anything unusual.[303] Youssef Khalloud then returned to his flat where, at around 01.20, he received a second call from his friend warning him to leave because of a fire in the tower. His wife, Mouna El-Ogbani, was being told the same in a separate call. Youssef Khalloud's call lasted about five minutes. The couple woke their three young children. When Youssef Khalloud opened the front door of

297 Nadia Jafari Day 54/32/5-35/5.
298 Nadia Jafari Day 54/35/6-37/24.
299 Nadia Jafari Day 54/38/2-54/39/21, 54/14/3-15/5.
300 Nadia Jafari Day 54/40/2, 54/42/21-46/19.
301 Elcock first witness statement [IWS00000310] p. 2; Elcock exhibit NE/2 [IWS00000306]; Elcock Day 70/27/19-33/17.
302 [LFB00000307].
303 Khalloud first witness statement [IWS00000473] pp. 8-9.

their flat he saw thick black smoke in the lobby which was "covering the ceiling at roughly the level of my neck, meaning I could see the floor. I could maybe see a metre or two into the smoke and I could not see the other side of the lobby". Ali Yawar Jafari was standing close to the front door of Flat 85.[304]

10.212 Youssef Khalloud shut his door. He opened it again 2 to 3 minutes later to find that the smoke had thickened. It now "covered the whole hallway half way down to the floor and I could not see more than 1 or 2 metres into the smoke". The smoke smelled like a burning sponge. The family then left. Youssef Khalloud locked his flat door with a key and they moved towards the stairwell from where they could see a light. When they reached the stairwell door, they found it was being held open by a firefighter wearing a mask. Youssef Khalloud did not see Nadia Jafari at that point.[305]

10.213 Mouna El-Ogbani described seeing thick smoke from ceiling to floor in the lobby on floor 11. It smelt gassy. Ali Yawar Jafari was standing by the lifts when she and her family were moving towards the stairwell. There was a single firefighter on floor 11 who told them to leave.[306]

10.214 Again, there are differences between the recollections of the witnesses about smoke conditions in the lobby on floor 11, but I think they are probably to be explained by a combination of differences in perception and the rapidly changing conditions in the lobby.

The descent from floor 11 in the lift

10.215 Nadia Jafari described how the lift in which she, her father and others were travelling had only reached floor 10 before it had become stuck. The lights went out and smoke began coming in at the edges of the doors. When they opened there was a rapid inward rush of smoke. The smoke was "dark and with a strong and bitter chemical smell". Nadia Jafari was unable to breathe and had to close her eyes. She was coughing and felt like vomiting. She heard others in the lift shouting and coughing badly. There was panic: a man was banging against the doors with his legs, someone else went to the floor and someone was holding on to Nadia Jafari's leg. The lobby area of floor 10 was dark and full of smoke. The lift doors then closed and the lift continued down. It was dark inside the lift, which was "packed with smoke". The smoke lessened as the lift descended and Nadia Jafari was able to breathe. The lift door next opened on the ground floor and she ran out.[307]

10.216 The following three CCTV images taken from the camera located in the lift lobby on the ground floor give some idea of the amount of smoke that must have entered the lift.[308]

304 Khalloud first witness statement [IWS00000473] pp. 9-10.
305 Khalloud first witness statement [IWS00000473] pp. 10-12.
306 El-Ogbani first witness statement [IWS00000844] pp. 4-5.
307 Nadia Jafari first witness statement [IWS00000683] p. 6 and Day 54/46/20-54/50/24.
308 CCTV images [INQ00000423], [INQ 00000424], [INQ 00000426].

Figure 10.26

Figure 10.27

Figure 10.28

10.217 The first image was taken at 01.26.24 shortly before the lift reached the ground floor.[309] The third, timed at 01.26.29, shows Nadia Jafari leaving the lift.[310] There was no one else in the lift when she did so. She went outside to see if her father had somehow left ahead of her, but then realised he must have got out on floor 10. As she confirmed, CCTV footage from another camera showed Nadia Jafari with smoke marks on her face.[311]

10.218 The woman seen in the second image above, timed at 01.26.26, is Rhea Rojo.[312] She had been staying in Flat 91 on floor 12. Rhea Rojo's recollection was that there had been no smoke in that flat or in the lobby on floor 12 when she decided to leave. She got into the lift on floor 12.[313] Both Rhea Rojo and Roy Smith, who lived in Flat 95, recall speaking to each other by the lifts on that floor. He told her not to use the lift, but saw her get into it.[314]

10.219 Rhea Rojo's recollection was that there had been "a black man in his twenties or thirties" in the lift when she had got in it. She said that it had then gone up to floor 18 and that two women had got into the lift on that floor. It had then begun to descend. The lift had stopped at every floor from floor 12 down, but the doors had not opened. After floor 12, the lift had suddenly filled with thick smoke making it impossible to see. When the lift reached the ground floor Rhea Rojo had to crawl out.[315] Rhea Rojo did not recall the lift stopping on floor 11 or floor 10, nor did she recall an elderly man getting into it. In the circumstances, I think that Nadia Jafari's evidence about the movement of the lift is probably to be preferred to that of Rhea Rojo.

10.220 A possible explanation for the lifts having stopped at floor 10 comes from the evidence of Mustafa Abdu. He left the tower at 01.28.21.[316] Mustafa Abdu lived alone in Flat 184 on floor 21. At around 01.10 his brother telephoned and told him to leave because of the fire.

309 The time on the still is recorded as 01.27.00. It has been adjusted by 36 seconds to reflect real time.
310 The time on the still is recorded as 01.27.05. It has been adjusted by 36 seconds to reflect real time.
311 Nadia Jafari first witness statement [IWS00000683] p. 6 and Day 54/46/20-57/11.
312 The time on the still is recorded as 01.27.02. It has been adjusted by 36 seconds to reflect real time.
313 Rojo first witness statement [IWS00000066] pp. 4-5.
314 Smith first witness statement [IWS00000771] p. 9.
315 Rojo first witness statement [IWS00000066] p. 5.
316 Annex A.

The smoke in the stairwell got thicker as he ran down. Mustafa Abdu described how he began to panic and found it hard to see due to the smoke. He entered the lobby on floor 10. The lights were off and he could not see because of the smoke. He called a lift but, thinking that they were not working, he continued on down the stairs.[317]

The identity of those in the lift

10.221 Nadia Jafari and Rhea Rojo were the only two people in the north lift when it reached the ground floor, but it is likely that at some point in its descent Ali Yawar Jafari, Mohamednur Tuccu and Khadija Khalloufi had also been in it and that when it left floor 11 it contained five passengers rather than six. Nadia Jafari thought that there had been only one other woman in the lift,[318] but Roy Smith and Rhea Rojo confirmed that the latter had got in to the lift at floor 12 and there was the woman who had entered the lobby on floor 11 from the stairwell and called the lift. It is more likely than not that that woman was Khadija Khalloufi, since her presence in the lift is consistent with what is known of her movements after the fire had broken out.

10.222 Before he left floor 17, Mesrob Kassemdjian, who lived in Flat 146, had banged on the door to Khadija Khalloufi's flat, Flat 143, and told her to leave. She turned back into the flat to speak to her husband, Sabah Abdullah.[319] Mesrob Kassemdjian left the tower at 01.25.51.[320] Mouna El-Ogbani, whose evidence is considered above and who left the tower at 01.27.39, saw Sabah Abdullah walking down the stairwell.[321] Rita Tankarian, the aunt of Mesrob Kassemdjian, described Khadija Khalloufi as one of her best friends. Rita Tankarian left the tower at about the same time as her nephew. Outside she met Sabah Abdullah who told her that he had lost his wife in the stairwell between floors 14 and 17.[322] It seems likely, therefore, that Khadija Khalloufi, having left floor 17 with her husband, had lost him on the stairs and then gone into the lobby on floor 11 where she called the lift.

10.223 The evidence that Mohamednur Tuccu was in the lift is less clear. The descriptions of a man in the lift given by Nadia Jafari and Rhea Rojo could be that of Mohamednur Tuccu, whose wife, Amal Ahmedin, and daughter, Amaya Tuccu Ahmedin lived in Flat 166 on floor 19. Amna Idris was visiting the family on the night of the fire. As set out below, Meron Mekonnen saw Amal Ahmedin and Amna Idris in the lobby on floor 19 that evening. Meron Mekonnen did not see Mohamednur Tuccu and she left the tower at 01.32.25. Amal Ahmedin, her daughter and Amna Idris subsequently sheltered in Flat 201.[323]

10.224 However, there is also the evidence of the firefighters who later recovered the bodies of Mohamednur Tuccu, Khadija Khalloufi and Ali Yawar Jafari from the lobby on floor 10. FF Desforges[324] conducted a search of the lobby while his colleague FF Mitchell remained at the stairwell door. FF Desforges found a casualty whom he described as a large black male who weighed around 17 stone. He then found a female casualty. FF Mitchell described these two casualties as a "black male of large build" and a "white female".[325] Other firefighters, including FFs John Wright, Scott Bell and Zade Alassad[326] helped to carry these casualties out.

317 Abdu first witness statement [IWS00000307] pp. 1-3.
318 Nadia Jafari Day 54/49/21, 54/53/7.
319 Kassemdjian first witness statement [IWS00000951] pp. 8-9; Tankarian first witness statement [IWS00000434] p. 4.
320 Annex A.
321 El-Ogbani first witness statement [IWS00000844] p. 6.
322 Tankarian first witness statement [IWS00000434] p. 7.
323 Mekonnen Day 55/22/16-25/22; Fadumo Ahmed first witness statement [IWS00000729] pp. 3-4.
324 Who tallied out from the bridgehead at 02.04.09 with FF Mitchell, and later again at 04.14.12 (second wear).
325 Desforges Day 32/169/25-32/176/20; Mitchell first witness statement [MET000086063] p. 5.
326 Who tallied out at 02.08.45, 02.10.24 and 02.10.25.

FF Alassad described the man as "big and tall, but not fat. I believe he was black but he was covered in ash", and the woman as "black or Asian with long hair".[327] These casualties were Mohamednur Tuccu and Khadija Khalloufi, whose bodies were carried out of the tower at 02.28.[328]

10.225 CM Martin Hoare and FF Matthew Tanner tallied out at 02.55, having been briefed to go to floor 10.[329] They found a male casualty by the lifts who, according to CM Hoare, was of "North African appearance". CM Hoare accepted that he had been wrong in identifying this casualty as Mohamednur Tuccu in his written account.[330] Ali Yawar Jafari's body was carried out of the tower at 03.34.[331]

The fire reaches floor 12

10.226 Roy Smith and his partner, Katarzyna Dabrowska, lived in Flat 95 with their two daughters. They had converted the flat into a three-bedroom property.[332]

10.227 On the night of the fire, Roy Smith first noticed smoke at around 01.10, when he got up to use the toilet. He immediately smelt "a funny smell like burning plastic". The windows in the flat were closed that night. Roy Smith checked the hallway, kitchen and his daughters' bedroom and returned to bed. He got up again as the smell became stronger in his bedroom. Roy Smith estimated that by now it was 01.20. Switching on the lights, he saw that his bedroom was full of a "fog and mist-like smoke" which was light grey in colour. He could not tell where the smoke was coming from and saw no signs of the fire. When he checked, there was less smoke in other rooms in the flat and no sign of smoke coming from the front door.[333]

10.228 Roy Smith could not be exact about how many times he had opened his front door, but he had done so at least three times. On the first occasion he had seen smoke in the lobby of a similar colour to that in his bedroom. He had not been able to see where the smoke was coming from and had not been able to hear the smoke extraction system working.[334]

10.229 Roy Smith also recalled speaking briefly to a "Thai lady" in the lobby on floor 12 the first time he had opened the door. That was Rhea Rojo from Flat 91, who told him that there was a fire on floor 4. He was firm in his recollection that there had been smoke in the lobby on floor 12 at that time and suggested that Rhea Rojo may have been mistaken in saying that it was clear. He saw her get into a lift. Roy Smith did not notice if there was anyone else in that lift. He did not look to see if the front door to Flat 96 was open at that time.[335]

10.230 The call made by Damiana Louis at 01.24.57 lasted for 1 minute and 57 seconds.[336] By that time Katarzyna Dabrowska was awake. She made a 999 call, which was answered at 01.26.58. She reported that smoke was coming into the flat "from our main door because it's outside", and that a neighbour was "shouting that she's having the fire in the kitchen".[337]

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327 Bell first witness statement [MET00012995] p. 4 and Day 40/51/20-53/16; John Wright [MET000083339] p. 3; Alassad [MET00012991] pp. 4, 11.
328 MPS CCTV schedule [MET00016072].
329 Hoare witness statement [MET00008027] p. 12; LFB BA Telemetry Schedule [LFB00023326].
330 Hoare first witness statement [MET00008027] p. 16 and Day 39/198/23-204/12; Tanner [MET00010826] p. 8.
331 MPS CCTV schedule [MET00016072].
332 Smith first witness statement [IWS00000771] pp. 1-2.
333 Smith Day 64/32/7-38/12; Smith first witness statement [IWS00000771] p. 8.
334 Smith Day 64/40/12-41/4, 64/45/9-45/13.
335 Smith first witness statement [IWS00000771] p. 9; Smith Day 64/47/13-49/10.
336 Andrew Mobbs exhibit AM/1 [LFB00004695].
337 [LFB00000309]; Smith second witness statement [IWS00001169] p. 1.

10.231 Roy Smith confirmed that Damiana Louis was the neighbour referred to in this call. They could hear her during the call screaming that there was a fire in her kitchen. He said that the smoke Katarzyna Dabrowska had mentioned coming through the front door must have come in when it was opened, as none had come in after it had been closed.[338] He had opened that door twice before when, prompted by hearing Damiana Louis screaming, he had opened it again in time to see her open her front door and run towards the lift. The smoke in the lobby was dark grey and smelled like plastic, as it had when he had opened the front door for the second time. Roy Smith choked when he encountered it. He did not notice if Damiana Louis had left her flat door open or closed.[339] In his written account, Roy Smith did say however:

> "Mrs Lewis [sic] used to bang her door shut when she came in at night; it used to wake us up. But on the night of the fire I can't remember hearing her door slam so she may have left her door open."[340]

10.232 Katarzyna Dabrowska's 999 call was answered after the call from Damiana Louis had finished. It lasted 2 minutes and 10 seconds,[341] ending at 01.29.08. Since Damiana Louis left the tower at 01.28.03,[342] Roy Smith must have opened the door of his flat while his partner was still on the telephone. Given that Roy Smith noted an increase in the density of smoke in the lobby, it is possible that Damiana Louis had left her front door open.

The fire reaches floor 14

10.233 Nida Mangoba went to bed around midnight on the evening of 13 June 2017. Her husband and teenage son were already in bed.[343]

10.234 Nida Mangoba was woken by the noise of an alarm. From her living room she could see a fire blazing outside. Moving to her kitchen, she saw that "there was even more fire blazing outside my kitchen window". Orange and yellow flames were "shooting up the outside of the Tower". Nida Mangoba then heard "a loud noise, like a 'pop'". The extractor fan fitted into a panel in the kitchen window and the window pane itself "smashed into my kitchen".[344]

10.235 Nida Mangoba ran into the hallway. Her husband and son were awake and had managed to get dressed. They waited for her by the front door as she went into her bedroom to locate passports. She did not take time to change. When Nida Mangoba left the bedroom she could see "thick black smoke in my hallway; it was from the ceiling and nearly all the way down to the floor". Nida Mangoba was the last member of the family to leave their home and thought that in the panic and rush she had left the front door open. In her second written account, Nida Mangoba explained that the self-closing mechanism on the door had been broken for some time. She said she had reported it, but that it had not been repaired. There was light smoke in the lobby "like a cloud". It was not like the thick black smoke in the flat.[345]

10.236 At 01.25.16 OM Norman answered a call from Denis Murphy. He identified his location as Flat 111 and reported that the fire was "right outside my window". Initially Denis Murphy said that although he could smell smoke, there was none in his flat. Later in the call he reported that smoke was "coming in from the landing" (i.e. the lobby). During the call, which lasted 3 minutes and 57 seconds, Denis Murphy added that "he had tried to open the door but there

338 Smith Day 64/40/7-64/45/8.
339 Smith Day 64/38/13-64/39/8, 64/43/24-44/9, 64/46/14-47/11, 64/49/13-52/12.
340 Smith first witness statement [IWS00000771] p. 9.
341 Andrew Mobbs exhibit AM/1 [LFB00004695].
342 Annex A.
343 Mangoba first witness statement [IWS00001084] pp. 1, 4.
344 Mangoba first witness statement [IWS00001084] p. 4.
345 Mangoba first witness statement [IWS00001084] p. 4; Mangoba second witness statement [IWS00001145] p. 1.

was a lot of smoke".[346] Flat 111 was adjacent to Flat 116 on the east side of the tower. The fact that Denis Murphy had seen smoke outside his door indicates that by 01.25 it had penetrated the lobby on floor 14 to an extent where it appeared to have deterred Denis Murphy from leaving.

10.237 At 01.29.02 Zainab Deen called the MPS and told them that she was on floor 14, that the fire was coming into the building and that she had a baby.[347]

The fire reaches floor 16

10.238 Hamid Wahbi was the only member of his family at home in Flat 136.[348] When he returned to the tower at around 00.30 he heard a noise like a fan on floor 16.[349] It was a sound he had heard regularly. At around 01.15, Hamid Wahbi was prompted by hearing a crackling sound to go into his kitchen. There was no smoke there, but he saw flames outside the window, which seemed to be coming from the floor below.[350] Hamid Wahbi opened the smaller window on the right-hand side. It could open only slightly. Thick black smoke began to come into the kitchen. It had "a plastic smell". Hamid Wahbi also saw flames enter the kitchen. He hurriedly dressed but by the time he left his flat smoke had moved into the living room and hallway. On leaving, Hamid Wahbi left his front door open. The lobby on floor 16 was still clear of smoke. He went down the stairs as far as floor 14 before returning to floor 16.[351]

The fire reaches floor 17

10.239 The occupants of Flat 141 were the first survivors from floor 17 to leave the tower. Mesrob Kassemdjian was in that flat with his girlfriend, Fung Hee-Cheung. His aunt, Rita Tankarian, was asleep in the bedroom. Concerned over the arrival of fire engines outside the tower, the couple left the flat. Mesrob Kassemdjian could smell smoke in the lobby. Fung Hee-Cheung walked down the stairwell and met another resident who told her that she and her daughter were evacuating. On returning to Flat 141, Mesrob Kassemdjian saw firefighters directing water at a "glow coming from the building below". It then "looked like the glow exploded". Mesrob Kassemdjian decided that they should all leave their flat. They did so within about a minute.[352]

10.240 Mesrob Kassemdjian recalled smelling smoke in the lobby and hearing the smoke extraction system making a lot of noise. Before they all made their way down the stairs, he spoke to Khadija Khalloufi. Rita Tankarian's sense on leaving the flat was of being able to smell smoke like "burning plastic". Mesrob Kassemdjian pressed the button to call a lift, but both his aunt and girlfriend said they should not use it.[353]

10.241 Virgilio (Larry) Castro, who lived in Flat 146, had a friend, Genaro Batoan, living with him. His girlfriend, Elisa Rabaya, was staying at the flat on the night of the fire.[354]

10.242 At around 01.15 Larry Castro was woken by the sound of smoke alarms in the flat and Elisa Rabaya shouting "Fire!". Genaro Batoan came into the bedroom. He also said there was a fire. He then left the flat. Larry Castro went into the hallway from where he could see into the

346 [LFB00000308].
347 350 [INQ00000270].
348 Hamid Wahbi first witness statement [IWS00001157] p. 10.
349 Hamid Wahbi Day 62/25/23.
350 Hamid Wahbi Day 62/26/1-30/9.
351 Hamid Wahbi Day 62/30/10-43/10.
352 Kassemdjian first witness statement [IWS00000951] pp. 6-8; Tankarian first witness statement [IWS00000434] pp. 3-4.
353 Kassemdjian first witness statement [IWS00000951] pp. 8-9; Tankarian first witness statement [IWS00000434] p. 4.
354 Castro first witness statement [IWS00001091] p. 2.

kitchen. The fire was outside the closed kitchen window. Going into the kitchen, Larry Castro saw flames coming through a circular extractor fan located in the top right of the kitchen window. They were moving along the ceiling. He recalled that there "was a strong smell of smoke in my flat but I was not coughing at this point". He described the smoke as grey in colour and at ceiling height.[355]

10.243 In panic, Larry Castro and Elisa Rabaya ran out of the flat. Genaro Batoan had left the front door open. It would close automatically only about half way and then had to be pulled shut. Larry Castro said that he had not shut the door on leaving the flat, although an inspection of the building carried out by the BRE after the fire suggests that the door had been closed at some point. He noticed some black smoke in the lobby, which he could smell and taste and which made him cough. Larry Castro's recollection of the stairwell was that it had been completely dark. He had been aware of others in the stairwell, most going down. Some however had been walking up. Larry Castro was about to do the same when his neighbour from Flat 156, Shahid (Shah) Ahmed, shouted at him to go down. Larry Castro also remembered that the door to the roof was usually locked.[356] In his written evidence Shah Ahmed confirmed he saw Larry Castro in the stairs and told him to go down, not up.[357]

10.244 Corinne Jones, her partner, Jason Miller, and their two sons had moved into Flat 145 in July 2016. Jason Miller was away that night. Corinne Jones was in her bedroom when she was woken by a strong smell which "smelt like someone was burning plastic in my room". As there seemed to be nothing wrong, she went back to sleep, only to be woken by one of her sons telling her there was a fire. Seeing lights and embers from her window, Corinne Jones realised there was a fire and got herself and her children dressed ready to leave.[358]

10.245 Approaching her front door to leave, Corinne Jones could hear voices in the lobby. When she opened the door "a plume of smoke came into the flat" and set off the alarm in the hallway. Corinne Jones saw Larry Castro standing outside his front door. Thick black smoke was coming from the top of that door and moving along the ceiling. Corinne Jones could not see any smoke coming from anywhere else in the lobby. She briefly returned to her flat to collect her handbag. On returning to the lobby she found "a massive difference … The smoke had quadrupled and had covered most of the ceiling and was now just above my head (I am 5ft 4)". Although the lights were on, the smoke had made the lobby darker.[359]

10.246 There were other people in the stairwell when Corinne Jones entered it and "There seemed to be a lot of confusion". Some people were going down the stairs but there was a group of 10-12 people going up. This group seemed to be "questioning and panicking" and appeared to know each other. They were speaking (but not in English) to a group of four women standing in the stairs, who seemed to be deciding whether to go up or down. No one responded to Corinne Jones when she asked where the fire was and so she decided to make her way downstairs with her sons. Larry Castro was just ahead on the stairs.[360]

10.247 At 1.29.02 an MPS operator answered an emergency call from a female caller who gave her address as Flat 142. That caller was probably Husna Begum. She, her parents and two brothers died in the fire. In a call that lasted 8 minutes and 51 seconds, Husna Begum reported that

[355] Castro first witness statement [IWS00001091] pp. 6-7; [INQ00000406].
[356] Castro first witness statement [IWS00001091] pp. 3, 7.
[357] Shah Ahmed first witness statement [IWS00000388] p. 11.
[358] Corinne Jones first witness statement [IWS00000033] pp. 1, 5-6.
[359] Corinne Jones first witness statement [IWS00000033] pp. 6-7.
[360] Corinne Jones first witness statement [IWS00000033] pp. 7-8.

there was smoke coming into the flat, that they could see "flames from our window" and that the fire was "in the house right next to us". During the call a smoke alarm was heard sounding in the background.[361]

10.248 The occupants of Flats 145 and 146 left the tower at 01.30.[362] Taken together with the time of the call from Flat 142, that indicates that smoke had penetrated the lobby on floor 17 before 01.29.

The fire reaches floor 18

10.249 Shah Ahmed and his wife Sayeda Ahmed were at home in Flat 156 on floor 18. On the night of the fire, Shah Ahmed was woken by the sound of the smoke alarms in the flat. He went into the kitchen. Looking out of the window he saw "a big fireball coming up from the outside of the building. It was the colour of a burning sunset." The kitchen window then "exploded inwards". Shah Ahmed dialled 999. He did not speak to anyone but threw the handset down and left the flat.[363]

10.250 As the caller had not asked for any particular emergency service, the BT operator referred it to the MPS at 01.27.56. The MPS operator asked for a playback of the recorded call. This revealed male and female voices shouting "Fire!" and the sound of people banging on doors. That was Shah Ahmed and his wife knocking on the doors of neighbouring flats. Their recollection was that Flats 153 and 155 had been the only flats which had not opened their front doors in response. Those who had opened their doors were Hamid Kani, who lived alone in Flat 154 and Sakina Afrasehabi (using a walking frame), who lived in Flat 151 and whose sister Fatemeh Afrasiabi was staying with her. Shah Ahmed then opened his own front door. He saw "thick white and black mixed smoke" and shut the door again. He and his wife then entered the stairwell and began to descend.[364]

10.251 Rabia Yahya was in Flat 152 with her three children. Her husband was not at home. Rabia Yahya recalled making a 999 call at around 01.00 after she had heard a commotion outside and seen fire appliances.[365] She was told that there was a fire on floor 4 and to stay in her flat. She decided to wake her children in case it became necessary to leave. Some 20 minutes later, as she looked from her kitchen window, Rabia Yahya became aware of grey smoke which smelled of burnt plastic at a lower floor of the tower. There was then a knock at the front door. Rabia Yahya opened it to see Shah Ahmed standing near the stairwell door and his wife at her door. Sayeda Ahmed told her that the fire had spread and she should get out. Rabia Yayha was unsure what to do; she did not know if it was safe to stay or what the conditions were like on the stairs. At that time, there were no signs of smoke or fire in her flat. There was only a "little bit of smoke" coming into the lobby through the open stairwell door. Rabia Yahya remained in Flat 152.[366]

10.252 Paulos Tekle and Genet Shawo were asleep in Flat 153 when they were woken by sounds from the lobby including at least two women's voices. When they opened the front door, they saw Rabia Yahya with her children. Genet Shawo recalled that although there was some smoke she could see clearly through it. Paulos Tekle did not see or smell smoke, although he said that, unusually, it was dark in the lobby. He could see Rabia Yahya because of the light

361 [INQ00000264].
362 Annex A.
363 Shah Ahmed first witness statement [IWS00000388] pp. 1, 10.
364 [INQ00000263]. The MPS operator called Shah Ahmed's number back at 01:30:13 and 01:30:40 with the call going to voicemail each time; Shah Ahmed first witness statement [IWS00000388] p. 10; Sayeda Ahmed first witness statement [IWS00000676] p. 4.
365 There is no record of such a call and 01.00 would have been very likely too early in the incident.
366 Rabia Yahya Day 63/126/2-137/15.

from Flat 153. He remembered Rabia Yahya telling Genet Shawo that there was a fire. This conversation occurred before Paulos Tekle called his friend Abraham Abebe who lived in Flat 44 at 01.32.[367]

10.253 Yehualashet Enyew was lodging with Berkti Haftom at her home in Flat 155 on floor 18. At around 01.15 he was woken by the smell of smoke. He saw lights and smoke outside his bedroom window, which faced towards the school. Realising that there was a fire, Yehualashet Enyew shouted a warning to Berkti Haftom. He thought that it was by then around 01.20. As he prepared to leave, he could hear Berkti Haftom calling from the hallway and then heard the door slam. Berkti Haftom and her son were not in the lobby by the time Yehualashet Enyew left Flat 155. As discussed elsewhere, he subsequently went into Flat 153.[368]

10.254 Given that no one from Flat 155 answered the Ahmeds' knocking and no other residents describe seeing Berkti Haftom and her son, it is likely that they had left floor 18 before the Ahmeds first left their own flat.

The fire reaches floor 19

10.255 Meron Mekonnen lived in Flat 163 on floor 19 with her partner and two daughters aged four and six years. Her partner was at work on the night of the fire. At 01.25 Meron Mekonnen was woken by a call from her aunt, Hiwot Dagnachew. She told Meron Mekonnen that there was a fire and she should leave. Meron Mekonnen could not see any signs of a fire nor was there any smoke in her flat. With her daughters she ran out of the flat. The front door was "missing the automatic door closing mechanism …" so she pulled it shut.[369]

10.256 The lights in the lobby were on when Meron Mekonnen opened her front door. She immediately saw smoke similar in colour to cigarette smoke. She described it as "very light grey, almost sort of whitish". She could not tell where it was coming from. It did not affect her visibility or have any physical effect on her or her children.[370]

10.257 Amal Ahmedin, the wife of Mohamednur Tuccu, was in the lobby on floor 19 with a female relative, Amna Idris. The door of Amal Ahmedin's home, Flat 166, was wide open. She and Meron Mekonnen told each other of a fire. Amal Ahmedin ran back into Flat 166. Amna Idris however followed Meron Mekonnen and her daughters into the stairwell, the door of which would usually close automatically.[371]

10.258 The stairwell was lit and Meron Mekonnen immediately noticed grey smoke which was slightly darker than that in the lobby. It had no effect on her or her children. As soon as she entered the stairwell she became aware of people walking down. She thought there were about 10 people, all of whom seemed to be tower residents but none of whom she recognised. They had not gone far, perhaps to the level of floor 15 or 16, when she heard a man's voice shout: "Go back! Go back!". He spoke with a clear English accent. There had been no change in conditions in the stairwell at that time. Meron Mekonnen said that she had "assumed something terrible, something worse, was happening below us. I assumed maybe it is another resident who has probably seen flames in the stairwell". The shout that she recalled had serious consequences. It caused panic and the group began to run back upstairs. Meron Mekonnen reached floor 19. The door into the lobby was shut and she did not open it.

[367] Shawo first witness statement [IWS00001050] p. 7; Tekle first witness statement [IWS00001051] pp. 4-5 and Day 63/17/8-23/13; Abebe first witness statement [IWS00000847] p. 2.
[368] Enyew first witness statement [MET00007347] pp. 1-2.
[369] Mekonnen Day 55/20/3-22/15, 55/12/11.
[370] Mekonnen Day 55/22/16-23/23.
[371] Mekonnen Day 55/22/16-25/22.

She could not recall what had happened to others in the group, including Amna Idris. Standing at floor 19, Meron Mekonnen decided to ignore the shouted advice and go back down the stairs.[372]

10.259 At around 01.20, Fadumo Ahmed received a call alerting her to the fire. Fadumo Ahmed lived alone in Flat 164. She gathered some things and left with the idea to go down. Fadumo Ahmed found the lobby to be full of smoke which was "thick, dark grey and steamy and was very hard to see through". It smelt like "gas and chemicals" and burned her eyes. She saw her neighbour, Deborah (Debbie) Lamprell, who lived in Flat 161, near the lifts. Debbie Lamprell said people were going upstairs. In her written account, Fadumo Ahmed explained:

> "I thought that she had instructions to go upstairs. She was not panicking but it was as though she had been given an instruction. It was also clear that fire was lower down the tower and walking down towards the fire made less sense."[373]

10.260 Fadumo Ahmed opened the door to the stairwell. There was only a little bit of smoke in it as she walked up the stairs to floor 23 followed by Debbie Lamprell. She saw no one else on the stairs. The smoke in the lobby on floor 23 was worse than on floor 19. It was "very dark and very thick" and "as before, smelt of chemicals". Fadumo Ahmed saw people at the door to Flat 201. She was able to get into the flat and joined a group in its hallway. In her written evidence she confirmed that this group included Debbie Lamprell, Gary Maunders, Amal Ahmedin and her daughter Amaya Tuccu Ahmedin, Amna Idris, Raymond (Moses) Bernard, Berkti Haftom and her son Biruk Haftom. Later, Fadumo Ahmed left Flat 201.

Smoke on floor 20

10.261 Emma O'Connor and her partner, Luke Towner, lived in Flat 171 on floor 20. She is disabled and he also has restricted mobility. They were in bed when they heard the sound of sirens. From their kitchen window they saw a fire lower down the building and fire engines outside the tower. Emma O'Connor noticed specifically a fourth fire engine arriving.[374] They decided to leave. There was no smoke in the flat, but once in the lobby of floor 20 Emma O'Connor noticed smoke coming up through the vents and that one of the lifts was not working.[375]

10.262 The couple took the other lift, which stopped first on floor 11 where two women entered. Emma O'Connor could see a bit of smoke in the lobby. There was more smoke than she had seen on floor 20, but she could still see through it. The women who entered the lift were Maria Jafari and her mother, Fatima Jafari. They lived in Flat 86 with Maria Jafari's father, Ali Yawar Jafari, and her sister, Nadia Jafari. Having heard noises and seen fire engines, Maria Jafari had agreed to accompany her mother outside. She did not see or smell any smoke in the lobby on floor 11 when she left.[376]

10.263 The lift stopped again on floor 3 where both Emma O'Connor and Maria Jafari describe seeing a woman who was speaking about a fire. That woman was Mahboubeh Jamalvatan who lived in Flat 10 on floor 3 and confirmed in her evidence that she had called the lift. However, she decided not to get in. Those in the lift got out when it reached the ground floor and then left the tower. When she was at ground floor level Emma O'Connor heard "the vents … making

[372] Mekonnen Day 55/26/5-32/17, 55/46/13-48/22]; Mekonnen first witness statement [IWS00000912] p. 3.
[373] Fadumo Ahmed first witness statement [IWS00000729] pp. 2-3.
[374] The ORR records that the fourth appliance (call sign Golf 331) arrived at the tower at 01.08.33: ORR v 0.7 p. 18.
[375] O'Connor first witness statement [IWS00000121] pp. 1, 6.
[376] O'Connor first witness statement [IWS00000121] p. 6; Maria Jafari first witness statement [IWS00000744] p. 3.

very loud noises, as though they were working overtime". Mahboubeh Jamalvatan used the stairs to leave the tower shortly after.[377] Maria Jafari and her mother are shown getting out of the lift at 1.20.13.[378]

The fire reaches floor 21

10.264 In Flat 186 Helen Gebremeskel was woken in the early hours of 14 June by the sound of her kitchen smoke alarm. Turning on her bedroom light, she could not see any smoke but noticed a smell similar to that of burning plastic. As she moved into the kitchen, Helen Gebremeskel saw smoke in the hallway of the flat.[379]

10.265 The kitchen window of Flat 186 had an extractor fan fitted into a square panel in the top right-hand corner of the window. Helen Gebremeskel found that the entire fan unit had broken away and disintegrated leaving a square hole. Flames were coming through the hole. There was black smoke coming into the kitchen which smelled like plastic. Helen Gebremeskel estimated that she spent seconds in the kitchen before leaving. She, her daughter and their dog quickly left the flat closing the front door behind them. There was not much smoke, but Helen Gebremeskel could hear a "very strong" and "very high" noise, which she had not heard before. She could not tell where that sound was coming from.[380]

10.266 Hanan Wahabi had left the tower by 01.21.[381] She then telephoned her brother, Abdulaziz El Wahabi, who lived with his family in Flat 182, to warn him of the fire. The call was made just after 01.25, the time when Hanan Wahabi's son used her mobile telephone to take a photograph. Abdulaziz El Wahabi and his family were in their home. Hanan Wahabi advised her brother to leave.[382]

10.267 On entering the lobby of floor 21, Helen Gebremeskel saw the El Wahabi family outside their home and told them that there was a fire in her flat. They told her the whole building was affected.[383] Still in the lobby, Helen Gebremeskel made a 999 call. CRO Duddy answered it at 01.26.54. She told him that there was "a fire in 186 Grenfell Tower" and later said: "Everyone is out" and "In the building, in the building, the whole building, there has been a fire." CRO Duddy explained that the fire brigade were already there and asked if she was in the flat or outside the building. She responded: "Everybody is out, the whole, the whole people are out." Helen Gebremeskel said that the reference to everyone being "out" might have led CRO Duddy to think that everyone was out of the flat or the whole tower, although she was actually referring to the El Wahabi family, who were in the lobby.[384]

10.268 The Gebremeskels and the El Wahabis tried to leave through the stairwell door. They could not go down the stairs as a group of people were coming up. Helen Gebremeskel could not say how many there were in this group. She said that they had told them to go back to their flat. Helen Gebremeskel assumed that the instruction had come from the firefighters.[385]

377 O'Connor first witness statement [IWS00000121] p. 6; Maria Jafari first witness statement [IWS00000744] p. 4; Mahboubeh Jamalvatan first witness statement [IWS00000078] p. 5. Mahboubeh Jamalvatan used the stairs to leave the tower shortly after.
378 MPS CCTV schedule [MET00016072]. The unadjusted time is given as 1:20:53 in that schedule.
379 Gebremeskel Day 68/138/21-140/14.
380 Gebremeskel Day 68/140/16-146/17; [BLAR00000003]; Gebremeskel first witness statement [IWS00000933] p. 4.
381 Annex A.
382 Wahabi first witness statement [IWS00000074] p. 15; Wahabi Day 70/170/18-171/14.
383 Gebremeskel Day 68/149/2-150/23.
384 Gebremeskel Day 68/146/20-149/1; Gebremeskel first witness statement [IWS00000933] p. 4; [LFB00000306].
385 Gebremeskel Day 68/151/1-152/8, 68/155/20-158/21; Gebremeskel first witness statement [IWS00000933] p. 4.

10.269 Helen Gebremeskel then knocked on the front door of Flat 183, the home of the Gomes family. Marcio Gomes' recollection was of being woken by a banging on their front door. He followed his wife, Andreia Perestrelo, to the front door. When they opened it, Helen Gebremeskel told them that there was a fire in one of the flats in the tower. Helen Gebremeskel told him that she and a group had been sent back by a firefighter, although there is no evidence that a firefighter had in fact given such an instruction, whatever they thought. Marcio Gomes overheard, but did not see, Abdulaziz El Wahabi speaking to others. He could not hear clearly what was being said. There was a mix of three or four male and female voices, which Marcio Gomes assumed were people who had come up from lower floors, but were probably members of the El Wahabi family speaking to each other. There is no evidence that anyone else was sheltering in Flat 182.[386]

10.270 Throughout this conversation, Marcio Gomes was at his front door, standing just behind his wife. From there he could not see the front door of Flat 186 or the stairwell door. They invited Helen Gebremeskel, her daughter, with their dog to come into Flat 183. When they came in, Marcio Gomes could see a layer of black smoke about 2 inches thick close to the ceiling of the lobby. He noticed it because of the light fitting outside his front door. He said that the smoke "sort of sparkled" in the light, which caught his attention. He could not see where it was coming from. He thought that Helen Gebremeskel and her daughter had come into his flat between 01.25 and 01.30.[387] Helen Gebremeskel said that it had been around 01.30.[388]

10.271 The evidence of Marcio Gomes about the extent of smoke on floor 21 at around 01.30 is not easy to reconcile with that of Mustafa Abdu, to whose evidence I have referred above. Mustafa Abdu lived alone in Flat 184 on floor 21. His decision to leave his flat was prompted by a telephone call from his brother at around 01.10. When Mustafa Abdu closed his front door on leaving he found the lobby empty of people. The doors of all the other flats were closed. He remembered having heard the ventilation system working, which he said was unusual. He said he had been able to see smoke, which was getting thicker. He described it as "normal – blacking in colour". Mustafa Abdu did not refer to any people coming up the stairs when he entered the stairwell. He left the tower at 01.28.21.[389] The absence of any contact with other residents on floor 21 or with others coming up would suggest that he left before Helen Gebremeskel emerged from her home and that there may not have been as much smoke in the lobby on floor 21 as Mustafa Abdu recalled.

The fire reaches floor 22

10.272 In June 2017 Naomi Li was living in Flat 195 on floor 22 with her husband, Lee Chapman, and cousin, Chin-Hsuan (Lydia) Liao.[390] On the night of the fire Lee Chapman was abroad on business, but Naomi Li and Lydia Liao were at home. Naomi Li was in her bedroom exchanging text messages with her husband when at around 01.15 to 01.17 she noticed a smell like burning plastic. Her bedroom window, which faced north, was closed. She went to Lydia Liao's bedroom, the window of which also faced north. When Naomi Li opened that window she again smelt the smell of burning plastic, which she was pretty sure was coming from outside. She saw an orange reflection on the side of the Kensington Aldridge Academy, but could not tell if it was a fire.[391]

386 Gomes Day 71 (Fri)/32/7-38/7.
387 Gomes Day 70/38/9-41/20; Gomes first witness statement [IWS00001078] p. 19.
388 Gebremeskel Day 68/158/13.
389 Abdu first witness statement [IWS00000307] pp. 2-3; Annex A.
390 Li first witness statement [IWS00000515] p. 2.
391 Li Day 62/128/2-131/10; Li first witness statement [IWS00000515] p. 4; exhibit NL/4 [IWS00000514] p. 2.

10.273 Lydia Liao's recollection of the smell at this time was that it was "not very strong, it just smelt like a BBQ". She also recalled hearing the noise of a fan that she had not heard before coming from the direction of Flat 206.[392]

10.274 In the hallway of her flat, Naomi Li heard the sound of the smoke extraction system in the lobby. She said that before the fire it would come on at random times. The noise it made was loud enough to be heard in the living room of Flat 195 and was about as loud as a vacuum cleaner. When this happened both lifts would usually stop working.[393] Hearing the system making the same noise, Naomi Li had been prompted to see if the lifts were working. She opened her flat door and could smell smoke. One lift was showing as out of service.[394]

10.275 Naomi Li telephoned her husband at 01.20 because she was not sure if she should call the fire brigade. The call lasted one minute and seven seconds.[395] Having spoken to Lee Chapman, she dialled 999. CRO Adams answered the call at 01.21.24.[396] The times of these two calls means that Naomi Li must have called her husband and then 999 after she had opened her front door.

10.276 In answer to CRO Adams, Naomi Li gave her flat number and confirmed that there was no smoke in the flat itself but she could smell smoke in the lobby. She referred to what she described as a "very light fog" throughout the lobby. It was not very smoky, more like a blur. Naomi Li could not tell where the smoke was coming from nor did she see it moving in a particular direction. The smell was different from that which she had noticed earlier, more like the smell of a distant wood fire.[397]

10.277 CRO Adams informed Naomi Li that the fire brigade was in attendance dealing with a fire on the fourth floor. She advised her to remain in her flat. Naomi Li thought she should tell her neighbours. Some were already out of their flats when Naomi Li opened her front door. She told them that there was a fire on floor 4 and the advice was to stay inside. She spoke first to Nura Jemal, who turned back into her flat. She then saw her next-door neighbours, Mariem Elgwahry and her mother Eslah Elgwahry, come out of Flat 196. Naomi Li repeated that the fire was on floor 4, only for Mariem Elgwahry to say: "No, it's in our kitchen, the fire is in our kitchen." Naomi Li did not notice any smoke coming out of Flat 196 at this time. She watched Mariem Elgwahry and her mother open the stairwell door and leave. She assumed that they were going down. Naomi Li next spoke to Anthony Disson, who then walked back into his flat. That was the last time that she saw Anthony Disson. She did not see her neighbours from Flats 193 and 191 at this time. The lobby was still clear with only very light smoke at that time.[398] By reference to the times of her text exchanges with her husband, Naomi Li was able to say that she was probably in the lobby speaking to her neighbours at 01.25.[399]

10.278 Concerned by what Mariem Elgwahry had told her about the location of the fire, Naomi Li returned to her flat and told Lydia Liao that they had to leave.[400] That appears likely to have been at some time after 01.26, when Lydia Liao says she took two photographs from her bedroom window.[401] When they left all the windows in Flat 195 were closed as well as the

392 Liao first witness statement [IWS00000505] p. 2.
393 Li Day 62/112-114-113/23.
394 Li Day 62/133/13-136/9.
395 Li Day 62/131/11-132/16.
396 [INQ00000471].
397 Li Day 62/135/13-138/9.
398 Li Day 62/138/10-145/16, 62/162/1-16.
399 Li Day 62/172/18-173/25.
400 Li Day 62/163/12-164/25.
401 Liao [IWS00000505] p. 3.

internal doors. The front door closed automatically behind them. That was the third time Naomi Li had opened her front door. On this occasion, the front doors of those flats she could see were closed. The smoke in the lobby seemed thicker.[402]

10.279 Naomi Li and Lydia Liao entered the stairwell. It was smokier than the lobby, but Naomi Li did not have any difficulty breathing. The smoke was white and smelt "just like smoke". Standing at the stairwell door, Naomi Li saw a group of between five and ten people on the stairs. The group looked as if they had just got out of bed. Some were walking towards floor 22, others had passed it but none of them tried to enter that floor. No one in the group said why they were going upstairs and Naomi Li assumed that it was to try to get on to the roof. She assumed the door to the roof was locked as in the past it had been locked. There was no space to allow Naomi Li and Lydia Liao to descend. They hesitated and then returned to the lobby. At that point, Nadia Choucair, who lived with her family in Flat 193, opened her front door. Naomi Li explained that there was a fire, and that the fire brigade had said it was on the fourth floor "but our neighbour says it is in her kitchen, so we are not sure". Nadia Choucair invited them into her home, as it was free of smoke.[403]

10.280 CRO Angie Gotts answered a second emergency call made by Naomi Li at 01.30.08.[404] Naomi Li confirmed that she had made that call from Flat 193, indicating that she and Lydia Liao were there before 01.30.

10.281 In a statement provided after she had given oral evidence, Naomi Li said that when she had seen Mariem Elgwahry in the lobby on floor 22, the door to Flat 196 had been closed. Mariem Elgwahry had been facing that door and her hand movements suggested she had been locking it. The door to Flat 196 was still closed when Mariem Elgwahry and her mother left the lobby and when Naomi Li went into Flat 193.[405]

10.282 Mariem Elgwahry and her mother did not go down the stairs. In a telephone call, which began at 01.56, Mariem Elgwahry told her sister-in-law, Ferzana Elgwahry, that she and her mother had tried to go down but as they had been doing so, people coming up the stairs had told them to go up and to stay inside. Mariem Elgwahry did not tell her sister-in-law who these people were. Ferzana Elgwahry assumed it was other residents. Mariem Elgwahry also said that they had tried to go to the roof but had found the access to it locked.[406]

Smoke on floor 23

10.283 The burning smell that Farhad Neda reported to Pinnacle had not dissipated. He estimated that it was no longer than 15 minutes after making that call that he and his mother looked out into the lobby on floor 23. The burning smell was still detectable as was the noise from the smoke extraction system. There was no smoke, however. Farhad Neda also noticed that neighbours had opened their doors. His father then looked out from a window and said that he thought there was a fire downstairs. The family decided to get dressed and leave. By now Farhad Neda estimated that around half an hour had elapsed since the telephone call to the out-of-hours service.[407]

402 Li Day 62/165/2-166/15.
403 Li Day 62/166/16-172/13.
404 Li Day 62/177/16.
405 Li third witness statement [IWS00001231] p. 1.
406 Ferzana Elgwahry first witness statement [IWS00000995] pp. 3-4.
407 Farhad Neda Day 61/36/19-40/11.

10.284 The Neda family locked their front door and entered the stairwell. Farhad Neda did not notice any smoke in the stairwell nor any burning smell. The family could not go down, however, because of people coming up from lower floors. He said:

> "There were so many people that were coming up that we couldn't get past them to go down. So I think the first few people that were in front, we asked them what was going on. I think they said something along the lines like, 'There's no way out, there's a fire and there's no way out'. I think someone had mentioned that the fire was in the stairwell as well, so we couldn't make our way down the stairs. So we just went back into our door, into our apartment."

Farhad Neda estimated that at least 10 people had come up the stairs, the first four of whom came into his home. These were Mariem Elgwahry and her mother Eslah and the sisters, Sakina Afrasehabi and Fatemeh Afrasiabi. Mariem Elgwahry told Farhad Neda that the fire had already reached her flat. Mariem Elgwahry did not say who had told them to go up the stairs. One of the sisters said that they had been told that helicopters would rescue them from the roof.[408] At about this time, Farhad Neda saw Hesham Rahman, who lived alone in Flat 204, open the door of that flat and then close it again.[409]

10.285 Visibility in the lobby was clear when the Neda family tried to leave. Farhad Neda noticed, however, that smoke was entering the lobby from the vents of the smoke extraction system. It was black, but not thick and with the same burning smell he had noticed earlier. After they had returned to their flat, Farhad Neda kept returning to look at the floor 23 lobby. He noticed that smoke was coming in slowly. He said:

> "So say if you were coming out of the lift, you would be in the middle of the lobby area, you could see the smoke sort of filling in from the two sides and making its way towards the middle, and that's something you could see clearly. It didn't happen all at once, it was a slow process, but you could see it slowly, slowly filling up the lobby with smoke, and you could see that's where it was coming from."

As the smoke started to collect in the lobby, Farhad Neda eventually made the decision to lock the door. He was still able to view the lobby through the spyhole in the door. On the first occasion he did this, the lobby did not appear misty. Farhad Neda saw the smoke "getting thicker and thicker, and it got to a point where we couldn't see anything at all from that peephole". From the peephole, he could not see the smoke vent located on the north wall. Eventually smoke began to come through the front door.[410]

10.286 Farhad Neda must first have seen the smoke he described as coming from the vents before 01.30, when, as discussed elsewhere, Mariem Elgwahry made a 999 call from Flat 205.

The upward migration of occupants

10.287 The remains recovered from floor 23 included those of 15 people who had either lived in, or were visiting residents who lived in, flats on lower floors. They were:

Sakina Afrasehabi	Flat 151, floor 18
Fatemeh Afrasiabi	Flat 151, floor 18
Hamid Kani	Flat 154, floor 18
Berkti Haftom	Flat 155, floor 18
Biruk Haftom	Flat 155, floor 18
Gary Maunders	Flat 161, floor 19

[408] Farhad Neda Day 61/40/12-44/9, 61/47/18-49/16; Farhad Neda [IWS00000886] pp. 5-6.
[409] Farhad Neda Day 61/51/13-17.
[410] Farhad Neda Day 61/40/25-45/18.

Ernie Vital	Flat 162, floor 19
Majorie Vital	Flat 162, floor 19
Amal Ahmedin	Flat 166, floor 19
Amaya Tuccu Ahmedin	Flat 166, floor 19
Amna Idris	Flat 166, floor 19
Debbie Lamprell	Flat 161, floor 19
Jessica Urbano Ramirez	Flat 176, floor 20
Mariem Elgwahry	Flat 196, floor 22
Eslah Elgwahry	Flat 196, floor 22

10.288 There was a significant increase in the number of people who entered the stairwell after 01.15. Before that time 26 people had left the tower using the stairs, and a further two using the lift. Between 01.15 and 01.31, a further 77 people left the tower by the stairs, and a further seven using the lift.[411] The evidence shows that during the latter period when an increasing number of people were using the stairs, a group of occupants made their way up to floor 23 at a time where others were making their way down.

10.289 While I cannot entirely exclude the possibility that one or two of those in the table above may have moved to floor 23 at a later time, the following evidence suggests that the great majority of those who died there were in a group that moved upwards together and that they had reached floor 23 by around 01.30:

a. Farhad Neda said that Mariem Elgwahry, her mother and the Afrasehabi/Afrasiabi sisters came into his flat. Mariem Elgwahry's first 999 call at 01.30.00 was made from there.

b. By around 01.27 hours Shah Ahmed had alerted Hamid Kani and Sakina Afrasehabi to the fire.

c. Fatemeh Afrasiabi told her niece, Solmaz Sattar, in a telephone call that when she and her sister left Flat 151 they had met other residents who told them not to go down as there was a fire lower in the building. They had gone to a flat on floor 23.[412] In a separate call, Sakina Afrasehabi told her son, Shahrokh Aghlani, that she and her sister had been told by others to go up to floor 23. Shahrokh Aghlani did not know who those others were.[413]

d. Berkti Haftom and her son may have left their flat even before Shah Ahmed alerted his neighbours. At 01.32.10, CRO Howson answered a call from a child who must be Biruk Haftom. He told CRO Howson that he was on the top floor with others and that "my actual door number is 155 but I'm at someone else's house".[414]

e. Amal Ahmedin, her daughter, Amaya Tuccu Ahmedin and Amna Idris were already in Flat 201 when Fadumo Ahmed reached it. Meron Mekonnen, who left the tower at 01.32.25, had seen Amal Ahmedin in the lobby on floor 19. Given that Amal Ahmedin was at this time already aware of the fire and that she lived in a "Flat 6" it appears likely that she evacuated her home at an early stage. Amna Idris was probably in the stairwell before 01.30 and was seen to go up the stairs.

f. At 01.29.48 CRO Sarah Russell made a return call to a mobile telephone which was answered by Jessica Urbano Ramirez. During that call Jessica Urbano Ramirez confirmed

411 Annex A.
412 Sattar first witness statement [IWS00000769] p. 4.
413 Aghlani first witness statement [IWS00001200] p. 3.
414 [LFB00000667].

her location as Flat 201 on floor 23.[415] Earlier Jessica had made two telephone calls to her mother, Adriana Ramirez. In the first she told her mother she was on floor 18 and in both agreed that she would come down the stairs.[416]

g. Gloria Trevisan was living in Flat 202 with her partner, Marco Gottardi. She called her mother, Emanuela Disaró, at 01.34. She told her mother that they had opened the front door to find a young man and a woman who had then come into the flat. This must have been Ernie and Majorie Vital.[417]

h. Fadumo Ahmed and Debbie Lamprell may not have been part of this group. When they reached Flat 201 others, including Gary Maunders, were already there.

10.290 The evidence suggests a number of reasons why some residents decided to go further up the building rather than down:

a. A belief that they might be rescued from the roof by helicopter.

b. A belief that there was a fire at a lower floor.

c. Instructions to go up rather than down. (Although some witnesses appear to have assumed that instructions to that effect had been given by the firefighters, there is no evidence that they had.)

10.291 Dr Lane has suggested other possibilities.[418] One is that people thought it too smoky to descend, but that does not fit with the general evidence as to conditions in the stairs. Another is that they considered the stairs too congested for them to escape. That would apply only to residents such as Naomi Li, Farhad Neda and Helen Gebremeskel who said that the presence of people coming up prevented them leaving. It does not explain why some chose to go up when others were going down.

10.292 It is not possible to reach any conclusion on this question and it is unlikely that any further evidence will emerge that would assist me to arrive at one.

4 Events in the control room

10.293 The following supervisors and CROs were present on the night shift starting at 20.00 on 13 June 2017: OM Alexandra Norman, AOM Peter May, AOM Debbie Real, CRO Sharon Darby, CRO Sarah Russell, CRO Pam Jones, CRO Yvonne Adams, CRO Angie Gotts, CRO Heidi Fox, CRO Christine Howson, and CRO Peter Duddy.

10.294 At 00.54.29 on 14 June, the first call concerning a fire at Grenfell Tower came into the control room.[419] CRO Jones picked up the call on the ICCS system and spoke to the caller, Behailu Kebede, who lived in Flat 16 on floor 4.[420] He provided the postcode, address, flat and floor number and stated that the fire had started in a fridge.[421] CRO Jones checked that he was outside the building and told him that fire engines were on their way.[422] During the call, CRO Jones opened a call collection form on VISION and selected the Incident Type Code (ITC)

415 [LFB00055504].
416 Ramirez first witness statement [IWS00001116] p. 5.
417 Disaró first witness statement [IWS00000543] pp. 5-6.
418 [BLAS0000020] p. 11 section 20.4.14.
419 [LFB00000301].
420 Jones witness statement [LFB00032090] and [LFB00000301].
421 [LFB00000301] pp. 2-3.
422 [LFB00000301] pp. 2-3.

for a simple fire, A1, instead of a high-rise fire (A1HR).[423] This generated a pre-determined attendance (PDA) of three appliances. She mobilised the three appliances nearest to Grenfell Tower: G272 and G271, North Kensington's pump and pump ladder, and G331, Kensington's pump. After CRO Jones had finished the call and within the next few minutes, all the appliances were on their way to the incident.[424] The control room received two further calls about the fire, one from the remote monitoring company which alerted the LFB to the fact that the automatic fire alarm in the building had been activated and another from a member of the public reporting a fire. The control room (CRO Howson and AOM Real respectively) confirmed that the firefighters were on their way.[425]

10.295 After the appliances had been mobilised, AOM May noticed the call on the incident list on his screen and saw that only three appliances had been mobilised.[426] He thought that the address was a high-rise building, so he checked on the internet and discovered that it was a building of at least 20 floors.[427] He changed the ITC for the incident on VISION to A1HR, which increased the PDA to 4 pumps.[428] As only three had been mobilised, he assigned a fourth, G362, Hammersmith's pump, to the incident at 00.59.12.[429] At 00.59.01 and 00.59.12 CRO Darby informed G271 over the radio that an additional appliance was attending the incident and that further calls were being received.[430] In the meantime, the appliances from North Kensington had arrived at Grenfell Tower at 00.59.24 (G272) and 00.59.28 (G271) and booked "on scene" (status 3).[431] As set out above, WM Dowden became incident commander and that was recorded in the incident log.[432]

10.296 At 01.01.16, G362 mobilised to the incident and booked mobile to incident (status 2).[433]

10.297 At 01.08.27 and 01.08.33, G362 and G331 respectively arrived at the incident.[434] It had taken them approximately 7 minutes and 12 minutes respectively to reach the incident ground. By that time, the first four appliances mobilised as a result of Behailu Kebede's call had arrived at Grenfell Tower.

10.298 The next communication the control room received was from the incident ground at 01.12.59. FF Broderick from G331 sent a radio message relaying a message from WM O'Keeffe to increase the number of pumps to 6 and to request one hydraulic platform.[435] CRO Darby received the message and recorded it in the incident log as a "make-up" message.[436] It was her practice when she received messages from the incident ground to shout them out to the control room so that everyone was aware of what was happening and as an early warning.[437]

423 Long incident log p. 38.
424 SIL p. 8, ORR v.0.7 p. 10, definition of status 2: Bell Day 8/112/1-4.
425 ORR v 0.7 p. 8.
426 May witness statement [MET00007895] pp. 2-3.
427 May witness statement [MET00007895] p. 3.
428 May witness statement [MET00007895] pp. 2-3; long incident log p. 43.
429 May witness statement [MET00007895] p. 3; SIL p. 8.
430 SIL p. 17; ORR v.0.7 p. 9.
431 SIL p. 8.
432 He is recorded as the Officer in Charge on the long incident log (by his call sign 49327M) at p. 39 at 00.55.14.
433 SIL p. 8.
434 SIL p. 8 and ORR v 0.7 p. 18. Note that the VISION time for status 3 for G362 is wrong and the GPS data from the ORR should be used instead.
435 ORR v 0.7 p. 22; [LFB00002906].
436 At time mark 01.13.39, SIL p. 17.
437 CRO Darby witness statement [MET00013961] p. 4.

She would then type and send the message to the relevant people and the supervisors to deal with.[438] Less than a minute later, at 01.13.41, G331 sent another radio message to CRO Darby asking for an aerial ladder platform instead of a hydraulic platform.[439]

10.299 Before any appliances could be mobilised in response to that request, CRO Darby received the following informative message by radio from G272 at 01.14.21:[440]

> "Golf 272, residential block of flats of 20 floors, 25 metres by 25 metres. Five room flat on fourth floor 75% alight. High rise procedure implemented. MDT in use, tactical mode Oscar received, stand by."

10.300 OM Norman saw the message come up on the incident log as it was relayed. She said that she was not overly concerned about the incident at that time as the message was quite standard for a high-rise fire.[441] Most of the CROs became aware of the informative message, which was logged on the incident log at 01.16.02, and so learned that the fire was on floor 4 of the building.[442]

10.301 The control room did not receive another similar informative message about how the incident was progressing until 02.39.17, over 1 hour and 25 minutes later.[443] OM Norman, who was in charge at the time, would normally have expected to receive another informative message describing the progress of the incident or the nature of the incident, given the number of make-up messages that the control room subsequently received.[444] SOM Smith explained that it sometimes happens that informative messages are not sent for quite a long period of time when make-up messages have been sent. The control room staff would not depend on routine informative messages in order to carry out their role.[445]

10.302 At 01.15.28, AOM Real assigned appliances to attend the incident ground in response to the make pumps 6 message. Two pump ladders (G361 from Hammersmith and A212 from Paddington) and two command units (CU7 from Wembley and CU8 from Fulham) were assigned.[446] The aerial ladder, A213 from Paddington, was assigned a few minutes later, at 01.19.19.[447] At the same time as assigning the four appliances, AOM Real also paged GM Patrick Goulbourne and four Station Managers (SM Brett Loft, SM Daniel Egan, SM Walton and SM Gareth Cook) to attend the incident.[448] SM Walton was already monitoring the incident. WM Matt Leaver, a Fire Investigation Officer, was also informed of the incident at the same time.[449]

10.303 GM Goulbourne was paged so that he could act as the monitoring officer at the scene.[450] He was not on duty that evening (a fact which had not been correctly recorded on the system) and so he should not have been paged.[451] As such, he did not respond to the pager message until the control room contacted him by telephone at 01.45.23.[452]

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438 CRO Darby witness statement [MET00013961] p. 4.
439 [LFB00002587]. Incident log is updated at 01.14.12, SIL p. 17.
440 Radio message from Control to Incident Ground confirms the series of messages that makes up the informative message [LFB00002949]. It is logged onto VISION at 01.16.02, SIL p. 17.
441 Norman Day 42/69/7-21.
442 For example, Russell Day 76/23/167-24; Gotts Day 43/163/16-25-164/1-13; Adams Day 80/35/18-25, 36/1-4.
443 SIL p. 23 at 02.42.03.
444 Norman Day 42/93/20-25.
445 Smith Day 22/93/21-25-22/94/1-16.
446 SIL pp. 8, 13; Real Day 43/15/7-25.
447 At 01.19.19, SIL p. 8.
448 SIL p. 13.
449 At 01.15.28, ORR v 0.7 p. 26.
450 For which see Appendix 1 of PN412, p. 17.
451 Goulbourne Day 41/67.
452 Goulbourne Day 41/67/13-25, 41/68/1-21.

10.304 Within a few minutes after the Station Managers had been paged, they all called in to the control room to book status 2 and started to make their way to the incident.[453] When SM Loft called in at 01.17.21, he was told by CRO Duddy that he was the first Station Manager to call in to control.[454]

10.305 In accordance with PN412, AOM Real informed the MPS of the incident at 01.16.43[455] and at 01.18.18 all the ORT officers were paged through a group page system.[456]

10.306 At 01.16.05, G272 had informed the control room by radio that it was the ICP. Three minutes later, at 01.19.08, G272 relayed a further make-up message, make pumps 8.[457] OM Norman was still not very concerned as she considered it to be a common attendance for a high-rise building.[458] Further resources were mobilised in response to the make-up message at 01.20.58: two pump ladders, an FRU and two operational support units.[459] At the same time DAC O'Loughlin was paged to act as a monitoring officer at the incident ground (as opposed to being a remote monitoring officer).[460] Although PN412 stated that the control room Senior Manager, SOM Smith, and the duty Assistant Commissioner (who that night was AC Andrew Roe), should be informed, neither was contacted at that time.[461] AC Roe's role would have been to act as remote monitoring officer.

10.307 DAC O'Loughlin was paged at 01.20.57 in order to carry out the role of remote monitoring officer.[462]

10.308 At 01.21.24, the first 999 call from a resident inside the tower (other than Behailu Kebede's 999 call) was received by the control room.[463] The call was from Naomi Li in Flat 195 (floor 22). A number of calls from members of the public outside the tower had already been received. The callers had been told that the fire brigade was in attendance.[464] CRO Adams, who had decided to combine her role as paging officer with answering calls,[465] answered the call from Naomi Li, who told her that she could smell smoke but that there was no smoke coming into her flat. CRO Adams told her that the fire was on floor 4, that the fire brigade was in attendance and that she should stay in her flat.[466] CRO Adams said that the information gathered in this call did not require a further message to be sent to the incident ground because the firefighters were already there. She thought that the smell of smoke was likely to be residual smoke from the fire on floor 4 and so she told Naomi Li to call back if the situation changed.[467]

10.309 At 01.24.09, G271 sent a radio message to control to make pumps 10[468] followed by a rapid succession of further make-up messages. At the same time, the control room started to receive a large number of 999 calls from trapped residents and members of the public.

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453 SIL p. 13.
454 ORR v 0.7 p. 30.
455 [INQ00000285].
456 Long incident log p. 59; ORR v 0.7 p. 33.
457 [LFB00002899] and recorded on SIL p. 17 at 01.19.35.
458 Norman witness statement [MET00080589] p. 4.
459 SIL p. 8; ORR v 0.7 p. 34; End of Incident Report pp. 65-66.
460 ORR v 0.7 p. 34.
461 ORR v 0.7 p. 34. SIL and long incident log show that SOM Smith was paged and notified 10 minutes later at 01.29 (p. 91 of long incident log) and AC Roe was only called to be mobilised 17 minutes later, when it reached 25 pumps at 01.36 (SIL p. 14).
462 SIL p. 13.
463 [LFB00000303].
464 The Control Room Report pp. 10-12.
465 Adams Day 80/29/22-25-30/10.
466 [LFB00000303].
467 Adams Day 80/32/18-25-34/13.
468 [LFB00002720]. Recorded at 01.24.34 on the SIL, p. 17.

10.310 Between 01.24 and 01.30, the control room received 20 calls from people trapped inside the building and members of the public reporting the fire.[469] The critical phone and the admin line was also constantly ringing as other services were also calling in.[470] OM Norman instructed her AOMs not to answer calls but to focus on mobilising resources to the incident and to assist her with the management of the control room.[471]

10.311 OM Norman said that at that point "all hell broke loose".[472] She thought that the fire might be spreading and that the firefighters had not got it under control.[473] At around 01.25, SM Jason Oliff, the Officer of the Day, was paged to attend the control room.[474]

10.312 The control room was now receiving 999 calls from residents on different floors in the building. At 01.24.57, CRO Duddy received a call from Damiana Louis in Flat 96 who reported a fire in her kitchen, but the call was lost before CRO Duddy could gather any more information.[475] At 01.25.16, Denis Murphy, in Flat 111 on floor 14 told OM Norman that the fire was coming right past his window.[476] He said that there was no smoke in his flat, although he had seen a lot of smoke when he tried to open the door to the lobby. She told him to stay where he was and that she would tell crews where to find him. Towards the end of the call, he reported that there was smoke coming in from the lobby. She told him to block the door to stop the smoke coming in and repeated that she would tell the crews. The information was not recorded on VISION by OM Norman as a service request.[477]

10.313 At 01.26.58, CRO Fox took a call from Katarzyna Dabrowska in Flat 95 on floor 12, who said that her neighbour had said that there was a fire in her kitchen.[478] She said that smoke was coming under the door. CRO Fox told her to put sheets or towels down to stop the smoke coming in and said she would tell the crews.[479] CRO Fox did not record the message on VISION as a service request; she may have written the number down on a piece of paper instead.[480]

10.314 Over the next few minutes WM Dowden increased the make-ups. At 01.27.26, a message was sent from G271 to make pumps 15 and to request two aerial pump ladders.[481] Less than a minute later, at 01.28.12, another message was sent from G271 stating that there were persons reported.[482] About a minute after that, at 01.29.11, a message was sent from G271 to make pumps 20 and to ask for two more FRUs.[483] When this happened, CRO Gotts remembered thinking: "Oh my God, this is worse than Lakanal" and she knew it was going to be a huge incident.[484] When the "persons reported" message came through, OM Norman thought that there was going to be a lot of smoke affecting flats further up the building, which would make people think that they could not leave.[485]

469 The Control Room Report pp. 13-23. The figure does not include call-backs.
470 Norman witness statement [MET00080589] p. 5.
471 Norman witness statement [MET00080589] p. 6.
472 Norman witness statement [MET00080589] p. 5.
473 Norman Day 42/70/2-6.
474 Oliff witness statement [MET00012791] p. 3.
475 [LFB00000304].
476 [LFB00000308].
477 [LFB00000308].
478 [LFB00000309].
479 [LFB00000309].
480 Fox Day 80/203/2-7.
481 [LFB00002698] and [LFB00002765].
482 [LFB00002375] and ORR v 0.7 p. 508.
483 [LFB00002589].
484 Gotts witness statement [MET00007694] p. 5 and Day 43/157/19-158/11.
485 Norman Day 42/71/23-25-72/1-5.

10.315 When the "persons reported" message came through at 01.28.12, AOM May recalled CRO Gotts and CRO Fox from their break.[486] CRO Russell handed over the monitoring of radio channel 2 to CRO Darby so that she was free to take calls.[487] Every CRO in the control room was fully occupied taking calls but there were not enough of them to respond immediately to all the calls being received. In those circumstances OM Norman decided to take 999 calls and was on the phone almost continuously from 01.25.16 to approximately 01.33.[488]

10.316 At 01.28.26, CRO Duddy took a call from Natasha Elcock in Flat 82 on floor 11.[489] She said that she was stuck, because there was smoke on her landing, although not in her flat.[490] CRO Duddy advised her to keep the doors closed and explained that he would let the crews know.[491] No service request was created to pass this message to the crews on the incident ground. CRO Duddy may have written the message down on a piece of paper and passed it to CRO Adams, who was collecting notes of flat and floor numbers where people were trapped with a view to passing them to the incident ground together.[492]

10.317 At the beginning of a call which began at 01.29.48, Jessica Urbano Ramirez told CRO Russell that her kitchen was on fire and that a lot of smoke was coming from the floor. CRO Russell established later in the call that Jessica Urbano Ramirez and about 10 others were in Flat 201 on floor 23.[493] CRO Russell spent the next 55 minutes on the phone to Jessica Urbano Ramirez.[494] During the early stages of the call, CRO Russell told Jessica Urbano Ramirez that the fire was on floor 4 and advised her to block out the smoke coming through the door.[495]

10.318 The CROs also received numerous calls from members of the public reporting that the tower was on fire.[496] They described what they could see using expressions such as: "a whole tower block on fire",[497] "a line of fire going right up the outside of the tower"[498] and "a whole block of flats on fire".[499] None of that information was recorded on the incident log and CROs did not communicate it to each other by any other means.[500] There was no system for collating information so that all CROs would be able to understand the extent of smoke and fire spread.[501]

10.319 While OM Norman did not supervise or listen to any of the 999 calls during that period, she said that she had been able to hear the CROs sitting near to her (CROs Jones, Adams and Duddy) and was aware of people saying they were unable to leave due to smoke affecting their premises.[502] CRO Adams explained that she did not think there was much she could do with the information she received at that time, since she knew that fire crews were already in attendance.[503] She described herself and her colleagues as bewildered by the number of calls

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486 Gotts witness statement [MET00007694] p. 5; Fox witness statement [MET00007764] p. 4.
487 Russell witness statement [MET00007698] p. 6.
488 Control Report pp. 15-28. OM Norman calls: one at 01.25.16 to a male caller in Flat 111 on floor 14 (3 mins 57 secs), one at 01.30.02 to a female caller with her family in Flat 175 on floor 20 (2 mins 40 secs) and one at 01.32.51 to a female caller outside the tower (1 min 4 secs).
489 [LFB00000307].
490 [LFB00000307].
491 [LFB00000307].
492 Duddy Day 42/204/15-22.
493 [LFB00000481] and [LFB00055504].
494 Control Report p. 24.
495 [LFB00055504] pp. 3-7.
496 Control Report pp. 12-25.
497 Control Report p. 12.
498 Control Report p. 13.
499 Control Report p. 24.
500 Adams Day 80/37/10-17 and Duddy Day 42/199/2-21.
501 Norman Day 42/79/10-16.
502 Norman Day 42/75/16-19, 42/78/10-25-79/1-5.
503 Adams Day 80/45/17-46/1.

coming in.[504] CRO Howson could not understand what was happening. She thought she knew that the fire was on the lower floors and could not understand how there could be smoke outside the windows of flats much higher up the building.[505]

10.320 While the 999 calls were flooding in, AOM Real and AOM May continued to mobilise resources and officers to the incident as each make-up request was made.[506] AOM Real also called the LAS at 01.29.06 to inform them of the incident.[507] At the same time, officers and crews on appliances continued to call into the control room to book their status.[508]

10.321 At around 01.29.42, SOM Smith was paged and informed of the incident.[509]

5 The actions of the MPS, the LAS, RBKC and the TMO

10.322 The initial involvement of the MPS came at 01.16.45 when the make-up of the pumps at the tower went to 6 pumps.[510] At that stage the MPS's call handling system (CHS) created a computer-aided dispatch (CAD) record, namely CAD 482, for the Grenfell Tower incident.[511] CAD 482[512] is broadly similar to the SIL created by the LFB and contains all the significant radio messages and actions attributed to the incident which passed through the MPS CAD system. It is not possible to identify clearly which call to the MPS's control room[513] (MetCC) prompted the creation of CAD 482. Upon opening CAD 482, a call went out for police assistance across London.[514]

10.323 At 01.18.34 a MetCC control room operator entered the following details on CAD 482 (showing at 01.19.00):

> "5 roomed flat on the 4th floor
>
> 75% alight."

10.324 The information had come from AOM Real in the LFB control room, who had notified the MPS of the incident at 01.16.43 in accordance with the protocol that at six pumps the MPS should be informed.

10.325 At the point when the MPS was informed that the fire had been made up to six pumps, Inspector Thatcher, the night duty Inspector for Kensington and Chelsea, was in his car on the King's Road in Chelsea listening to his Airwave radio.[515] Detective Superintendent Paul Warnett, the night duty officer with responsibility for south London, including Kensington and Chelsea, was sitting in his office in Kensington aware that the call had come in and was monitoring the situation.[516]

504 Adams Day 80/46/2-13.
505 Howson Day 80/143/6-17.
506 SIL pp. 8-9.
507 Call to LAS [INQ00000378].
508 SIL p. 8.
509 End of Incident Report p. 91 and Smith Day 21/191/23-192/15.
510 [INQ00000285].
511 Refer to Winch witness statement [METS00020664] pp. 2-4 for a full description of the CHS and CAD systems in operation in the MPS.
512 [MET00023294].
513 There are three MetCC control rooms, at Bow, Lambeth and Hendon.
514 Thatcher Day 71 (Mon)/15/1-23.
515 Thatcher Day 71 (Mon)/22/18-25.
516 Warnett witness statement [MET000080605] p. 1.

10.326 PC Josh Rees and PC Kiran Sangha were the first police officers at the scene, arriving at 01.22.00.[517] At 01.23.08 PC Sangha (call sign 119BS) sent a radio message calling for another unit for crowd control, and at 01.23.28 he sent the following radio message:

> "OTHER FLATS AT RISK OF FIRE. GOING TO BE A MASSIVE EVACUATION."

10.327 At 01.26.04 he sent another message saying that large pieces of the building were falling off.

10.328 At 01.26.05 Detective Superintendent Warnett (call sign MXB155) sent a message saying:

> "CONSIDER LINKING WITH COUNCIL RE EVACUATION"

10.329 At this point Inspector Thatcher had asked his colleague in the Kensington and Chelsea police hub (Sergeant Blondell) to call RBKC to find a place to put occupants who were, or soon would be, leaving the building.[518] It was followed at 01.29.39 by a message from Inspector Thatcher to the local hub to the effect that RBKC should be contacted, as they would need to rehouse residents from the building.

10.330 At 01.26.21 PC Sangha sent a message saying:

> "THIS IS TURNING INTO A CRITICAL INCIDENT"

10.331 A critical incident is a defined by paragraph 1.4.5 of the London Resilience Partnership Strategic Co-ordination Protocol as: "Any incident where the effectiveness of the police response is likely to have a significant impact on the confidence of the victim, their family and/or the community".[519]

10.332 Inspector Thatcher heard the message over his radio and put on his siren and blue lights. A few seconds later, at 01.26.32, he declared a Major Incident. Although CAD 482 records him (under his call sign BS1N) as having declared a critical incident, he told the Inquiry (and I accept) that he had declared a Major Incident at that time and the reference to "critical" in CAD 482 at that time mark was an error.[520] A Major Incident is defined by paragraph 1.4.7 of the London Resilience Partnership Strategic Co-ordination Protocol as: "an event or situation with a range of serious consequences which requires special arrangements to be implemented by one or more emergency responder agency".[521]

10.333 At 01.28.37 PC Sangha sent a further message:

> "THE BUILDING IS 30 STOREYS HIGH – IT IS BEING EVACUATED NOW. WE NEED OFF-BOROUGH UNITS TO ASSIST. LOTS OF BURNING MASONRY FALLING FROM THE BUILDING."

10.334 During this period he and other police officers were seeking to control the growing crowd gathered outside the building and keep them away from it for their own safety, despite the efforts of some in the crowd to run into the building to rescue loved ones.[522] Inspector Thatcher was probably on the incident ground by that point.[523]

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517 Sangha witness statement [MET00007837] p. 1.
518 Thatcher Day 71(Mon)/27/22-28/6.
519 [MET00023288] p. 12.
520 Thatcher Day 71(Mon)/33/19-34/5.
521 [MET00023288] p. 12.
522 Sangha witness statement [MET00007837] p. 2.
523 Thatcher Day 71(Monday)/54/21-25. He said that he probably arrived at 01.15 but that cannot be correct because he was still en route (but very close) when he declared a Major Incident at 01.26.32.

10.335 At 01.29 he sent the following message to contact RBKC:

> "BS2N TO CONTACT THE LOCAL AUTHORITY AS THEY WILL NEED TO REHOUSE RESIDENTS FROM THIS BUILDING."[524]

10.336 The LAS were first alerted to the fire by the LFB by way of a 999 call at 01.29.06.[525] The LFB told the LAS that it was a 20-pump fire, that they were receiving calls from people stuck in flats, and that there were "persons reported". The incident changed to a 25-pump fire during the course of the call.

10.337 At 01.30.04 the first message was sent by the MPS to marshal the NPAS helicopters for "overview and scene management".[526]

[524] CAD 482 p. 6.
[525] [INQ00000378].
[526] CAD 482 pp. 6-7.

Chapter 11
Period 2: 01.30-01.40

1 External fire spread

11.1 Between 01.34 and 01.35 the fire had spread from the east face to the north face of the tower, progressing over the top of column A5 on the north east corner.[1] The following images capture the development of the fire at that stage:

Figure 11.1

11.2 At 01.36 there was continued burning to the south side of column B5 on the east face, at the apex of column B5 and also at lower levels of the building at about floor 8,[2] as can be seen in this image:[3]

[1] Professor Bisby supplemental report [LBYS0000001] p. 213 sections 1007-1012.
[2] Professor Bisby supplemental report [LBYS0000001] p. 204 sections 989-992.
[3] Professor Bisby supplemental report [LBYS0000001] p. 206 Fig. 124.

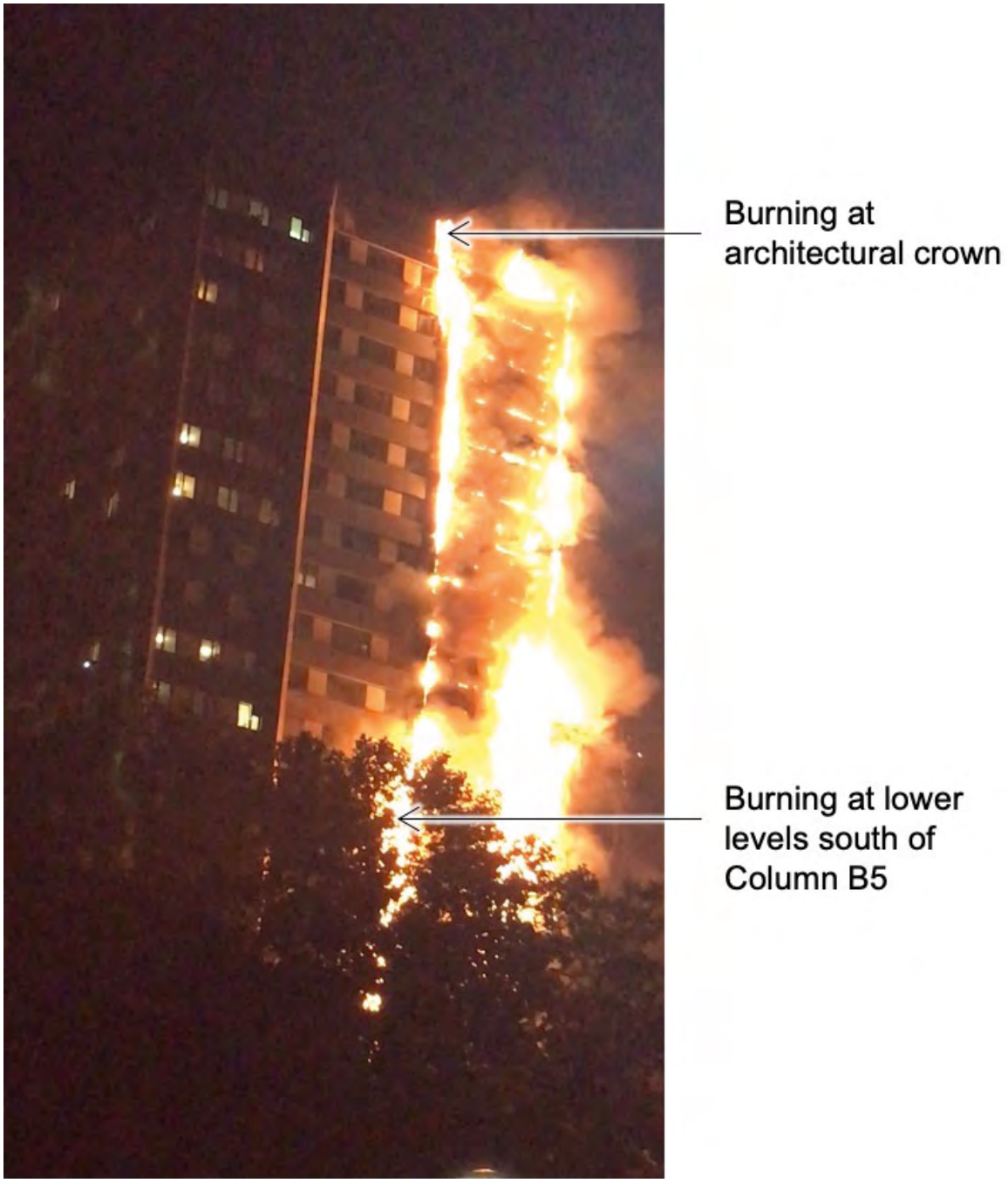

Figure 11.2

11.3 In the period 01.30 to 01.40 all the "Flat 6s" between floors 4 and 23 of the tower continued to be affected by the external fire.[4]

[4] Those are Flats 86, 96, 106, 116, 126, 136, 146, 156, 166, 176, 186, 196 and 206: Dr Lane supplemental report [BLAS0000012] p. 9.

2 Events on the incident ground

Arrival of CU8

11.4 At 01.30.48 Fulham's CU8, in which WMs Mark Kentfield and Daniel Meyrick were riding, arrived.[5] It was the first command unit to arrive. WM Meyrick, who was driving, parked CU8 on Bomore Road where it remained for the duration of the incident.[6] WM Kentfield was the team leader.[7]

11.5 Shortly after its arrival at the incident, the control room started to pass FSG information to CU8. WM Michael Dowden stated that it was only after the arrival of CU8 that he became aware that there were FSG calls in progress, when CU8's team leader came up to him outside the tower.[8] WM Meyrick remained on CU8 receiving FSG information from the control room on the main-scheme radio, which he in turn passed to WM Kentfield, who was on the incident ground, using channel 10.[9] At this stage WM Meyrick recorded the FSG information he had received on a blank piece of paper.[10]

Arrival of SM Brett Loft

11.6 SM Loft arrived at 01.32.08.[11] He was the first Station Manager to arrive and said that he had realised fairly early on that the fire was within the building, not just on the outside.[12] On arrival SM Loft approached WM Dowden and the two of them decided jointly that, rather than taking over incident command, SM Loft would manage the FSG calls.[13] SM Loft said that he had been confident that it was appropriate for WM Dowden to remain in control of the incident.[14] At around the time that decision was made, SM Loft and WM Dowden were approached by WM Kentfield who gave them a list of calls he had made on a piece of A4 size paper. At that point they became aware that there were a large number of FSG calls.[15] That was at around 01.40.[16]

11.7 There was no discussion about the "stay put" advice, about the possibility of a total or partial evacuation, or about declaring a Major Incident.[17] During their conversation WM Dowden indicated that he was not sure if the fire had penetrated inside the building, but SM Loft did not recall having told him that, in his view, it had.[18] There was no discussion about how SM Loft should go about taking the information from the command unit, how it should be recorded, or what SM Loft's line of communication with the incident commander should be. SM Loft did not speak to anyone in the control room.[19]

5 SIL p. 8.
6 WM Meyrick witness statement [MET00007760] p. 3.
7 WM Kentfield witness statement [MET00023051] p. 10.
8 Dowden Day 10/149/5-151/21.
9 Meyrick Day 20/25/17-28/18.
10 Meyrick Day 20/41/10-42/1.
11 SIL p. 13.
12 Loft Day 37/126/4-127/7.
13 Loft Day 37/138/5-21.
14 Loft Day 37/138/23-139/4.
15 Loft Day 37/134/18-23, 138; SM Loft estimated that there were eight or 10 flats recorded on this list: Loft Day 37/151/24-152/1.
16 Loft Day 37/145/5-17.
17 Loft Day 37/137/14-25.
18 Loft Day 37/128/7-129/3.
19 Loft Day 37/149/3-13, 156/4-18.

Arrival of A213, Paddington's turntable ladder

11.8 A213, Paddington's turntable ladder, arrived at 01.32.07.[20] FF Christopher Reynolds was driving A213 with CM Daniel Harriman riding. On arrival, A213 parked on the east side of the tower, as depicted in the hand-drawn diagram of FF Raymond Keane, who assisted in setting up and managing the water supply to the turntable ladder.

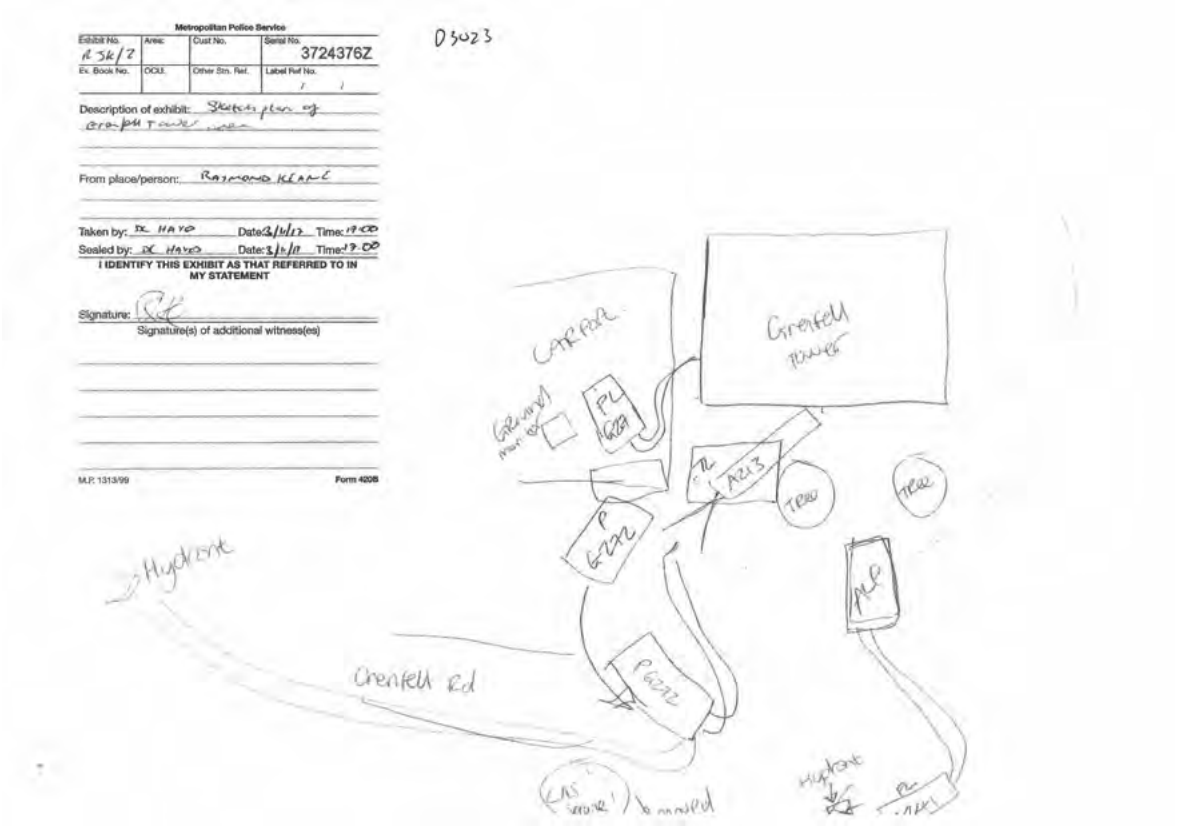

Figure 11.3[21]

11.9 A working hydrant was eventually located on the corner of Bomore Road and Grenfell Road[22] and this was used to supply water, via G272, to the turntable ladder. It took between 10 and 15 minutes after its arrival for it to become operational.[23]

Deployment of FFs David Badillo and Christopher Dorgu and CM Christopher Secrett

11.10 Having come back down from floor 15 to the ground floor, FF Badillo left the tower. Once outside, he saw WM Dowden at the corner of the tower and told him that more resources were required. WM Dowden instructed FF Badillo to send a "make-up" message himself to make pumps 25. FF Badillo sent the message from his own appliance, G271, at 01.31.30.[24] FF Badillo then returned to the bridgehead where he saw CM Secrett and FF Dorgu who agreed

20 SIL [MET00013830] p. 8.
21 Keane Day 25/13/5-17.
22 Gillam witness statement [MET00008025] p. 5.
23 Keane Day 25/19/9-12.
24 Radio message [LFB00002606].

to go up to Flat 176 with him.[25] Accordingly, at 01.33, FFs Badillo and Dorgu and CM Secrett entered the stairs under air with the intention of rescuing Jessica Urbano Ramirez from Flat 176 on floor 20.[26]

11.11 The crew entered the lift and pressed the button for floor 20, but the lift stopped and opened at, in all likelihood, floor 8[27] and, again, filled with smoke. They made their way to the stairwell and began to climb.[28]

Arrival of A216, Paddington's FRU

11.12 At 01.35.18, A216, Paddington's FRU, booked status 3.[29] It was the first FRU to be mobilised and to arrive at the incident. CM Philip Wigley was in charge, riding with FFs Martin Gillam, Russell Gonzalez, Andrew Harris and Dean Roberts.

11.13 On arrival CM Wigley went to find the incident commander to obtain instructions.[30] WM Dowden asked the crew to go up to the roof of the tower and, using the FRU's line equipment, run a jet of water down from the top of the building.[31] FF Roberts recalled that on being informed of the brief by CM Wigley he had thought it was a strange task,[32] and had had concerns that the roof might have been compromised. He had also questioned whether the crew would be able to gain access to the roof as in high-rise buildings that usually requires a key.[33] By contrast, FF Gillam said in his oral evidence that he had not questioned the feasibility of the task, and thought that the combination of the turntable ladder applying water from the bottom of the tower and the FRU crew applying water from the roof would succeed in extinguishing the fire.[34]

11.14 WM Dowden explained that his intention had been to produce an effect similar to a drencher system, and that at the time he gave the order he believed that the spread of fire over the outside of the building could be controlled.[35] In hindsight he could see that it was never going to work and that the fire had been progressing too rapidly for the available resources.[36] He had no information about the layout of the roof and its access, and did not recall having been given any information about the conditions in the staircase by which he had envisaged the crew getting to the top of the building.[37]

CM Jamal Stern and FF Richard Hippel returned to the bridgehead

11.15 As noted in Period 1, CM Stern and FF Hippel arrived back at the bridgehead at around 01.38. FF Hippel told WM Brien O'Keeffe, in relation to the conditions on floor 16, that "it's fucked"[38] and CM Stern recalled informing WM O'Keeffe that he and FF Hippel had been unsuccessful in their rescue and that one person was unaccounted for, although he was not sure if he

25 Badillo witness statement [MET00010080] pp. 5-6. The evidence is not clear as to whether the crew specifically told entry control the flat number of their intended rescue.
26 BA Telemetry data [LFB00003115]. Note that FF Dorgu's tally out time is slightly later, at 01.35.01.
27 FFs Badillo and Dorgu say it was floor 8 (Badillo Day 147/24-148/2; Dorgu Day 19/151/6-8); CM Secrett in his first witness statement ([MET00010105] p. 6) said floor 6 but accepted in oral evidence he could be mistaken: Secrett Day 17/72.
28 Badillo witness statement [MET00010080] pp. 6-7.
29 SIL [MET00013830] p. 8.
30 Wigley witness statement [MET00010927] p. 4.
31 Gillam witness statement [MET00008025] p. 6.
32 Roberts witness statement [MET00007890] p. 4.
33 Roberts Day 27/112/5-114/16.
34 Gillam Day 27/56/4-16; 97/20-98/22.
35 Dowden Day 10/143/9-144/10.
36 Dowden witness statement [MET00010915] p. 6.
37 Dowden Day 11/42/3-43/9.
38 Hippel Day 26/47/9-48/12.

said that the person was bedbound.[39] FF Justin O'Beirne said that when he left the tower, he informed SM Loft that there was a bedbound man on floor 16 whom the crews had been unable to reach.[40] SM Loft did not recall this exchange with FF O'Beirne.[41]

WM Paul Watson and the setting-up of a BA staging post

11.16 Meanwhile, at around this time on the ground floor of the tower, WM Watson began to establish a BA staging area within the ground floor lobby, after receiving a very quick briefing from WM Dowden.[42] The purpose of the staging area was to hold BA wearers until the bridgehead was ready to receive them. WM Watson tried, but failed, to communicate with WM O'Keeffe by radio. Accordingly WM O'Keeffe came out onto the mezzanine on floor 2 and shouted down to WM Watson on the ground floor.[43]

Arrival of SM Gareth Cook

11.17 SM Cook arrived at the incident at 01.38.25.[44] He was the second Station Manager in attendance, after SM Loft. SM Cook had been mobilised to perform the role of Press Liaison Officer.[45] On arrival he walked towards the tower and took the following five photographs of the building, which he sent to AC Andrew Roe at 01.43 (in Period 3):

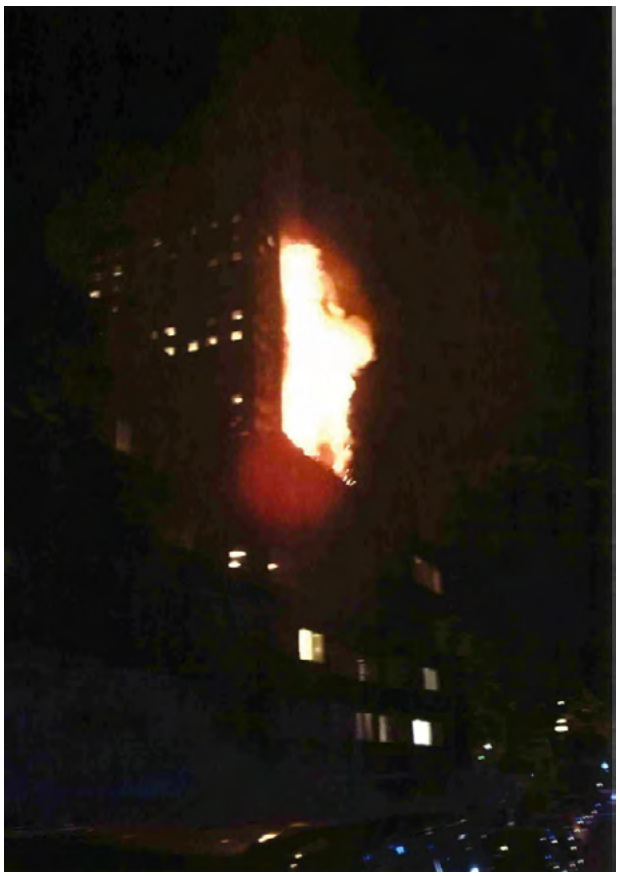

Figure 11.4

39 Stern Day 26/193/8-20.
40 O'Beirne Day 15/31/10-32/8.
41 Loft Day 37/173/3-10.
42 Watson Day 28/18. CCTV images show WM Watson entering the tower at 01.33, although he does not set up the staging post immediately: Watson Day 28/17/19-18/21.
43 Watson Day 28/32/19-33/17.
44 SIL p. 13.
45 ORR v 0.7 p. 88.

Figure 11.5

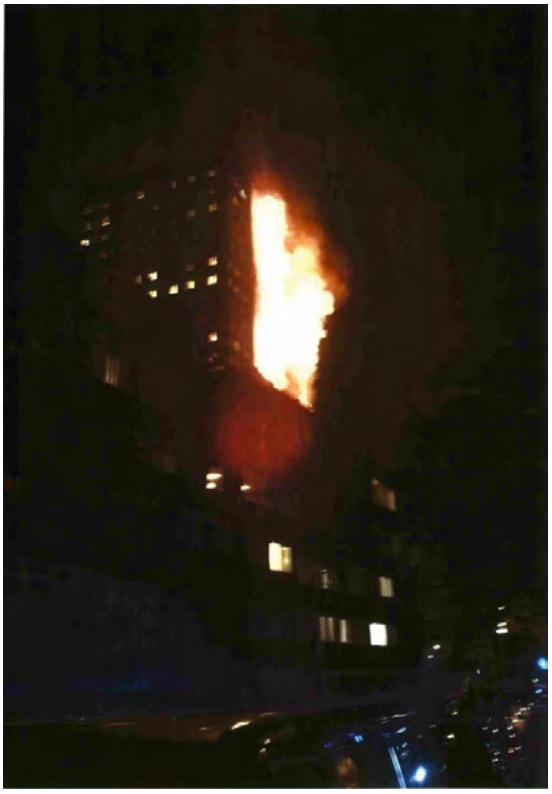

Figure 11.6

Figure 11.7

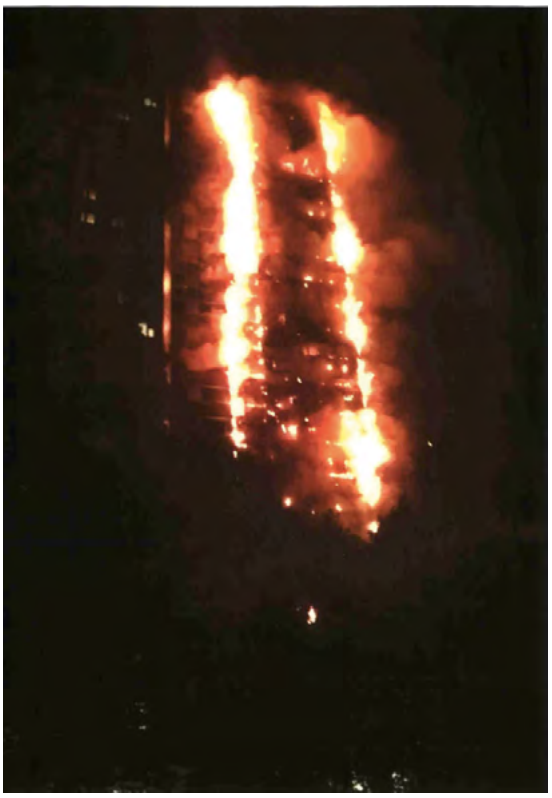

Figure 11.8

AC Roe mobilised

11.18 At 01.36.02, AC Roe was assigned to attend the incident.[46] He called the control room at 01.38.51 to obtain further information about the incident and to book his status as attending. He spoke to AOM Peter May, who confirmed the details and explained that there were "loads of people trapped in flats".[47] AC Roe asked who was in charge of the incident, but AOM May could not tell him.[48] He asked if a Deputy Assistant Commissioner and a Group Manager were in attendance, but AOM May could only tell him that DAC Andrew O'Loughlin was on his way and that GM Patrick Goulbourne had been assigned but had not yet mobilised.[49]

11.19 AC Roe heard a "very considerable level of stress" in AOM May's voice which he considered unusual. He also heard background noise in the control room which suggested an "absolutely exceptional incident".[50] By the end of the call, AC Roe believed that the informative message was "inaccurate" in the sense that it underplayed the scale and gravity of the incident. His oral evidence to the Inquiry bears setting out in full:

> "So my sense was we had a very dynamic incident that had grown exponentially quickly, and therefore it was outstripping officers' ability probably to effectively decision-make at that point, certainly to pass effective messages, that the control room would be under massive pressure because they must have been handling multiple FSGs… my guess is it was going to carry on developing…. All of my instincts as a professional officer told me I was driving towards a major incident."[51]

Arrival of G341, Chelsea's pump ladder

11.20 G341, Chelsea's pump ladder, booked status 3 at 01.39.13.[52] There was a crew of five riding on G341, including WM Louisa De Silvo.

Arrival of SM Andrew Walton

11.21 SM Walton's recorded arrival time is 01.40.12.[53] He had made several attempts to book in by mobile telephone and radio before he had been able to make contact with the control room.[54]

3 Conditions in the tower and movement of occupants

Firefighters' evidence

11.22 When CM Secrett and FFs Badillo and Dorgu arrived on floor 8, CM Secrett described the smoke as fairly thick. It filled the lift so that, when it opened, he could not really see FFs Dorgu and Badillo beside him.[55] It was also smoky when the crew moved into the stairwell, though a little clearer than it had been in the lobby.[56] The conditions in the stairwell worsened as the crew went up,[57] with the temperature also gradually increasing.[58]

46 SIL p. 14.
47 [INQ00000202] p. 2.
48 [INQ00000202] p. 3.
49 [INQ00000202] pp. 3-5.
50 Roe Day 48/196/16-197/17.
51 Roe Day 48/198/1-18.
52 SIL p. 8.
53 SIL p. 13.
54 Walton Day 46/107/18-25.
55 Secrett Day 17/72/23-73/5.
56 Secrett Day 17/79/7-12.
57 Secrett Day 17/80/6-11.
58 Secrett Day 17/89/7-19.

11.23 CM Matthew Sephton and FFs Benjamin Broderick and Mark Brodrick were committed under air shortly after CM Secrett, FF Dorgu and FF Badillo.[59] They were instructed to go to floor 5. FF Brodrick described arriving at floor 5 and seeing FF Wayne Archer on his way out, covered in black soot. He saw black smoke in the lobby. FF Broderick said that the smoke affected visibility in the stairwell but that it improved slowly as the smoke rose up.[60] Once inside the lobby on floor 5, FF Brodrick could not see because of the smoke and there was also intense heat inside the flat they entered, which they thought was immediately above the flat from which the fire originated.[61] CM Sephton described inadvertently walking into the bin chute as the crew were on their way out, which was illuminated and completely free of smoke. CM Sephton did not see any fire on floor 5.[62]

The evidence of the occupants

11.24 Of the 297 occupants of the tower, 112 had left the building by 01.30. A further 36 successfully evacuated in the following 10 minutes.[63] Once again, given that significant events were occurring almost simultaneously on different floors, it is convenient to consider the evidence available from those occupants still in the tower on a floor by floor basis. Between 01.24 and 01.40 there was a significant increase in the number of emergency calls from those still inside the tower. They included a cluster of calls from people in flats on floors 20 and above, six[64] of which were handled by the emergency services between 01.29 and 01.32. It is therefore convenient to begin this part of the narrative at the top floor of the tower.

Conditions on floor 23

11.25 As previously noted, at 01.29.48 CRO Sarah Russell made a call back to Jessica Urbano Ramirez.[65] Between around 01.30 and 01.40, Jessica Urbano Ramirez said that:

a. She was with a group of about 10 people in the hallway of a flat on floor 23.[66] (Later she gave the flat number as 201).[67]

b. Smoke was coming "from the floor" and "it's completely smoky outside".[68]

c. People on the floor were having difficulty breathing.[69]

d. The group was at the front but there was a fire "at the back". The fire was "out the window".[70]

e. Fire had entered the living room (which Jessica Urbano Ramirez herself had not seen) and was setting things alight, which other occupants had tried to put out with water.[71]

f. The group had moved from the hallway into a bedroom.[72]

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59 BA Telemetry data [LFB00003115] records tally out times of 01.27.10, 01.38.00 and 01.38.02 for this crew.
60 Broderick witness statement [MET00012658] p. 6.
61 Brodrick [MET00016789] p. 7.
62 Sephton witness statement [MET00010895] pp. 4-5.
63 I include in this number Leanne Jackson Le-Blanc, Joseph John and their son, although for the reasons explained it is not possible to be precise about their exit time.
64 This number does not include the call from Flat 142 timed at 01.29.02.
65 [LFB00055504].
66 [LFB00055504] pp. 3, 5, 9.
67 [LFB00055504] p. 31.
68 [LFB00055504] p. 13.
69 [LFB00055504] p. 10.
70 [LFB00055504] pp. 7, 11.
71 [LFB00055504] pp. 10-13.
72 [LFB00055504] p. 19.

11.26 The information that Jessica Urbano Ramirez provided to CRO Russell indicated that there was by then smoke in the lobby, which was coming through the front door of Flat 201. The reference to the fire being "at the back" would have been to the east face of the tower. In her written account Fadumo Ahmed, who also sheltered in Flat 201, said there were about 10 people in the hallway. Her recollection was that the lobby on floor 23 had been thick with smoke. Those in the hallway had been finding it difficult to breathe. From her position Fadumo Ahmed could see fire at the living room window. She and Amal Ahmedin decided to throw water from the bathroom onto the living room window, the top of which was burning. This was not successful.[73]

11.27 When Mariem Elgwahry spoke to CRO Peter Duddy at 01.30.00 from Flat 205, she told him that there was smoke everywhere.[74] The call was disconnected. Mariem Elgwahry made another 999 call which was answered by CRO Heidi Fox at 01.38.16.[75] Mariem Elgwahry explained that the line had cut out when she had previously called. She gave the location of her flat and confirmed that no smoke was coming into it.

11.28 Biruk Haftom and his mother were also in Flat 201. In a 999 call answered at 01.32.10, Biruk Haftom said "We can't come out" when asked by CRO Christine Howson if he was in the tower. He also said "there's a lot of smoke in the flat and in the building…". The smoke was coming into the flat. Biruk Haftom confirmed that the fire was not in the flat but added, "I can see it and the window's already burning up." He then handed the phone to an adult who first said that the "fire is coming through" and then "the smoke's coming through the window". CRO Howson advised them both to try to stop the smoke coming into the flat.[76]

11.29 There is also video evidence of the conditions in the lobby on floor 23 at that time. Rania Ibrahim was at home in Flat 203 on the night of the fire with her two daughters, Fethia and Hania, aged four and three years. Her husband was abroad at the time.[77]

11.30 At 01.38 Rania Ibrahim began to live stream a video to Facebook.[78] The recording runs for 6 minutes 33 seconds ending at 01.44.33.[79] It shows the conditions inside Flat 203 and in the lobby on floor 23 and it is important evidence of the internal movement of occupants and the location and effects of smoke.

11.31 At the start of the recording Rania Ibrahim is by the front door. A smoke alarm is audible in the background. A female voice is heard telling Rania Ibrahim not to open the front door as it will allow smoke into the flat.[80] While the speaker does not appear on the video, to judge by the voice she is likely to have been Isra Ibrahim, who sheltered in Flat 203 with her mother Fathia Ahmed Elsanousi. Rania Ibrahim agrees with the speaker but expresses concern that there may be people in the lobby. Shortly afterwards she opens the front door and calls out to people to come to her apartment.[81] A white man, who has since been identified as Gary

73 Fadumo Ahmed [IWS00000729] pp. 4-5.
74 [LFB00000310].
75 [LFB00000317].
76 [LFB00000667] p. 3.
77 Ibrahim [IWS00000323] p. 1.
78 Ismail first witness statement [IWS00001230] p. 2.
79 Ismail exhibit SI/2 [IWS00001232].
80 Ismail exhibit SI/2 [IWS00001232] at 00.09 seconds.
81 Ismail exhibit SI/2 [IWS00001232] at 00.50 seconds.

Maunders, enters the flat.[82] A black man, since identified as Abufras Ibrahim, then appears on the video and tells Rania Ibrahim to close the door as she is letting smoke in.[83] Gary Maunders had moved to Flat 203 from Flat 201 where he was first seen by Fadumo Ahmed.

11.32 At this point the camera is facing towards the lobby. A light in the ceiling of the lobby is on and the darkness in that area appears to be caused by smoke.[84]

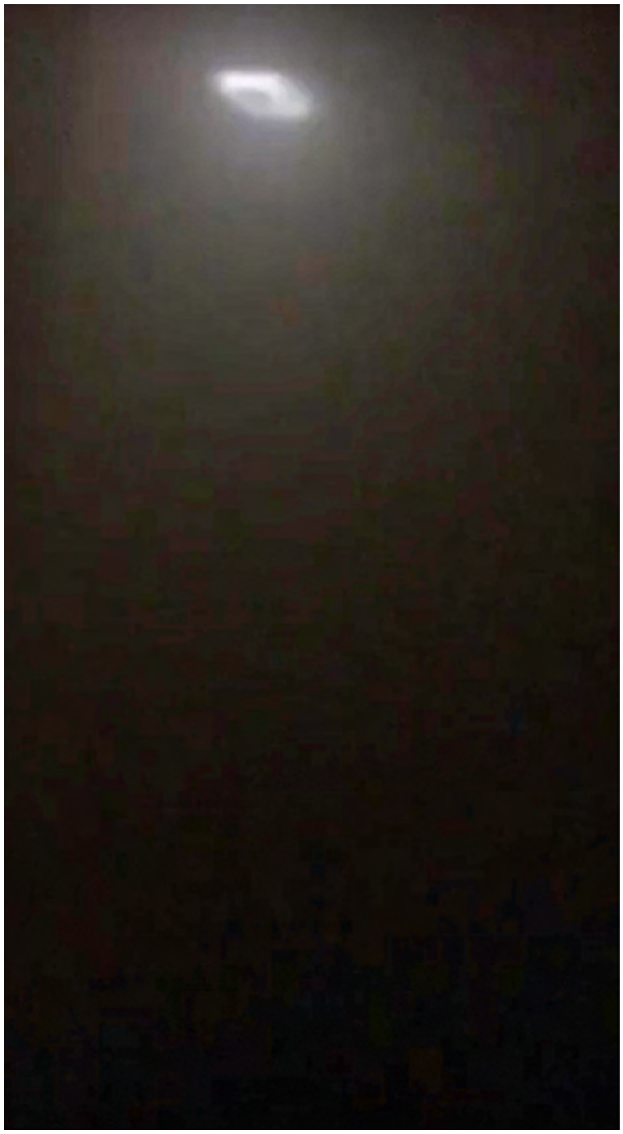

Figure 11.9

11.33 At 1 minute 14 seconds into the recording, Rania Ibrahim says she is going out. She then appears to step out into the lobby. She returns to the flat at 1 minute 32 seconds. She was able to breathe and speak while in the lobby and a man can be heard responding to her shouts of "Hello" and "Come here" with "We are here. I am inside our apartment".[85] No one is heard to cough on the recording. That and the fact that people are heard shouting suggests that the smoke in the lobby was not so thick that Rania Ibrahim could not stand there, at least for a short period.

[82] Ismail exhibit SI/2 [IWS00001232] at 00.59 seconds; Spence first witness statement [IWS00001235] p. 1 and Exhibit CS/1 [IWS00001235] p. 3.
[83] Ismail exhibit SI/2 [IWS00001232] at 01.05 minute and seconds. Abu Baker Ibrahim [IWS00001238].
[84] Ismail exhibit SI/2 [IWS00001232] at 01.14 minute and seconds.
[85] Ismail exhibit SI/2 [IWS00001232] at 01.24 minute and seconds.

11.34 About five minutes into the video (at around 01.43), it is possible to hear a voice coming from outside the tower shouting "This is the fire service. If you are able, exit the building". That is likely to have been FF Patrick Murray, who had been instructed by WM Watson shortly after his arrival to provide reassurance to residents in their flats using a loudhailer. FF Murray's evidence was that he did that for about 10 to 15 minutes, before recognising that the conditions were changing and that the fire was rapidly escalating, at which point he decided to tell residents to leave the building if they were able to.

11.35 Emanuela Disaró, Gloria Trevisan's mother, believed the man answering Rania Ibrahim's shouts was Marco Gottardi, her daughter's partner.[86] Gloria Trevisan and Marco Gottardi were in Flat 202. Gloria Trevisan called her mother at 01.34. The call lasted 30 minutes and 53 seconds. In the course of it Gloria Trevisan told her mother that she had been woken by knocking at the front door. When they had opened the door they had found the lobby "filled with a thick, dense smoke".[87] As I have mentioned already, outside were Majorie and Ernie Vital who had then come into Flat 202. Gloria Trevisan told her mother that they could not leave because of the smoke or go to the roof because the gate to it was locked. They were making signs to attract attention.[88]

11.36 At 01.39.15, OM Alexandra Norman took a 999 call from Hesham Rahman, who was alone in Flat 204.[89] He reported that a little smoke was coming into his home and he could smell it. He asked OM Norman if she could hear the alarm and told her that he could not see outside at all.

Conditions on floor 22

11.37 Anthony Disson was alone in Flat 194 on the night of the fire. His son Charles (Charlie) Disson who lived with him was away.[90] At 01.30.38, CRO Fox responded to a 999 call from Anthony Disson. He told CRO Fox: "it's terrible up here" and you "can't see a hand in front of ya".[91] It appears likely that Anthony Disson was referring to conditions in the lobby rather than in his flat. He did not say that there was smoke in Flat 194. By contrast in a later 999 call at 01.50.03 Anthony Disson said that smoke was coming into his flat.[92]

11.38 CRO Fox advised Anthony Disson to use towels to prevent smoke coming in, to which he responded that he would "tell the rest".[93] He must have been referring to other residents on floor 22. As I said earlier under Period 1, Naomi Li had spoken to him at 01.25 when, as she described it, there had been no more than very light smoke in the lobby.

11.39 There is no evidence to show that Anthony Disson was able to, or did, leave his flat at this point. A further indication of the conditions in the lobby on floor 22 at that time comes from another 999 call, which was made by Naomi Li and answered by CRO Angie Gotts at 01.30.38. Naomi Li confirmed that she had been in Flat 193 when she made that call.[94] She told CRO Gotts "there's all smoke now".[95] This contrasts with her description of conditions in the lobby at 01.25 when she met Anthony Disson and other neighbours.

86 Disaró second witness statement [IWS00001227] pp. 3-4.
87 Disaró first witness statement [IWS00000543] p. 6.
88 Disaró first witness statement [IWS00000543] pp. 4-5; Disaró second witness statement [IWS00001227] p. 6.
89 [LFB00000329].
90 Charles Disson [IWS00000239] p. 1; Cordelia Disson [IWS00000242] p. 1.
91 [LFB00000459].
92 [LFB00000328].
93 [LFB00000459].
94 Li Day 62/177/21.
95 [INQ00000472].

11.40 At the end of this 999 call Naomi Li asked CRO Gotts if she should stay in the flat. CRO Gotts responded, "I obviously can't really advise you, but I'll let the firemen know you're there, okay?"[96] When she gave oral evidence, Naomi Li explained that she had been unhappy with that advice, expecting a more direct answer. She was reassured by being told that the fire was on floor 4 and she made her own judgement to stay rather than relying on that advice.[97]

11.41 At 01.34.50 CRO Duddy answered the first call the emergency services received that night from Flat 192.[98] That was the home of Nura Jemal, her husband Hashim Kedir and their three children. In that call, CRO Duddy is told that the family "couldn't get down the stairs, because the stairs is full of smoke." Later he was told that smoke was coming into the flat from "the corridor", which must be a reference to the lobby. CRO Duddy advised that windows should be closed and blankets or towels used to block the door. At the end of the call he said "We've got people … coming to you now, okay."

Conditions on floor 21

11.42 Outside the tower, Hanan Wahabi called her brother Abdulaziz El Wahabi for a second time at around 01.30. Abdulaziz El Wahabi told his sister that he had been unable to leave because "there was too much black smoke". He had reached the stairwell but then turned back. Hanan Wahabi believed that the smoke her brother had encountered had been in both the lobby and the stairwell.[99]

11.43 Hanan Wahabi's description of conditions on floor 21 as given to her by her brother was consistent with the content of a 999 call he had made at about that time.[100] CRO Pam Jones had answered the call at 01.38.38. It lasted for just under an hour. While the content of the transcript indicates that other members of the El Wahabi family also spoke to CRO Jones, the evidence that Abdulaziz El Wahabi was speaking at an early stage comes not only from his sister but also the caller's reference to "me, the wife and three kids" when asked how many people were in the flat.[101]

11.44 It is relevant to an assessment of conditions on floor 21 that between 01.38 to 01.42, Abdulaziz El Wahabi told CRO Jones that they had tried to go downstairs but that it had been "too smoky", that smoke was coming through the front door and that it was "very smoky in the landing".[102]

Conditions on floor 20

11.45 At 01.31 four of the six flats on floor 20 were still occupied. Jessica Urbano Ramirez from Flat 176 had reached floor 23. Emma O'Connor and Luke Towner from Flat 171 had left the tower.

11.46 Omar Belkadi and his wife, Farah Hamdan, lived in Flat 175.[103] The couple were at home on the night of the fire with their three daughters, the youngest just six months old.

96 [INQ00000472].
97 Li Day 62/179/8-181/17.
98 [LFB00000315].
99 Hanan Wahabi first witness statement [IWS00000074] p. 15; Hanan Wahabi Day 70/171/15-172/24.
100 [LFB00055498].
101 Hanan Wahabi second witness statement [IWS00001146] p. 9; [LFB00055498] p. 8.
102 [LFB00055498] pp. 3, 4, 7.
103 Samira Hamdan [IWS00001180] p. 1.

11.47 At 01.30.02, OM Norman responded to a call from Farah Hamdan that lasted 2 minutes and 40 seconds.[104] Farah Hamdan gave her flat and floor number and reported that the fire was "right next-door to my building" and in a neighbour's flat. That probably meant Flat 176. When told the fire was on a lower floor, Farah Hamdan said that smoke was coming into her flat. OM Norman told her to stay in the flat unless it was safe to leave, adding that she did not know what the conditions in the stairs were like. She advised Farah Hamdan to block the doors and asked if the family were in a room furthest from "the actual fire". Farah Hamdan responded that the family were in their living room which was the "furthest from the front door". From that answer, it seems likely that the smoke Farah Hamdan had described had been entering from the lobby. That would indicate that there must have been a substantial amount of smoke in the lobby on floor 20 by the time of the call.

11.48 Petra Doulova lived with her husband in Flat 174.[105] The couple went to sleep on the night of the fire leaving windows open in their flat. Petra Doulova's evidence is helpful in assessing the speed with which smoke built up in the lobby on floor 20. She woke up at 01.20 when her husband got out of bed, alerted by the sound of a smoke alarm in the hallway of the flat. Petra Doulova first saw smoke when she went there. The hallway lights were on and the smoke was concentrated at ceiling height. Petra Doulova compared the situation to being in a room where people were smoking. She suggested that the smoke might have come in from the lobby when her husband opened their front door just after getting up.[106]

11.49 There was no smoke in the kitchen, which faced west. From its open window Petra Doulova could hear people screaming about a fire but she saw no smoke or fire. Her husband leant out of the same window and, as he later told Petra Doulova, he looked upwards and saw "a lot of smoke rising from the back at the top of the tower". The smoke was "completely at the top". This prompted his decision to leave.[107] On returning to the hallway, Petra Doulova noticed that the smoke there seemed thicker and hazier than before. She could not tell where it was coming from.[108]

11.50 Some two months before the fire, the couple had resolved that they would leave their home if there were a fire. They had a pre-packed bag containing important documents. They had reached this decision after Petra Doulova saw a sign which was "just a note printed on paper and placed between the two lifts we had in the lobby on the ground floor". It advised residents to remain in their flats in the event of a fire.[109]

11.51 The couple gathered wet towels and collected their pre-packed bag. Petra Doulova told me that she was "astounded" by what she saw on opening her front door. Closing the door she returned to the kitchen window for air before attempting to leave again. When she left, Petra Doulova found the lobby to be "pitch black and full of really horrible what felt like toxic smoke and the sound was very strange as well, it was kind of like weird, low humming strange sound."[110] The conditions made it difficult to breathe. While the lobby felt warmer than her flat, Petra Doulova did not notice much difference in temperature.[111] Using her hands, Petra Doulova felt her way to the stairwell door. At one point she encountered the locked cupboards

104 [LFB00000314] p. 2; ORR v 0.7 p. 61.
105 Doulova first witness statement [IWS00000835] p. 1.
106 Doulova Day 60/36/3-39/21.
107 Doulova Day 60/38/19-42/12.
108 Doulova Day 60/42/24-43/20.
109 Doulova Day 60/25/9-27/25; Day 60/31/12-32/7.
110 Doulova Day 60/43/18-44/7.
111 Doulova Day 60/49/9-49/19.

opposite the lifts which she mistook for that door. She had no difficulty in pushing open the stairwell door when she found it and kept it opened until her husband joined her some 10 to 15 seconds later.[112]

11.52 The sound which Petra Doulova described hearing on leaving her flat was not something she had heard before. It was lower in volume but similar to a noise she had noticed previously coming from the air vents in the lobby on floor 20.[113] Petra Doulova told the Inquiry that the noise was a regular occurrence that began only after the refurbishment. She described it as "quite an unusual sound, quite -- humming, haunting, really quite difficult to comprehend. It was as if something was sucking up a lot of air at the same time" and compared it to "a fan that's going on really, really fast." The sound was low, dull and loud but not as loud as a vacuum cleaner. Petra Doulova could not recall whether the noise from the vents had been triggered by particular conditions or whether the vents had been making this sound on the evening of 13 June 2017.[114]

11.53 Petra Doulova recalled that the stairwell door had closed after them when she and her husband entered the stairwell. There was smoke in that space, albeit it was thinner than that in the lobby. Nonetheless, breathing without a towel over the face was difficult. Petra Doulova thought that the stairwell had been illuminated. She was struck by the absence of anyone else on the stairs. She and her husband ran down as fast as they could. Her recollection was that conditions worsened as she descended particularly, she estimated, below floor 10 and at about the level of floor 6. Smoke was filling the stairwell and visibility had worsened. Petra Doulova said: "As we were running towards that space, the smoke was getting really quite worrying and thick, and I felt, wow, are we running into something, you know, quite bad here!" It was at this stage that Petra Doulova encountered a group of firefighters. There was a lot of activity and the smoke was at its thickest at that point. The firefighters had a stairwell door open. It was the only such door Petra Doulova saw open and it looked as though smoke was entering the stairwell through it from the lobby. Conditions were much clearer once they had passed the firefighters.[115]

11.54 Petra Doulova estimated that it had taken about five minutes to get from her front door to the exit on the east side of the tower by which she and her husband left the building.[116] They are recorded as having done so at 01.41.[117]

Conditions on floor 19

11.55 Nicholas Burton and his wife Maria Del Pilar Burton (known as Pily) lived in Flat 165 on floor 19. By 2017, Pily had been unwell for some years and was suffering from dementia.[118] It is likely that by 01.30 they were the only occupants remaining on floor 19. Others had by then left, either to leave the tower or to move to a higher floor.

11.56 On the night of the fire, Nicholas Burton was woken by the sound of banging on the front door. He went straight to the door. There was no one outside, but Nicholas Burton "was confronted by a wall of acrid, black smoke." He compared it to that produced when a tyre is on fire. It was so thick he could not see the opposite wall, which was a metre to a metre and

112 Doulova Day 60/44/8-15; Day 60/51/22-55/21.
113 Doulova Day 60/50/18-51/20.
114 Doulova Day 60/9/17-14/8.
115 Doulova Day 60/46/4-7.
116 Doulova Day 60/59/20-60/2.
117 Annex A.
118 Burton Day 68/5/8-10.

a half away. The smoke "came rushing into the flat". Nicholas Burton thought that he had the door open for "no more than a couple of seconds" before slamming it shut. No smoke then came through the door but there remained a thin haze of smoke in the hallway of the flat.[119]

11.57 Nicholas Burton estimated that he had been woken at some time between 01.20 and 01.30. As I have mentioned earlier, his neighbour, Meron Mekonnen, described smoke conditions in the lobby on floor 19 when she left Flat 163 at 01.25 as light and having no effect on visibility. Given that Meron Mekonnen and her two daughters left the tower at 01.32.25, it seems more likely that it was shortly after 01.30 when Nicholas Burton opened his door.[120] Asked why he did not consider leaving at that stage, Nicholas Burton explained that he had thought that they would be safe in the flat and that the LFB would deal with any fire in a short time.[121] He was aware of the "stay put" advice contained in a notice placed next to the lifts.[122] He wet some towels, placing one across the bottom of his front door, although no smoke was coming through the door at that time. He then woke his wife and helped her to dress. They returned to their living room to wait. Nicholas Burton had begun to receive calls from a friend, Simon Jolly, urging him to leave. He felt it was too dangerous to do so as his wife was very frail.[123]

Conditions on floor 18

11.58 By around 01.30, Flats 152 and 153 remained occupied and Yehualashet Enyew was probably still in Flat 155.

11.59 At 01.33.55, CRO Gotts answered a 999 call from Rabia Yahya, who was in Flat 152. Rabia Yahya told CRO Gotts that there was no smoke in her house and then said "but I tried to get out to go through the fire escape and there's just thick black smoke." She was advised to remain in her flat.[124] Rabia Yahya could not remember trying to cross the lobby to get to the stairwell but thought, given the content of this call, that she must have done so. She was clearer in her recollection that the smoke she was referring to had been in the stairwell. She had seen it when outside her front door speaking to Sayeda Ahmed.[125] Rabia Yahya also remembered that at the time of this conversation there had been only a small amount of smoke coming into the lobby from the stairwell.[126]

11.60 Yehualashet Enyew said that he had heard Berkti Haftom calling him from the front door of Flat 155 at around 01.20. He then heard the door slam. On leaving a few minutes later he saw Genet Shawo in the lobby. Finding the stairwell "filled with thick chocking [sic] smoke" he decided to remain on floor 18 and went into Flat 153 with Genet Shawo.[127]

11.61 The evidence of Genet Shawo and her husband, Paulos Tekle, is that they saw Yehualashet Enyew in the lobby after making calls to friends who lived on other floors in the tower. Paulos Tekle made two calls to Abraham Abebe, who lived in Flat 44, the second at 01.34. Genet Shawo spoke to Hashim Kedir, who lived in Flat 192, at 01.43. Hashim Kedir told Genet Shawo that he had spoken to the emergency services and had been told to remain in his flat. He advised her to do the same.

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119 Burton Day 68/22/5-30/3; Burton first witness statement [IWS00000064] pp. 3-4.
120 In his witness statement Nicholas Burton said that after the fire he met "one of the residents from Flat 163, all of whom thankfully survived the fire, who told me it was one of them who banged on my door". [IWS00000064] p. 3. That can only be Meron Mekonnen.
121 Burton Day 68/30/4-31/1.
122 Burton Day 68/7/14-9/12.
123 Burton Day 68/31/5-35/8.
124 [LFB00000662] p. 2.
125 Yahya Day 63/136/14-139/18.
126 Yahya Day 63/135/6-7.
127 Enyew first witness statement [MET00007347] p. 2.

11.62 The couple saw Yehualashet Enyew when they opened their front door for the second time. Genet Shawo said that there had then been more smoke in the lobby.[128] Paulos Tekle recalled that there was no light in the lobby. The light from his own flat allowed him to see Yehualashet Enyew standing by the lifts. Paulos Tekle could not remember if there had been any smoke in the lobby at that time. He did not smell anything which might have indicated a fire, nor was there any noise from nearby flats. Yehualashet Enyew asked to come into the flat. He told Paulos Tekle that Berkti Haftom and her son had left before him and that he had left Flat 155 because smoke was coming into it.[129]

11.63 No other residents refer to seeing Yehualashet Enyew at about the time that Shah Ahmed alerted his neighbours. The only neighbour he mentioned was Genet Shawo. That makes it likely that Yehualashet Enyew left Flat 155 after 01.30.

Conditions on floor 17

11.64 By 01.30 Flats 142 and 144 were the only flats still occupied on floor 17. Vincent Chiejina lived in Flat 144. He did not contact the emergency services on the night and the Inquiry has not received evidence of his contact with other individuals either inside the tower or outside. It is not known if he was aware of the fire at this time.

11.65 Kamru Miah, his wife Rabeya Begum and three of his adult children lived in Flat 142, a three-bedroom flat. Kamru Miah was not in good health, having had two strokes in 2015. He was at home on the night of the fire together with his wife, his sons Mohammed Hamid and Mohammed Hanif and his daughter Husna Begum.[130]

11.66 At 01.29.02, an MPS operator received a call from a female caller who gave her location as Flat 142. This must have been Husna Begum.[131] The call began with Husna Begum saying that there was a fire in the building. Later she said that it was "right next door" and that they were able to see flames from their window. They were probably the flames on the east face of the tower, the fire by that time having reached Flat 146. The MPS operator told Husna Begum that the LFB had been made aware of her call and that "there's someone coming up to help you."[132] During the call a smoke alarm was activated in the flat. Husna Begum also reported that there was smoke on their floor and that it was coming into the flat. That suggests that even at that early stage there was sufficient smoke in the lobby on floor 17 to penetrate into other flats.

Conditions on floor 16

11.67 Samuel Daniels and his father Joseph Daniels lived in Flat 135. By 2017, Samuel Daniels was a full-time carer for his father. Joseph Daniels had difficulties with mobility and could manage no more than a couple of flights of stairs. He also suffered from dementia. It was difficult for him to be left alone.[133]

128 Shawo first witness statement [IWS00001050] p. 8.
129 Tekle Day 63/26/13-31/8.
130 Hakim [IWS00000019] pp. 1-4.
131 [INQ00000264].
132 CRO Howson took a call from the MPS at 01.38.02 reporting a family stuck in Flat 142 [LFB00000668]. In a later 999 call, answered at 02.27.12 by CRO Fox, Husna Begum complains that she had been waiting for an hour but no one had come [LFB00000354].
133 Daniels Day 56/4/1-9/16.

11.68 Samuel Daniels was in his bedroom on the night of the fire when he noticed a faint burning smell which was electrical or plastic in nature. He could not find the source of the smell in the flat. Save for noticing the same smell in the lobby, he saw nothing unusual when he then walked around that area. The stairs were normal without any smell.[134]

11.69 Sener Macit and his wife, Hanife Macit, were at home in Flat 133 where they had lived since 1992.[135] Sener Macit thought it was at around 01.10 when he first saw fire appliances outside the tower. He was not concerned, because he had seen the LFB attend previous fires at the tower and was aware of the sign advising residents to "stay put". Curiosity led him a few minutes later to check the lobby and stairs. There was nothing unusual and he saw no other residents.[136]

11.70 After Samuel Daniels had returned to Flat 135 he remained concerned by the smell in the lobby and decided that he and his father should leave. In between explaining to his father that there was a fire, he went into the lobby twice more. On the first occasion he saw smoke from the ceiling down to waist level. He could not tell where it was coming from, but thought it was "inside the block". Entering the stairwell, the door of which closed automatically behind him, Samuel Daniels found it clear of smoke. On the second occasion, there was still smoke in the lobby but it was possible to breathe. Again, the stairwell was clear. In between these two occasions, Samuel Daniels had seen from a window orange and red flames coming round to the north face of the tower from the right. These flames were lower down and he assumed there was a fire on floor 5.[137]

11.71 Richard Fletcher and his wife, Hime Gashaw, lived in Flat 131. Richard Fletcher had seen fire appliances arrive, but seeing no signs of a fire and thinking that someone might have been stuck in a lift, he went to bed. He was woken at approximately 01.30 by a continuous popping sound similar to a "firework being let off on the ground". From his bedroom window, which faced east, he saw an orange streak on the left side of the tower running the length of the building from above him and down. When he moved to the living room window, Richard Fletcher realised that it was a fire.[138]

11.72 There was no smoke in the flat at that time. When Hime Gashaw opened the front door, with Richard Fletcher behind her, thick black smoke rushed into the hallway. The smoke in the lobby extended from floor to ceiling. The lobby was "pitch black" and felt "about 10 degrees hotter" than the flat "as if there was a fire on the other side of the door". Richard Fletcher put the lobby temperature in the mid-30 degrees Celsius.[139]

11.73 Richard Fletcher and his wife decided to ignore the "stay put" advice, of which they were aware, and to leave. There was still no smoke in their flat when the couple stepped into the lobby, with Hime Gashaw carrying their daughter. Conditions in the lobby had not improved but the smoke had no physical effect on Richard Fletcher. The only light came from the open door of Flat 133 where their neighbour (Sener Macit) was holding a mobile phone torch. They shouted to him that there was a fire and to get out. Richard Fletcher could not say how he and his family managed to reach the stairwell door. He pushed it open and it closed behind him.[140] The family left the tower at 01.31.[141]

134 Daniels Day 56/28/7-38/13.
135 Hanife Macit first witness statement [IWS00000904] pp. 1-2, 7; Sener Macit first witness statement [IWS00000069] pp. 2, 10.
136 Sener Macit first witness statement [IWS00000069] p. 11; Hanife Macit first witness statement [IWS00000904] p. 7; Sener Macit Day 65/117/1-122/4.
137 Daniels Day 56/37/9-14, Day 56/37/9-23, Day 56/41/9-51/18.
138 Fletcher first witness statement [IWS00000913] pp. 3-4; Fletcher Day 57/83/4-87/6.
139 Fletcher Day 57/87/25-91/6.
140 Fletcher Day 57/95/22-102/12; Gashaw first witness statement [IWS00000990] p. 3.
141 Annex A.

11.74 Sener Macit's recollection is that he had opened his flat door after his brother-in-law had sent him a picture, timed at 01.35, showing the tower on fire and had then called urging him to leave. Sener Macit was shocked and panicked by the image.[142] His wife was with him. There was light smoke in the lobby but it was possible to see people's faces. There was lighting. He did not see any neighbours from floor 16, but saw neighbours from other floors open the stairwell door briefly to shout of a fire.[143] Hanife Macit, in her written account, recalled thin smoke in the lobby at this point. She remembered seeing neighbours from another flat on floor 16, who must have been the family from Flat 131.[144]

11.75 Shutting their front door, the Macits prepared to leave. They estimated that it had taken them about 5 minutes to get ready. Opening their front door, they were confronted with thick, hot black smoke. It filled the whole lobby and made it impossible to see. The lobby was "pitch black". They ran back inside their flat.[145] The inconsistency between the description of conditions in the lobby given by Richard Fletcher and that given by Sener Macit is probably to be explained mainly by differences in perception, but Sener Macit's account also suggests that conditions were capable of changing very quickly.

11.76 Sener Macit then made a 999 call which was put through to an MPS operator at 01.37.27.[146] The MPS operator set up a conference call to the LFB. Sener Macit told both operators that he had been unable to get to the stairs because it was dark and there was "so much smoke" and that smoke was now coming into the flat underneath his door. CRO Yvonne Adams advised him to block the doors and call back if the situation deteriorated.

11.77 Meanwhile, Joseph Daniels was refusing to leave Flat 135. His son described him as "strong, stubborn and disorientated". Samuel Daniels left the flat calling to his father to follow. Thick black smoke poured into the flat when he opened the front door. It made him feel light-headed and caused his knees to buckle. He slammed the door shut. When he opened the door again he left it open so his father could follow. Joseph Daniels was near the door of his bedroom opposite the front door. The front door did not close by itself.[147]

11.78 In oral evidence Samuel Daniels said:

> "As far as I remember, I covered my head with my hood, held my breath before I made the dash out of the front door, and felt my way along the wall where the box was. I knew at the end of the box was the fire -- was the stair door, and once I got there, I just kicked it open and got into the fresh air."

He described the lobby as not entirely pitch black but estimated that it was only possible to see about a foot from the floor. The stairwell when he reached it was clear and lit.[148]

11.79 In the stairwell, Samuel Daniels came across FF O'Beirne at about the level of floor 11 and told him about his father.[149] FF O'Beirne radioed for a BA crew to rescue a bedbound male on floor 16.[150] Samuel Daniels' recollection was that three or four firefighters had come up the stairs. Samuel Daniels remained with FF O'Beirne while this group continued up. The team of firefighters returned to check the floor number and then went up again.[151]

142 Sener Macit Day 65 123/13-125/5.
143 Sener Macit Day 65/125/16-129/11.
144 Hanife Macit first witness statement [IWS00000904] p. 8.
145 Sener Macit Day 65/131/17-133/6; Hanife Macit first witness statement [IWS00000904] p. 9.
146 [INQ00000280].
147 Daniels Day 56/55/16-59/15; Daniels first witness statement [IWS00000808] p. 10.
148 Daniels Day 56/61/11-62/11.
149 Daniels Day 56/63/8-25.
150 O'Beirne Day 15/11/9-12/10; 15/16/5-19/6.
151 Daniels Day 56/65/4-68/6.

11.80 Another resident of floor 16, Edward Daffarn, got out of bed after hearing a smoke alarm in Flat 135 followed by shouting. Opening his front door he saw the lobby full of smoke. He then received a call from William Thompson urging him to leave. William Thompson made this call shortly after he had left the tower at 01.25.[152]

11.81 Edward Daffarn left Flat 134 shortly afterwards, using a wet towel to cover his face. Shutting his door, he found the smoke in the lobby to be so thick it was impossible to see. He was struggling to find the stairwell door when he felt a tap on his leg and saw a firefighter face down on the floor with his legs in the stairwell. He ran out into the stairwell and down the stairs. On his way down he passed Samuel Daniels.[153] Edward Daffarn left the tower at 01.34.51.[154]

11.82 Samuel Daniels remembered meeting Hamid Wahbi in the stairwell itself rather than at the stairwell door to floor 16 and thought that he had been with him when he spoke to FF O'Beirne.[155] Hamid Wahbi had returned to floor 16 to try and collect his passport. He recalled holding the stairwell door open and seeing the lobby full of "very black, thick smoke" which felt hot. Hamid Wahbi recalled his neighbours, Edward Daffarn, Richard Fletcher and his family and then Samuel Daniels, entering the stairwell from floor 16. Given the evidence of his neighbours it is likely that Hamid Wahbi was mistaken about the order in which he encountered them. It is likely, however, that Hamid Wahbi was at the stairwell door at some stage for some time. FF Hippel, who with CM Stern went to floor 16, recalled that a man was holding the stairwell door to that floor open. He thought this person was called "Sam" but subsequently learned it was someone different. FF Hippel had no discussion with this person.[156]

11.83 Samuel Daniels said that it was after he had seen Edward Daffarn that the firefighters who had gone to floor 16 had returned. He tried to ask them where his father was and they told him to get out.[157] At this time there was some wispy smoke in the stairs but the conditions were not bad.[158] Samuel Daniels followed by Hamid Wahbi left the tower at 01.38.

11.84 Richard Fletcher said that he had been able to see smoke coming from above as people opened doors into the lobbies on higher floors.[159] He also said that as people came out of the lobbies above and below they opened the fire doors onto the stairwells, allowing the smoke to spread.[160] Hamid Wahbi also recalled having seen smoke entering the stairwell from open doors on floors 14 and 16.[161] He was probably at the open stairwell door at floor 16 when a firefighter pulled out Edward Daffarn.[162] Compared to other occupants Samuel Daniels spent a long time waiting for the firefighters who had gone into floor 16 to return. When they came back and he began to go down the stairs with them, he recalled the conditions in the stairs as having been reasonably clear with some wispy smoke.[163]

152 Daffarn first witness statement [IWS00000169] pp. 4-5; William Thompson first witness statement [IWS00000158] p. 9; Annex A.
153 Daffarn first witness statement [IWS00000169] pp. 5-6; Daniels Day 56/68/7-11.
154 Annex A.
155 Daniels Day 56/62/21-63/7, Day 56/68/17-23.
156 Hippel Day 26/69/19-73/7.
157 Daniels Day 56/69/13-70/11.
158 Daniels Day 56/70/12-15.
159 Fletcher Day 57/103-105.
160 Fletcher Day 57/103/8-18.
161 Wahbi Day 62/43/21-44/3, 61/5-18.
162 Daffarn first witness statement [IWS00000169] p. 6 section 13.
163 Daniels Day 56/70/12-15.

Conditions on floor 15

11.85 At this time, Flats 122, 123, 124 and 125 were still occupied. During this period, the occupants of two of the flats left.

11.86 Reem Dedrich was alone in Flat 123 on the night of the fire. At around 01.15 she heard screaming. She looked through the front door spyhole but saw nothing unusual in the lobby. She decided to leave shortly after, however, because she heard people screaming and shouting about a fire. When she opened the front door, Reem Dedrich found the lobby to be without light and full of dense black smoke. She shut her door again, but then made herself leave. The smoke had a "burnt plastic smell" and "a weird plastic taste". Reem Dedrich was able to locate the stairwell door by the light coming through the glass of that door from the stairwell. When she pushed the door open, she found the stairs were clear of smoke.[164] Reem Dedrich left the tower at 01.33.35.[165]

11.87 Sid-Ali Atmani had remained in Flat 125 after his wife, Rashida Ali, had left with their daughter. Sid-Ali Atmani was unwell and Rashida Ali had been unable to persuade him to leave with them.[166] He was woken by a "popping and crackling sound". From the bedroom window, which faced north, he could see smoke coming from the right side and the reflection of a flame below.[167] There was no smoke in the flat. Having decided to leave, Sid-Ali Atmani found the lobby filled from floor to ceiling with thick dark smoke. He could not see any light and had to feel his way to the stairwell door. When he found it, he pushed it open. There was less smoke in the stairwell. It looked foggy. The smoke was white and "high up".[168] Sid-Ali Atmani left the tower at 01.35.58.[169]

Conditions on floor 14

11.88 I have previously referred to the first 999 call made by Denis Murphy at 01.25.16 from Flat 111, in which he reported smoke in the lobby. OM Norman had told him to stay in his flat and that the stairwells were filled with smoke.[170]

11.89 By 01.40.17, when Denis Murphy made a second 999 call, conditions appeared to have deteriorated rapidly in Flat 111. His call was answered by CRO Howson. He told her that the whole flat was full of smoke, including the locked bathroom to which he had retreated. Smoke was coming "through windows and through the door". CRO Howson advised him to block the bathroom door with towels and reassured him that firefighters would come to him.[171]

11.90 Rosemary Oyewole and her partner Oluwaseun Talabi were in Flat 113 with their four-year-old daughter. They first became aware of a fire at around 01.30 when Oluwaseun Talabi was woken by noises outside the tower. From his kitchen window he could see smoke "shooting up" from a concrete column to his right.[172] The lobby on floor 14 was already full of smoke when they opened the front door; it looked "pitch-black".[173] Oluwaseun Talabi described the lobby as:

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164 Dedrich first witness statement [IWS00000102] pp. 8-9.
165 Annex A.
166 Rashida Ali [IWS00000003] pp. 7-8; Rashida Ali Day 67/41/13-25, Day 67/49/18-50/14; Atmani Day 67/116/20-117/12.
167 Atmani 67/119/24-122/14.
168 Atmani 67/124/16-134/19.
169 Annex A.
170 [LFB00000308] p. 4.
171 [LFB00000322].
172 Talabi Day 59/115/12-118/13; Talabi first witness statement [IWS00000851] p. 9; Oyewole first witness statement [IWS00000852] p. 5 section 15.
173 Oyewole first witness statement [IWS00000852] p. 5; Oyewole Day 58/16/22-19/8.

> "akin to opening a hot oven, this wall of heat and smoke hit you. The only light was from the flat behind me. It illuminated only inches outside of the front door, and as soon I [sic] opened the door thick, acrid smoke began to pour into the flat."[174]

11.91 They quickly closed the door but decided that they still had to leave. Oluwaseun Talabi left first carrying their daughter. Rosemary Oyewole recalled him disappearing into the smoke (which "felt like a steam room") but reappearing very soon after. Her daughter was gasping for breath so she held her head out of the window to get some air.[175] They then placed wet towels around the front door to stop smoke coming into the flat.[176]

11.92 Rosemary Oyewole called 999 after this failed attempt to leave. CRO Duddy answered the call at 01.37.58.[177] Rosemary Oyewole reported that the lobby on floor 14 was black, that smoke was entering the flat through the front door and that she had a baby. Rosemary Oyewole said that at that time she could not stop the thick black smoke that was coming through the door and letterbox and filling the hallway.[178]

11.93 Rosemary Oyewole's call is consistent with one made by Zainab Deen from Flat 115. CRO Adams took that call at 01.38.18.[179] In it Zainab Deen said that smoke was coming into her flat under the front door and through her open windows. She was advised to block the door and close the windows.[180]

11.94 Omar Alhaj Ali and his brother Mohammad Alhajali were at home in Flat 112 on the night of the fire; their friend and flatmate, Mahmoud Al-Karad, was at work.[181] Omar Alhaj Ali was still awake at around 01.00 when he heard sounds and then shouting outside. His brother came to tell him that he could smell smoke. When he looked out of a living room window which faced east, Omar Alhaj Ali saw flames to the left and at about the level of floors 4 or 5. The brothers decided to leave immediately.[182]

11.95 Smoke was coming under the front door as they approached it. Omar Alhaj Ali estimated that they had first opened the front door at around 01.15. They found the lobby full of smoke. In his written account, Omar Alhaj Ali said:

> "the communal area was dark, full of smoke and in complete darkness. You could only see your hand a little bit. I could not see the lifts or the staircase. I would say it was 80% dark."

They closed the door and then began to shout for help from a window until a firefighter on the ground shouted back to stay where they were.[183]

11.96 It is likely that Omar Alhaj Ali was mistaken about the time when he and his brother first opened their front door. When Nida Mangoba left Flat 116 there was only light smoke in the lobby. Nida Mangoba left the tower just before 01.30.[184] That and the evidence of other residents on floor 14 suggests that Omar Alhaj Ali looked into the lobby some time closer to 01.30.

174 Talabi first witness statement [IWS00000851] p. 10.
175 Oyewole Day 58/19-9-22/15.
176 Talabi Day 59/121/16-24.
177 [LFB00000678].
178 Oyewole Day 58/28/4-29/22.
179 [LFB00000678].
180 [LFB00000321]. This was the second 999 call made by Zainab Deen.
181 Alhaj Ali first witness statement [IWS00000781] pp. 1, 4.
182 Alhaj Ali Day 59/13/3-16/21.
183 Alhaj Ali Day 59/17/5-19/23; Alhaj Ali first witness statement [IWS00000781] p. 6.
184 Annex A.

Conditions on floor 12

11.97 By 01.30, only Flats 92, 94 and 95 remained occupied.

11.98 Karen Aboud lived in Flat 92 with her two sons.[185] She first learned of the fire when she made a 999 call to the police to report a disturbance that had woken her up. That was at 01.37.17.[186] The MPS operator told her that there was a fire four floors above her and advised her to leave. In her written account, Karen Aboud said that she had felt reassured by the operator telling her that the LFB was on its way and so had taken her time in waking her children and getting ready to leave.[187]

11.99 In Flat 94, Alemishet Demissie was woken up by a call at around 01.30 from a member of her church telling her to prepare to leave as there was a fire.[188] Ethiopia Assefa, a friend and fellow member of her bible group, was staying with Alemishet Demissie that night.[189]

11.100 There was no smoke in the flat when they woke. Alemishet Demissie's instinct was to leave and she estimated that they had tried to do so between 01.35 and 01.45. Ethiopia Assefa said that when Alemishet Demissie had opened the front door "heavy, thick black smoke suddenly entered the flat. It came pouring in". Alemishet Demissie described the smoke as thick, black and with a chemical smell. It was so dark in the lobby that she could not see any lights. Alemishet Demissie explained that they had wanted to leave but had been deterred by the conditions in the lobby. They had decided to remain in the flat and await help.[190]

11.101 Roy Smith opened the front door of Flat 95 again after seeing Damiana Louis leave. He then made a 999 call which was answered by CRO Gotts at 01.38.37. Roy Smith told her that he could not leave because it was "all smoke", by which he meant in the lobby. CRO Gotts advised him to block any smoke coming in and said she would "let the firemen know you're there". Roy Smith made this call from his kitchen. He could not see any flames from the window but noticed the flat was becoming smokier. After the call, Roy Smith expected that firefighters would come to the flat within five to ten minutes. He did not want to risk leaving with his family as it was "too dark" in the lobby and it was still safer to stay in the flat.[191]

Conditions on floor 11

11.102 Flats 81, 82 and 83 were still occupied at this time. Coincidentally, 999 calls from Natasha Elcock from Flat 82 and Abdeslam Sebbar from Flat 81 were both connected to the emergency services at 01.33.

11.103 In her second 999 call, timed at 01.33.01, Natasha Elcock told CRO Duddy that there was no smoke in the flat but that it was getting worse outside. She said that, since calling 999 at 01.28.26, she had woken her daughter and got dressed. From a window she had seen her neighbour Youssef Khalloud, who lived in Flat 85, outside the tower. That prompted her to leave. Her second call came after her partner had stepped into the lobby and had returned to say that it was unsafe to leave. Natasha Elcock described the lobby as "pitch black" with no lights.[192]

185 Aboud first witness statement [IWS00000130] p. 1.
186 [INQ00000287].
187 Aboud second witness statement [IWS00001123] p. 1.
188 Demissie first witness statement [IWS00000860] p. 2.
189 Assefa first witness statement [IWS00000891] p. 2; Demissie first witness statement [IWS00000860] p. 2.
190 Demissie Day 65/10/20-14/5; Demissie first witness statement [IWS00000860] p. 3; Assefa first witness statement [IWS00000891] pp. 4-5.
191 [LFB00000318]; Smith Day 64/56/23-61/3.
192 Elcock Day 70/44/5-49/11.

11.104 In oral evidence, Natasha Elcock said that later on, after she had noticed a burn mark on his arm, her partner had told her that he had seen a blue flame in the lobby.[193] Unable to leave, Natasha Elcock went to the bathroom and ran the bath until it overflowed.

11.105 Natasha Elcock's evidence indicates a rapid change in the density of the smoke in the lobby on floor 11 between her first call (when there was only a small amount of smoke) and her second call (by which time the lobby was pitch black).

11.106 CRO Gotts answered the call from Abdeslam Sebbar at 01.33.12. Abdeslam Sebbar said that the fire was inside his flat but then disconnected the call. CRO Gotts did not call him back and there was no further communication from him to the emergency services. He did, however, speak to his son, Mohamed Sebbar.

11.107 Mohamed Sebbar was first alerted to the fire and to the fact that his father was still in Flat 81 at around 01.15. He drove to the tower taking his own son with him. While he was on the way there, his father called him. Mohamed Sebbar tried to reassure his father. He told his father to leave although he knew that he would need assistance to do so. Mohamed Sebbar was still on the telephone to his father when he reached the tower at around 01.30.[194] I return to these conversations at a later stage.

11.108 In Flat 84, Miran Lovsin and Branislav Lukic were woken by the sound of the smoke alarm in their kitchen. Branislav Lukic did not notice any smoke in his bedroom or hall as he went to the kitchen. He reset the alarm several times while trying to identify what was setting it off. There was a smell "like when the plastic is burning". He thought this might mean a problem with the wiring, but the walls were not hot. At this point, Branislav Lukic noticed a layer of light grey smoke at ceiling height. He compared it to cigarette smoke.[195]

11.109 The kitchen window was open but Branislav Lukic did not notice any signs of fire or smoke. About this time, Miran Lovsin opened the front door. Branislav Lukic recalled that:

> "The whole flat seemed to fill up with incredibly thick, black, acrid smoke within seconds. It felt like there was a draught coming through which sucked all of the dark smoke into the flat."

11.110 He rushed to shut the door. He described the smoke that had entered the flat as "like a black smoke which is similar to one when you are burning tyres or something what can make you invisible around". Trying to clear the smoke, Branislav Lukic broke the clasp on the kitchen window to open it further.[196]

11.111 Deciding to leave together, Miran Lovsin and Branislav Lukic wrapped wet tea towels around their faces. Branislav Lukic described the lobby as full of thick black smoke. It was impossible to see anything. He found the conditions disorientating. As he was feeling his way to the stairs, he heard Miran Lovsin say that he was returning to the flat.[197]

11.112 By chance, Branislav Lukic entered the bin room. This had less smoke, which was grey rather than black in colour, and it was easier to breathe. After a minute he made his way back to Flat 84.[198] When he then looked out of the kitchen window he still could not see any signs of fire or smoke.[199]

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193 Elcock Day 70/49/21-24.
194 Sebbar first witness statement [IWS00000903] pp. 1-2.
195 Lukic first witness statement [IWS00000770] p. 6; Lukic Day 56/88/7-93/20.
196 Lukic first witness statement [IWS00000770] p. 7; Lukic Day 56/93/24-95/3; 56/96/18-99/1.
197 Lukic first witness statement [IWS00000770] p. 8; Lukic Day 56/103/3-105/9.
198 Lukic Day 56/105/10-108/24.
199 Lukic first witness statement [IWS00000770] p. 9; Lukic Day 56/109/2-23

Conditions on floor 10

11.113 With the exception of Flat 76, all the flats on floor 10 remained occupied at 01.30. A number of the occupants tried to leave their flats at this point.

11.114 Nagawa (Prossy) Nalukwago was alone in Flat 71.[200] Woken by a noise, she looked out from the kitchen window and saw flames to her left "shooting up the side of the building". Flames then entered the living room through a window. They were "eating" the television and running along the ceiling. In panic, Prossy Nalukwago called a friend who persuaded her to leave. On opening the front door she was hit by "a wall of black smoke". The smoke was hot. Prossy Nalukwago made her way across the lobby, covered with a wet duvet in darkness. As she did so she stumbled and fell over what she thought were three bodies, the last of which was close to the stairwell door. Prossy Nalukwago could not remember there being any smoke in the stairwell.[201] She left the tower at 01.35.[202]

11.115 Clarita Ghavimi was also alone at home in Flat 75.[203] In her statement Clarita Ghavimi said she had been woken at around 01.30 by the sound of the smoke alarm in the hall. Although she could not see any smoke, Clarita Ghavimi could smell it. She opened the windows in the lounge and kitchen to get rid of the smell. From her bedroom window, she saw flames "coming up the corner of the tower". She went to her front door,[204] opened it and found the lobby to be "pitch black and smoky". She closed the door. On opening it again a little later she thought that conditions had worsened. She remained in her flat. Clarita Ghavimi noticed that smoke was coming into her hallway from the living room (where she had opened windows). The hallway alarm was still sounding. Clarita Ghavimi thought she had to leave immediately.[205] I return to the circumstances of Clarita Ghavimi's departure below.

11.116 Meron Woldeselassie Araya and Lina Hamide were staying in Flat 74 on the night of the fire.[206] Meron Woldeselassie Araya was woken by the sound of shouting. When she investigated she realised that people were shouting about a fire. She woke Lina Hamide. (Lina Hamide thought all that had happened between 01.35 and 01.41.) The conditions in the lobby prevented them from leaving immediately. Meron Woldeselassie Araya recalled that the lobby was pitch-black and full of thick black smoke. It made her eyes sting. Lina Hamide recalled the heat of the smoke in the lobby.[207]

11.117 Lina Hamide and Meron Woldeselassie Araya said that after that attempt to leave they had contacted relatives and dialled 999, which is supported by their telephone records. That indicates that they must have tried to leave before 01.40.[208]

Conditions on floor 9

11.118 Flats 62, 64 and 65 were still occupied at 01.30. Flats 61 and 63 were not occupied on the night of the fire.

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200 Nalukwago second witness statement [IWS00001118] p. 1; Olwa second witness statement [IWS00001181] p. 1.
201 Nalukwago first witness statement [IWS00000009] pp. 2-5.
202 Annex A.
203 Ghavimi first witness statement [IWS00000943] p. 2.
204 Ghavimi first witness statement [IWS00000943] p. 2.
205 Ghavimi first witness statement [IWS00000943] p. 3.
206 Meron Woldeselassie Araya first witness statement [IWS00001193] p. 1; Hamide first witness statement [IWS00001175] p. 2.
207 Hamide first witness statement [IWS00001175] p. 3; Meron Woldeselassie Araya first witness statement [IWS00001193] p. 5.
208 Hamide first witness statement [IWS00001175] p. 3; exhibit LH4 [IWS00001177] p. 6; Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 5-6; exhibit MWA3 [IWS00001193] p. 14.

11.119 Maher Khoudair lived in Flat 64 with his wife, Iman Alkuedi and their three daughters. Since 2009, he has used crutches to walk.[209]

11.120 Maher Khoudair thought that it was around 01.15 when his daughter, Walaa Khdeir, woke him to tell him that there was a fire.[210] His daughters had been awake in the living room and had become aware of a burning smell. They had seen signs of a fire outside. Maher Khoudair's second daughter, Rawan Khdeir, described it as "coming from the right side of the building."[211] Flat 64 is on the west side of the tower, so what she saw could have been the reflection of the fire in the panels of the Kensington Aldridge Academy.

11.121 Maher Khoudair checked the lobby. The lights were on and he noticed black smoke coming from a hole created for pipes to run through. The hole was on a wall "perpendicular to the ceiling". Next to the hole was a door for "maintenance". In his statement Maher Khoudair said that the pipes he had in mind were in a cupboard next to his front door. In oral evidence he confirmed that he was not referring to the cupboard located on each floor opposite the lifts.[212]

11.122 Maher Khoudair's recollection is that he had then told his daughters to go to bed because he had heard the sirens of the LFB and had assumed that it had dealt with any problem. He also recalled that his daughters had already been dressed to leave and that his youngest daughter had told him that a wall was hot to the touch. His daughter, Rawan Khdeir, told him that she had seen debris "like balls of fire" falling from the building. All that caused him to change his mind and decide that his family should leave.[213]

11.123 Maher Khoudair recalled that five minutes had elapsed between his waking and the family leaving the flat.[214] The smoke in the lobby was thicker than before. It had a plastic smell and still appeared to be coming from the same hole.[215] Both lifts were out of service. His wife shut the front door after the family had left. It had never closed automatically.[216] Rawan Khdeir, Walaa Khdeir and Iman Alkuedi also described a plastic smell and more smoke in the lobby than Maher Khoudair remembered. None said that the density of the smoke made it impossible to see.[217]

11.124 Flat 62 was a two-bedroom flat. On the night of the fire, Erlinda Ignacio had taken her seven-month-old granddaughter into her bedroom. Her son Wesley Ignacio and his wife Madylyn Ignacio were asleep in the other bedroom. At about 01.00, Erlinda Ignacio was disturbed by noises outside. She got up and from her kitchen saw a "flamed piece of material" fall from above her flat. Erlinda Ignacio woke her son. He thought that was at around 01.15. He received a call warning him of the fire and telling him to leave. The family left the flat within five minutes.[218] They left the tower at 01.33.[219]

11.125 Both Erlinda and Wesley Ignacio recall closing the front door, which did not shut by itself. Erlinda Ignacio did not remember there having been any smoke in the lobby area. She remembered that the communal lighting had been working. Her son recalled that there had been a burning

209 Khoudair first witness statement [IWS00000182] p. 2.
210 Khoudair Day 55/117/7-118/24.
211 Rawan Khdeir first witness statement [IWS00000204] p. 3; Walaa Khdeir first witness statement [IWS00000208] p. 3.
212 Khoudair first witness statement [IWS00000182] p. 5; Khoudair Day 55/119/2-123/25.
213 Khoudair Day 55/125/1-128/3.
214 Khoudair Day 55/131/21-132/3.
215 Khoudair Day 55/129/21-131/14.
216 Khoudair Day 55/134/20-136/22; Alkuedi first witness statement [IWS00000205] p. 5.
217 Walaa Khdeir first witness statement [IWS00000208] p. 4; Alkuedi first witness statement [IWS00000205] p. 5.
218 Erlinda Ignacio first witness statement [IWS00000830] pp. 1, 7-8; Wesley Ignacio first witness statement [IWS00000826] pp. 2, 9-10.
219 Annex A.

smell and smoke in the lobby. It was not thick, was light grey in colour and at head height. He saw the smoke drifting towards the left-hand side of the lobby. Neither described having had any difficulty in reaching the stairwell, the door of which shut automatically behind them.[220]

11.126 Given his use of crutches, Maher Khoudair was behind his family as they descended the stairs. Wesley Ignacio recalled passing him on the stairs, which indicates the Ignacios left floor 9 after Maher Khoudair. After that, only Flat 95 was still occupied.

Conditions on floor 7

11.127 Flat 44 was the only flat on this floor still occupied at 01.30. It was the home of Turufat Girma, her husband Abraham Abebe and their five-year-old son.[221]

11.128 Having noticed that he had missed two telephone calls from his friend Paulos Tekle (timed at 01.32 and 01.34), Abraham Abebe called Paulos Tekle. That was at 01.37. Paulos Tekle said that there was a fire in the tower and advised Abraham Abebe to check his flat and floor.[222]

11.129 Turufat Girma recalls looking out the window of the living room and seeing people shouting fire, but she could not see any sign of fire outside the tower.[223] There was no smoke in the flat. Through the spyhole Abraham Abebe saw thin, grey-white smoke in the lobby. The lobby lights were on and visible through the smoke. Although aware of the "stay put" notices displayed in the tower, Abraham Abebe decided they should leave. He left carrying his son with Turufat Girma following behind. She locked their front door.[224] The CCTV on floor 7 shows Abraham Abebe leaving the lobby just after 01.40. It suggests that the smoke was denser than they recalled.

Conditions on floor 6

11.130 Four of the six flats on this floor (Flats 32 to 35) were still occupied after 01.30. Two residents who were still in their flats provided witness statements to the Inquiry.

11.131 Paul Menacer was alone in Flat 33, a two-bedroom flat he shared with his uncle Rafik Menacer. He thought it was around 01.30 when he was woken by screaming. Outside, people were shouting "Don't jump!" and "Wait for help!" and he assumed someone was threatening to commit suicide. Paul Menacer was not initially concerned, but when the shouting continued he opened his front door where:

> "There was a black, thick smoke. It was quite thick, black but was not pitch black. When I put my arm out, I could see my arm, but could not see my hand. There was a smell of burning plastic."[225]

11.132 Paul Menacer returned to his bedroom and blocked his door to stop smoke coming into the room. After a short time, however, he decided to leave. When he did so, he knocked on his neighbours' doors and shouted to them that they should get out, but no one responded.[226]

220 Wesley Ignacio first witness statement [IWS00000826] p. 11; Erlinda Ignacio first witness statement [IWS00000830] p. 8.
221 Girma first witness statement [IWS00000848] pp. 1-2; Abebe first witness statement [IWS00000847] p. 1.
222 Abebe first witness statement [IWS00000847] pp. 2-3; Tekle first witness statement [IWS00001051] p. 5.
223 Girma first witness statement [IWS00000848] p. 4.
224 Abebe first witness statement [IWS00000847] p. 3; Girma first witness statement [IWS00000848] pp. 4-5.
225 Menacer first witness statement [IWS00001031] pp. 6-7.
226 Menacer first witness statement [IWS00001031] p. 7.

11.133 Kerry O'Hara was in Flat 34. Having become aware of a burning smell and a commotion outside, she had seen people outside shouting "Get out!" and "Jump!" A firefighter on the ground had told her to stay put and they would get to her eventually.[227] In her statement Kerry O'Hara did not say that she had heard anyone knocking on her door or shouting outside it.

11.134 Realising that there was a fire, Kerry O'Hara decided to leave her flat. She thought that it had been around 01.30 when she opened her front door. There was no smoke in her flat but the lobby was "pitch black and full of smoke". Her recollection is that the stairwell was also "pitch black". Kerry O'Hara ran down the stairs and it was not until she reached floor 2 that she noticed a reduction in the amount of "thick black smoke" in the stairwell.[228]

11.135 Paul Menacer's recollection was that there was no smoke in the stairwell.[229] He left the tower at 01.43, a minute before Kerry O'Hara.[230] Paul Menacer's recollection is that he entered the lobby on floor 5, which was free of smoke, and knocked on people's doors. Given the other evidence (such as that of FF O'Beirne) about smoke in the lobby on floor 5, it is likely that he was mistaken about the smoke conditions on floor 5 or that he was confused about which floor he had entered. His account is inconsistent with, for example, that of FF Brodrick who was sent to floor 5 at 01.38[231] and said that there was no visibility in the floor 5 lobby.[232] It is also inconsistent with the evidence of the two occupants still on floor 5, which is set out below.

Conditions on floor 5

11.136 Milad Kareem and Rebin Sabir were the only occupants still on floor 5 after 01.30. Milad Kareem was visiting Rebin Sabir in Flat 23 on the night of the fire. The two friends both described first becoming aware of a burning smell. While this caused concern to Milad Kareem, it was the sound of shouting outside that alerted them to the fire.[233] At some point, Milad Kareem shouted to a firefighter who asked their location and told them to stay in the flat. Rebin Sabir thought this advice confusing as local residents were shouting at them to leave.[234]

11.137 After about 10 to 15 minutes, no firefighters had come to the flat, so Milad Kareem shouted again to the same firefighter, who told them to use the stairs. Going to the front door he saw smoke entering the flat under the door.[235] Opening the door he saw that "the communal hallway was already filled with a wall of intense thick black smoke, so thick I couldn't see anything clearly except the smoke. It was pitch black."[236]

11.138 Milad Kareem was able to speak to the same firefighter again and tell him that they could not leave. The firefighter told them to stay in the flat and that firefighters would come to them.[237]

227 O'Hara first witness statement [IWS00000991] p. 2.
228 O'Hara first witness statement [IWS00000991] pp. 2-3.
229 Menacer first witness statement [IWS00001031] p. 7.
230 Annex A.
231 The ORR v 0.7 p. 82 records that FF Brodrick and two others were tasked to floor 5 at 01.38.
232 Brodrick first witness statement [MET00016789] pp. 6-7.
233 Sabir first witness statement [IWS00001224] pp. 4-5; Kareem first witness statement [IWS00001077] pp. 1-3.
234 Kareem first witness statement [IWS00001077] p. 4; Sabir first witness statement [IWS00001224] p. 5.
235 Kareem first witness statement [IWS00001077] p. 5.
236 Kareem first witness statement [IWS00001077] p. 5.
237 Kareem first witness statement [IWS00001077] pp. 5-6; Sabir first witness statement [IWS00001224] p. 7.

Floor 2

11.139 The layout of floor 2 differed from that of floors 4 and above. It contained only one flat (Flat 6). In June 2017, this was occupied by Leanne Jackson Le-Blanc, her former partner Joseph John and their one-year-old son.[238] Joseph John became aware there was a fire when he heard noises and saw a fire engine outside. He left Flat 6 and came across a number of firefighters one of whom told him that there was a "minor fire" and to return to his flat and wait for further instructions. There was no smoke in the flat, the lobby or the stairwell at this time.[239]

11.140 Joseph John woke up Leanne Jackson Le-Blanc and told her that there was a fire but the firefighters were dealing with it.[240] The couple, however, eventually decided to leave. They climbed out of a window on to the gated walkway that connects to Grenfell Walk. Hicham and Hanan Cherbika and Elias Aitequakrim helped them climb over the locked gate.[241] As Leanne Jackson Le-Blanc and Joseph John did not leave by the stairs, they were not recorded on CCTV leaving the building. Leanne Jackson Le-Blanc estimated that it was around 01.30 when they left.[242]

4 Events in the control room

11.141 At 01.30.00, CRO Duddy spoke to Mariem Elgwahry, from Flat 196 on floor 22. She told him that she was with other people on floor 23.[243] When CRO Duddy told her that the fire was on floor 5 (trying to relay the details of the original incident, but mistaking the floor number), she told him that it had broken into her flat on floor 22 and they had been forced to run to a neighbour's flat. The call cut out before he could give her any advice.[244]

11.142 At 01.31.30, only three minutes after the last make-up message, G271 asked to make pumps 25.[245] By that point, OM Norman wondered what was going on, as apart from those messages the control room had received no further information from the incident ground.[246]

11.143 The witnesses described the make-up of pumps as extremely quick.[247] Given the speed of the make-up messages, OM Norman knew that something had gone badly wrong.[248] CRO Sharon Darby said that when the message to make pumps 25 had come in it was obvious that the situation was really bad and very rare.[249] AOM Debbie Real described it as "not normal".[250] However she, and the CROs, all thought that the fire was still on floor 4, although OM Norman and CRO Russell did think that perhaps the fire had started spreading into other flats on floor 4.[251]

238 Jackson Le-Blanc first witness statement [IWS00000177] p. 1; John first witness statement [IWS00000062] p. 1.
239 John first witness statement [IWS00000062] pp. 3-4.
240 Jackson Le-Blanc first witness statement [IWS00000177] p. 8; John first witness statement [IWS00000062] p. 4.
241 Jackson Le-Blanc first witness statement [IWS00000177] p. 11; John first witness statement [IWS00000062] p. 5; Aitequakrim first witness statement [IWS00001030] pp. 3-4; Hicham Cherbika first witness statement [IWS00000038] pp. 5, 7; Hanan Cherbika first witness statement [IWS00000016] pp. 11-12.
242 Jackson Le-Blanc first witness statement [IWS00000177] p. 10.
243 [LFB00000310]; ORR v 0.7 p. 60.
244 [LFB00000310]; ORR v 0.7 p. 60.
245 [LFB00002606].
246 Norman witness statement [MET00080589] p. 5.
247 Norman Day 42/71/18-19; Darby witness statement [MET00013961] p. 4; Real Day 43/16/8-17.
248 Norman Day 42/70/23-25/71/1-3.
249 Darby witness statement [MET00013961] p. 4.
250 Real Day 43/16/8-17.
251 Norman Day 42/71/23-25-/72/1-20; Russell Day 76/24/7-12.

11.144 At 01.31.48, the first service request concerning persons trapped in the building was created on VISION by CRO Duddy.[252] It read:

> "RT4 – G271 – FURTHER CALL TO SAY FIRE ON 20TH FLOOR ALSO – PEOPLE TRAPPED."[253]

11.145 The message was later updated by CRO Duddy with the flat number at 01.34.11. The message read:

> "RT4 – G271 – FURTHER CALL TO SAY FIRE ON 20TH FLOOR ALSO – PEOPLE TRAPPED, to RT4 – G271 – FURTHER CALL TO SAY FIRE ON 20TH FLOOR FLAT 82 ALSO – PEOPLE TRAPPED."[254]

11.146 The call which prompted the initial service request by CRO Duddy is not clear as he did not take a call from anyone on floor 20 before 01.31.48. At 01.33.01, CRO Duddy took a second call from Natasha Elcock in Flat 82 on floor 11 which would explain the updated service request.[255] She asked him to get someone to help her and her daughter and that the fire was getting worse outside. CRO Duddy told her "it's just smoke going up".[256] He reassured her and said somebody would come to help.[257]

11.147 CRO Darby saw the service request created by CRO Duddy and attempted to call G271 to pass over the message. She made three attempts to contact G271 but did not receive a response,[258] so she decided to contact G261, another appliance that had already been mobilised to the incident.[259]

11.148 Before CRO Darby spoke to G261 to pass the message intended for G271, OM Norman rang CU8 at 01.35.24 using the admin line and spoke to WM Meyrick.[260] She said in evidence that she had seen that CRO Darby was not getting a response from G271 and wanted to pass the messages over quickly.[261] However, CRO Darby was not aware that OM Norman had contacted the incident ground.[262] This was the first time FSG messages were passed to the incident ground.

11.149 In OM Norman's conversation with WM Meyrick he explained that CU8 had just arrived at the incident ground and that they were in the process of taking over.[263] OM Norman asked WM Meyrick to arrange for the crews to check on people who were trapped in their flats. She explained that:

a. There was one person in Flat 111 on floor 14 and five people in Flat 175 on floor 20. Both flats were recorded as having trapped residents and a lot of smoke entering the premises.

b. There was one person on floor 18.

c. The top floor had "adults and eight children" with smoke coming in.[264]

252 SIL p. 18.
253 SIL p. 18.
254 SIL p. 18.
255 ORR v 0.7 p. 69.
256 [LFB00000313].
257 [LFB00000313].
258 Radio messages: 01.34.55 [LFB00002500]; 01.35.22 [LFB00002846], 01.35.36 [LFB00002662].
259 This is as per the policy, refer to PN790 paragraph 5.10. Radio message sent at 01.35.54 [LFB00003095].
260 [INQ00000194] and ORR identifies it was WM Meyrick who she spoke with: ORR v 0.7 p. 75.
261 Norman Day 42/76/1-25.
262 Darby Day 33/163/3-20.
263 [INQ00000194].
264 [INQ00000194].

11.150 She could not provide the flat numbers for the latter two flats and she said in evidence that it did not occur to her to go back to the CROs to ask for specific flat numbers. She explained that by saying that she had been focused on getting the information over and that the control room was overwhelmingly busy.[265]

11.151 During the call OM Norman told WM Meyrick that the control room was being inundated with calls.[266] As she ended the call, she said to him "It's going to be every floor".[267] OM Norman explained that she was concerned at that time at the possibility that the smoke would affect all the floors and that she had the impression that it was "obviously going a long way up".[268] She wasn't aware that the fire had spread; nor was she aware of the information that CRO Duddy had obtained indicating that fire had already reached floor 20.[269]

11.152 While OM Norman was speaking to WM Meyrick, G261 responded to CRO Darby's request at 01.35.54, and agreed to take the message.[270] By that point, a number of other 999 calls relating to trapped residents had been received. CRO Darby passed over information relating to:[271]

a. A caller on floor 18, who said she had thick smoke in her flat.

b. Persons on floor 22 "with smoke coming into their flat".

c. Someone reporting "a fire on the 20th floor".

d. People trapped in Flat 82.

11.153 These messages had all appeared on the incident log as new service requests which needed to be passed over to the incident ground.[272] CRO Darby explained in evidence that she was not aware that OM Norman had contacted the command unit on the incident ground separately to pass over FSG messages.[273]

11.154 The message about the caller on floor 18 appears to have come from a call at 01.33.55 with Rabia Yahya.[274] That was almost certainly a duplicate message that had been passed over by both CRO Darby and OM Norman as Rabia Yahya's call at 01.33.55 was the only call made before the admin line call and radio message contact was made.

11.155 G261 responded and asked CRO Darby to confirm the FSG calls and the flat numbers.[275] CRO Darby could not provide specific flat numbers, however. She repeated the message and added that a further call had been received from the top floor of the building concerning adults and eight children who had smoke coming into their flat and were unable to leave.[276] OM Norman had already passed over the message about the adults and eight children in the admin line call. G261 confirmed that they would pass the messages to the incident commander, but also explained that, as they had just arrived, it might take some time.[277] It was not until 01.43,

265 Norman Day 42/77/12-19.
266 [INQ00000194].
267 [INQ00000194].
268 Norman Day 42/78/2-9.
269 Norman Day 42/86/5-12.
270 Radio message sent at 01.35.54 [LFB00003095].
271 [LFB00003055].
272 SIL pp. 18-19. Although note: 01.36 service request by CRO Gotts says "CALLER ON 118TH FLOOR THICK SMOKE OUTSIDE FLAT SHE IS IN HER FLAT" but CRO Darby reports it as thick smoke in her flat.
273 Darby Day 33/163/3-20.
274 [LFB00000662].
275 [LFB00002563].
276 [LFB00002076].
277 [LFB00002891].

approximately six minutes later, that CU8 contacted CRO Darby to ask for messages to be passed to them, thereby indicating that only then were they "set up" and ready to take further FSG messages.[278]

11.156 While CRO Darby had been trying to contact the incident ground, AOM Real had requested two FRUs. She had also mobilised further appliances at 01.33.50 in response to the message to make pumps 25.[279]

11.157 As the messages were being passed to the incident ground, the CROs continued to take many 999 calls. In this ten-minute period, the control room received 38 emergency 999 phone calls either from persons trapped in the tower or from members of the public reporting the fire.[280] As CRO Duddy explained, he and his colleagues had been anxious to process as many calls as possible.[281] In many of the calls with trapped residents, the CROs continued to reassure them that the fire was a long way away on floor 4.[282] When smoke was reported to be entering the flat or in the corridor or staircase, the advice given by the CROs was to stay put, to block up the doors and to close the windows. They also told callers that the firefighters were coming.[283] CRO Duddy explained that they were just making the assumption that it was bad smoke.[284] The residents were reassured that someone was coming to help them.[285] At that stage, OM Norman did not consider whether to tell the CROs to stop reassuring callers; nor did she consider whether it was still appropriate to advise callers to stay put. She thought that the "stay put" advice was still appropriate.[286]

11.158 At 01.36.23, unbeknown to the LFB control room, North West FRS received their first 999 call relating to the incident from Mariko Toyoshima-Lewis in Flat 9 on floor 3.[287] It was the first time the overflow call arrangements described in Chapter 29 had been brought into play and provides an indication of the high volume of emergency calls coming in to the control room.[288] The caller reported that there was smoke coming into her room, that there were five people in the flat, one of whom was a wheelchair user.[289] The CRO spoke to the caller for approximately 30 minutes until she had been rescued.[290] During the course of the call, at 01.43, North West FRS contacted the LFB control room to inform it of the call.[291]

11.159 At 01.37.18, the control room received a call from the LAS confirming its attendance at the incident.[292]

278 [LFB00002726].
279 SIL pp. 9, 13.
280 Control Report pp. 23-40. This figure does not include call-backs.
281 Duddy Day 42/218/1-10.
282 E.g. call at 01.33.01, call between CRO Duddy and Natasha Elcock, Flat 82, floor 11: [LFB00000313]; 01.33.55, a call between CRO Gotts and Rabia Yahya from floor 18: [LFB00000662]; 01.34.50, call between CRO Duddy and Hashim Kedir from Flat 192, floor 22: [LFB00000315]; 01.39.15, a call between OM Norman and Hesham Rahman in Flat 204, floor 23: [LFB00000329].
283 E.g call at 01.32.10 taken by CRO Howson with Biruk Haftom who was on the top floor [LFB00000667]; 01.33.55 with Rabia Yahya on floor 18: [LFB00000662]; 01.34.50 Flat 192 on floor 22, Hashim Kedir: [LFB00000315].
284 Duddy Day 42/218/1-10.
285 E.g. the call at 01.32.10 taken by CRO Howson with Biruk Haftom who was on the top floor [LFB00000667]; 01.33.55 with Rabia Yahya on floor 18: [LFB00000662]; 01.34.50 Flat 192 on floor 22, Hashim Kedir: [LFB00000315].
286 Norman Day 42/87/4-22.
287 [LFB00000506].
288 As per the meaning of "spike" conditions in paragraph 1.2 of [LFB00003607].
289 [LFB00000506].
290 Control Report p. 34.
291 Control Report p. 42.
292 Control Report p. 35.

11.160 At 01.37.58, Rosemary Oyewole in Flat 113 on floor 14 reported that there was smoke "coming from the corridor" and that when they had tried to escape it had been "all black". She then reported that there was smoke coming through the door and "filling up the whole house". She was advised by CRO Duddy to cover up the door and was told that someone would come to get them.[293]

11.161 At 01.38.02, CRO Howson received a call from the MPS advising that they had received a call from a five-person family in Flat 142 on floor 17 who had said that there was smoke coming into the flat.[294] This was the first time that the control room had been informed that another control room was taking FSG calls on its behalf. It was also the first time that anyone in the control room knew that another emergency service was taking FSG calls. CRO Howson recorded it in the incident log as a new service request, but there were no discussions about how the MPS was to handle calls and no arrangements were made in relation to it.[295]

11.162 It is worth mentioning at this point that the LAS later took three calls from people in the tower,[296] and that OM Norman asked BT operators to provide FSG advice to callers[297] and had given the BT operators advice about how callers could protect themselves.[298] She could not remember at what time that had been done, but she believed that it had been before the "stay put" advice was changed.[299] It is unclear how many callers were given FSG advice by BT as OM Norman did not obtain details of the calls taken by BT.[300]

11.163 At 01.38.16, Mariem Elgwahry in Flat 205 on floor 23 called the control room for a second time because she had got cut off on the previous occasion.[301] She reported to CRO Fox that there was no smoke coming into the flat from which she was calling (which was not her own flat but a flat she had escaped to), but she described what had happened in her own flat (Flat 196 on floor 22) as follows:

> "--but our flat was underneath, and that – there was no smoke in there. It was absolutely fine, but then all of a sudden the flames just blew into our kitchen –"[302]

11.164 CRO Fox ascertained that there were seven people in the flat, and told her to "put things on the door" and to keep the windows closed if the smoke started to come in.[303]

11.165 At 01.38.17, CU2, A431 (Kentish Town's pump ladder), and SM Nicholas Myatt were mobilised for the purposes of handling FSG messages.[304] The appliances arrived at approximately 01.58 and 02.02 respectively; SM Myatt arrived at around 02.10.[305] However, none of them was used for that purpose as by the time they arrived other appliances and officers had already been assigned to that task.

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293 [LFB00000678].
294 Control Report p. 37.
295 SIL p. 19 [LFB00000668].
296 For the LAS Calls refer to table 1 of Woodrow witness statement [LAS00000009] p. 4.
297 Norman witness statement [MET00080589] p. 5.
298 Norman Day 42/124/9-19 and Day 42/123/1-3.
299 Norman Day 42/123/24-25-124/1-8.
300 Norman Day 42/124/9-19.
301 [LFB00000317].
302 [LFB00000317] p. 3.
303 [LFB00000317] p. 4.
304 SIL pp. 9, 14; ORR v 0.7 p. 87.
305 SIL p. 9 Myatt Day 35/163/11-25. The reference on p. 9 of the SIL to A431 arriving at 09.09.52 is likely an error for 02.02.52.

11.166 At 01.39.08, SOM Joanne Smith called the control room while she was on her way in.[306] She spoke with AOM Real, who told her that the control room was going "absolutely crazy".[307] AOM Real told SOM Smith that the control room was receiving many FSG calls from people stuck in their flats and when she was asked whether they had had any prolonged calls, she confirmed that they had.[308]

5 Actions of the MPS, the LAS, RBKC and TMO

11.167 At 01.31.06 the MPS made the LAS aware of the incident, possibly through their shared CAD system,[309] but in fact the LAS had already learned about the incident from the LFB at 01.29.06. At 01.32.27 CAD 482 recorded the fact that a Major Incident had been declared by the MPS.

11.168 Inspector Nicholas Thatcher could not explain the six minute delay between his declaring a Major Incident at 01.26.32 and the entry at 01.32.27, and he believed (and I accept) that the later entry reflected his own earlier declaration.[310] As he said, to go from a critical incident to a Major Incident is a "massive step". Detective Superintendent Paul Warnett had asked him a little earlier whether he was going to declare a Major Incident. Inspector Thatcher had wanted to defer a decision until he had reached the incident ground,[311] but he knew what the decision had to be as soon as he saw the tower on fire from his car at the top of the hill on Ladbroke Grove.[312]

11.169 At that point he did not know whether or not the LFB had declared a Major Incident (they had not, and would not do so until 02.06) and had no expectation one way or the other.[313] He did not himself take any steps to inform the LFB that a Major Incident had been declared, and did not follow up with MetCC whether they had passed the message on to the LFB.[314] Similarly, the LAS did not know at that time that the MPS had declared a Major Incident.[315]

11.170 At 01.33.05 Inspector Thatcher sent a message:

> "TOP TWO FLOORS OF BUILDING IS ON FIRE"

and a further message at 01.34.28:

> "ENTIRE SIDE OF BUILDING IS ON FIRE"

He was underneath the building by this point and he wanted people to understand the "phenomenal" speed at which the fire had spread.[316]

11.171 At 01.33.13 the first LAS incident response officer was despatched to the scene. That was Laurence Ioannou (call sign IR61),[317] who was the senior LAS Incident Response Officer (IRO) at the scene until he was relieved by Colin Passey at 07.38. The standard LAS procedures require an IRO and a HART[318] to be despatched to any fire where there are persons reported.[319]

306 [INQ00000198].
307 [INQ00000198].
308 [INQ00000198].
309 CAD 482 p. 6.
310 Thatcher Day 71 (Mon)/35/2-18.
311 Thatcher first witness statement [MET00012582] p. 2.
312 Thatcher Day 71 (Mon)/36/8-37/4.
313 Thatcher Day 71 (Mon)/39/6-13.
314 Thatcher Day 71 (Mon)/49/14-50/4.
315 Woodrow Day 72/89/3-5.
316 Thatcher Day 71(Mon)/52/1-18.
317 Woodrow witness statement [LAS00000009] p. 6.
318 Hazardous Area Response Team.
319 Woodrow Day 72/83/21-84/6.

11.172 Meanwhile, at 01.34.26, the LAS CAD (CAD 247)[320] records that LAS was now aware of the incident and would deploy multiple LAS crews to attend. Four HARTs were despatched at 01.34. There was some initial confusion over the location of Grenfell Tower. LAS personnel were initially despatched to SW11 but that was soon corrected[321] and is unlikely to have caused any material delay.

11.173 At 01.35.23 the MPS summoned the aid of the Territorial Support Group (TSG) to assist with evacuation. It was intended to evacuate the buildings in the immediate vicinity of the tower because there was a concern that the fire might spread beyond the tower itself.[322] The TSG was not able to evacuate the tower, because they did not have the equipment or training to enter a firefighting environment.[323]

320 [MET00019931].
321 [INQ00000378] p. 6; [MET00013955] pp. 4-5; Woodrow Day 72/93/10-94/1.
322 Jerome Day 71 (Mon)/195/21-196/25.
323 Jerome Day 71 (Mon)/197/1-6.

Chapter 12
Period 3: 01.40-01.50

1 External fire spread

12.1 During this period the flames continued to spread southwards across the east face both at the crown and at the lower floors (about floor 8). By around 01.43 the flames were approaching column C5 (the internal column on the far southern side of the east face). By that time the fire appears to have spread further at the lower floors than across the upper parts of the building, as can be seen from this image taken at 01.44:[1]

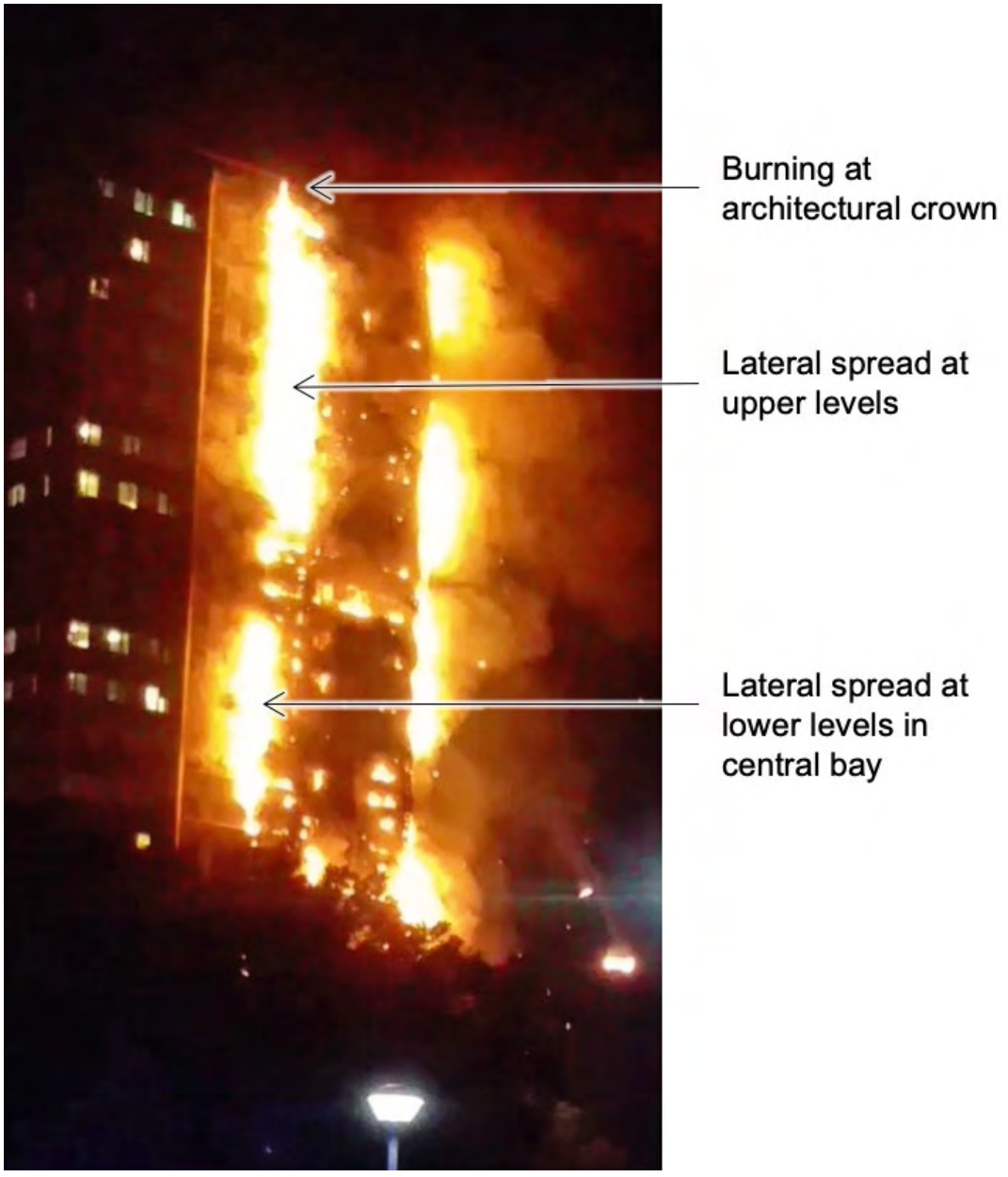


Figure 12.1

[1] Professor Bisby supplemental report [LBYS0000001] p. 207.

12.2 By 01.48 the fire had spread to the north face at both the upper and lower floors of the tower, reaching column A4, as can be seen from this image taken at that time:[2]

Figure 12.2

[2] Professor Bisby supplemental report [LBYS0000001] p. 213 section 1013, p. 201 Fig. 121 and p. 215 Fig. 132.

2 Events on the incident ground

Deployment of CMs Guy Tillotson, James Wolfenden, and Ben Gallagher and FFs Benjamin Felton and Harry Bettinson

12.3 Inside the tower at around this time, this crew of five principally from Paddington (CMs Tillotson, Wolfenden and Gallagher and FF Bettinson, together with FF Felton from Hammersmith), were at the bridgehead ready to be committed under air. I accept CM Tillotson's evidence that it was he who told WM Brien O'Keeffe that they needed to start clearing the floors and rescuing people and that he would be taking the entire crew of five with him. CM Tillotson then told the crew that they would search every floor and rescue anyone they could. He also told them not to take any firefighting media, as the priority was to save people.[3] FF Felton referred to this as a "snatch rescue… where we prioritise getting people out as quickly as possible over fighting the fire".[4]

12.4 The crew tallied out between 01.40.32 and 01.42.09.[5] They went first to floor 5, where they knocked on all the doors. They then went up to floor 6 and continued knocking on the doors, one of which was opened by a family of three whom CM Gallagher, FF Felton and FF Wolfenden then escorted down the stairs. CM Tillotson recalled the adult male asking him if they needed to get out through all the smoke, to which CM Tillotson replied "You have to get out now, if you don't you won't get out."[6]

12.5 CM Tillotson then proceeded with FF Bettinson to enter floors 7, 8 and 9, continuing to knock on the flat doors. The first to answer was Sharon Laci in Flat 65 on floor 9. CM Tillotson told her that they would come back for her and then went to check floor 10, which he was unable to enter due to the amount of smoke in the lobby. He and FF Bettinson then returned to floor 9, where CM Gallagher, FF Felton and FF Wolfenden rejoined them.[7]

Deployment of CM Secrett and FFs Badillo and Dorgu – contd

12.6 CM Secrett and FFs Badillo and Dorgu were also still inside the tower at this time. Once the crew reached floor 20, they entered the lobby and CM Secrett and FF Badillo located Flat 176, the door to which was slightly ajar. They entered and performed a right-hand wall search but did not find anyone inside. They left the flat and returned to the lift lobby, where FF Dorgu had been trying unsuccessfully to make contact with the bridgehead on his handheld radio.[8] FF Badillo did not knock on the door of Flat 175 (the Belkadis' flat) to alert them to the fire. At that time Alexandra Atala and Victoria (Vicky) King were still in Flat 172 and Khadija Saye and Mary Mendy were still in Flat 173.

SM Andrew Walton makes his way to the tower

12.7 Meanwhile, having notified the control room of his arrival at 01.40.12, SM Walton had left his vehicle and was making his way towards the tower when he passed CU8 on Bomore Road. He was told by the officer inside that he was the first Station Manager to arrive and he booked in.[9] He then ran towards the bottom of the tower.[10] He had a view of the east side but did

3 Tillotson witness statement [MET000080603] pp. 5-6.
4 Felton witness statement [MET00012467] p. 3.
5 BA Telemetry Schedule.
6 Tillotson witness statement [MET000080603] p. 6.
7 Tillotson witness statement [MET000080603] pp. 7-8.
8 Day 19/157.
9 Walton Day 46/110/5-111/1.
10 Walton witness statement [MET00010828] p. 21.

not see anything to indicate that the fire had entered the flats.[11] At that stage he did not turn his mind to evacuation because he first needed to find out from the fire crews whether they were keeping the fire out of the building.[12]

Arrival of CU7

12.8 Wembley's CU7 arrived at the incident at around 01.42.[13] WM Antony Peckham and WM Norman Harrison who were riding on CU7 went straight to CU8, where WM Daniel Meyrick and WM Mark Kentfield were.[14] Almost immediately WM Peckham began assisting WM Meyrick with taking the FSG information that was coming in from the control room.[15] WM Meyrick thought that he had been passing on information to WM Peckham who had then recorded it on the whiteboards in CU8,[16] but WM Peckham was clear that he had started to speak directly to the control room (although he could not recall if that was by radio or on the phone).[17] However, he did not remember how the information that he had received was passed to the incident ground.[18] WM Peckham also said that he did not recall any whiteboards having been used to record FSG information on CU8 and nor did WM Harrison.[19] This is consistent with DAC Andrew O' Loughlin's recollection that the whiteboards on CU8 were "blank" when he got there.[20] On the other hand, SM Daniel Egan's recollection was that WM Harrison had been writing on whiteboards in CU8 when he had first arrived.[21] It is therefore unclear whether, at this stage in the incident, there was any system for collating the information being received on CU8, apart from the pieces of paper to which WM Meyrick referred. The weight of the evidence suggests that there was not. WM Meyrick identified the following laminated sheet as having been compiled on CU8.

11 Walton Day 46/114.
12 Walton Day 46/106/24-107/3.
13 ORR v 0.7 p. 95 taken from GPS data.
14 Day 45/95.
15 Day 30/121.
16 Meyrick Day 20/92/24-94/2.
17 Day 30/121-124.
18 Day 30/148.
19 Day 30/124, 45/118.
20 [MET00012563] p. 12.
21 Egan Day 15/94.

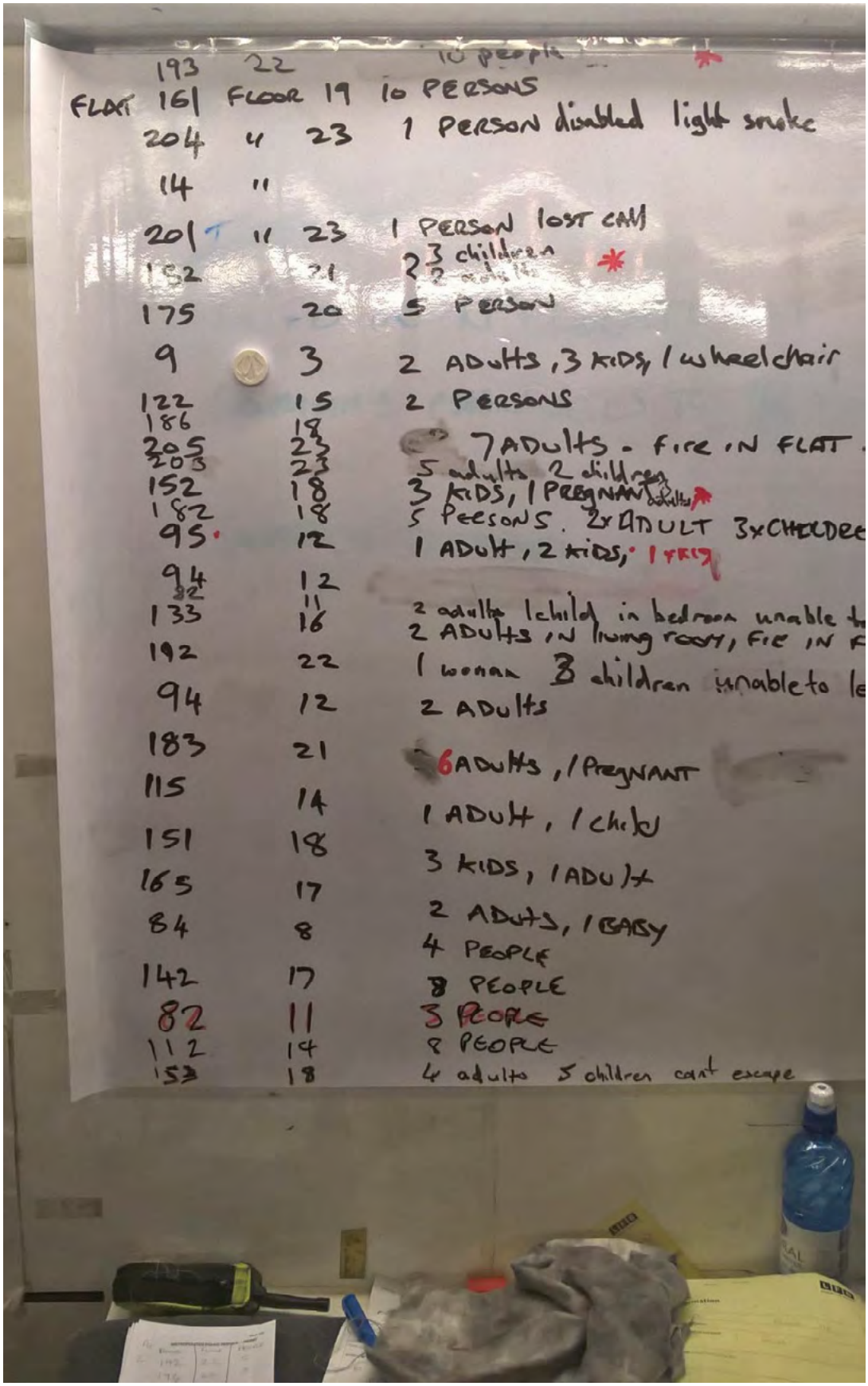

FLAT
FLOOR
193 22
161 19 10 PERSONS
204 4 23 1 PERSON disabled light smoke
14 11
201 11 23 1 PERSON lost call
152 21 2 3 children
175 20 5 PERSON
9 3 2 ADULTS, 3 KIDS, 1 wheelchair
122 15 2 PERSONS
186 18
205 23 7 ADULTS - FIRE IN FLAT
203 23 5 adults 2 children
152 18 3 KIDS, 1 PREGNANT
182 18 5 PEESONS. 2x ADULT 3x CHILDREN
95 12 1 ADULT, 2 KIDS,
94 12
82 11
133 16 2 adults 1 child in bedroom unable
192 22 2 ADULTS IN living room, FIRE IN
94 12 1 woman 3 children unable to
183 21 2 ADULTS
115 14 6 ADULTS, 1 PREGNANT
151 18 1 ADULT, 1 child
165 17 3 KIDS, 1 ADULT
84 8 2 ADULTS, 1 BABY
142 17 4 PEOPLE
82 11 8 PEOPLE
112 14 3 PEOPLE
153 18 8 PEOPLE
4 adults 5 children can't escape

Figure 12.3

12.9 However, WM Harrison was very clear that he had been the author of the laminated sheet and that he had started to use it later in the incident, after the handling of FSG calls had been moved to CU7 as a means of consolidating the information recorded on the slips of paper that had been created on CU8. GM Thomas Goodall also thought that the laminated sheet had been compiled on CU7 and had not been brought over from CU8.[22]

12.10 WM Meyrick said that any decisions about how to prioritise the FSG calls would be the responsibility of the incident commander or whoever the incident commander had delegated to oversee the committing of crews.[23] However, he also said that he had asked the control room to provide him with details of smoke conditions from the calls in order to allow some prioritisation to take place.[24] The command unit did not receive any feedback from firefighters deployed into the tower in response to the FSG information that had been relayed to the bridgehead.[25]

12.11 While WM Peckham began to assist WM Meyrick, WM Kentfield asked WM Harrison to accompany him to the base of the tower.[26] As they got to the north-east corner WM Harrison saw that the fire was not only on the outside of the building but was inside the flats from floor 4 upwards.[27] His evidence was that on seeing this he knew immediately that the "stay put" policy should no longer apply.[28] WM Harrison did not discuss the matter with WM Kentfield at that point, but his evidence about comments that he made later on his return to CU8 is referred to in Period 5.[29]

SM Gareth Cook's email to AC Roe with photographs

12.12 At 01.43, SM Cook sent an email to AC Roe attaching the five photographs of the tower that he had taken shortly after his arrival.[30] As noted under Period 4 below, AC Roe sent these on to DAC O'Loughlin at 01.56. SM Cook said that he sent the photographs because he thought that it would be beneficial to give AC Roe a picture of what was happening. He did not, however, attempt to contact AC Roe to discuss it.[31]

12.13 In oral evidence AC Roe said that on receiving those photographs he could not see whether the fire had spread to internal compartments but that he had felt that the people inside the building were at very significant risk of losing their lives, whether or not compartmentation had been breached.[32] As he made his way to the incident a little later (he arrived at 02.31.18), he recalled that his "guess" was that his focus was going to be on the residents rather than on external firefighting, because "our ability to fight fire that has spread that significantly externally is relatively limited."[33]

22 Goodall Day 35/32/14-24.
23 Meyrick Day 20/70-71.
24 Meyrick Day 20/74-75.
25 Meyrick Day 20/71/23-72/22, 30/82.
26 Harrison Day 45/96.
27 Harrison Day 45/97-98.
28 Harrison Day 45/99-100.
29 Harrison Day 45/106-107.
30 Exhibit of GM Foster [MET00016929].
31 Cook Day 28/163-164.
32 Roe Day 48/209, 211.
33 Roe Day 48/213-214.

Deployment of FFs James Cuthbert and Graham Shaw

12.14 At around 01.45, FFs Cuthbert and Shaw tallied out at the bridgehead, having been briefed to carry out search and rescue operations on floors 4 and 5. They forced entry to a number of flats.[34] All the occupants of floor 4 had either left or were leaving by this point and all those on floor 5 except the occupants of Flat 23 were also leaving.

Arrival of Fulham's pump ladder, G351, with WM Glynn Williams

12.15 At 01.45.27, Fulham's pump ladder, G351, arrived at the incident.[35] G351 had a crew of five, including WM Williams. After booking in, WM Williams made his way to the front of the tower where he saw WM Michael Dowden standing on or near the south-east corner. WM Williams recalled that WM Dowden had a look of shock on his face and said: "Glynn, I don't know what the fuck happened".[36] WM Williams did not receive any kind of briefing from WM Dowden.[37]

12.16 A minute or two after this exchange, WM Williams and his crew made their way to the main entrance. CCTV images of the ground floor lobby show that they entered the building at around 01.55.[38]

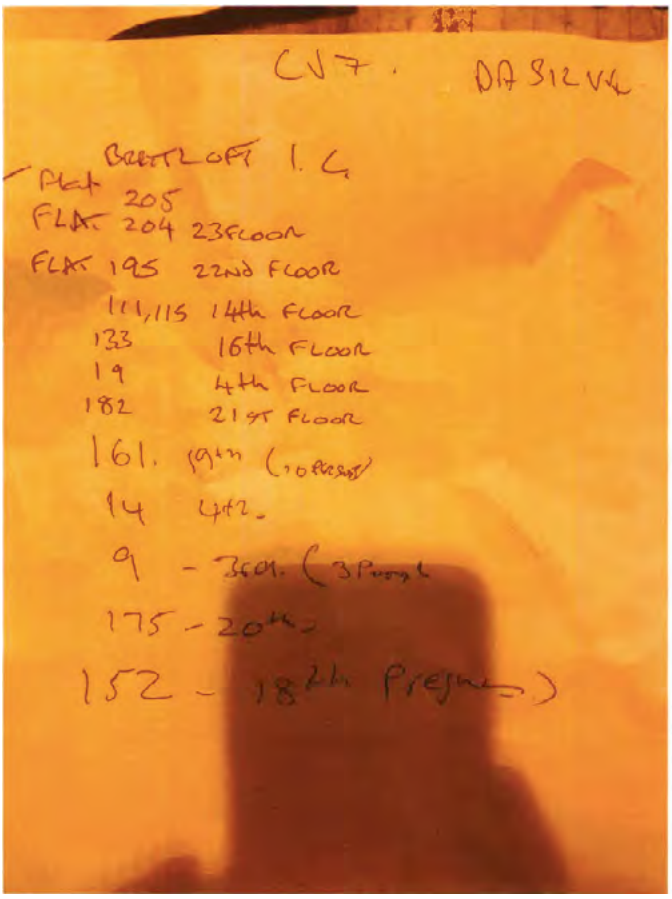
Arrival of Soho's pump ladder, A241, with WM Stuart Beale

12.17 At around 01.46, Soho's pump ladder, A241, arrived at the incident.[39] It carried a crew of five, including WM Beale. WM Beale went to book in at the command unit before making his way to the tower. It was completely clear to him that the fire had internally penetrated those flats on the right-hand side of the east face, between floors 4 and 8.[40]

SM Brett Loft continuing with FSG calls

12.18 At about this time, SM Loft started his role managing FSG calls from outside the front of the tower, having received an initial briefing from WM Dowden as described in Period 2. He continued to receive FSG information from WM Kentfield on pieces of paper and relayed that information to the bridgehead (initially to WM O'Keeffe but later to WM Louisa De Silvo as well),[41] using channel 3 of his fireground radio.[42] In oral evidence he was shown the following photograph of the list of FSG calls on an A4 sheet of paper that was subsequently given to WM Paul Sadler:[43]

34 Cuthbert witness statement [MET00012878] p. 4.
35 SIL p. 8.
36 Williams Day 31/15.
37 Williams Day 31/16-17.
38 Williams Day 31/29-30.
39 ORR v 0.7 p. 104 based on GPS data.
40 Beale Day 34/88.
41 Loft Day 37/165.
42 Loft Day 37/143, 153, 155. This is addressed further in Period 5.
43 [MET00016967].



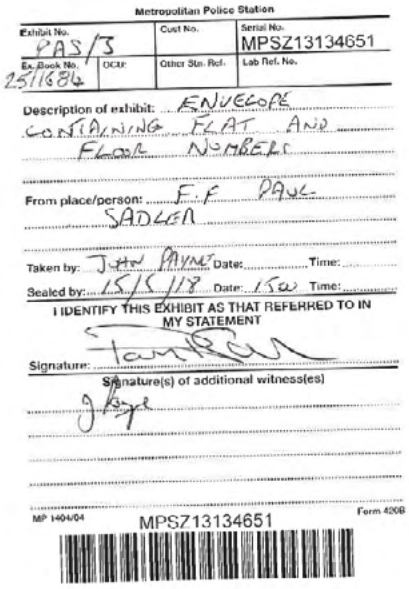


Figure 12.4

12.19 SM Loft confirmed that the photograph looked familiar to him, in particular the reference to Flat 205, which he recalled was the first piece of FSG information that he had sent to the bridgehead.[44] He could remember having received in total two or possibly three pieces of paper like that from WM Kentfield at around 01.40.[45] Some of the pieces of paper that he had received during this 20-minute period had flat numbers but no floor numbers, so SM Loft went into the lobby of the tower and took the following photograph of the plaque showing the flat and floor numbers. CCTV images show that this photograph was taken at 01.49.[46]

44 Loft Day 37/152, 159-160.
45 Loft Day 37/157-158. Refer to Period 2.
46 Photograph of floor plaque [MET00015644]; CCTV image [INQ00000302].

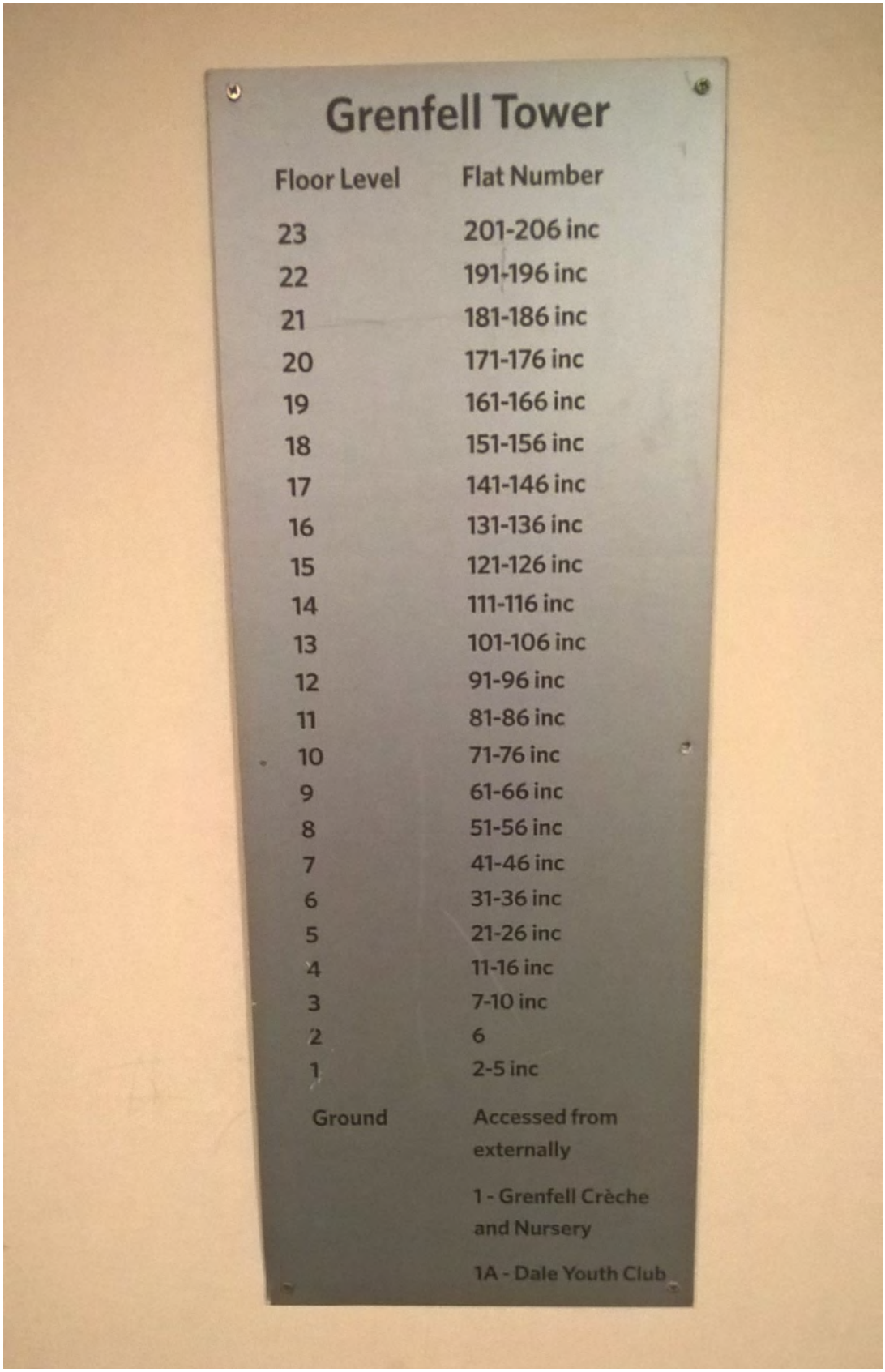

Grenfell Tower
Floor Level
Flat Number
23
201-206 inc
22
191-196 inc
21
181-186 inc
20
171-176 inc
19
161-166 inc
18
151-156 inc
17
141-146 inc
16
131-136 inc
15
121-126 inc
14
111-116 inc
13
101-106 inc
12
91-96 inc
11
81-86 inc
10
71-76 inc
9
61-66 inc
8
51-56 inc
7
41-46 inc
6
31-36 inc
5
21-26 inc
4
11-16 inc
3
7-10 inc
2
6
1
2-5 inc
Ground
Accessed from externally
1 - Grenfell Crèche and Nursery
1A - Dale Youth Club

Figure 12.5

Figure 12.6

12.20 After he had left the tower having taken that photograph, SM Loft came across SM Walton, with whom he had a brief exchange, directing SM Walton to go and talk to WM Dowden because he (SM Loft) was dealing with FSG calls. SM Loft assumed that SM Walton would be taking over command from WM Dowden.[47]

12.21 Throughout that time SM Loft received no information from the bridgehead and had put in place no system for recording FSG information apart from the slips of paper that were being provided to him.[48] Similarly, there was no system that he was aware of for prioritising the calls coming in.[49] SM Loft was not aware of any FSG information going to the bridgehead otherwise than through himself.[50]

External firefighting: A213

12.22 By about this time, Paddington's turntable ladder had been set up with a water supply on the east side of the tower. CM Daniel Harriman was in the cage which was being operated by FF Christopher Reynolds at ground level. FF Reynolds recalled that the ladder reached to about floor 10 and was positioned about 10 or 12 feet away from the building.[51] FF Raymond Keane remained at G272 in order to monitor the water supply while the turntable ladder was in operation.[52] Below is a picture (timed at 02.05) taken from Dr Barbara Lane's report of A213 fully extended applying water on the east elevation:

47 Loft Day 37/170-172.
48 Loft Day 37/160-162, 174, 177.
49 Loft Day 37/196-197.
50 Loft Day 37/166.
51 Reynolds witness statement [MET00010894] p. 4.
52 Keane Day 25/23/1-10.

Figure 12.7

Arrival of G346, Chelsea's FRU

12.23 At 01.47.33 G346, Chelsea's FRU, booked status 3.[53] This was the second FRU to arrive at the incident. Riding on G346 were CM Raoul Codd and FFs Alan Sime, Earnest Okoh, Nikki Upton and Tom Reddington.

12.24 On arrival the crew waited with their BA sets under the covered area outside the tower.[54] FF Upton recalled being given their first task by a Watch Manager from Hammersmith, probably WM Watson, who instructed them to fetch as much hose and breaking-in gear as they could carry. As the appliances that were parked closer to the tower had already been stripped of their equipment, this involved the crew returning to their own appliance that was further away.[55] It is worth noting that FFs Upton and Reddington (EDBA wearers) were not in fact committed under air until 02.44, almost an hour later.

53 SIL p. 9.
54 Sime witness statement [MET00010896] pp. 3-4.
55 Upton witness statement [MET00007524] p. 4.

Arrival of H221, Lambeth's pump ladder

12.25 At 01.48.53, H221, Lambeth's pump ladder, arrived at the incident.[56] There was a crew of four riding on H221, including WM Sadler. After booking in, the Lambeth crew also went to wait under the covered area on the south-east corner of the tower.[57]

WM De Silvo enters the tower

12.26 Having taken her crew's nominal roll board to CU8, WM De Silvo made her way towards the tower in order to find the incident commander. In fact, she found a team leader from the command unit[58] who told her that BA crews and equipment were required at the bridgehead. She then instructed her crew by radio to meet her at the bottom of the tower with the equipment.[59] At around this time, she had a passing conversation with CM Philip Wigley, who was on his way into the building. He told her that his EDBA crew had been instructed to go to the roof of the tower to carry out a rescue.[60]

12.27 Once she had the equipment, WM De Silvo entered the tower and went up on foot to the bridgehead. She estimated that this had been at around 01.50, 10 minutes after her crew's arrival at the incident.[61]

3 Conditions in the tower and the movement of occupants

The evidence of the firefighters

12.28 FF Cuthbert described the heat and smoke he had encountered on floors 4 and 5 as more intense than any he had previously experienced, with smoke-logging in the stairwell that was increasingly bad and significantly reduced visibility in the lobby on floor 5.[62] FF Graeme Shaw also recalled jet black smoke and extreme heat.[63] Flat 23 on floor 5 to which the crew gained entry was clear inside, but when they came back out into the lobby conditions had worsened and the smoke was much thicker.[64]

12.29 Slightly higher up in the building on floor 6, the smoke was black and worsening and visibility was impaired, though it was still possible to see shapes.[65] The flat that CM Tillotson's crew entered on that floor was clear. The smoke then became denser in the lobbies of floors 7 and 8 and the stairwell was beginning to be compromised due to the constant opening of the lobby doors.[66] When CM Tillotson opened the door to floor 10 he found it full of thick, black, hot smoke that the crew could not enter without water.[67]

56 ORR v 0.7 p. 108 based on GPS data.
57 Sadler witness statement [MET00012481] p. 3.
58 She was unable to identify him.
59 De Silvo Day 29/187, 193.
60 De Silvo Day 29/193-194.
61 De Silvo Day 29/195-196.
62 Cuthbert witness statement [MET00012878] p. 5.
63 Shaw witness statement [MET00012798] pp. 3-5.
64 Cuthbert witness statement [MET00012878] pp. 5-6.
65 Bettinson witness statement [MET00007879] p. 6; and Day 26/213-214.
66 Bettinson witness statement [MET00007879] p. 7.
67 Tillotson witness statement [MET000080603] pp. 6-7.

12.30 Meanwhile, on floor 20 visibility was reduced both in the stairwell and in the lobby. CM Secrett described needing to grab hold of FF Badillo, who was holding open the lobby door, in order to see him[68] and, on entering the lobby, being unable to see the equipment that he had placed on the floor.[69]

12.31 Inside Flat 176 visibility was very poor. FF Badillo observed an "orange curtain of flame" at the window of one of the rooms, although there was no fire in the flat itself.[70] CM Secrett described the flat as being completely smoke-logged, but with no fire, and recalled that the temperature had started to increase at a steady rate. He saw that the window where fire could be seen was intact but about to fail.[71]

The evidence of the occupants

12.32 By 01.40, nearly half of the 297 people who had been in the tower at 00.50 had left. A total of 152 occupants remained inside the building.[72] A further 20 occupants left the tower between 01.40 and 01.50. After 01.50 there was a period of 29 minutes during which no one from above floor 4 left the tower.

The last occupants leave floor 7

12.33 I described earlier how Turufat Girma and Abraham Abebe left Flat 44 with their young son. Turufat Girma said that when she had entered the stairwell she had been able to breathe relatively easily in the stairwell at her level. Abraham Abebe, who was carrying their son, recalled that he had been able to see through the smoke in the stairwell. Both said that they had not seen thick smoke until they had reached floors 4 and 5. There they saw a firefighter with a hose holding open the stairwell door into the lobby on floor 4. Thick black smoke was pouring into the stairwell from floor 4. Frightened that flames might follow the smoke and endanger her family, Turufat Girma called to her husband. He was minded to move through the smoke but stopped when he heard his wife. They returned to Flat 44.[73]

12.34 Less than four minutes elapsed between the time when Abraham Abebe first left Flat 44 (01.40) and the time when his wife, now back in Flat 44, made a 999 call. CRO Yvonne Adams answered it at 01.43.49.[74] Turufat Girma told CRO Adams that she was unable to leave her flat and that smoke was coming into it. CRO Adams advised Turufat Girma to block the door and told her that firefighters were dealing with a fire on floor 4. At the end of the call, Turufat Girma confirmed that the firefighters were with them.

12.35 Turufat Girma said her husband had been blocking the space under the front door with a quilt cover when a firefighter wearing a mask knocked. When the door was opened, she noticed that the smoke in the lobby was now "significantly thicker". The firefighter told them to get out, even after Turufat Girma had explained that they had already tried and considered it unsafe to do so. Abraham Abebe left with their son, his wife following behind. On leaving, Abraham Abebe saw another firefighter banging on other doors on floor 7.[75] Footage from the CCTV camera on floor 7 shows Abraham Abebe leaving the flat accompanied by a firefighter at 01.45.59.[76]

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68 Secrett Day 17/87.
69 Secrett Day 17/89-90.
70 Badillo Day 13/155-157.
71 Secrett Day 17/96-99.
72 Annex A.
73 Girma first witness statement [IWS00000848] pp. 5-6; Abebe first witness statement [IWS00000847] p. 4.
74 [INQ00000373]; Girma first witness statement [IWS00000848] p. 6; Abebe first witness statement [IWS00000847] p. 5.
75 Girma first witness statement [IWS00000848] pp. 6-8; Abebe first witness statement [IWS00000847] pp. 5-6.
76 The unadjusted time on the CCTV camera is 01:46:39.

12.36 When going down the stairs for the second time, Abraham Abebe noticed that the smoke was heavier higher up in the stairwell than it had been when he had first tried to escape, but there was no problem with visibility. The smoke thickened again as they reached floor 4. There was a firefighter on the stairs at that level. Abraham Abebe said that he did not recall having seen the door into the lobby open at that time and as a result the smoke in that area was not as thick as it had been before. The smoke thinned out after floor 4.[77]

12.37 On entering the stairwell Turufat Girma recalled "a strong and overpowering sensation of burning in my throat as I was hit by heavy smoke". She and her husband ran down the stairs. The smoke became thicker and more acrid as she descended. On floor 4 she saw that smoke was still pouring into the stairwell from the open door to the landing. A firefighter had been holding the door open. Once she had passed floor 4, the smoke had become less dense.[78]

12.38 Abraham Abebe and Turufat Girma left the tower with their son at 01.48.[79]

Branislav Lukic and Miran Lovsin leave floor 11

12.39 At this time, Branislav Lukic and Miran Lovsin were still in Flat 84 on floor 11, having given up an attempt to leave. The flat had begun to fill with light grey smoke which was coming through the front door. Branislav Lukic kept the windows open to try to get rid of the smoke. He estimated that it had taken him 15 to 20 minutes to persuade Miran Lovsin to leave the flat again. Miran Lovsin wanted to wait to be rescued. Branislav Lukic was concerned by the smoke entering the flat and thought that waiting would reduce their chances of getting out.[80]

12.40 Miran Lovsin having agreed, they opened the front door of the flat. Branislav Lukic recalled that the conditions in the lobby had been even worse than before.[81] He said: "It was hot smoke. It was way worse than the first time."[82] He led Miran Lovsin by the hand to the stairwell door, which he pushed open. Conditions in the stairwell were better. There was less smoke and it was grey rather than black in colour. It was possible to breathe and talk. That led Branislav Lukic to believe that the smoke might have entered the lobby through the grilles of the ventilation system. However, because it was so smoky he had not been able to see whether any smoke was coming though the grilles and he had not heard the vents making any noise that night.[83]

12.41 Alerted by a noise, Miran Lovsin stopped and opened the stairwell door to floor 10. They saw Clarita Ghavimi surrounded by black smoke. Branislav Lukic described Clarita Ghavimi as "frozen in place, shaking and crying." He pulled her into the stairwell and closed the door. As Clarita Ghavimi appeared to have trouble walking, they tried to carry her. Eventually Branislav Lukic picked her up in a fireman's lift and carried her down the stairs. He did not recall having seen any other people in the stairwell until they saw some firefighters at floor 5 or 6.[84]

12.42 Having decided to leave Flat 75, Clarita Ghavimi had put a wet towel over her mouth. She thought she had left her front door open. Its self-closing mechanism was broken. The lobby on floor 10 was "pitch black" and Clarita Ghavimi could not see anything. There was thick smoke. She did not hear any noise in the lobby and could not recall whether it was hot. Clarita

77 Abebe first witness statement [IWS00000847] pp. 6-7.
78 Girma first witness statement [IWS00000848] pp. 8-9.
79 Annex A.
80 Lukic first witness statement [IWS00000770] p. 10 and Day 56/111/21-114/22.
81 Lukic Day 56/114/8-22.
82 Lukic Day 56/115/1.
83 Lukic Day 56/115/23-117/21.
84 Lukic first witness statement [IWS00000770] pp. 11-12 and Day 56/117/22-120/16.

Ghavimi had to feel her way to the stairwell and relied on her familiarity with the building. She described crossing the lobby as a struggle, scary and disorientating. She was very distressed by the time she reached the stairwell.[85]

12.43 Her recollection was that she had managed to open the stairwell door. The conditions in the stairwell were very different from those in the lobby: it was lit and there was only a little smoke. Two men came down the stairs. One picked her up and placed her over his shoulder. She remembers him saying "Don't worry, we have got you." Clarita Ghavimi kept her eyes shut for most of the journey down the stairs. She, Miran Lovsin and Branislav Lukic are recorded as having left the tower at 01.49.09.[86]

The last occupants leave floor 4

12.44 Sharon Haley lived in Flat 24. She had spent the evening of 13 June 2017 visiting Denis Murphy in Flat 111. Leaving there at around 23.00 she had gone to Flat 13 where John Beadle was staying. Another friend, Kenny Smith, was already there. Sharon Haley's recollection is that she had first become aware of the fire when she had tried to leave the flat to go home. She had found the lobby filled with thick, white smoke. Having told John Beadle and Kenny Smith about it, they opened the front door twice more. On the second occasion the smoke in the lobby appeared to have become worse. At this time, Sharon Haley rang Denis Murphy and Anthony Disson (who was also a friend) to tell them of the fire.[87]

12.45 Sharon Haley said that, when she went out into the lobby for the third time, she saw "the man from Flat 16".[88] That would have been Behailu Kebede, but I think Sharon Haley must have made a mistake, because Behailu Kebede had left floor 4 before smoke had accumulated in the lobby to the extent she describes. Nothing turns on this, however, and it may be that Sharon Haley had seen Behailu Kebede earlier that night.

12.46 What is clear is that Sharon Haley and her friends were in Flat 13 for some time. They were still there at around 01.40. The degree of smoke in the lobby appears to have deterred them from leaving and Sharon Haley described having shouted to a woman on the walkway opposite that there was too much smoke to leave. However, they felt able to leave when, having opened the door again, they saw that "the smoke had calmed down".[89] It smelt like burning plastic. Sharon Haley went straight to the stairs and found the stairwell door open. A firefighter was there. She found the stairwell free of smoke. Sharon Haley and Kenny Smith left the tower at 01.44; John Beadle left shortly after at 01.46.[90]

Floor 10

Antonio Roncolato attempts to leave floor 10

12.47 Antonio Roncolato had lived in Flat 72 on floor 10 for 27 years. In June 2017 his son, Christopher Roncolato, and sister-in-law, Gloria Wilson, were living with him. Antonio Roncolato returned home from holiday on the evening of 13 June 2017. His sister-in-law was out and Christopher Roncolato was working a late shift.

85 Ghavimi first witness statement [IWS00000943] pp. 3-4.
86 Ghavimi first witness statement [IWS00000943] pp. 3-4; Annex A.
87 Haley first witness statement [IWS00001219] pp. 7-8.
88 Haley first witness statement [IWS00001219] p. 8.
89 Haley first witness statement [IWS00001219] p. 8.
90 Annex A.

12.48 Christopher Roncolato was on his way home when he received a call telling him there was a fire at the tower. At 01.42.34, he telephoned his father, waking him up. Christopher Roncolato was still speaking to his father when he reached the tower. Seeing the extent of the fire, he urged his father to leave.[91]

12.49 When Antonio Roncolato woke, there was no smoke inside Flat 72, although he noticed "thick dark dust" which he later suggested was like light grey smoke. He could hear a crackling sound "like dry wood burning" outside the kitchen window. He closed that window after a piece of "smoking debris" came through it.[92]

12.50 When he tried to leave his flat, he found the handle of the front door very warm to the touch. Unusually, there was no light from the lobby shining through the glass panels in the front door. No smoke had been coming through the door before he opened it. When he did open it, thick black smoke came billowing in. He could see nothing of the lobby. Antonio Roncolato described the effect of the smoke as follows:

> "I felt like I'd been hit by gas as well as smoke, so basically it would stop me from breathing."

The smoke had a horrible smell; it was hot and irritated his eyes, making him wash them immediately.[93]

12.51 Antonio Roncolato's attempt to leave the building probably occurred soon after Clarita Ghavimi had left the lobby on floor 10. By this time Christopher Roncolato had sent his father a photograph showing the extent of the fire.[94] Antonio Roncolato's recollection was that he had then spoken to his son again. Christopher Roncolato had passed the telephone to a "fire marshal" (by which Antonio Roncolato meant a person in charge). Antonio Roncolato confirmed his location and was advised by that person to stay put and that someone would come to get him. Antonio Roncolato said that he had been reassured by that call.[95]

Other occupants of floor 10

12.52 At 01.41.21, CRO Peter Duddy spoke to Ann Chance in Flat 73. She told him that she and her family could not evacuate because it was "pitch black outside".[96] Smoke was coming into the flat and the front door was "completely hot." Ann Chance had a limited recollection of this call.[97] It is possible that the information she provided to CRO Duddy followed an attempt to leave, given that her cousin, Adam Supareogsanond, had been advised to leave by an MPS operator at 01.28.01.[98] CRO Duddy advised Ann Chance to stay where she was until the firefighters came to get her and to block any smoke coming in through the doors and windows.

12.53 At 01.47.49, CRO Angie Gotts spoke to Lina Hamide.[99] Having told CRO Gotts which floor she was on, Lina Hamide repeatedly asked if she and Meron Woldeselassie Araya could "go outside". CRO Gotts advised her to block the bottom of the door. When Lina Hamide said that they were going to go outside, CRO Gotts said: "I can't advise you to do that".[100] Meron

91 Christopher Roncolato first witness statement [IWS00000840] p. 7; Antonio Roncolato Day 52/27/12-52/28/6.
92 Antonio Roncolato Day 52/28/4-32/7.
93 Antonio Roncolato witness statement [IWS00000894] p. 11 and Day 52/37/7-41/5.
94 Antonio Roncolato Day 52/34/9-35/20, 52/37/25-38/14.
95 Antonio Roncolato Day 52/35/22-37/6.
96 [LFB00000319].
97 Chance first witness statement [IWS00000783] p. 4.
98 [INQ00000282].
99 [LFB00000330].
100 Hamide, Exhibit LH/5 [IWS00001177] p. 11.

Woldeselassie Araya took over the call and told CRO Gotts that they did not know what to do, because they were being told by some people to stay inside and by others to leave. CRO Gotts repeated her advice to block the smoke from coming in and then said:

> "Yeah, I mean, I, obviously, don't know the best thing to do from here, if you can – I can tell the firemen you're there. And what's – you're on the 10th floor?"[101]

CRO Gotts ended the call by repeating that she would "let them know". Lina Hamide and Meron Woldeselassie Araya did not leave Flat 74 at that point.

Floor 11

12.54 Natasha Elcock's third 999 call is timed at 01.43.19.[102] In oral evidence she described her situation at that time as "exceptionally serious". From Flat 82, she was able to see the firefighting effort and the police evacuating Grenfell Walk. She had received calls from a friend telling her of the progress of the fire.[103] During that call CRO Gotts advised Natasha Elcock to block up the door, which she had already done. CRO Gotts asked if Natasha Elcock could go outside, to which she responded: "No. The stairs will be completely full of smoke now".

12.55 During the call Natasha Elcock told CRO Gotts that she had called before and asked her to send someone to get her out. She mentioned that she had a daughter. CRO Gotts confirmed that she would "let them know". Later in the conversation Natasha Elcock asked how long it would take. She also told CRO Gotts that smoke was coming into the flat. However, in her evidence she said that at the time the amount of smoke in the flat had not had "a major effect"; blocking the door had been "relatively effective" and smoke did not really get into the flat until later. She explained that she had been trying to prompt someone to take action.[104] Natasha Elcock remained in her flat.

Floor 12

12.56 Roy Smith was still in Flat 95 with his partner and two daughters. His second 999 call of the night is timed at 01.44.33. At the start Roy Smith told CRO Duddy that he was on floor 12. When CRO Duddy told him that the fire was on floor 4, Roy Smith said that it had reached the kitchen of the flat next door, "96 Grenfell Tower". He then said that smoke was still coming into his flat even though he had blocked the front door.[105] In his oral evidence Roy Smith explained that he had not been sure where the smoke was coming in. It had started to "creep in" and there was now a cloud of smoke in the living room, kitchen and hallway. When he was reminded that he had told CRO Duddy that smoke had been coming through the windows, Roy Smith explained that he had assumed that it was coming through gaps in the windows as the front door was blocked.[106]

12.57 During the call, Roy Smith said: "We can't breathe". He asked CRO Duddy to send someone as they needed help to get out. CRO Duddy told him that firefighters would be there as soon as they could and that they would deal with the fire in Flat 96 as well.[107] During the call, CRO Duddy referred to Roy Smith being on floor 14 rather than floor 12. Roy Smith said that that

101 Hamide, Exhibit LH/5 [IWS00001177] p. 12.
102 [LFB00000323].
103 Elcock Day 70/50/25-53/17.
104 Elcock Day 70/51/4, 54, 7.
105 [LFB00000324].
106 Smith Day 64/63/12-66/12
107 [LFB00000324].

had made him think: "We're not going to get out". At the end of the call he believed that he and his family either had to stay or leave on their own without assistance.[108] They remained in the flat.

Floor 14

12.58 At 01.48.23, CRO Christine Howson answered a 999 call from Zainab Deen. Zainab Deen said that she was in Flat 115 on floor 14 with her baby. There was smoke in all the rooms of the flat. It was coming through the windows and door. Zainab Deen had already closed the windows and blocked the door.[109] CRO Howson told her that her flat was "the safest place" and advised her to keep trying to stop the smoke from coming in. She said she would alert the firefighters who would come to Zainab Deen. I shall return to the circumstances in which Zainab Deen moved from her flat to Flat 113.

Floor 16

12.59 At 01.46.18, Sener Macit in Flat 133 spoke to CRO Adams, having been put through by an MPS call operator. He told her that he had tried to use the "fire escape" but that it had been pitch black with smoke. CRO Adams advised him to stay in his flat and to try to stop any smoke coming in.[110]

Floor 20

12.60 Farah Hamdan made another 999 call at 01.43.14, which was put through to a CRO at North West Fire Control.[111] Farah Hamdan gave her location as "175 Grenfell Tower" on floor 20. She reported that the fire had reached the floor below. Farah Hamdan told the CRO that her husband had wanted them to leave but that there was black smoke in the hallway, so they had closed the door and gone into the living room. (When she referred to "the hallway", I think she probably meant the lobby.) Farah Hamdan said that by that time there had been smoke in the flat. The CRO advised her to block out the smoke and said that her location had been passed to "the crews".

12.61 That Farah Hamdan and her family were unable to leave because of conditions in the lobby is reinforced by a message posted by Khadija Saye on her Facebook wall some minutes after Farah Hamdan's 999 call. Khadija Saye was at home in Flat 173 with her mother, Mary Mendy, that night. The message, timed at 01.49, is the first indication that Khadija Saye and her mother had become aware of the fire. It reads:

> "There's a fire in my council block, can't leave the flat. Please pray for me and my mum."[112]

Floor 22

12.62 At 01.48.00, Sharon Lancaster, a CRO with Essex FRS, responded to a call from Nadia Choucair in Flat 193. Nadia Choucair reported that it was getting "very smoky inside the house". CRO Lancaster told her that the fire service was at the scene and she would "go back through to London for you".[113] Nadia Choucair also sent two text messages to her friend Helen Gebremeskel, who was by that time in Flat 182. Both are timed at 01.48 and read "Stay in"

108 Smith Day 64/67/12-69/2.
109 [LFB00000331].
110 [INQ00000280] p. 5; [LFB00000326].
111 [LFB00000444].
112 Telfer second witness statement [IWS00001188] p. 1; Telfer Exhibit MT1 [IWS00001188] p. 3.
113 [LFB00000325].

and "Fire". Nadia Choucair also left a telephone message which mentioned placing towels "underneath the door" and not leaving the flat. Helen Gebremeskel did not see those messages until some time after the fire.[114]

12.63 Anthony Disson was still in Flat 194 when, in a call timed at 01.50.03, he told CRO Duddy that "All the smoke's coming in. I can't see or nothing". Smoke was even coming through open windows. CRO Duddy advised Anthony Disson to close all the windows and told him, "We're gonna come up. We've got firefighters coming to the 22nd floor already. Okay?"[115]

Floor 23

12.64 At 01.48.18, Aisha Jabin, a CRO with North West Fire Control, made a call back to Debbie Lamprell, who was by now in Flat 201. The call lasted 40 minutes 23 seconds.[116] Between around 01.48 and 01.58, Debbie Lamprell told CRO Jabin that:

a. she was in a group of about 10 people in the bedroom of a flat on floor 23. It was a one-bedroom flat in the corner of the top floor;[117]

b. there was thick black smoke in the bedroom that was coming through the windows and making it difficult for everyone to breathe; [118]

c. she could not see because the smoke was too thick;[119]

d. the fire was not in the flat, but it was "coming up". At around 01.55 she said: "It's burning through the windows".[120]

12.65 CRO Jabin assured Debbie Lamprell that the information had been passed to the firefighters and that they were on their way to her.[121]

12.66 In Periods 1 and 2 of this Narrative I have referred to the telephone call between CRO Sarah Russell and Jessica Urbano Ramirez, which began at 01.29.48 and lasted just over 54 minutes. In the course of that call Jessica Urbano Ramirez moved from the hallway of Flat 201 into the bedroom.[122] Her conversation with CRO Russell overlapped in time with Debbie Lamprell's call to CRO Jabin. Between 01.37 to 01.47, while in the bedroom, Jessica Urbano Ramirez told CRO Russell:

a. that smoke was coming through the window;[123]

b. that she was in a group of about 11 people, including a two-year-old child;[124] and

c. that she was stuffing her face into a pillow, but that she and others in the room were struggling to breathe.[125]

114 Gebremeskel second witness statement [IWS00001141] pp. 1-2.
115 [LFB00000328].
116 [LFB00055500].
117 [LFB00055500] pp. 3, 4, 5, 7, 15.
118 [LFB00055500] pp. 2, 3, 4, 5, 7, 9, 12, 13.
119 [LFB00055500] p. 3.
120 [LFB00055500] pp. 3, 11.
121 [LFB00055500] pp. 6, 7, 9, 10.
122 [LFB00055504] pp. 16-17.
123 [LFB00055504] p. 20.
124 [LFB00055504] pp. 22, 37.
125 [LFB00055504] pp. 21, 24, 25.

CRO Russell advised Jessica Urbano Ramirez to make sure the window was shut and the door blocked and said that firefighters would come to her.[126]

12.67 The two-year-old child mentioned by Jessica Urbano Ramirez must have been Amaya Tuccu Ahmedin. Fadumo Ahmed said in her statement that she had seen Amaya Tuccu Ahmedin and her mother, Amal Ahmedin, in Flat 201.[127]

12.68 At 01.46.02, OM Alexandra Norman rang Hesham Rahman in Flat 204. He told her that the fire had not reached his flat but was next door. When OM Norman told Hesham Rahman that the fire was on floor 4, he replied, "I think it's gone upstairs". OM Norman said: "Okay, you need to just stay where you are. The crews know where you are, okay? So, they will get to you as soon as they can".[128]

4 Events in the control room

12.69 Between 01.40 and 01.50, the LFB control room received 21 emergency calls from residents trapped in the building and members of the public. Of these, eight were FSG calls from residents (not including calls received by other control rooms during this period).[129] The LFB control room also received two calls from the MPS passing on calls from trapped residents and one similar call from Surrey Police.[130] It was during this period that OM Norman and AOM Debbie Real became aware that their "buddy" control room,[131] North West Fire Control, was taking calls, including FSG calls, on their behalf. It was also during this period that two fire and rescue services which did not have formal "buddy" arrangements with the LFB (Essex and Kent) were contacted by BT in order to start taking calls on behalf of the LFB.[132]

12.70 At 01.40.17, Denis Murphy in Flat 111 on floor 14 reported that his whole flat was full of smoke, which was coming in through his front door and windows. He said he could not move. He was reassured that the firefighters were in attendance and dealing with the fire. He was told to stop the smoke coming in and to get down low and that the firefighters would get to him as soon as possible.[133]

12.71 At 01.42.00, AC Andrew Roe and DAC Adrian Fenton spoke by telephone and agreed that DAC Fenton would set up the Brigade Coordination Centre at Stratford so that he and his team could support the Brigade throughout the incident.[134] As a result, DAC Fenton started to make his way to the control room at Stratford.[135]

12.72 At 01.43.13, CU8 contacted CRO Sharon Darby by radio to explain that they were setting up at the incident ground and to ask her whether she had any information to pass to them.[136] From this point on, CRO Darby passed all radio messages to CU8 rather than G271 or any other appliance.[137]

126 [LFB00055504] pp. 18, 19, 21, 22.
127 Fadumo Ahmed first witness statement [IWS00000729] p. 4.
128 [INQ00000370].
129 Control Report pp. 40-52.
130 Control Report pp. 47-48, 50.
131 That is, with whom the LFB had formal arrangements for dealing with overflow calls.
132 Control Report pp. 40-52.
133 [LFB00000678].
134 Fenton Day 24/49/14-24 and ORR v 0.7 pp. 95.
135 Fenton Day 24/51/4-24.
136 [LFB00003078]; [LFB00002726].
137 Darby Day 33/160/3-13.

12.73 In the course of their conversation CRO Darby passed on FSG information to CU8. She told the crew that she had already passed some information to the incident ground (thinking of the messages she had passed to G261), but that she would pass it again to them. She passed on the following information:

a. people stuck in flats on floor 10;

b. seven people in Flat 205 on floor 23 with persons unable to leave;

c. persons trapped in a flat on floor 12;

d. smoke coming into flats on floor 14 and on floor 17 in Flat 142, with five people in the flat;

e. smoke coming into Flat 95 on floor 12; and

f. a caller inside a flat on floor 18 with thick smoke outside her flat.[138]

In fact, those were not messages she had passed to G261. All of them, apart from the last, were new FSG messages which appear to have originated from service requests created by CROs in the incident log between 01.36.00 and 01.43.58.[139]

12.74 At 01.44.19, CU8 confirmed the message from CRO Darby stating that:

> "the only flat numbers you've given me are the 17th floor is flat 142 and that's five people and the 12th floor is flat 95, no further information than that apart from heavy smoke logging."[140]

CRO Darby confirmed that that was correct.[141] She did not remind WM Meyrick that she had also given him the message relating to Flat 205, including its number.

12.75 As CRO Darby was relaying messages to the incident ground, OM Norman took a call at 01.43.00 from Team Leader Paula Craig at North West Fire Control on the critical line phone.[142] It was the first time that North West FRS had made contact with the control room since first taking calls on its behalf at 01.36.00. TL Craig reported that they had taken about 10 calls by that point. OM Norman said that it had been "chaos" in the control room.[143]

12.76 TL Craig passed on two FSG messages, one relating to Flat 9, where there were two adults and three children, including one young man in a wheelchair, and one relating to Flat 175 on floor 20, where there were five people inside.[144] She did not pass on details of the conditions that the callers had reported and she was not asked for them. OM Norman did not record those messages in the incident log until 02.01.43, after she had passed the information to the incident ground at 01.47.44.[145] During the course of her conversation with TL Craig, OM Norman agreed that North West Fire Control would only pass over calls relating to trapped residents, rather than all 999 calls.[146] OM Norman did not recall making a similar agreement with any other fire and rescue service.[147]

138 [LFB00002726].
139 SIL p. 19.
140 [LFB00002192].
141 [LFB00002192].
142 Control Report p. 41. [LFB00000688]; Norman Day 42/120/22-25-121/1-5; Paula Craig witness statement [MET00008008] p. 7.
143 [LFB00000688].
144 [LFB00000688].
145 SIL p. 21.
146 [LFB00000688]; TL Craig witness statement [MET00008008] p. 7.
147 Norman Day 42/120/13-17.

12.77 At 01.43.00, BT tried to connect a call intended for the LFB to the Essex FRS as the lines were busy in London.[148] It appears that this was the first time that a fire and rescue service which did not have a formal arrangement with the LFB had started to take calls on its behalf (although the control room itself was unaware of that at the time). BT had already contacted Essex FRS some 10 to 15 minutes earlier using an unrecorded phone line to ask if it would help the LFB, as it was dealing with a large incident and there were too many calls for its own control room and its fallback brigade to answer.[149] CRO Katrina Marshall, who answered the call, accepted the request, even though Essex FRS did not have a formal arrangement with the LFB to do so. At the time, CRO Marshall was not given any further information about the incident, but she told her colleagues in the control room that they would be taking overflow calls.[150] When BT tried to connect the call at 01.43.00, from a location outside the tower, the caller cleared the line before they could be connected. However, it gave CRO Marshall an opportunity to ask the BT operator more about the incident.[151] The BT operator said: "I think it's Ladbroke Grove, there's like a tower block on fire or something".[152] CRO Marshall entered the details on Essex's incident log.[153]

12.78 At 01.43.31, the radio workshops duty engineer contacted the control room. The radio engineer had been paged about the incident at 01.35.[154] He did not proceed to the incident at that time.[155]

12.79 At 01.43.46, CRO Heidi Fox took a call from the MPS who told her that they had been receiving calls from people on floors 16 and 17 of the tower who were not sure what to do.[156] CRO Fox asked for the numbers of the flats, but the MPS did not have them.[157] The MPS offered to provide phone numbers but CRO Fox explained that they could not call people back. She asked the MPS operator to provide flat numbers next time.[158] She offered to relay the message over the control room radio and as a result created a service request at 01.45.42 for CRO Darby to pass to the incident ground.[159]

12.80 At 01.44.43, CRO Duddy spoke with Roy Smith in Flat 95 on floor 12 when he called in for a second time.[160] The call lasted for 3 minutes and 33 seconds.[161] CRO Duddy told him that he was well away from the fire, which was on floor 4. However, Roy Smith told him that falling embers had set fire to the kitchen of Flat 96 next door. Roy Smith said that he had blocked up all the airways but smoke was still coming in. CRO Duddy gave him fire survival guidance advice and told him to get clean air from the windows, but Roy Smith told him that there was smoke coming from the windows too. CRO Duddy tried to reassure him by telling him that:

> "We're coming to get you. We've got a lot of people to get out and we're coming up. Okay? We're clearing everybody out as we go."[162]

148 [LFB00000491].
149 Marshall witness statement [MET00012848] p. 3.
150 Marshall witness statement [MET00012848] p. 3; Lancaster Day 76/201/5-9.
151 [LFB00000491].
152 [LFB00000491].
153 [LFB00003625] p. 6.
154 ORR v 0.7 pp. 99, 76.
155 End of Incident Report p. 161.
156 [LFB00000497].
157 [LFB00000497].
158 [LFB00000497].
159 SIL p. 19.
160 [LFB00000324].
161 Control Report p. 46.
162 [LFB00000324] p. 6.

He continued to tell Roy Smith that he was well away from the main fire, which was downstairs,[163] despite the fact that Roy Smith had told him that there was a fire next door. In evidence CRO Duddy explained that he told Roy Smith that the fire was on floor 4 because he was relying on the information they had received from the incident ground and at that stage he had received no confirmation that the fire had spread.[164]

12.81 As a result of that call, CRO Duddy created a service request in the incident log at 01.45.44, which he then updated at 01.46.49 while he was still on the call. It read:

> "FURTHER FIRE STARTED ON 12TH FLOOR FLAT 96 – PEOPLE TRAPPED IN FLAT 95."[165]

12.82 The messages were passed on to CU8 by CRO Darby in a series of radio messages, the first of which was sent at 01.46.05.[166]

12.83 At around 01.45.23, GM Patrick Goulbourne was contacted by the control room in order to alert him to the incident, as he had not responded to his pager.[167] He explained that he was not on duty but would attend the incident anyway.[168] He was told that there were many FSG calls in progress, but he did not gather any more information about them at that stage.[169] In evidence, GM Goulbourne explained that the "fairly distressed" tone in the CRO's voice and the fact that the incident ground seemed to need assistance had prompted him to attend.[170]

12.84 At 01.45.45, CRO Russell created a service request in the incident log as a result of information she had received during her continuing call with Jessica Urbano Ramirez, which had started at 01.29.48. It sought assistance for 11 people trapped in the bedroom of a flat on floor 23.[171] It was the first service request that CRO Russell had created since starting the call, although CRO Russell thought that she had passed information about the call to others in the control room earlier.[172] She remembered that it had taken a long time for her to gather enough information to pass on.[173] The message was passed to CU8 by CRO Darby at 01.46.39.[174]

12.85 At 1.46.00, TL Craig at North West Fire Control contacted the control room again to relay another FSG message.[175] This time, she spoke to AOM Real and reported a new FSG call from "Flat 161 on floor 23" with ten people trapped in the bedroom.[176] (The caller was Debbie Lamprell, who had moved from her own flat, Flat 161, to Flat 201.) TL Craig said that she had about four CROs providing fire survival guidance advice and expressed concern that there were only seven persons on duty. She did not know where calls would be diverted to next.[177] Information about conditions in Flat 201, as reported by Debbie Lamprell, was not passed on by TL Craig nor did AOM Real ask for it. AOM Real did not record this information in the incident log contemporaneously, but she seems to have passed it on to OM Norman, since the latter passed it to the incident ground at 01.47.44 with other FSG messages and recorded it in the incident log at 02.01.43 after she had done so.[178]

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163 [LFB00000324] p. 6.
164 Duddy Day 42/219/10-25-220/1-5.
165 SIL pp. 19-20.
166 Radio message [LFB00002479].
167 ORR v 0.7 p. 102 and Goulbourne Day 41/68/7-21.
168 ORR v 0.7 p. 102.
169 ORR v 0.7 p. 102 and Goulbourne Day 41/72/1-12.
170 Goulbourne Day 41/72/3-12.
171 SIL p. 19.
172 Russell Day 76/44/3-45/7.
173 Russell Day 76/46/6-11, 76/28/2-19.
174 Radio message [LFB00002952].
175 [LFB00000689].
176 [LFB00000689].
177 [LFB00000689].
178 SIL p. 21.

12.86 When Debbie Lamprell made her 999 call she first reported that she was in Flat 161 on floor 23.[179] As a result, CRO Jabin entered those details into the North West FRS incident log.[180] It was those same details that TL Craig relayed to AOM Real at 01.46. However, during the 40-minute call, at around 01.52,[181] Debbie Lamprell explained that she was not in Flat 161, rather that she lived in Flat 161 but she was now in someone else's flat, Flat 201 on floor 23.[182] CRO Jabin changed the details in the incident log, first to record that she was unsure of the flat number and then at 01.52.34 to record: "UNSURE OF FLAT NUMBER 23RD FLOOR FLAT 201".[183] CRO Jabin created another entry in the log at 01.53.09 which said: "10 PEOPLE IN FLAT 201 23RD FLOOR" and it was at this point that CRO Jabin became "quite sure" that Debbie Lamprell was in Flat 201.[184] While CRO Jabin believed that the new information had been passed on to the LFB, the most recent information about Debbie Lamprell's location does not appear to have been communicated to the control room.[185] Indeed, the information does not appear in any admin line call with the control room, or on the incident log or in radio messages, nor on the whiteboards that were used later to record FSG information. It is worth pointing out here, looking ahead to Period 5, that the FSG message for Flat 161 caused a crew to be deployed to a flat when there was no one there. The ORR shows that FFs Terence Roots and Adam Johnson were deployed to Flat 161 at around 02.05 "to respond to a FSG call"[186] but when they got there they found nobody.[187]

12.87 At 01.46.02, OM Norman called Hesham Rahman in Flat 204 on floor 23, to whom she had previously spoken when he had made an emergency call at 01.39.15.[188] The call was made by mistake as she selected the wrong number from a list on her screen. Instead of clearing the line, OM Norman spoke to Hesham Rahman, checked that he was all right and told him to call back if the situation got worse.[189] He reported that he did not have a fire in his flat but that he thought it had "gone upstairs".[190]

12.88 At 01.46.05, CRO Darby passed on to CU8 the following FSG messages:

a. 11 people in a bedroom of a flat on floor 23;

b. a caller on floor 12 saying that another fire had started outside Flat 96;

c. further calls coming through the police from callers trapped on floors 16 and 17.[191]

CRO Darby had to repeat the message for WM Meyrick and when she did so she also relayed the message that people were trapped in Flats 95 and 96.[192] WM Meyrick then asked her for "the numbers" and asked her to repeat the message again.[193] It is unclear whether he was

179 [LFB00055500] pp. 5-7.
180 NWFC incident log for the call with Debbie Lamprell at 01.41.18 [LFB00003618] p. 3.
181 NWFC incident log for the call with Debbie Lamprell at 01.41.18 [LFB00003618] p. 4 and Jabin Day 43/85/1-5.
182 [LFB00055500] pp. 5-7, 14-16.
183 NWFC incident log for the call with Debbie Lamprell at 01.41.18 [LFB00003618] p. 3.
184 Jabin Day 43/85/1-5.
185 Jabin Day 43/83/6-18.
186 ORR v 0.7 p. 133.
187 ORR v 0.7 pp. 165-166.
188 [INQ00000370].
189 [INQ00000370].
190 [INQ00000370].
191 [LFB00002479].
192 [LFB00002755]; [LFB00002952]; [LFB00002493].
193 [LFB00002574].

asking for the number of people or the numbers of the flats involved. CRO Darby repeated the message, but without providing any further details.[194] The messages were confirmed as received at 01.47.28.[195]

12.89 At 01.46.18, CRO Adams answered a call from the MPS control room which reported that they had a caller, Sener Macit, who was trapped on floor 16 and very distressed. It was the second time that the MPS had contacted the LFB. The MPS operator asked for advice about what to say, but then asked if she could arrange a conference call between Sener Macit and the control room. CRO Adams agreed and spoke to Sener Macit.[196] She heard from him that he was in Flat 133 and that there was smoke coming under his front door. He told her that they had tried to go to the fire escape but it was pitch black. She told him to stay put and advised him to stop the smoke coming in and to shut the windows. She told him they were dealing with a fire on floor 4.[197]

12.90 After the call had ended, CRO Adams did not tell any of the supervisors that she had taken a call from the MPS as everyone had been too busy to pass on individual call information.[198] She said that it had not occurred to her at the time that it was important that the MPS were taking 999 calls from persons trapped in the building and did not know what advice to give.[199] She said in evidence that she had known by this point that the fire was not contained on floor 4.[200] CRO Adams did not record the call, or indeed any of her other FSG calls, in the incident log by creating a service request, because, as she said, she was just trying to establish what was going on in the room.[201] However, she did pass the details of this call to the incident ground by way of an admin line call at 01.50.49.[202]

12.91 At 01.47.13, the control room was contacted for the first time by Kent FRS, with which the LFB did not have a formal overflow arrangement, which said that BT might pass overflow calls to them.[203] CRO Howson took the call and provided details of the incident to the Kent CROs, who said they would collate the information received from callers and pass them on when it had quietened down.[204] At that time, OM Norman did not know that Kent FRS was going to take overflow calls and she could not recall whether CRO Howson had told her about the call.[205]

12.92 At 01.47.44, OM Norman rang CU8 for a second time on the admin line. She passed on information relating to five further FSG calls and asked for the flats to be checked.[206] She then made an entry in the incident log at 02.01.43.[207] She told WM Meyrick that there were flats where people had smoke coming in and they were getting into difficulties.[208] She then gave him the information relating to the following flats:

a. Flat 161, with 10 people inside;

b. Flat 204 on floor 23, with one person inside;

194 [LFB00002493].
195 [LFB00002751].
196 [LFB00000326].
197 [LFB00000326]; [INQ00000280].
198 Adams Day 80/49/12-15.
199 Adams Day 80/49/16-23.
200 Adams Day 80/53/1-13.
201 Adams Day 80/42/1-12.
202 Control Report p. 52.
203 Control Report p. 50.
204 [INQ00000369].
205 Norman Day 42/119/2-10.
206 [INQ00000208].
207 SIL p. 21.
208 [INQ00000208] p. 2.

c. Flat 14, with one person inside;

d. Flat 9, with two adults and three children inside, one of them being in a wheelchair; and

e. Flat 175 on floor 20 with five people inside.[209]

She explained that she could not give him the floor number for Flat 14 because the caller had disappeared and that she could not provide any more details about Flat 9 because the information had come from another fire and rescue service.[210]

12.93 At 01.47.49, CRO Gotts spoke to Lina Hamide, who was with Meron Woldeselassie Araya in Flat 74 on floor 10.[211] She told CRO Gotts that they were going to go outside. CRO Gotts said: "It's up to you … I can't advise you to do that" and gave them advice to block out the smoke and to get fresh air. When they asked for further advice, CRO Gotts said: "I, obviously, don't know the best thing to do from here" and told them that she would pass their location to the firefighters.

12.94 At 01.48.00, the Essex FRS control room took a third call relating to Grenfell Tower.[212] CRO Sharon Lancaster answered the call from a female resident, Nadia Choucair, in Flat 193 on floor 22.[213] This was the first call that Essex FRS had received from a trapped resident. Nadia Choucair reported that it was getting very smoky inside the flat and CRO Lancaster confirmed that she would contact the LFB.[214] Claire Bannister, a new CRO who was listening in on the call, entered the details in the Essex FRS incident log and CRO Lancaster's colleague, CRO Marshall, attempted to call the LFB to pass on the information.[215] CRO Lancaster explained that both she and CRO Marshall had attempted to contact the LFB continuously on two lines, an admin line and an emergency call line, but had been unable to get through.[216] As a result, they contacted the Essex FRS National Inter-agency Liaison Officer (NILO), GM Nigel Dilley, who tried in various ways to contact the LFB. After they had contacted GM Dilley, CRO Lancaster and CRO Marshall continued to try to reach the LFB.[217] At 02.18.55, approximately 30 minutes later, CRO Marshall got through to the LFB control room. She spoke to CRO Adams and gave her the details of all of the calls they had received by that time.[218]

12.95 At 01.48.23, CRO Fox took a call from Surrey Police Contact Centre reporting details of a trapped resident, Denis Murphy, in Flat 111 on floor 14. Denis Murphy's brother had spoken to Surrey Police and told them that Denis Murphy was struggling to breathe. He was trapped in his bathroom and smoke was filling the room.[219] CRO Fox created a service request at 01.51.13 and CRO Darby passed the information to the incident ground at 01.53.05.[220]

12.96 At the same time CRO Howson took a call from Zainab Deen, who was with her son in Flat 115 on floor 14.[221] As she was obtaining information from Zainab Deen, she said: "Listen, the fire is not on the 14th floor". Zainab Deen said that all the rooms in her flat had smoke in them and that smoke was coming in from the door and the window. CRO Howson advised her to

209 [INQ00000208] pp. 2-4.
210 [INQ00000208].
211 [LFB00000330].
212 Control Report p. 51.
213 [LFB00000325].
214 [LFB00000325].
215 Lancaster Day 76/206/17-208/23.
216 Lancaster Day 76/208/2-20 and Lancaster witness statement [MET00018755] p. 2.
217 Lancaster Day 76/208/21-23.
218 [LFB00000347].
219 [LFB00000327].
220 SIL p. 20; [LFB00002305 and LFB00002324].
221 [LFB00000331].

block the door and windows to stop the smoke coming in, which Zainab Deen had already done. She also told her to stay low, stay calm and to stay put. CRO Howson reassured Zainab Deen by saying:

> "All right. It's a very scary situation, but we are there."[222]

She also said:

> "It's all being dealt with, it's smoke . . . We've got 25 fire engines there, we've got 100 fireman [sic] and they're coming now making sure that everyone is safe."[223]

12.97 CRO Howson assured Zainab Deen once again that the fire was on floor 4 but that there was a lot of smoke.[224] The call lasted nearly five minutes and at 01.54.07, CRO Howson created a service request which she then updated and which read:

> "RT4 CALLER IN FLAT 115 ON 14TH FLOOR WITH YOUNG BABY HEAVILY SMOKE LOGGED."[225]

CRO Darby passed this message to CU8 less than a minute later.[226]

12.98 At 01.48.32, the Thames Water called the control room to confirm that they were attending the incident and would be there within the hour.[227]

12.99 Throughout this time, emergency calls continued to come in from members of the public reporting the fire. At 01.48.44, CRO Duddy took a call from a member of the public outside Grenfell Tower who reported that the fire had got right to the top.[228]

12.100 At 01.49, SOM Adam Crinion was paged to attend the incident.[229] A few minutes later he called the control room and spoke to AOM Peter May, who told him that they were "totally snowed under". A few minutes later, he responded to the message and made his way to the control room.[230]

5 The actions of the MPS, the LAS, RBKC and the TMO

12.101 At 01.41.42 the LAS declared a Significant Incident.[231] The decision was made by the LAS Area Commander, David Laird, and was the result of information he had received from the LFB about the nature of the 999 calls and the fact that persons had been reported trapped in the building.[232] Under the LAS Incident Response Procedures Manual a significant incident triggers a predetermined response of four ambulances, two IROs and two Operational Commanders. At this time, unusually, the LAS was not aware that the MPS had already declared a Major Incident.[233]

12.102 At 01.42.14 all police responders were instructed to switch radio channels to MetCC Pan London.[234]

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222 [LFB00000331] pp. 5-6.
223 [LFB00000331] p. 6.
224 [LFB00000331] p. 7.
225 SIL p. 20.
226 Radio message [LFB00002056].
227 [INQ00000197].
228 Control Report p. 52.
229 Control Report p. 52.
230 Control Report p. 53.
231 CAD 247 p. 3. A Significant Incident in the LAS is defined at paragraph 1.1 of the LAS Incident Response Procedures [LAS00000008] p. 21.
232 Woodrow Day 72/86/3-87/8.
233 Woodrow Day 72/89/3-10.
234 Winch witness statement [METS00020664] p. 7 and CAD 482 p. 8.

12.103 At 01.42.57 MetCC sent a message saying that they were receiving numerous calls from people inside the tower reporting that they were trapped.[235]

12.104 At 01.45.25 the first report came from the NPAS helicopter at the scene (NPAS 44), saying that the fire was very large and would require LFB and MPS officers "in significant numbers", and recommending that it be managed from "GT". GT was the shorthand for the MPS special operations room at Lambeth, under the command of Chief Inspector Duane Barrett (who was on duty anyway that night and was there throughout the incident). The following image was taken from the helicopter at 01.43.38:

Figure 12.8

12.105 At about the same time Detective Superintendent Paul Warnett arrived at the incident.[236] He said that at that stage there were only about 15 or 20 police officers at the scene. Their role was to facilitate the movement of the LFB to the tower while keeping members of the public at a safe distance. That became his priority. The scene was, he said, "complete chaos".[237]

12.106 At 01.45.02 the first LAS responder arrived at the scene (the first of the four HARTs that had been despatched at 01.34.04).

12.107 Laurence Ioannou, the LAS IRO, arrived on scene at 01.49. He could not find who was in charge for the LFB in order to speak to them. However, he had a brief conversation with a firefighter who was wearing a white LFB incident commander tabard and helmet, who said: "It's not as bad as it looks. We believe it is an external fire and has not penetrated internally".[238] The officer is likely to have been SM Walton.

[235] CAD 482 p. 8.
[236] Warnett witness statement [MET0000080605] p. 2.
[237] Warnett witness statement [MET0000080605] p. 2.
[238] Ioannou witness statement [MET00010862] pp. 3, 5.

Chapter 13
Period 4: 01.50-02.00

1 External fire spread

13.1 During this period, the external flame front travelled diagonally across the north face of the tower from east to west.[1]

13.2 By 01.57 the flames had continued to spread southwards across the east face and the base of the architectural crown at column C5 was burning.[2] The firefighters' actions, including the application of water from a turntable ladder,[3] appear to have arrested the external fire spread at the lower floors on the east face below floor 17.[4] At 02.00 there were flames on the crown to the south side of column C5, as can be seen from this image:[5]

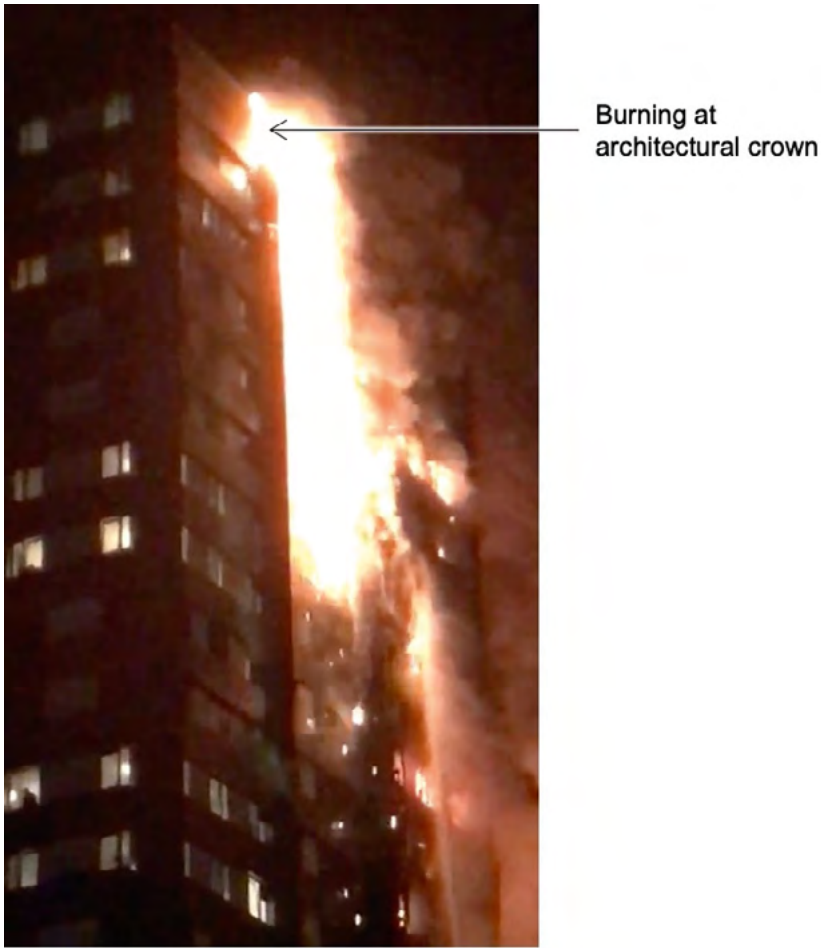

Figure 13.1

1 Professor Bisby composite video for north face [LBYS0000004].
2 Professor Bisby supplemental report [LBYS0000001] p. 205 sections 996-997.
3 The video evidence shows the turntable ladder applying water from approximately 01.43 – refer to [LBYS0000003] at 08.22 in the video compilation.
4 Professor Bisby supplemental report [LBYS0000001] p. 205 section 999.
5 Professor Bisby supplemental report [LBYS0000001] p. 209 Fig. 127.

13.3 By 01.52 to 01.53 a number of "Flat 1s" in the centre of the east face of the building had become affected by the external flame front as it spread south across that facade. In particular, Flats 151, 161, 171, 181, 191 and 201 between floors 18 and 23 had become involved in the fire.[6]

2 Events on the incident ground

Deployment of Paddington A216 EDBA crew – contd

13.4 After CM Philip Wigley's brief exchange with WM Louisa De Silvo outside the entrance to the tower, his crew proceeded to entry control at the bridgehead, where they informed WM Brien O'Keeffe of their brief. It was decided that they would go up to the roof without going under air, in order to conserve supplies, about which WM O'Keeffe expressed some concern.[7] Between them the crew were carrying the line equipment and lengths of hose, as well as the EDBA cylinders.[8]

13.5 When the crew reached floor 4 conditions worsened to the point where they decided that they needed to go back down to entry control and go under air.[9] The BA Telemetry data records tally out times for the crew between 01.56.09 and 01.57.16.[10] FF Martin Gillam led the way from the front, writing floor numbers on the walls where they were not apparent.[11]

13.6 At some point higher up the stairwell,[12] the crew came across FF Steven Mills and FF Geoffrey Campbell, also from Paddington, who were on their way down. FFs Mills and Campbell told FF Gillam that they had been sent to floor 20 to rescue a woman and that they could not get there because they had only SDBA.[13] As noted below, their specific briefing had been to go to Flat 175. FF Gillam did not recall whether the firefighters had also given him that information.[14]

Deployment of FFs Desmond Murphy and Charles Cornelius

13.7 There were a number of other significant BA deployments during this period. FF Cornelius and FF Murphy tallied out at 01.51.00 and 01.51.24 respectively,[15] having been briefed to rescue a man, now known to be Denis Murphy, from Flat 111 on floor 14.[16]

13.8 When the crew reached floor 14, they made their way to Flat 111 where they found Denis Murphy. FF Murphy recalled that Denis Murphy was bent over and coughing, with soot on his face. The flat was quite heavily smoke-logged.[17] As soon as they saw him, they brought him out into the lobby where the air was much clearer than in the flat.[18]

13.9 FF Cornelius said that they would definitely not have been able to escort Denis Murphy down the stairs given the smoke conditions in the stairwell. FF Cornelius then conducted a search of the flat to ensure that there was no one else inside and came back out into the lobby. At

6 Dr Lane supplemental report [BLAS0000012] p. 6 Fig. 12.2.
7 Gillam Day 27/62/19-63/1.
8 Gillam witness statement [MET00008025] p. 7.
9 Gillam witness statement [MET00008025] pp. 7-8.
10 BA Telemetry Schedule.
11 Gillam witness statement [MET00008025] p. 9.
12 FF Gillam recalled this as being around floors 11 or 12, as does FF Andrew Harris. FF Campbell recalled it as being around floor 10. Refer to Gillam Day 27/66/11-22; Harris witness statement [MET00007884] p. 8; Campbell witness statement [MET00010788] p. 11.
13 Gillam witness statement [MET00008025] p. 9.
14 Gillam Day 27/97/1-8.
15 BA Telemetry Schedule.
16 Murphy witness statement [MET00010820] p. 4.
17 Murphy Day 38/42/24-25.
18 Cornelius Day 38/79/8-10.

this point, the door to Flat 112 opened. There were two men inside, now known to be Omar Alhaj Ali and Mohammad Alhajali, who were brothers. FF Murphy saw that the air inside Flat 112 was clear and asked the two men to take Denis Murphy inside and shut the door while he and FF Cornelius continued to search the rest of the floor.[19] The crew carried out a systematic search of the rest of the floor, knocking on the doors of all the other flats and trying to establish who was still inside.[20] They gathered eight people together,[21] six adults and two children.[22] The crew tried repeatedly to contact the bridgehead on their handheld radios to say that they would not be able to bring the people down, but they received no answer and heard no radio traffic.[23]

13.10 It was around this time that the second crew (FFs Harvey Sanders and Nicke Merrion) arrived on floor 14. FF Murphy said that FFs Sanders and Merrion arrived after he and FF Cornelius had moved all the residents into Flat 113, but that is unlikely to be correct, as FF Merrion recalled going into Flat 112 where Omar Alhaj Ali and Mohammad Alhajali were still waiting.[24]

Deployment of FFs Sanders and Merrion

13.11 FFs Sanders and Merrion were deployed at around the same time as FFs Murphy and Cornelius.[25] They were also briefed to go to floor 14. FF Sanders said that they had been sent specifically to Flat 111.[26] FF Merrion could not recall whether the brief had been for Flat 111 or Flat 112, but did recall that he had been instructed to advise the occupants to remain in their flat. He was not given any details of who the occupants were.[27]

13.12 When the crew reached floor 14, FF Murphy and FF Cornelius were already there; they told FFs Sanders and Merrion that they had already checked some flats.[28] The first flat that FF Merrion went into was Flat 112, where he recalled having seen two men,[29] Mohammad Alhajali and Omar Alhaj Ali. He entered and removed his mask in order to speak to the men in the hallway. They were keen to leave, but FF Merrion was concerned about the smoke in the stairwell and told them that it was safer to stay where they were. He then went back into the lobby to speak to the other firefighters.[30]

13.13 FF Sanders went directly to Flat 113 where a man, woman and child were present, now known to be Oluwaseun Talabi, Rosemary Oyewole and their daughter. FF Sanders entered the flat, which was much less smoky than the stairwell, and closed the door behind him. FF Sanders explained that the fire was not yet out, but that it was safer for the residents to remain where they were. He told the family that they should call the control room if anything changed and that crews would be sent back for them, if they needed it. FF Sanders said that when he gave this advice he had believed that they would put the fire out and that everyone would be safe. FF Sanders then left the flat.[31]

19 Murphy Day 38/44/8-45/7.
20 Cornelius Day 38/80/9-10.
21 Both FF Murphy and FF Cornelius gave evidence that the total number of residents they gathered together was eight: Cornelius witness statement [MET00012663] p. 10 and Day 38/47.
22 Murphy Day 38/49/25.
23 Cornelius Day 38/81/1-8.
24 Merrion Day 38/14/5-10.
25 At around 01.51, BA Telemetry Schedule.
26 Sanders witness statement [MET00012482] p. 4.
27 Merrion Day 38/5-6.
28 Merrion witness statement [MET000086060] pp. 6-7.
29 Merrion Day 38/14/5-10.
30 Merrion witness statement [MET000086060] p. 7.
31 Sanders witness statement [MET00012482] p. 6.

Deployment of FFs Campbell and Mills

13.14 FFs Campbell and Mills were briefed to go to Flat 175 on floor 20;[32] they tallied out at 01.51.46 and 01.51.56 respectively.[33] That was the flat where the Belkadi family lived.

13.15 Once the crew had reached floor 15, they decided that they would not be able to reach floor 20 as that would require EDBA.[34] FF Campbell tried to radio down to the bridgehead to inform them of the change of plan, but received no acknowledgement.[35] The crew started to make their way down and, as addressed above, at some point came across CM Wigley's crew, who were on their way up to the roof. FF Mills recalled having told CM Wigley that they had been tasked with going to get a woman in Flat 175.[36] FF Gillam recalled having been told that it was a female on floor 20, but not that he had been told the flat number.

Deployment of CM Secrett and FFs Badillo and Dorgu – contd

13.16 Meanwhile, on floor 20, CM Secrett and FF Badillo had left Flat 176 and gone back into the lobby. It was around this time that CM Secrett's warning whistle started to sound, so the crew made their way back to the stairwell and started their descent. The crew's "end of wear time" is recorded as 01.57.[37] FF Dorgu recalled having told entry control what they had done and what conditions were like, although neither of the other two remembered it.[38]

13.17 No information about Jessica Urbano Ramirez's 999 call to the control room reached the crew throughout the time they were under air. CM Secrett said that there was no means by which any such message could have got to them.[39]

Deployment of CM Tillotson's crew – contd

13.18 On floor 9, CM Tillotson and FF Bettinson had been rejoined by CM Gallagher, FFs Wolfenden and Felton. They all entered Flat 65, where they spoke to Sharon Laci.[40] The conditions on floor 9 had deteriorated quickly and CM Tillotson was concerned that the crew would be unable to bring Sharon Laci and her daughter out. He therefore decided that he, CM Gallagher and FF Felton would go and collect two additional BA sets from the bridgehead for them to wear.[41] FF Felton recalled that that had happened at about the time that the crew ought to have been making their way back out of the building.[42]

13.19 FFs Wolfenden and Bettinson remained in Flat 65, blocking the front door with a duvet and removing their masks to conserve air. FF Bettinson recalled having closed the living room window to stop smoke entering the flat.[43] The rest of the crew returned to the floor 2 mezzanine, where they quickly collected two fresh BA sets and went back to the stairwell.[44]

32 Mills witness statement [MET000080584] p. 4.
33 BA Telemetry Schedule.
34 Mills witness statement [MET000080584] pp. 5-6.
35 Campbell witness statement [MET00010788] p. 10.
36 Mills witness statement [MET000080584] pp. 5-6.
37 Updated BA Telemetry Schedule [LFB00023326].
38 Dorgu Day 19/184/1-10.
39 Secrett Day 17/101/3-8.
40 Bettinson witness statement [MET00007879] p. 8.
41 Tillotson witness statement [MET000080603] p. 8.
42 Gallagher Day 39/20/21-25, 39/21/1-4.
43 Bettinson witness statement [MET00007879] pp. 8-9.
44 Gallagher Day 39/21-23.

Handover between WM Michael Dowden and SM Andrew Walton

13.20 Meanwhile, outside the building, SM Walton made his way to the bottom of the tower and met WM Dowden on the grass mound on the east side.[45] At around the same time, WM Stuart Beale also arrived at the south east corner of the tower and approached WM Dowden, who, as he recalled it, had been standing with SM Walton, WM Paul Sadler and possibly also WM Glynn Williams (who had gone into the tower at 01.55).[46]

13.21 WM Beale said that he spoke to WM Dowden possibly just before the handover to SM Walton. WM Dowden did not ultimately give WM Beale any orders because as soon as WM Beale had presented himself, SM Walton arrived and WM Dowden proceeded to inform SM Walton what had happened up to that point.[47] WM Beale did not see the end of the handover, and was called away soon after by the crew of Soho's ALP (A245) who were setting up on the east side of the tower.[48] WM Beale said that it was in this way, "by default", that he became sector commander for the east side of the tower.[49] Since A245 arrived at the scene at 01.52, this exchange probably continued beyond that time.

13.22 In his evidence SM Walton said that he had asked WM Dowden for a "really quick and dirty handover", and in order to speed up the process, he started by telling WM Dowden what he already knew about the incident.[50] In oral evidence he explained that there were two things that he wanted to know from WM Dowden: first, whether people were really trapped in the building based on current conditions, or whether they only thought that they were trapped; secondly, whether the fire was getting back into the building.[51]

13.23 He said that, if people were genuinely trapped, evacuation was not an option due to the risk of death if they left their flats, and the firefighters would need to rescue them.[52] SM Walton said that the number of FSG calls being received had suggested to him that people would need rescuing and that nobody could escape unaided,[53] but there was no indication from those calls that people were reporting smoke or fire inside their flats.[54] In order to establish that, he needed to know what the smoke and fire conditions were like in the lobbies and in the stairwell, which was the information that he had asked WM Dowden to provide.[55] It seems likely that at that time he assumed that the fire was confined to the exterior of the building, because he was probably the person with whom Laurence Ioannou, the LAS senior officer, had had a conversation to that effect at around 01.49. It is possible that SM Walton also told Mr Ioannou that the fire might be breaking back into the flats, in which case there would be multiple casualties to deal with.[56]

13.24 SM Walton said that if the fire was getting back into the building, they were in big trouble, because that was "a game changer".[57] He said that WM Dowden had BA crews going into the tower to try to determine whether that had in fact happened.[58]

45 Walton Day 46/120/19-121/1.
46 Beale Day 34/44/6-45/6.
47 Beale Day 34/46-47.
48 Beale Day 34/47/21-24.
49 Beale Day 34/50/16-51/25.
50 Walton Day 46/121/16-122/20.
51 Walton Day 46/131/13-132/4.
52 Walton Day 46/125/25-126/13.
53 Walton Day 46/124/11-19.
54 Walton Day 46/128/12-15.
55 Walton Day 46/124/20-25.
56 Walton witness statement [MET00010828] p. 27.
57 Walton Day 46/130/25-131/8.
58 Walton Day 46/131/13-132/11.

13.25 SM Walton thought that if people were genuinely trapped or the fire was re-entering the building, he was facing a Major Incident and that everyone in the tower would need to be evacuated.[59] However, WM Dowden did not have information about any of the operations inside the tower[60] and there was too much traffic on the radio to get a message to the bridgehead. SM Walton therefore asked WM Dowden, as his first task, to go to the bridgehead to get the information that he needed.[61]

13.26 SM Walton recalled WM Dowden telling him very briefly that it was cladding that was on fire; until then, he had assumed that it was balconies.[62] His initial belief had been that the cladding could not be involved, because he did not think that it was permissible to clad a building in flammable material.[63]

13.27 Having established that the fire was in the cladding, SM Walton and WM Dowden discussed how to tackle it. SM Walton said that he had already seen the turntable ladder applying water to the outside of the building and that WM Dowden had told him that he had sent an FRU crew to the roof to apply water from above. SM Walton agreed it was "worth a go".[64] However, attempts to fight the fire externally were evidently having no effect and SM Walton felt that they needed to change tack and try to stop the fire getting back into the building.[65]

13.28 There was no discussion about withdrawing the "stay put" advice. In the view of SM Walton, evacuation was not an option if the building had failed to the extent that there was no viable means of escape. He was increasingly coming to the conclusion that that is what had happened; he just needed information from the BA crews to confirm it.[66] SM Walton's objective was for crews to be sent to every flat from which an FSG call had been made to find out whether the occupants were really trapped and, if they were, to work out what needed to be done in order to bring them out.[67]

13.29 The handover did not include a discussion about responding to FSG calls either, because SM Walton was aware that another officer had already been assigned to that role and WM Dowden did not have the necessary information.[68] SM Walton intended to liaise with that officer after the handover from WM Dowden.[69] There was no discussion about the need for EDBA, though SM Walton said that it had been in the back of his mind.[70]

Arrival of Soho's ALP, A245

13.30 At around 01.52.53, while the handover from WM Dowden to SM Walton was taking place, Soho's ALP, A245, arrived crewed by CM Christopher Frost and FF Jason King.[71]

59 Walton Day 46/131/13-132/4.
60 Walton Day 46/135/25-136/76.
61 Walton Day 46/132/12-133/9.
62 Walton Day 46/142/24-143/10.
63 Walton Day 46/116/6-117/12.
64 Walton Day 46/143/12-144/25.
65 Walton Day 46/145/12-146/10.
66 Walton Day 46/146/11-25.
67 Walton Day 46/137/3-138/2.
68 Walton Day 46/123/1-17.
69 Walton Day 46/128/16-20.
70 Walton Day 46/138/3-17.
71 ORR v 0.7 based on GPS data, p. 111.

13.31 On arrival CM Frost left the appliance to book in while FF King walked around the tower looking for somewhere to site the ALP. The only remaining option, due to the location of the playground and Paddington's turntable ladder, was on the east side on the grass and behind the trees. That is where they eventually positioned the ALP, about seven metres from the tower. SM Walton recalled seeing the ALP setting up as he was talking to WM Dowden.[72]

13.32 FF King recalled that it took about seven minutes from arrival for the ALP to be set up.[73] FF Alan Sime, one of Chelsea's FRU crew who was yet to be given instructions and was waiting outside the tower with the rest of his crew, went over to assist CM Frost and FF King. FF Sime (an EDBA wearer from the Chelsea FRU) helped lay out the hose in order to connect to a water supply and when that had been done, he entered the ALP's cage[74] with CM Frost. According to FF King, he had operated the controls from ground level while CM Frost and FF Sime had gone into the cage. That is consistent with the evidence of CM Frost, who said that he had gone into the ALP cage with another firefighter whom he did not know but who must have been FF Sime.[75]

13.33 FF King recalled that they had tested the water pressure on the monitor at ground level and that it had seemed good enough. However, the pressure gradually decreased as the cage went up, to the point at which there was no flow of water by the time it had reached a height of around 15 metres.[76] WM Beale's evidence was that for optimum pressure, the monitor requires 2,240 litres of water per minute at 11.5 bars,[77] whereas the ALP was receiving only 381 litres per minute.[78]

13.34 The firefighters also realised when they started to operate the ALP that it was stuck in the slower of the two available speeds, meaning that CM Frost, who was quite close to the tower, was being "pelted with debris" and could not take any action to move himself out of danger. On seeing that, WM Beale instructed the crew by radio to move the cage of the ALP down and away from the tower.[79]

13.35 The built-in radio communications system on the ALP was also not working, meaning that the firefighters had to shout or use hand gestures in order to communicate with each other.[80]

Arrival of SM Michael Mulholland

13.36 Meanwhile, SM Mulholland had arrived at the incident ground at 01.51.36.[81] He was the first ORT officer to attend.[82] He recalled that on seeing the building for the first time his initial thought had been that almost all the tower blocks in London are concrete and concrete does not catch fire. As he got closer, however, he realised that it was something on the outside of the building that was alight, but he did not know what.[83]

72 Walton witness statement [MET00010828] p. 24.
73 King Day 36/120/19-22.
74 Sime witness statement [MET00010896] p. 4.
75 King Day 36/120/23-121/10.
76 King Day 36/121/11-24.
77 Beale Day 34/64/23-65/2.
78 King Day 36/121-122.
79 Beale Day 34/78/6-12, 34/79/17-25.
80 King Day 36/124/5-16; Beale Day 34/80/10-14.
81 SIL p. 13.
82 ORR v 0.7 p. 110.
83 Mulholland Day 33/19/6-20/2.

SM Walton briefly in command; the arrival of DAC Andrew O'Loughlin and the second handover of incident command

13.37 DAC O'Loughlin arrived at the incident ground at around 01.55.[84] The FSG calls that he had heard while on his way had suggested to him that at least smoke must be getting into individual flats and that there was a risk that fire was also getting in,[85] either through open windows or by some other means.[86] He was not expecting the fire to have penetrated flats where the windows were closed and sealed, but stated that this was something that he needed to establish.[87] He was not expecting smoke to have penetrated from individual flats into the communal areas, but it would be necessary to establish with the incident commander the conditions in the lobbies and stairs.[88]

13.38 From his first view of the tower on arrival he could not see whether the fire had penetrated any flats.[89] Nor did he know whether the fire could be contained or controlled in any way. He said that the LFB was unable to put out an external fire above floors 12 or 13 using its aerial appliances and that he would therefore need to rely on the fire burning out above that level. In oral evidence DAC O'Loughlin said that he had been expecting the cladding on Grenfell Tower to do that, once the fire had reached the top of the building.[90] However, he later said that until they were able to put out the fires within individual flats, he expected them to keep burning.[91]

13.39 Meanwhile, SM Walton, who was positioned at the south-east corner of the tower after having taken over command from WM Dowden, said he had given a JESIP command briefing to the LAS officer who had arrived at the incident ground. He had also sent WM Dowden to the tower to retrieve the information about BA deployments that he had asked for. He then looked around for someone to send to the command unit to identify a rendezvous point (RVP), which was needed for a METHANE message and the declaration of a Major Incident. As he was doing that, and as WM Dowden was walking back to the tower, SM Walton saw DAC O'Loughlin. DAC O'Loughlin estimated that this would have been around 01.58 or 01.59.[92] Before they spoke, DAC O'Loughlin looked up at the tower and realised that the cladding was on fire.[93]

13.40 SM Walton confirmed that he was the incident commander and had just taken over from WM Dowden. DAC O'Loughlin called WM Dowden over so that he (WM Dowden) and SM Walton could deliver a briefing together.[94] WM Mark Kentfield, who had accompanied DAC O'Loughlin to the base of the tower, was also there and was present during the handover.[95] SM Walton described it as a handover that he and WM Dowden had delivered jointly;[96] DAC O'Loughlin said that it had come predominantly from WM Dowden.[97]

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84 O'Loughlin witness statement [MET00012563] p. 6; Day 47/82/20-83/1. DAC O'Loughlin did not book in with the control room and there is no recorded status 3 time for him.
85 O'Loughlin Day 47/48/9-18, 47/50/8-25.
86 O'Loughlin Day 47/52/7-53/1.
87 O'Loughlin Day 47/52/7-53/1.
88 O'Loughlin Day 47/54/16-56/23.
89 O'Loughlin Day 47/71/5-24.
90 O'Loughlin Day 47/72/7-75/24.
91 O'Loughlin Day 47/179/8-20.
92 O'Loughlin Day 47/82/14-83/1.
93 O'Loughlin Day 47/83/13-23.
94 Walton Day 46/150/25-155/11.
95 O'Loughlin Day 47/97/16-98/1.
96 Walton Day 46/154/22-155/13.
97 O'Loughlin Day 47/96/25-97/2.

13.41 SM Walton recalled telling DAC O'Loughlin that the initial fire had been extinguished but that the fire was spreading on the outside of the building. He agreed that this might have suggested that the fire was only on the outside of the building.[98] DAC O'Loughlin asked WM Dowden what conditions were like on the inside, but WM Dowden could not tell him, since by that point he had not been inside the tower for some time.[99] For the same reason, WM Dowden was also unable to tell DAC O'Loughlin whether crews had been sent any higher than floors 5 or 6.[100]

13.42 SM Walton said that he had told DAC O'Loughlin that a Station Manager was in charge of dealing with FSG calls,[101] although DAC O'Loughlin's understanding was that an officer had been given that task which he was carrying out from a pump, possibly G271.[102] Nonetheless, DAC O'Loughlin understood that FSG calls were being dealt with, which is what he needed to hear, but he did not ask SM Walton or WM Dowden for any details, such as flat numbers, floor numbers, or the number of calls.[103] Similarly, there was no discussion about giving priority to those who, for one reason or another, might be particularly vulnerable.[104]

13.43 Very early in the briefing, DAC O'Loughlin stopped the conversation and asked WM Kentfield to send a series of messages making the number of pumps up to 40, the number of FRUs up to six and four aerials. [105] He said that he had also considered declaring a Major Incident but had wanted to give it more thought before doing so.[106] The deployment of EDBA crews was not discussed in the course of the handover[107] but DAC O'Loughlin said that he had wanted more available to respond to FSG calls from the higher floors.[108] Those make-up messages were not in fact sent.

13.44 There was no discussion about "stay put" during the briefing and DAC O'Loughlin said that he had considered that there was no point in changing the policy for those whose flats were unaffected by the fire and smoke.[109] He had expected that anyone who was affected would be told to leave and that those who were not affected would be safer remaining where they were.[110] He said that his strategy from the outset had been to evacuate the entire building, but that he had thought that it might be necessary to tell some residents to stay put until they could be evacuated safely. He had intended to give priority to rescuing the occupants who had made FSG calls and those in flats on the north-east section of the tower, before clearing the other areas systematically floor by floor.[111]

13.45 DAC O'Loughlin asked WM Dowden how many people were still in the building, but WM Dowden did not know. DAC O'Loughlin estimated that there were between 100 and 200.[112] He did not ask WM Dowden for any building plans, nor did he ask whether there was a premises information box.[113]

98 Walton Day 46/156/24-157/10.
99 O'Loughlin Day 47/94/23-95/3.
100 O'Loughlin Day 47/131/20-132/18.
101 Walton Day 46/160/7-20.
102 O'Loughlin Day 47/104/7-105/14.
103 O'Loughlin Day 47/106/13-24.
104 O'Loughlin Day 47/119/5-120/12.
105 O'Loughlin Day 47/106/2-10, 47/141/15-21, 47/144/3-8.
106 O'Loughlin Day 47/153/4-17.
107 O'Loughlin Day 47/143/2-23.
108 O'Loughlin Day 47/134/12-135/25.
109 O'Loughlin Day 47/137/6-16; Walton Day 46/161/1-5.
110 O'Loughlin Day 47/138/1-12.
111 O'Loughlin Day 47/160/18-162/22.
112 O'Loughlin Day 47/121/21-122/20.
113 O'Loughlin Day 47/140/8-19.

13.46 DAC O'Loughlin estimated that the briefing had lasted four to five minutes;[114] SM Walton thought it had lasted about 90 seconds and not more than two minutes.[115] In my view neither estimate is likely to be very accurate. I think that it probably lasted for between two and three minutes, because DAC O'Loughlin said that he had first seen SM Walton at around 01.58 or 01.59 and SM Walton subsequently entered the tower at 02.02. Once the briefing was over, DAC O'Loughlin directed SM Walton to take on the role of Fire Sector Commander and, together with WM Dowden, to establish what firefighting had been carried out and what the conditions were inside the building.[116] At that point, at around 02.02, WM Dowden and SM Walton went into to the tower[117] and DAC O'Loughlin returned to CU8 accompanied by WM Kentfield.

Deployment of FFs Katie Foster and Gregory Lawson

13.47 Back inside the tower, FFs Foster and Lawson tallied out at 01.53.45 and 01.53.50 respectively,[118] having been briefed to go to floor 18. The crew did not recall having been given any specific flat number or any details about how many residents were there.[119]

13.48 The crew reached floor 18 and carried out a sweep of the flats. There was no answer at the first flat they went to (now known to be Flat 151) and the door was locked.[120] The door of the second flat (now known to be Flat 152) was opened by a woman now known to be Rabia Yahya. The firefighters went inside and found the air clean. There were three children present. The firefighters told the woman to put towels under the door to stop smoke coming in and left to check the next flat.[121]

13.49 The door to the third flat (now known to be Flat 153) was opened by a man who told the firefighters that there were five people inside. The firefighters did not enter the flat, but gave him the same advice as they had given to the woman in Flat 152.[122]

13.50 The door of the next flat (now known to be Flat 154) was open. The firefighters carried out a search inside, where it was pitch black and full of smoke, and found no one.[123] The door of the fifth flat that the firefighters went to (now known to be Flat 155) was also open with similar conditions inside.[124] Outside the final flat that the firefighters went to (now known to be Flat 156), FF Foster recalled unbearable heat[125] indicating that there was a fire inside. The crew did not force entry.[126]

13.51 FFs Foster and Lawson decided that they could not try to get the nine people out of the building due to the conditions. They tried to pass the information back to the bridgehead by radio but were unable to do so. They were low on air and needed to make their way back down. They could not recall returning to any of the flats to tell the residents that this was what they were doing.[127]

114 O'Loughlin Day 47/110/6-12.
115 Walton Day 46/155/18-22.
116 O'Loughlin Day 47/116/6-12.
117 ORR v 0.7 p. 128.
118 BA Telemetry [LFB00003115].
119 Foster Day 39/101/14-20, 39/133/10-21.
120 Foster Day 39/105/19-21.
121 Foster Day 39/106/1-107/22.
122 Foster Day 39/110/11-21.
123 Foster Day 39/112/20-113/15.
124 Foster Day 39/113/16-25.
125 Foster witness statement [MET00010084] p. 8 and Foster Day 39/114/4-16.
126 Foster witness statement [MET00010084] p. 8.
127 Foster Day 39/114/18-116/13; Lawson Day 39/143/23-145/12.

WM De Silvo's arrival at the bridgehead

13.52 The CCTV recording in the ground floor lobby shows WM De Silvo entering the building at around 01.50.[128] From there she went up to the bridgehead on floor 2. WM O'Keeffe was already in charge there;[129] FFs O'Beirne and Alex De St Aubin were acting as entry control officers.[130] WM De Silvo did not recall who had briefed her,[131] but WM O'Keeffe said that he had asked her to get a grip on the BA procedures and the handling of FSG calls.[132] She also recalled that SM Walton had been there, but she cannot have been right about that, because he entered the tower at around 02.02, some time after her.

13.53 WM De Silvo's task was to keep a record of the FSG information received by the bridgehead.[133] For that purpose she was given a FIB which already contained a handful of entries in a list.[134] Her recollection was that at that initial stage, when the bridgehead was on floor 2, the FSG information had been coming by radio and on Control Information Forms[135] and perhaps on slips of paper as well.[136] That is broadly consistent with the evidence of WM Watson, who said that when he was managing the BA staging post from the ground floor (until around 02.00) he was not handling any FSG information, which was going directly to the bridgehead.[137] WM De Silvo did not know how FSG information had been reaching the bridgehead before she arrived.[138] She remembered having been in radio communication with WM Sadler (whose involvement is described in more detail in Period 5) at a later stage, but she did not know who had been sending her the earlier radio messages.[139] She continued to record information on the FIB while the bridgehead remained on floor 2 and said that she had not recorded any information on the wall.[140] However, a photograph of the wall on floor 2 where the bridgehead had been located shows that someone had written some FSG information on it. That was probably FF O'Beirne, whom WM O'Keeffe remembered having asked to do it:

128 ORR v 0.7 p. 109.
129 De Silvo Day 29/197/16-18.
130 De Silvo Day 29/199/2-7.
131 De Silvo Day 29/199/21-200/11.
132 O'Keeffe Day 18/99/5-8.
133 De Silvo Day 29/203/20-25.
134 De Silvo Day 29/199/17-22, 29/202/9-12.
135 De Silvo Day 29/211/4-23.
136 De Silvo Day 29/217/5-218/3.
137 Watson Day 28/45/7-12.
138 De Silvo Day 29/200/6-11.
139 De Silvo Day 29/212/6-19.
140 De Silvo Day 29/215/17-216/9.

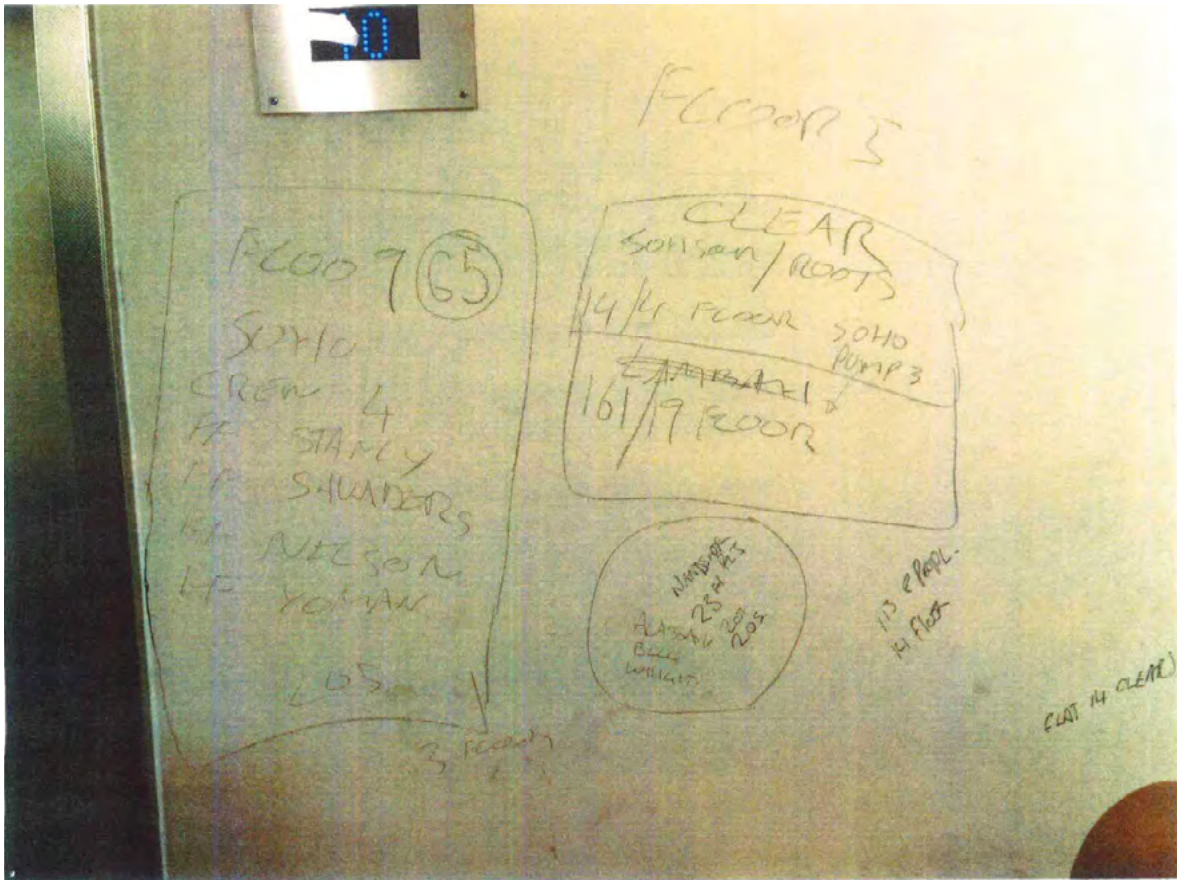

Figure 13.2

13.54 At about that time WM Watson moved the BA staging post from the ground floor lobby to the mezzanine on floor 2,[141] with the bridgehead on the other side of the door. At that stage he was not yet carrying out any role in relation to FSG calls,[142] but he recalled having seen CM Charles Batterbee go past him on the mezzanine and into the bridgehead carrying pieces of paper in his hand.[143]

13.55 WM De Silvo attempted to ensure that priority was given to rescuing more vulnerable residents, but if the information available was limited to floor and flat numbers, she directed BA crews to those flats, which was all that she could do.[144] She said that there had been difficulties using channel 6 of the fireground radio to communicate with BA crews through BARIE sets, due to the level of feedback and the crews' inability to hear anything.[145] She had difficulty debriefing crews on their return to the bridgehead. If they had come across casualties, they needed to take them straight out into safe air,[146] and in many cases crews had

141 Watson Day 28/47/10-13: this time stamp is taken from the "end of wear time" for CM Matthew Sephton, at 01.57.00; WM Watson recalled CM Sephton drawing a plan of the floor layout on the wall of the floor 2 balcony when WM Watson's staging post was based there: Watson witness statement [MET00008044] p. 4. WM Watson estimated that the staging post had moved up there from the ground floor around five minutes prior to CM Sephton's "end of wear time": Watson Day 28/46/11-17.

142 Watson Day 28/51/18-52/17: WM Watson's FSG role started after WM Williams arrived in the ground floor lobby, around 15-20 minutes after WM Watson had set up his staging post on the floor 2 balcony.

143 Watson Day 28/55/5-19.

144 De Silvo Day 29/220/5-15.

145 De Silvo Day 29/231/21-233/13.

146 De Silvo Day 29/224/13-18.

returned exhausted and had been unable to provide any useful information.[147] She said that when information had been obtained from a returning crew it had been recorded, but there had been no system for passing it back to the incident commander.[148]

AC Roe forwards SM Gareth Cook's email and attached photographs

13.56 At 01.56, AC Roe, who was on his way to the incident, forwarded SM Cook's email attaching the five photographs of the burning building to DAC O'Loughlin, DAC Richard Mills, DAC Adrian Fenton, GM Keeley Foster, who was Commissioner Dany Cotton's Staff Officer, and Director of Operations Tom George.[149] He said that he had wanted someone to discuss them with the Commissioner.[150]

Arrival of WM Matt Leaver

13.57 WM Matt Leaver, the first fire investigator to arrive at the incident, arrived at 01.57.07.[151] Almost as soon as he reached the incident ground it became clear to him that the firefighters did not have the capability to fight the fire.[152]

Arrival of GM Richard Welch

13.58 GM Welch booked status 3 at 01.57.21[153] On arrival, he went straight to CU8. He caught a glimpse of the tower on his way, but was unable to see whether the fire had penetrated the flats.[154] GM Welch said that very shortly after he reached CU8 (which as he recalled had then been manned by only one officer), SM Mulholland, GM Matt Cook and GM Stephen West joined him. (GM Cook and GM West were both members of the ORT and had just arrived at the incident.)[155]

13.59 Despite GM Welch's recollection, I am satisfied that WM Daniel Meyrick and WM Antony Peckham remained on CU8 throughout this period, collecting and recording FSG information that was coming in from the control room. At this time WM Kentfield and WM Norman Harrison were still on the incident ground; they returned to CU8 at around 02.00.

Arrival of SM Daniel Egan

13.60 At 01.58.39, just after GM Welch had arrived, SM Egan also booked status 3.[156] He had been mobilised as a Senior Fire Safety Officer, but had realised on hearing the radio messages on his way to the incident ground that there would be a need for more operational resources and that he was unlikely to be deployed in that capacity.[157]

147 De Silvo Day 29/227/7-229/2.
148 De Silvo Day 29/225/3-19.
149 [MET00016929].
150 Roe Day 48/207/21-208/15.
151 ORR v 0.7 p. 119.
152 Leaver Day 40/101/9-13, 40/131/20-132/7.
153 SIL p. 13.
154 Welch Day 44/27/6-19.
155 Welch Day 44/28/13-19; SM Mulholland thought that he was the first to arrive at CU8, with GM Welch arriving shortly thereafter: Mulholland Day 33/27/25-28/5.
156 SIL p. 13.
157 Egan witness statement [MET00007515] pp. 1-2; Day 15/75/6-15.

13.61 His first thought on seeing the tower was that they needed to get everyone out. However, he did not share that thought with anyone else at the time because it seemed so obvious.[158] It was clear to him that the fire was moving from one side to the other, indicating that it must have jumped through the lobbies and that compartmentation had broken down.[159] In his view the firefighters were not going to be able to put it out.[160]

SM Brett Loft finishes his FSG role

13.62 At the end of this period, at around 02.00, SM Loft ceased to be in charge of handling FSG information.[161] His recollection was that GM Welch had approached him while he was still at the base of the tower and had asked him to return to the command unit in order to hand over that responsibility to the command unit staff and take over BA Main Control with SM Daniel Kipling.[162] He went back to CU8 and handed over the paperwork to one of the officers there, although he did not recall who that had been.[163] As will be discussed in Period 5, his evidence on this point was not consistent with GM Welch's recollection of the circumstances in which he was given the task of managing BA Main Control.

3 Conditions and movements inside the tower

The evidence of the firefighters

13.63 At the beginning of this period, when Paddington's FRU crew first entered the stairwell without air, FF Gillam described the smoke as "grey and wispy", not very hot and not very thick.[164] By the time they reached floor 4, however, the smoke was thick and grey and they could not breathe. Visibility was quite low.[165] Having returned to the bridgehead and tallied out under air at 01.57.02, CM Wigley recalled that the conditions had been bad around the fire floor and a few floors above, though the density of the smoke reduced as they had climbed higher to the point at which they probably could have removed their masks.[166]

13.64 FF Merrion, who tallied out at 01.51.13, recalled smoke in the stairwell from at least floor 4 up to floor 14, where he entered the lobby. He did not think that residents on floor 14 would have been able to leave under those conditions.[167] The smoke in the stairwell was white,[168] thick and acrid[169] and, as FF Cornelius said: "you could not see your hand in front of your face".[170] Conditions in the lobby on floor 14 were much clearer,[171] but inside Flat 111 there was thick smoke, very dark grey and black.[172]

158 Egan Day 15/79/11-80/4.
159 Egan Day 15/86/9-17.
160 Egan Day 15/81/1-16.
161 Loft Day 37/157/14-21.
162 Loft Day 37/178/16-21.
163 Loft Day 37/180/18-182/21.
164 Gillam Day 27/63/21-25.
165 Gillam witness statement [MET00008025] pp. 7-8. FF Gillam confirmed in oral evidence that the crew did not enter the floor 4 lobby at any time and remained within the stairwell: Day 27/64/1-4.
166 Wigley witness statement [MET00010927] p. 7.
167 Merrion Day 38/11/8-14/20.
168 Merrion witness statement [MET000086060] p. 6.
169 Murphy Day 38/38/14-20.
170 Cornelius Day 38/79/22-23.
171 Merrion witness statement [MET000086060] p. 7; Cornelius Day 38/78/9-12.
172 Murphy Day 38/43/19-44/7.

13.65 FF Bettinson returned to the lobby on floor 9 at about that time. He described a rapid deterioration in conditions, with thick black smoke filling the area within 10 to 15 seconds so that he could no longer see his hand in front of his face. Flat 65, which the crew entered as the conditions in the lobby started to worsen, was, however, clear.[173]

13.66 CM Secrett and FFs Badillo and Dorgu, who had gone to floor 20, described the stairwell as being completely filled with smoke that grew thicker and hotter as they descended.[174] CM Secrett said that it would not have been possible to go down the stairs without breathing apparatus and survive.[175]

13.67 FF Foster described thick, black smoke with very poor visibility in the lobby on floor 18, but inside the flat that she and FF Lawson had entered the air was clear.[176]

The evidence of the occupants

13.68 No occupants of the tower left the building during this period and there was a slight reduction in the number of calls received from those who remained inside.

Flat 65, floor 9

13.69 Sharon Laci lived in Flat 65 with her seven-year-old daughter.[177] On the night of the fire she had been woken by a loud bang. Thinking it was someone having a party, she went back to sleep. At around 01.30, she was woken again by heavy banging on the front door. There was no smoke in the flat when she opened her front door, but when she had done so she saw smoke filling the lobby. It was thick and black in colour and made her cough. She could not see anything. A smoke alarm in the flat hallway was activated. She shouted until she saw two firefighters wearing breathing apparatus, who then entered her flat. Other firefighters followed.[178]

13.70 FFs Bettinson and Wolfenden were the first two firefighters to enter Flat 65.[179] They had tallied out at 01.41.55 and 01.40.35[180] respectively, indicating that they would have been on floor 9 rather later than Sharon Laci remembered. It was agreed that their colleagues, CMs Tillotson and Gallagher, would descend to collect spare BA sets.[181] Sharon Laci got ready to leave while they waited for them to return. Dark grey smoke had entered the flat hallway from the lobby and the firefighters present blocked the front door.[182]

Floor 12

13.71 At around 01.56 Karen Aboud and her two sons left Flat 92 to make their way out of the tower. Unfortunately, the conditions they encountered forced them to go back. On their return, Karen Aboud's elder son made a 999 call at 01.57.45[183] and Karen Aboud made another 999 call at 02.06.55.[184] Coincidentally, CRO Angie Gotts answered both calls. She was told that they had tried to go down but could not do so because of the amount of smoke. Karen Aboud's

173 Bettinson witness statement [MET00007879] p. 8; Day 26/219/7-14.
174 Badillo witness statement [MET00010080] pp. 7-8.
175 Secrett Day 17/110/3-21.
176 Foster Day 39/111/9-12, 39/106/10-14.
177 Laci first witness statement [IWS00000818] p. 1.
178 Laci first witness statement [IWS00000818] p. 6.
179 Wolfenden first witness statement [MET00010831] p. 6.
180 LFB Telemetry Data [LFB00003115].
181 Bettinson first witness statement [MET00007879] p. 8.
182 Laci first witness statement [IWS00000818] p. 7.
183 [LFB00000335].
184 [INQ00000371].

elder son said: "we couldn't breathe". Karen Aboud said that the lobby had been filled with thick white smoke which made it difficult to see. They had been able to reach the stairwell but the smoke was worse there. The stairwell was dark and it looked unsafe to go down, so they ran back to their flat.[185]

13.72 Also on floor 12, Roy Smith and his family were still in Flat 95. Roy Smith had made his second 999 call at 01.44.33. He made his third and last call at 01.54.14. He said that conditions in his flat had worsened since his previous call. The smoke that had been present at the time of the second call had got darker. It had a horrible plastic smell. In spite of having wet towels over their faces, the whole family were coughing. Roy Smith noticed that the wall between his daughter's bedroom and the adjacent flat (Flat 96) was hot to the touch, "like a radiator". That made him think that the fire had spread from the kitchen of Flat 96.[186]

13.73 Roy Smith's last 999 call lasted for 40 minutes and 50 seconds. He spoke to CRO Peter Duddy. Early on in the call, Roy Smith told CRO Duddy:

a. that he could hear the fire on the wall next door;[187] it had been making a roaring sound;[188]

b. that his whole flat was "black";

c. that the lobby was black and that he had heard people in the lobby screaming. He told CRO Duddy that these people "must have come out and then realised and gone back";[189] and that

d. the fire was "burning our windows".[190]

When he gave evidence, he said that when he had referred to fire at the windows, he was referring to burning on the outside of the windows.[191]

13.74 From the beginning of the call Roy Smith repeatedly asked CRO Duddy to send firefighters to help and was repeatedly told that they would get to him as soon as they could.[192] When he suggested making for the stairs, CRO Duddy warned him of the risk that they might contain smoke. CRO Duddy then told him that he was as "safe as you can be" in the flat. Asked about these two exchanges, Roy Smith said his understanding of the advice he was being given at that point was that he should stay in his flat. That was his only chance of survival, because he had left it too late to leave.[193] I return to this call later in this Narrative.

Floor 19

13.75 At 01.56.20, CRO Christine Howson answered a 999 call from Nicholas Burton, who reported that there was a lot of smoke in the lobby and some smoke in his hallway which had come in when he opened his front door.[194]

185 Aboud second witness statement [IWS00000130] p. 7.
186 Smith [IWS00000771] p. 2; Smith Exhibit RS1 [IWS00000931] p. 2; Smith Day 64/69/3-72/12.
187 [LFB0005503] p. 2.
188 Smith Day 64/73/9.
189 [LFB0005503] p. 3.
190 [LFB0005503] p. 3.
191 Smith Day 64/77/18-79/11.
192 [LFB0005503] pp. 3, 4, 7, 10, 14, 23, 28, 32, 36.
193 Smith Day 64/82/17-83/25.
194 [LFB00000334].

13.76 That was the first 999 call made by Nicholas Burton. It is likely that he had opened his front door at around 01.30. He had not opened it again and smoke was not coming into his flat at the time he made his call.[195]

13.77 CRO Howson told Nicholas Burton that firefighters would be "coming door to door to make sure everyone's safe" and advised him to remain in his flat. He was reassured by that advice.[196]

Floor 23

13.78 At 01.54.23, CRO Heidi Fox took a call from Mariem Elgwahry.[197] She said that she was one of seven people in Flat 205. When CRO Fox asked if they could get out, Mariem Elgwahry said that they were "stuck". The flat was already full of smoke and the fire was approaching it; they could see flames outside the window. CRO Fox told Mariem Elgwahry that the firefighters were "trying to send people up" and that she would make them aware of her location and the urgency of the situation.

Flat 205, Floor 23

13.79 The Neda family took those who sought shelter in their flat into the living room.[198] Smoke slowly began to enter the flat beneath the front door. It was black in colour. Initially the smoke was light but as more came in it darkened. Within 10 to 15 minutes after the Elgwahrys, Sakina Afrasehabi and Fatemeh Afrasiabi had come into Flat 205, Farhad Neda noticed black marks around people's noses. There was a mix of smells in the air, chemicals, wood and a metallic sourness. The hallway became completely black. The family opened windows on the west and north side of the flat to try to get some air.[199]

13.80 When they saw smoke coming into the flat, the Nedas filled buckets with water from the kitchen sink. They threw water on the carpets and soaked towels to cover their mouths. Farhad Neda did not notice any problems with water pressure, although it was not something to which he paid particular attention.[200] His mother recalled that they had managed to fill only a bucket before the water stopped. She estimated that this had happened about 20 minutes after the family had got back into the flat.[201]

13.81 Farhad Neda was in contact with friends outside the tower, who were able to speak to firefighters and pass advice back to him. He also spoke directly with a firefighter, who gave him advice. The collective advice was to cover their faces with wet towels, wet the carpets, put wet towels against the door and remain in the flat until firefighters came.[202]

13.82 Solmaz Sattar, the niece of Fatemeh Afrasiabi, had several telephone conversations with her aunt during the course of the night. In one call, which occurred after Solmaz Sattar had reached the tower, her aunt said that she and her sister Sakina Afrasehabi were now in Flat 205. She must have made that call after 01.30, when they reached Flat 205. Fatemeh Afrasiabi told her niece that there was smoke but no fire in Flat 205. Solmaz Sattar passed the information she received from her aunt to a police officer and a firefighter standing nearby. The firefighter advised that those in Flat 205 should remain there and that they should make

195 Burton Day 68/39/12-42/1.
196 Burton Day 68/42/9-43/3.
197 [LFB00000333].
198 Farhad Neda Day 61/52/8-12.
199 Farhad Neda Day 61/53/8-58/5; Flora (Shakila) Neda Day 61/138/3-61/141/14.
200 Farhad Neda Day 61/65/7-66/11.
201 Flora (Shakila) Neda Day 61/141/20-61/143/4.
202 Farhad Neda first witness statement [IWS00000886] p. 6; Flora (Shakila) Neda first witness statement [IWS00000887] p. 9.

everything wet, including themselves. Solmaz Sattar gave this information to her aunt, who told her they had made things wet. Later, Fatemeh Afrasiabi told her niece that the water supply had stopped.[203]

4 Events in the control room

13.83 During this period, the control room received eight more emergency calls: two from members of the public and six from, or on behalf of, trapped residents.[204] Other calls came in from the Metropolitan Police, the London Ambulance Service and LFB senior officers. CROs Sarah Russell and Pam Jones were already engaged on long FSG calls at the start of this period, leaving only five CROs available to take those calls. CRO Aisha Jabin, in North West Fire Control, was also still on the phone speaking with Debbie Lamprell in Flat 201.

13.84 At 01.50.09, AOM Debbie Real called the MPS to tell them that it had become a 25 pump fire and that the control room was taking several calls from people trapped in flats.[205] AOM Real was not aware that the MPS had already taken calls from residents trapped in flats or that LFB CROs had already spoken to the MPS about them.[206]

13.85 Also at 01.50.09, CRO Yvonne Adams made an admin line call to CU8 to pass on further FSG messages that she and CRO Jones (who was sitting next to her) had received.[207] Just before she made the call, she had tried to pass these messages to OM Alexandra Norman, who was on the phone to CU8 (the call having started at 01.47.44) but when CRO Adams called across to OM Norman she had already put down the phone.[208] OM Norman had not asked CRO Adams to pass on calls in that way;[209] she used her initiative, as it seemed the quickest way of getting information to the incident ground when the radio was obviously very busy.[210] She said that she had believed that the landline, rather than the radio, was being used to pass on information about FSG calls at that time.[211]

13.86 In the admin line call, CRO Adams passed on information about Flat 133 on floor 16 and Flat 182 on floor 21. In relation to the call from the flat on floor 21, she told CU8 that the occupants had not been able to stop smoke coming under the front door. They had gone into their living room and they sounded "panicked".[212] In relation to Flat 133, she said: "my caller wasn't too bad".[213] During the call, WM Meyrick asked CRO Adams to give him some idea of the priority between the calls, because there were so many of them.[214] He asked her if the smoke seemed heaviest on floor 21; she said: "That's the caller we've got at the moment".[215] As I understand that answer, she meant "yes". CRO Adams then asked WM Meyrick whether he wanted priorities based on the density of the smoke; he said he did.[216] She said that they would pass on calls on this basis.[217]

203 Sattar first witness statement [IWS00000769] p. 4.
204 Control Report pp. 52-60.
205 Control Report p. 52.
206 Real Day 43/42/21-43/5.
207 Adams Day 80/57/1-14, 80/59/10-17.
208 Adams Day 80/57/1-14.
209 Norman Day 42/129/19-25.
210 Adams Day 80/57/11-17.
211 Adams Day 80/57/11-17.
212 [INQ00000203].
213 [INQ00000203].
214 [INQ00000203].
215 [INQ00000203].
216 [INQ00000203].
217 [INQ00000203].

13.87 It is likely that there was a degree of confusion between CRO Adams and WM Meyrick about what was wanted. CRO Adams explained in her oral evidence that she thought that he wanted her to decide in what order crews should respond to calls on the basis of the density of the smoke reported by callers.[218] However, WM Meyrick said in his evidence that he had not intended the control room to prioritise calls in that sense at all; he just wanted an idea of the conditions in different flats so that he and his colleagues on CU8 could determine the order in which they would send firefighters to them.[219] In the event, however, CRO Adams did not pass on WM Meyrick's request for prioritisation to anyone else in the control room, including the supervisors. She said she had found it difficult to share the information when there was so much going on in the control room.[220] WM Meyrick said that despite his request, he had never received enough information to allow him to set priorities.[221]

13.88 At 01.51.13, CRO Fox created a service request relating to the call she had taken from Surrey Police at 01.48 about Denis Murphy in Flat 111 on floor 14.[222] She set out the full details of the call in the service request so that it could be passed over to the incident ground by CRO Sharon Darby.

13.89 At 01.51.16, as a result of speaking to Meron Woldeselassie Araya and Lina Hamide in Flat 74 on floor 10 at 01.47.49, CRO Gotts created a service request which read:

> "PEOPLE ON 10 TH FLOOR ARE ASKING TO LEAVE FLATS – CAN YOU CHECK THEM".[223]

13.90 However, she did not obtain the flat number or the number of persons inside. She explained in evidence that her failure to do so was due to "the speed of knowing how many calls [were] waiting and just the pressure of work, really".[224] Meron Woldeselassie Araya had told her that there was smoke coming in to the flat and smoke in the corridor but that too was not included in the service request.[225]

13.91 Both service requests were passed to the incident ground by CRO Darby by radio at 01.53.05.[226]

13.92 At 01.51.42, CRO Fox took a call from MetCC who passed on a request from the National Police Air Support (NPAS) helicopter asking the LFB to monitor a particular radio channel so that the helicopter could speak directly to the LFB.[227] CRO Fox confirmed that she would pass the message on over the radio.[228] She created a service request at 01.55.01, which CRO Darby passed to the incident ground 30 seconds later.[229]

13.93 At 01.52.56, the LAS contacted the control room and told CRO Gotts that it was declaring a "significant incident".[230]

13.94 At 01.54.04, it was recorded on the incident log that DAC Fenton was on his way to the control room as Duty DAC.[231]

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218 Adams Day 80/65/3-21.
219 Meyrick Day 20/74/11-19.
220 Adams Day 80/65/22-66/13.
221 Meyrick Day 20/75/12-20.
222 SIL p. 20 and [LFB00000327].
223 SIL p. 20.
224 Gotts Day 43/180/3-6.
225 [LFB00000330]; Exhibit LH/5 [IWS00001177] p. 12.
226 [LFB00002305].
227 [INQ00000368] and Control Report p. 52.
228 [INQ00000368].
229 SIL p. 20 and [LFB00002351].
230 Control Report p. 54 and refer to section 1.1 of the LAS Incident Response Procedures [LAS00000008] p. 21.
231 SIL p. 20.

13.95 At 01.54.14, CRO Duddy received a call from Roy Smith in Flat 95 on floor 12. This was the third call from Roy Smith, who had already called at 01.38.37 and 01.44.43.[232] On the previous occasion he had also spoken to CRO Duddy, who had told him to call back if conditions got worse.[233] Roy Smith began the call by saying "it's getting worse", to which CRO Duddy replied that he had already told crews exactly where he was.[234] Roy Smith asked for the firefighters to come for him now and said that he could hear fire on the wall of the kitchen next door and that the whole of his flat was black.[235] CRO Duddy asked him if he could get to another flat, but Roy Smith explained that he could not as it was "black out there" and he had heard people screaming on the landing. CRO Duddy then asked him about a banging sound that he had heard in the background and Roy Smith explained that there had been something like an explosion and the fire was now burning his windows.[236]

13.96 At 01.55.18 and 01.55.35, CRO Duddy created and then revised a service request to relay some details of his call from Roy Smith to CRO Darby. It said:

> "CALLER IN FLAT 95 FLOOR 12 HAS FLAMES COMING IN WINDOW."

He did not say how many people were in the flat or mention the smoke or fire conditions. CRO Darby passed the message to the incident ground at 01.56.23.[237]

13.97 CRO Duddy decided that he would stay on the line with Roy Smith for the duration of the call, which lasted approximately 40 minutes. During the course of the call, CRO Duddy constantly reassured Roy Smith that the firefighters knew where he was and that they were coming to him as soon as they could.[238]

13.98 At 01.54.23, CRO Gotts answered a call from Mariem Elgwahry in Flat 205 on floor 23.[239] Mariem Elgwahry had already called twice before at 01.30.00 and 01.38.16, when CROs Duddy and Fox respectively had spoken to her.[240] In this latest call she explained to CRO Gotts that the "fire's starting to rise", that the flat was already full of smoke and that she and the other six people with her were trapped and had "nowhere to go".[241] CRO Gotts tried to reassure her by explaining that the control room was telling the incident ground again and again where people were and that the incident commander was trying to send firefighters up. Mariem Elgwahry then reported that the fire was "coming up to the floor" and that they could see the flames; she thought it was going to come through the window "in a second".[242] CRO Gotts said that she would "reinforce" the urgency of the message to crews.[243] CRO Gotts said that when she had ended the call, she had gone to check that the message about Flat 205 had been sent.[244] Although she had not created a service request, a radio message was sent at 01.57.34 saying that:

> "…the caller in flat 205 on the 23rd floor reports that the fire is coming right up to their flat."[245]

232 01.38.37 [LFB00000318]; 01.44.43 [LFB00000324].
233 [LFB00000324] pp. 7-8.
234 [LFB00055503] p. 1.
235 [LFB00055503] p. 2.
236 [LFB00055503] pp. 2-3.
237 Radio message [LFB00002057].
238 [LFB00055503].
239 [LFB00000333].
240 01.30 [LFB00000310]; 01.38 [LFB00000317].
241 [LFB00000333] p. 2.
242 [LFB00000333] p. 2.
243 [LFB00000333].
244 Gotts Day 43/186/6-20.
245 [LFB00002719].

It appears that CRO Gotts passed the message to CRO Darby to relay to the incident ground either orally or on a piece of paper.

13.99 At approximately 01.55, SM Jason Oliff arrived in the control room.[246] He had been assigned the role of Officer of the Day. He spoke to OM Norman who asked him to contact DAC Lee Drawbridge as he was on recall, meaning he was off duty but could be recalled to a specific role during a Major Incident.[247]

13.100 At 01.56.20, Nicholas Burton called the control room from Flat 165 on floor 19.[248] He explained that he could not go outside because there was too much smoke. CRO Howson, who answered the call, told him to stay where he was. He did not have any smoke in his flat at that time. CRO Howson told him that:

> "I'll let them [the firefighters] know where you are. They will be coming door to door to make sure everyone's safe. The fire is actually on the 4th floor, OK?"[249]

She advised him to block the doors and windows and asked him to call back if anything changed.[250]

13.101 Between 01.57 and 02.02, SM Oliff tried to call DAC Drawbridge on his mobile nine times but could not get hold of him.[251]

13.102 At 01.57.21, SOM Smith who was on her way to the control room called again by telephone to ask for the latest position.[252] She spoke to AOM Peter May, who explained that they were "snowed under". SOM Smith asked if anyone had been on the calls for a long time, which would indicate that they were FSG calls, and AOM May confirmed that one of the CROs was on a long call but that it was difficult to get a handle on it.[253]

13.103 By this point, there were three CROs in the LFB control room who were on long FSG calls. CRO Russell had started a call with Jessica Urbano Ramirez in Flat 201 on floor 23 at 01.30 which lasted for 55 minutes until 02.25.[254] CRO Jones had started a call with a member of the El Wahabi family in Flat 182 on floor 21 at 01.38.38, which lasted approximately 59 minutes, until 02.49.[255] CRO Duddy had started a call only three minutes earlier, at 01.54.14, with Roy Smith in Flat 95 on floor 12, which lasted for 40 minutes until 02.24.[256]

13.104 As a result of the information she had received from Jessica Urbano Ramirez, CRO Russell created a service request at 01.58.48 alerting the incident ground to the presence of 11 people and a baby in Flat 201. Although she had previously created a service request in relation to 11 people in a flat on floor 23, she had not then known the number of the flat, nor had she been told about the baby. The message did not appear as an "updated" service request, because the service request created at 01.45.45 had already been completed by CRO Darby.[257] CRO Darby passed the additional information to CU8 less than 20 seconds later.[258]

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246 Oliff Day 23/54/9-12.
247 Oliff Day 23/55/10-23, 23/57/11-22.
248 [LFB00000334].
249 [LFB00000334] p. 2.
250 [LFB00000334] p. 3.
251 Oliff telephone bill [MET00016910] and Oliff Day 23/55/10-23, 23/58/3-14.
252 [INQ00000189].
253 [INQ00000189] and Smith Day 22/34/6-24.
254 [LFB00055504].
255 [LFB00055498].
256 [LFB00055505].
257 SIL p. 20 at 01.47.47.
258 Radio message [LFB00002786].

13.105 At 01.59.52, CRO Fox created a service request in relation to "a person with two children" trapped in Flat 203 on floor 23, as a result of a 999 call CRO Fox had received from a family member of Rania Ibrahim.[259] CRO Darby passed the information to CU8 by radio a few seconds later.[260]

13.106 During this period, only North West Fire Control was asked to take calls on behalf of the LFB. It took two emergency calls, one that probably came from someone in the tower (although the line dropped out before any information could be obtained) and one from a member of the public reporting the fire.[261]

5 Actions of the MPS, the LAS, RBKC and the TMO

13.107 At 01.52 the LAS told the LFB by telephone that it had declared a significant incident.[262] It appears that the MPS was also informed at about the same time.[263]

13.108 At 01.53.48, very shortly after his arrival, Detective Superintendent Paul Warnett put in place the Civil Contingencies Act command structure appointing himself MPS Gold Commander and Inspector Nicholas Thatcher Silver Commander.[264] At this point, neither of them knew how many pumps the LFB had attending or whether the LFB had itself declared a Major Incident.[265] In fact, as matters transpired, there was no contact between either the Gold or Silver MPS Commander and the LFB until Inspector Thatcher attended CU8 and spoke with DAC O'Loughlin at 02.39 around 40 minutes later.[266]

13.109 By 01.59 Ioannou of the LAS had set up a triage point and a casualty clearing area at the Kensington Leisure Centre.[267] He confirmed that there was a significant incident and gave the METHANE message over his radio.

259 [LFB00000509]; SIL p. 21 for service request.
260 Radio message [LFB00001984].
261 Control Report pp. 52-54.
262 Woodrow witness statement [LAS00000009] p. 9.
263 CAD 247 p. 4; Woodrow Day 72/96/16-20.
264 CAD 482 pp. 8-9.
265 Thatcher Day 71(Mon)/61/24-62/4, 64/10-21.
266 Body-worn footage [INQ00000521]; Thatcher Day 71(Mon)/73/2-24.
267 Ioannou witness statement [MET00010862] p. 5. He says it was within 10 minutes of arriving and the 01.59 time mark is derived from that evidence.

Chapter 14
Period 5: 02.00-02.20

1 External fire spread

14.1 At 02.06 there were flames on the architectural crown to the south side of column C5 on the east face.[1] There were also flames immediately below the architectural crown at roof level between columns B5 and C5 (the two internal columns on the east face).[2] The following image was taken at 02.06 by the NPAS helicopter:[3]

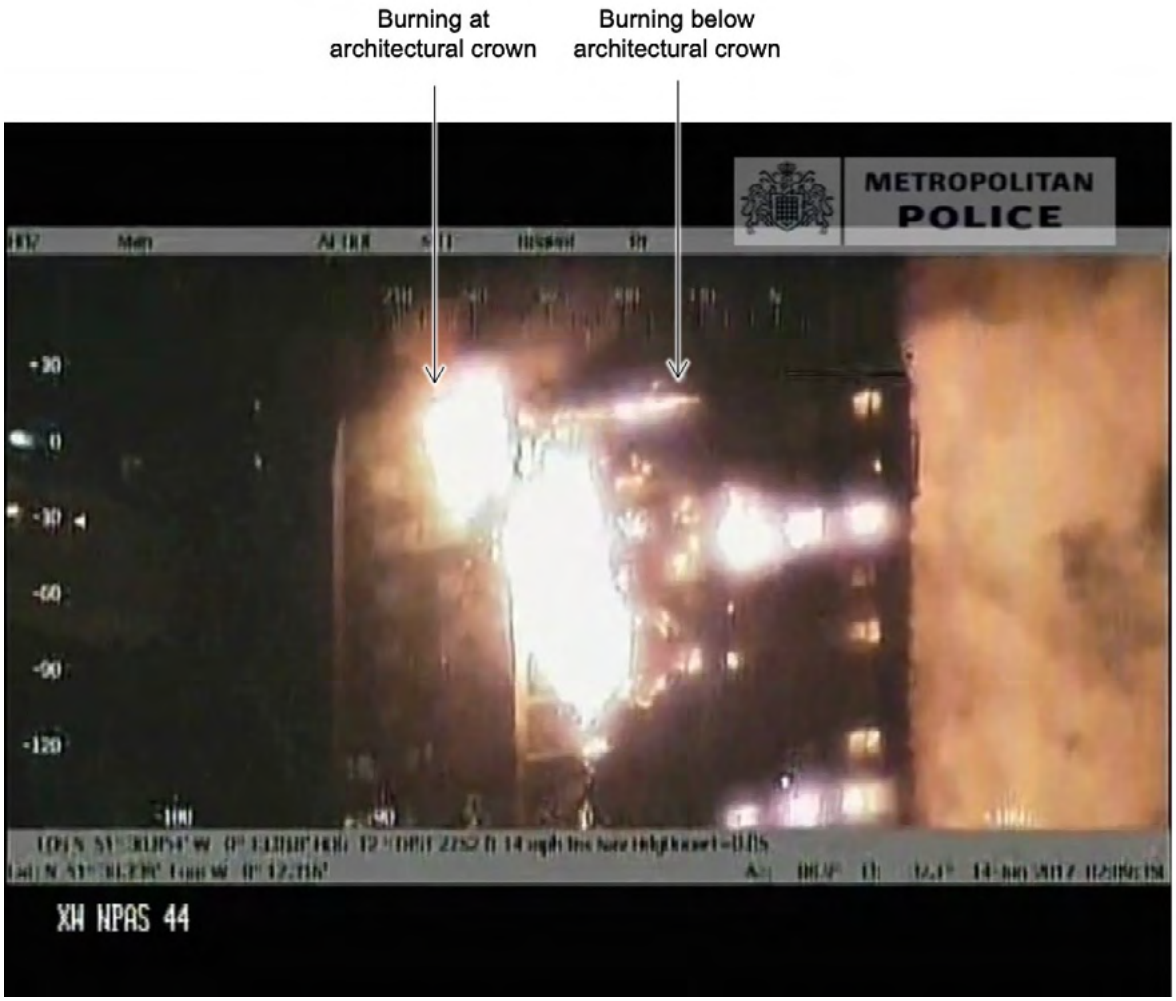

Figure 14.1

14.2 At 02.16 the furthest extent of the fire spread on the north face was at the location of the crown, with the fire front stretched diagonally across the face of the building,[4] as can be seen in this image:[5]

1 Professor Bisby supplemental report [LBYS0000001] p. 205 section 1002.
2 Professor Bisby supplemental report [LBYS0000001] p. 205 sections 1001-1003.
3 Professor Bisby supplemental report [LBYS0000001] p. 210 Fig. 128.
4 Professor Bisby supplemental report [LBYS0000001] p. 213 sections 1014-1016.
5 Professor Bisby supplemental report [LBYS0000001] p. 216 Fig. 133.

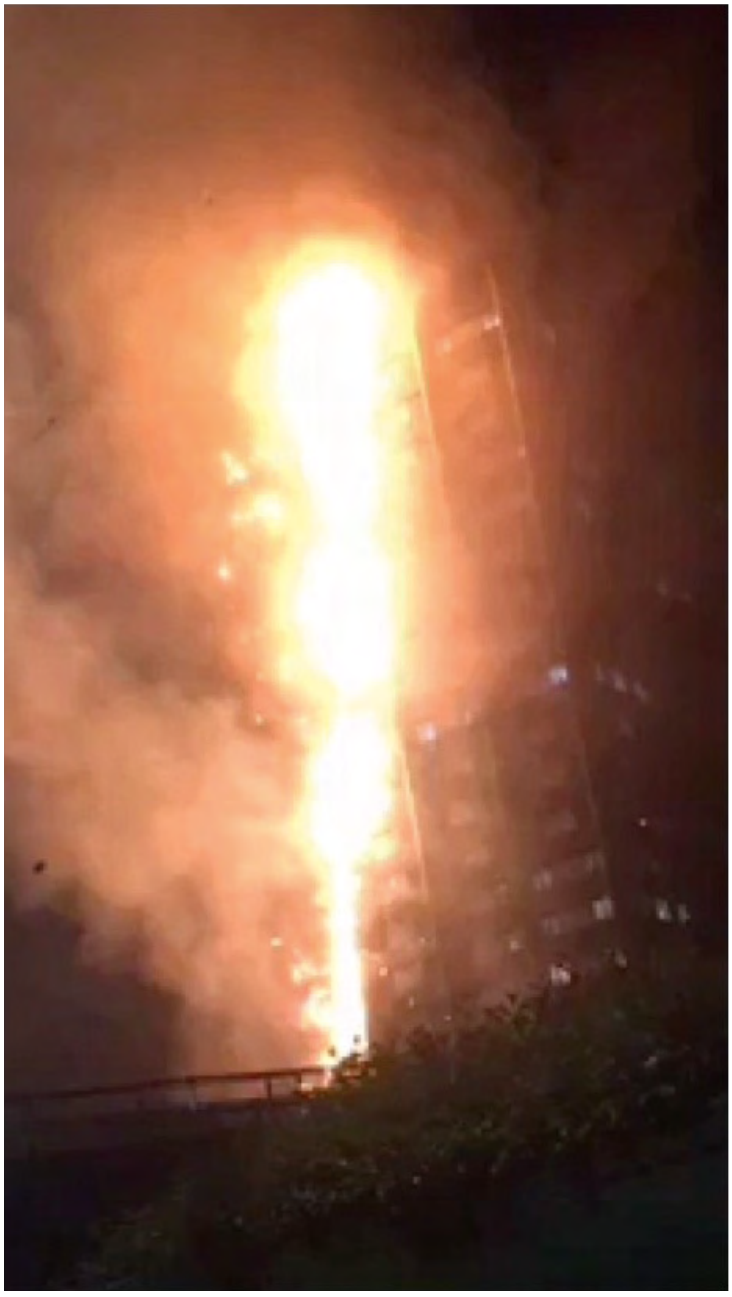

Figure 14.2

14.3 By 02.09 to 02.10 a further "Flat 1" and several "Flat 2s" (flats in the south-east corner) had become affected by the spread of fire across the east face. They included Flat 141 on floor 17 and Flats 172, 182, 192 and 202 on floors 20 to 23. In addition, Flats 185, 195 and 205 on floors 21 to 23 in the north-west corner of the tower had also become affected by the external flame front as it moved west across the north face.

14.4 Between 02.01 and 02.14 smoke was emerging from Flat 94 on floor 12 on the west face of the tower.[6] At 02.03 smoke could also be seen emerging from Flats 174 and 175 on floor 20.[7]

[6] Professor Bisby supplemental report [LBYS0000005] 01.19, 01.44 and 01.52 minutes into the compilation of the west face and refer also to Professor Torero supplemental report [JTOS0000001] p. 89 Fig. 52.

[7] Professor Torero supplemental report [JTOS0000001] p. 89.

2 Events on the incident ground

SM Andrew Walton and WM Michael Dowden enter the ground floor lobby – smoke control system

14.5 At the base of the tower, following the second handover of incident command, SM Walton made his way to the main entrance, having been briefed to take over the fire sector by DAC Andrew O'Loughlin. It is likely that at that point he saw SM Brett Loft for the first time since their earlier mobilisation from Fulham and that he stopped to ask SM Loft whether he had a good communication link with the bridgehead to pass FSG information. SM Loft confirmed that he did. SM Walton told SM Loft who the incident commander was so that they could discuss the current situation in relation to FSG calls.[8]

14.6 CCTV images show SM Walton entering the tower at around 02.02 accompanied by WM Dowden and WM Glynn Williams.[9] As he crossed the ground floor lobby, SM Walton recognised the layout and recalled that he had been inside the building before for a demonstration of the smoke control system. His evidence was that he had seen the panel on the wall and had asked WM Dowden whether it related to the smoke control system and whether it was working.[10] WM Dowden could not recall if SM Walton had asked him that,[11] but did recall going up to the panel, noting that the door was open, and taking the keys that were hanging from it.[12] He then saw that the smoke vent point was on automatic, which is the setting that causes the system to operate automatically when smoke is detected in one of the lobbies. He considered changing the setting to manual, in order "to try and clear the stairwell of any smoke", but ultimately decided not to do so, because that should be a decision for the responsible person or one of the LFB's trained fire safety officers. He did not take any steps to find out who was the safety officer on duty.[13]

14.7 WM Dowden then returned the keys to the panel and recalled having told SM Walton that he was not going to activate the system manually.[14] WM Dowden gave him to understand that the system was not working.[15] WM Dowden said in his evidence that he did not recall having tried to "actuate" the panel.[16] SM Walton himself did not approach the panel[17] and simply assumed that WM Dowden, who had his back to him, had attempted to operate the system. However, from where he was standing, he could not see what WM Dowden had done.[18] He did not try to find out who the responsible person was either, as he was concentrating on taking over as fire sector commander. He said that he had assumed that the incident commander "would be going through those sort of processes".[19]

14.8 As a result of this exchange, SM Walton decided that the LFB could not rely on any of the systems in the building. He still needed to confirm the nature of conditions inside the building, but by then he had already concluded that the design of the building had failed. He thought it

8 Walton supplemental witness statement [LFB00023365] paragraph 33.
9 ORR v 0.7 p. 128. SM Walton could not recall whether he entered with WM Dowden or whether they went in separately, and he did not mention WM Williams: Walton Rule 9 statement [LFB00023365] paragraph 33.
10 Walton supplemental witness statement [LFB00023365] paragraph 40.
11 Dowden Day 10/135/9-18.
12 Dowden witness statement [MET00010915] pp. 9-10.
13 Dowden Day 10/132-133/1-25.
14 Dowden Day 10/134/5-12.
15 Walton supplemental witness statement [LFB00023365] paragraph 42; Dowden Day 10/135/20-25.
16 Dowden Day 10/136/6-10.
17 Walton supplemental witness statement [LFB00023365] paragraph 41.
18 Walton Day 46/168/5-11.
19 Walton Day 46/169/13-25.

likely that the escape routes had been compromised and were unlikely to be passable without BA. If fire and smoke had penetrated the interior of the building, it might be spreading to several compartments on several levels. SM Walton concluded that:

> "everyone who was in the building could now effectively be considered as trapped . . . and that they required rescue by firefighters in BA . . . if they were going to get out."[20]

SM Walton's brief command of the fire sector

14.9 Immediately after that, SM Walton made his way from the ground floor lobby to the bridgehead on floor 2. CCTV images show him entering the stair lobby with WM Williams at around 02.02.[21] He then entered the bridgehead and spoke to WM Brien O'Keeffe, who confirmed that he was in charge. SM Walton said that he asked WM O'Keeffe the questions that he had already discussed with WM Dowden. As he put it:

> "I want to know about the FSGs, are we getting BA to them? Are they trapped or do they think they're trapped? If they're trapped, what do we need to bring them out? I want to know are we getting BA to this [east] face? … I want to know if this fire which is going up the outside of the building is getting back in. If it's getting back in, can we stop it? If we're going to stop it, what do we need? Once you've got that, I want to know how many BA are in, where are they, what are their priorities, where do we know is searched…"[22]

14.10 SM Walton told WM O'Keeffe that he would return in a couple of minutes, when he would want answers to his questions, and then moved on to speak to WM Louisa De Silvo.[23] Ultimately, he did not get the information he wanted from WM O'Keeffe, because he was then given the task of managing BA resources when GM Richard Welch arrived (considered in more detail below).[24]

14.11 SM Walton's recollection of his conversation with WM O'Keeffe is not consistent with that of WM O'Keeffe. WM O'Keeffe recalled that when SM Walton had arrived at the bridgehead he had appeared agitated and that they had had "a robust discussion", during which WM O'Keeffe recalled "firmly telling him" that he was in charge of the bridgehead and that they would not be moving downstairs (which is what, as he recalled, SM Walton had wanted).[25] WM O'Keeffe said that he had told SM Walton that there were numerous FSG calls and that he had assumed that SM Walton would obtain the details from someone else. SM Walton then left[26] and WM O'Keeffe did not see him again.[27]

14.12 Although nothing of any importance turned on this difference of recollection, on balance I think that WM O'Keeffe's account of that exchange is more reliable, first, because it is supported by the evidence of SM Gareth Cook, who said that, when he had arrived at the bridgehead with GM Welch, WM O'Keeffe and SM Walton were having "some sort of disagreement";[28] and secondly, because I think it unlikely that SM Walton would have sought to divert WM O'Keeffe's attention away from the bridgehead to obtaining the kind of strategic information he described. WM O'Keeffe struck me as a robust and confident character, who, having been put in charge of the bridgehead, would not take kindly to having his judgement questioned, even by a more senior officer.

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20 Walton supplemental witness statement [LFB00023365] paragraph 43.
21 ORR v 0.7 p. 128.
22 Walton Day 46/179/11-180/12.
23 Walton Day 46/180/16-20.
24 Walton Day 46/184/15-19.
25 O'Keeffe Day 18/175/7-176/8.
26 O'Keeffe Day 18/176/16-177/1.
27 O'Keeffe witness statement [MET00013967] p. 12 and Day 18/178/20-22.
28 Cook witness statement [MET00007882] p. 6.

14.13 WM Williams said that on entering the tower he had gone to the bridgehead, where he saw the FSG information recorded on WM De Silvo's FIB. He thought that there were about 10 FSG calls recorded on the FIB. He had been expecting the list to be longer, given that the right side of the building was alight.[29] The relatively small number of FSG calls led him to think that the fire had not penetrated the inside of the building.[30]

Arrival of GM Matthew Cook

14.14 At around 02.00, GM Cook, who had arrived a few minutes earlier and was rigging up at his car, received a call from AC Andrew Roe who was still on his way to the incident. GM Cook in his statement said that AC Roe had instructed him to speak to the incident commander to find out whether the LFB was facing a Major Incident, and if so, to ensure that the necessary protocols were followed to alert all emergency responders.[31]

14.15 AC Roe described this conversation as a "situational update", on the basis of which he felt almost certain that it was a Major Incident, though he could not take the decision remotely.[32]

14.16 GM Stephen West arrived at the incident at around the same time as GM Cook,[33] parked behind him, and then went with him to CU8 to check in.

GM Welch on CU8 and the sequence of events

14.17 GM Welch said that an officer on CU8 (probably WM Meyrick) had told him that he was the first GM in attendance.[34] He also said that he had asked the officer who was in charge and had been told that it was SM Loft.[35] WM Meyrick, for his part, said that he did not recall SM Loft's involvement in the incident and had not been told that SM Loft was incident commander.[36]

14.18 WM Meyrick remembered GM Welch arriving on CU8 and asking him to send messages declaring a Major Incident, declaring him incident commander and making pumps 40.[37] In oral evidence, GM Welch said that he had asked the officer to send those messages and a message requesting four command units[38] before he had received any kind of handover from SM Loft,[39] and indeed before he had spoken to SM Loft at all.[40] It was GM Welch's evidence that soon after he had asked for those messages to be sent, SM Loft had arrived at CU8.[41]

14.19 SM Michael Mulholland was also on CU8 at that time. His recollection was that he had arrived just before GM Welch and that there had been only one officer on the command unit when he entered it. He said that he had gone over to the CSS in order to look at the list of officers attending the incident and that, about 30 seconds to a minute thereafter, GM Welch had entered with SM Loft. SM Mulholland did not then look at the list of attending officers.[42] He did not know what SM Loft's role was,[43] but said that it had been clear to him

29 Williams Day 31/35/19-36/14.
30 Williams Day 31/37/8-19.
31 Cook witness statement [MET00007948] p. 3.
32 Roe Day 48/219-220.
33 According to the SIL (p. 13) he was status 3 at 02.00.41.
34 Welch Day 44/32.
35 Welch Day 44/29.
36 Meyrick Day 20/92, 141.
37 Meyrick Day 20/77-79.
38 Welch Day 44/36.
39 Welch Day 44/34.
40 Welch Day 44/36.
41 Welch Day 44/36-37.
42 Mulholland Day 33/25-26.
43 Mulholland Day 33/28-29.

that WM Dowden was the incident commander at the time. SM Mulholland recalled that GM Welch had sent a message that he was taking over command while the three of them (SM Mulholland, GM Welch, and SM Loft) were gathered in the command unit.[44] By contrast, SM Loft's evidence, as already noted, is that he was approached by GM Welch while he was still at his post on the south side of the tower managing FSG calls. That was at around 02.00. SM Loft said that GM Welch had told him to return to CU8, which he then did.[45]

14.20 I can well understand how recollections of events that took place in hectic and very demanding circumstances can vary, but in this case both GM Welch and SM Mulholland recall that SM Loft was present on CU8 with GM Welch. They were both clear and consistent witnesses and in the light of the evidence as a whole I think their evidence is to be preferred.

GM Welch on CU8: the four radio messages

14.21 It was GM Welch's evidence that when he had asked for the four messages to be sent, just before SM Loft's arrival at CU8, he had not at that point stood back and taken a look at the tower. He acted on the basis of what he had seen while he was walking up to the tower and what he had heard over the radio.[46] The available records indicate that the messages were not transmitted simultaneously and not from the same command unit. The first message to be sent was "make pumps 40". It was sent at 02.03 from CU7.[47] The second message declaring GM Welch incident commander was sent just 30 seconds later, also from CU7.[48] The third message, requesting four command units, was sent two minutes later at 02.05 from CU8.[49] The fourth message, declaring a Major Incident, was sent a minute after that at 02.06, also from CU8.[50]

14.22 The audio recordings of these transmissions were played to GM Welch at the hearing, but he was unable to explain why the first two had been sent from CU7 and the second two from CU8 and could not identify who was speaking in any of them.[51] The recordings are sufficiently clear, however, to enable me to be satisfied that the voice that can be heard in the messages sent from CU7 is not the same as that which can be heard in the messages sent from CU8. It is equally clear, however, that the same officer on each command unit sent both messages from their respective units.

GM Welch on CU8: "make pumps 40"

14.23 GM Welch said that he had increased the number of appliances in attendance because he had realised that it was clearly going to be a large firefighting operation, as the majority, if not all, of the east side of the building was alight. He did not recall whether the north side was also alight at that time and felt that the reference in the PRC notes to the tower being "fully engulfed in fire" had been intended to refer to the one side that he could see at that time, rather than the entire building.[52]

14.24 GM Welch also confirmed, as is recorded in the PRC notes, that when he had asked for the make-up message to be sent, he still thought that the fire was on the external face of the building only.[53] He did not recall having heard any messages about the fire being within the

44 Mulholland Day 33/32.
45 Loft Day 37/178.
46 Welch Day 44/46.
47 Radio transcript [LFB00002631].
48 Radio transcript [LFB00002730].
49 Radio transcript [LFB00003063].
50 Radio transcript [LFB00003015].
51 Welch Day 44/39-44.
52 Welch Day 44/46-48.
53 Welch Day 44/55.

higher floors of the building and had not thought to establish what conditions were like inside the building.[54] He did not seek to find out from the bridgehead whether crews were in fact rescuing occupants successfully at that point, nor whether they were experiencing difficulties getting to the higher floors. He said that he had based his decision on "planning for a worst-case scenario".[55] He was satisfied that 40 pumps would be enough as the crews were intended primarily for use in search and rescue operations and, if it were possible, external firefighting.[56] GM Welch later said that he had even thought that he was asking for more resources than he might need.[57]

14.25 GM Welch said that he was aware that more EDBA resources would be on their way, because, as he understood it, declaring a 40-pump fire automatically resulted in sending a certain number of FRUs as part of the predetermined mobilisation response.[58] However, he did not know exactly how many FRUs were involved in the pre-determined attendance linked to a request to make pumps 40,[59] and did not establish how many FRUs had already been called for.[60] On the other hand, he was aware that some EDBA crews were already present and that a decision could be made about asking for more, once he had been able to gather further information from inside the tower.[61]

14.26 GM Welch did not in fact ask for more FRUs to attend when he was on CU8, but a request was later made by DAC O'Loughlin at 02.11.02 to make FRUs 6. At that stage, nothing was done to monitor the number of EDBA wearers that might be required.[62]

GM Welch declares himself incident commander

14.27 GM Welch said that he had made the decision to assume command of the incident before receiving handover advice from SM Loft because he had recognised that it was a Major Incident. He had felt that the most important thing was to implement the procedure and to get more resources on the way. He would still be able to receive a handover from SM Loft while waiting for them to arrive.[63] He was clear that he had not met SM Loft outside the tower before he went to the command unit, contrary to SM Loft's recollection.[64]

GM Welch's declaration of a Major Incident

14.28 Once GM Cook was on CU8, both he and GM Welch agreed that this was a Major Incident, which was then immediately declared.[65] SM Mulholland was also involved in that discussion.[66] GM Welch said that the declaration was made on the basis that the LFB was going to require assistance from many other agencies.[67]

54 Welch Day 44/56.
55 Welch Day 44/57-58.
56 Welch Day 44/49-50.
57 Welch Day 44/81.
58 Welch Day 44/50. PN412 suggests that this view is not correct as there is a trigger for one FRU when a fire is declared 13 pumps and over: [LFB00001531] p. 19.
59 Welch Day 44/51.
60 Welch Day 44/53.
61 Welch Day 44/52, 54.
62 Welch Day 44/50-51.
63 Welch Day 44/36-38.
64 Welch Day 44/69.
65 Cook witness statement [MET00007948] p. 4; Welch Day 44/47.
66 Mulholland Day 33/34.
67 Welch Day 44/47.

14.29 GM Welch then asked GM West to send a METHANE message from CU8. He confirmed in oral evidence that he had been aware that it had not been sent during the short period in which he had been incident commander, but did not know whether it had been sent later on.[68] There is in fact no record of any METHANE message having been sent at any point during the incident.

GM Welch receives a handover from SM Loft

14.30 GM Welch said in evidence that when SM Loft stepped onto CU8, after GM Welch had requested that the four radio messages be sent, he asked him to "Tell me what you know".[69] He accepted that he should have asked for "a formal handover", since that might have prompted SM Loft to explain that he was not in fact the incident commander.[70] Nor did GM Welch actually ask SM Loft if he was the incident commander. He had no recollection of SM Loft having told him that he had until then been in charge of managing FSG calls.[71]

14.31 GM Welch said that SM Loft had told him very little by way of a handover, because he knew very little.[72] He recalled SM Loft having told him that they were dealing with numerous FSG calls, that the fire was on the outside of the building, and that they were trying to fight it externally. On the other hand, he was not told that the only way out of the tower was by a single staircase.[73] GM Welch did not seek more information about the internal layout of the building, either by asking for plans or by seeking to establish whether there was a premises information box.[74] SM Loft's evidence was that the only discussion with GM Welch had taken place at the foot of the tower and had involved GM Welch asking whether there were BA crews above the fire floor.[75] By contrast, GM Welch had no recollection of any of that being part of their discussion, which, as he recalled it, had in any event taken place on CU8.[76] GM Welch said that he had been left with the impression that SM Loft had not been there very long[77] and he accepted that he (GM Welch) had assumed command on the basis of very limited information.[78] In any event, SM Loft had little information to give GM Welch, who assumed command on that basis.

14.32 SM Loft was unable to provide GM Welch with any details about the position in relation to FSG calls.[79] He did not tell him that there were people trapped in their flats by fire, heat or smoke, nor did he have any information about conditions inside the tower.[80] GM Welch accepted that he had not attempted to find out from the officer in command of CU8 what information he had received from the control room. When he was asked what steps were being taken on the incident ground to record how individual FSG calls had been resolved so that the information could be passed back to the control room,[81] GM Welch agreed that he had assumed that, because FSG calls were being received, crews were dealing with them effectively. In oral evidence, he said:[82]

68 Welch Day 44/60.
69 Welch Day 44/31.
70 Welch Day 44/66/24-67/3. SM Loft said that GM Welch did not use the words "I'm taking over command" (Loft Day 37/180).
71 Welch Day 44/66-68.
72 Welch Day 44/31, 33.
73 Welch Day 44/75.
74 Welch Day 44/74.
75 Loft Day 37/175, 179.
76 Welch Day 44/83-84.
77 Welch Day 44/71.
78 Welch Day 44/75.
79 Welch Day 44/81.
80 Welch Day 44/73.
81 As is required under PN790, at paragraphs 9.1-9.3.
82 Welch Day 44/92.

> "I knew that we were receiving them. I had absolute faith in the officers on the incident ground that they would be addressing that and trying to reach those people. If they weren't, the first thing they would do is let us know they were unable to do that."[83]

14.33 The PRC notes record that GM Welch thought FSG calls would be dealt with quite quickly.[84] GM Welch agreed that that was likely to be an accurate record.[85]

14.34 GM Welch said that he had no reason to think that the "stay put" advice might have been changed at that point and did not give any thought to whether it should be. Nor did he consider whether a total or partial evacuation might be required. He said that he had had no reason to think that the building's compartmentation was failing.[86]

14.35 GM Welch recalled SM Walton coming on to CU8 shortly after the handover of command from SM Loft. They had a very brief discussion, during which GM Welch instructed SM Walton to identify a suitable RVP. GM Welch did not recall having had any discussion with SM Walton about who was incident commander at that time.[87]

GM Welch on CU8: briefing SM Loft for BA Main Control and arrival of SM Daniel Kipling

14.36 Having purported to assume command, GM Welch's first action was to instruct SM Loft to establish BA Main Control. GM Welch did not specifically discuss with him the importance of marshalling EDBA wearers, or ensuring that, on arrival, they were sent promptly to the tower.[88]

14.37 SM Kipling, who had arrived a little earlier at 02.00.52,[89] had by that time made his way to CU8 where, as he recalled it, GM Welch was in command. SM Kipling told the Inquiry that when he entered CU8, GM Welch asked him to set up BA Main Control from another command unit. He was provided with no information about how much BA was being used at that time, and there was no specific discussion about the need for EDBA resources.[90] SM Kipling recalled having seen SM Loft standing outside CU8.[91] SM Kipling thought that it was he who requested that SM Loft be assigned to him to assist with BA Main Control.[92] GM Welch had no recollection of SM Kipling's involvement.[93]

14.38 SM Kipling said that after he had received his instructions he had gone with SM Loft to CU7 in order to set up BA Main Control.[94] He also took SM Nicholas Saunders, FF James Power and FF Gary Moore to assist with the operation.[95] They boarded CU7, which SM Loft recalled being completely switched off.[96] SM Kipling asked FF Moore and FF Power to go to the bridgehead to obtain as much information as possible about who was in charge there, the names of the individuals managing entry control, how many crews were being committed and how quickly they were going through the available resources.[97]

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83 Welch Day 44/91.
84 [LFB00003117] p. 17.
85 Welch Day 44/86.
86 Welch Day 44/72-73.
87 Welch Day 44/62-63.
88 Welch Day 44/94-95.
89 SIL p. 13.
90 Kipling Day 36/147-148.
91 Kipling Day 36/147.
92 Kipling Day 36/155.
93 Welch Day 44/94.
94 Kipling Day 36/155; Kipling witness statement [MET00012557] p. 6.
95 Kipling witness statement [MET00012557] p. 7.
96 Loft Day 37/182.
97 Kipling 36/156.

WM Norman Harrison returns to CU8

14.39 It was around that time that WM Harrison returned to CU8. He had been to the tower with WM Mark Kentfield and had viewed the state of the fire from the north-east corner. He recalled that there had been two Station Managers and one Group Manager (whom he believed to be GM Welch) on the command unit when he returned. WM Harrison's recollection was that he stood blocking the command unit steps facing the inside of the command unit and that he said that he thought the advice being given to callers trapped in the building needed to be changed.[98] He said that his tone of voice when he said that had been "quite loud, very direct and unequivocal"[99] and that he had directed his comment to the senior officers on the command unit.[100] He also said that in his view it was impossible for them not to have heard it.[101] He did not say anything about what he had seen on the north-east corner of the tower, nor did he say anything specific about the fire being inside the flats or the involvement of the cladding.[102]

14.40 WM Harrison said that, although none of the senior officers had responded, someone was standing outside the command unit who had responded to his observation. WM Harrison identified him as WM Patrick Delaney from CU2 (Islington), who had arrived at the incident ground at 01.58.45.[103] It was WM Harrison's evidence that WM Delaney had pointed out that there was only a single staircase in the building, which would be smoky. In response, WM Harrison asked whether the firefighters could use second set bags, but he said that no one had responded to that.[104]

14.41 WM Delaney provided a witness statement to the Inquiry in which he recalled having had a brief conversation with WM Harrison about the "stay put" policy. He said that he was not aware at that point that WM Harrison had been inside the building and so did not know how narrow the staircase was. WM Delaney told WM Harrison that he thought that "stay put" was the best advice to give residents at that time.[105]

14.42 GM Welch had no recollection of WM Harrison coming onto CU8 during his time there or of his observation about the need for a mass evacuation.[106]

Briefing of SM Daniel Egan

14.43 SM Egan had arrived at 01.58.39 before making his way to CU8. He presented himself to GM Welch, explained that he was a Fire Safety Officer and asked what GM Welch wanted him to do.[107] He did not share with anyone else his view that the tower needed to be evacuated because, as he said:

> "I'm going to make an assumption that the officer in charge has got this under control… They would've considered it already."[108]

98 Harrison Day 45/108-110.
99 Harrison Day 45/113.
100 Harrison Day 45/110.
101 Harrison Day 45/117.
102 Harrison Day 45/109.
103 SIL p. 9.
104 Harrison Day 45/111-112.
105 Delaney witness statement [LFB00024415].
106 Welch 44/97-98.
107 Egan Day 15/88.
108 Egan Day 15/94.

14.44 GM Welch recalled briefing someone to take over the management of FSG calls while he was on CU8 but did not remember either SM Egan himself or any details of the briefing.[109]

14.45 SM Egan's evidence was that GM Welch had told him to take charge of FSG calls and that WM Harrison, who by that time was back on CU8, had a list of the calls that had been received.[110] SM Egan recalled seeing WM Harrison writing the FSG information onto a board on the command unit, but it did not include any information about deployments that had been made in response to the calls.[111] There was also a wad of paper on which FSG calls had been recorded. From what he had seen, SM Egan estimated that around 20 to 30 calls had been received by that time.[112]

14.46 GM Welch told SM Egan to set up CU7 as the FSG command unit[113] in order to have a command unit dedicated to handling FSG calls. GM Welch was not aware that FSG calls were being sent to CU8.[114] They did not discuss the advice given to callers by the control room, conditions inside the tower or whether search and rescue operations were currently going on.[115] SM Egan was not told that SM Loft had previously been managing FSG calls and so he received no handover from him.[116]

14.47 Having been briefed, SM Egan left CU8 with WM Harrison. WM Harrison recalled that they had taken with them the 30 or so pieces of paper that had FSG information recorded on them,[117] as well as the plaque showing floor and flat numbers that had been removed from the ground floor lobby by WM Kentfield and brought back to CU8 not long before.[118] WM Meyrick thought that he remained on CU8 for a little longer before leaving to join them.[119]

DAC O'Loughlin on CU8: handover from GM Welch

14.48 At about that time, DAC O'Loughlin was making his way from the south-east corner of the tower to CU8, having taken over incident command from WM Dowden and SM Walton a few minutes earlier. He passed CU7 on the way which he recalled was not yet operating. WM Kentfield had initially been with him but they had become separated on the way.[120]

14.49 As he made his way to CU8, DAC O'Loughlin used the time to consider how he intended to manage the incident. He considered how he would implement the structures of command that would be required.[121] He thought that FSG calls were the priority,[122] since the occupants of those flats were directly experiencing smoke, fire or heat. The second priority were the flats that clearly could become directly affected on the north-east corner of the building.[123] DAC O'Loughlin clarified later in his evidence that at this time, and until much later in the incident, he had been working on the "expectation" that FSG calls were coming only from flats

109 Welch Day 44/95-97.
110 Egan Day 15/97.
111 Egan Day 15/99-100; note that this is not consistent with the evidence of WM Peckham and WM Harrison who did not recall using whiteboards to record information on CU8, as noted in Period 6.
112 Egan Day 15/105.
113 Egan Day 15/107.
114 Welch Day 44/95-96.
115 Egan Day 15/98-99.
116 Egan Day 15/127.
117 Harrison Day 45/119.
118 Harrison Day 45/123; CCTV images show WM Kentfield leaving the lobby with the floor plaque at around 02.07 [INQ00000360].
119 Meyrick Day 20/78.
120 O'Loughlin witness statement [MET00012563] p. 11.
121 O'Loughlin Day 47/157-158.
122 O'Loughlin Day 47/159.
123 O'Loughlin Day 47/162-163.

on the north-east corner of the building, because that was where the fire was spreading.[124] It was only after he had become operations commander (after he had been relieved of incident command by AC Roe) that he had realised that calls had been coming from other parts of the building.[125]

14.50 The only officers on board CU8 when DAC O'Loughlin arrived were GM Welch and WM Meyrick. WM Meyrick was using the main scheme radio, taking calls and trying to operate the fireground radio.[126] WM Meyrick was recording FSG information on sheets of paper. DAC O'Loughlin did not ask him how many there were in total.[127] He was surprised to see GM Welch wearing the incident commander's tabard and told him that he had taken over command.[128] A radio message was sent confirming that change of command at 02.11[129] immediately after a request to increase the number of FRUs to six.[130]

14.51 GM Welch told DAC O'Loughlin that he had made pumps 40 and had declared a Major Incident. DAC O'Loughlin was happy with that.[131] He thought that he had seen someone, he did not know who, drafting a METHANE message on one of the whiteboards on CU8. Although GM Welch asked for a METHANE message to be sent out, it was not sent, as has been mentioned above.[132] GM Welch was also not aware that the MPS had declared a Major Incident at 01.30.[133]

14.52 DAC O'Loughlin instructed GM Welch to relieve SM Walton as fire sector commander.[134] He then told GM Welch that in his view the fire was affecting most of the building from floors 3 or 4 up to roof level and seemed to be on the outside. He thought that that was consistent with GM Welch's assessment,[135] but GM Welch's contribution to the discussion was very limited because he thought that DAC O'Loughlin was far better informed about the situation than he was. He therefore confined himself to the need to increase resources and declare a Major Incident.[136]

14.53 DAC O'Loughlin was asked if he had told GM Welch that fire had penetrated into some flats. He said that he had not seen that, but that he had heard FSG calls while on his way to the incident which had suggested that that was happening. In answer to a question whether he had mentioned this to GM Welch, DAC O'Loughlin said: "[w]e had the conversation about that, so yes".[137] However, GM Welch did not recall any discussion with DAC O'Loughlin about fire penetrating individual flats or breach of compartmentation more generally.[138] He said that he would have expected the fire to have penetrated in some way, but that at that stage it had not affected their tactics. GM Welch understood that, if compartmentation had been breached, the breach was limited.[139]

124 O'Loughlin Day 47/224-225.
125 O'Loughlin Day 47/224-225.
126 O'Loughlin Day 47/173.
127 O'Loughlin Day 47/163.
128 O'Loughlin witness statement [MET00012563] pp. 12-13.
129 Radio transcript [LFB00002285]. This is not on the SIL.
130 Radio transcript [LFB00003100]. Refer to SIL at 02.11.46 at p. 21.
131 O'Loughlin witness statement [MET00012563] p. 13.
132 Welch Day 44/59/18-60/20.
133 O'Loughlin Day 47/186.
134 Sectorisation is explained in Chapter 7 of this report. The fire sector is the operational sector where the main firefighting and rescue operations are taking place.
135 O'Loughlin Day 47/187.
136 Welch Day 44/101-102.
137 O'Loughlin Day 47/188/4-15.
138 Welch Day 44/107/17-109/18.
139 Welch Day 44/119/1-21.

14.54 DAC O'Loughlin told GM Welch that steps were being taken to respond to FSG calls, but that he had no information about numbers or priorities. He was unable to obtain it from WM Meyrick, as he was extremely busy,[140] and he did not make direct contact with the control room.[141] He knew, however, that there was system in place for dealing with FSG calls, even though he did not know exactly what it was.[142] His plan was to set up a more robust system by establishing an FSG command unit that would provide support to GM Welch in identifying which flats were involved and which should be given priority.[143]

14.55 When he took over as incident commander, DAC O'Loughlin had no information about the conditions in the lobbies outside the flats from which FSG calls had been made[144] and he was unable to obtain that information from the bridgehead as the radios were unable to cope with the amount of traffic.[145] It was suggested to him that he needed to have that information in order to send BA crews into the building to rescue occupants, but he explained that he had expected GM Welch to establish through the bridgehead what the conditions were when he took over as fire sector commander. He also said that he had expected there to be smoke in the stairwell, but that, since EDBA crews could go up a smoke-filled staircase, this did not pose any difficulty. He did not think it was necessary, therefore, to have a detailed knowledge of the conditions in the stairwell before committing crews.[146] He understood that the fire doors should have prevented smoke from entering the lobbies and appears to have expected them to have done so.[147]

14.56 Finally, in the absence of any evidence to the contrary, I am satisfied that in the course of the briefing DAC O'Loughlin and GM Welch did not discuss the possibility of withdrawing the "stay put" advice and evacuating all the remaining occupants immediately.

14.57 Having received his briefing, GM Welch left CU8 for the tower, accompanied by GM Matthew Cook, SM Mulholland and SM Gareth Cook.[148]

GM Welch and SM Cook enter lobby – GM Welch takes command of bridgehead

14.58 As they walked towards the tower, GM Matthew Cook left the group and went to CU7.[149] A little later SM Mulholland left the remaining two to carry out a "360" tour of the outside of the building.[150] As he looked at the tower, approaching it from the south-east,[151] GM Welch did not recall having thought that there were fires in individual flats, though when he gave evidence he said that he would have expected the fire to get into the flats.[152]

140 O'Loughlin Day 47/188.
141 O'Loughlin Day 47/192.
142 O'Loughlin Day 47/189/1-190/18.
143 O'Loughlin Day 47/191/23-191/18.
144 O'Loughlin Day 47/164/2-19.
145 O'Loughlin Day 47/169/3-14.
146 O'Loughlin Day 47/165/8-21.
147 O'Loughlin Day 47/198.
148 Welch witness statement [MET00007525] p. 5.
149 Welch witness statement [MET00007525] p. 5; Matthew Cook witness statement [MET00007948] pp. 4-5.
150 Mulholland witness statement [MET00007865] p. 5.
151 Welch Day 44/122/3-8.
152 Welch Day 44/123/16-24.

14.59 CCTV images show GM Welch coming through the main entrance of the tower with SM Gareth Cook at around 02.10.[153] He said that within seconds of his entering the building he had thought that the bridgehead needed to be moved higher in order to reduce the distance BA crews had to travel under air. He did not think that crews would be able to reach the upper floors and return safely wearing SDBA or even EDBA.[154]

14.60 It was SM Walton's evidence that when GM Welch arrived inside the tower GM Welch had briefed SM Walton to take over the management of the BA resources on the floor 2 balcony. SM Walton recalled that that had taken place in the floor 2 corridor adjacent to the staircase within five minutes of his arriving at the bridgehead.[155] His recollection was that GM Welch told him to take WM Williams to assist him and that he had then asked WM Williams to speak to whoever was then responsible for marshalling BA crews in order to establish what the state of BA resources was.[156] However, SM Walton's recollection differed from that of WM Williams,[157] who said that he had been instructed by GM Welch to start recording FSG calls on the wall of the ground floor lobby.[158] SM Walton also said that he had provided GM Welch with a handover briefing and had told him what information he had asked WM O'Keeffe to obtain.[159] He said that he had not discussed the possibility that the fire was re-entering the building with GM Welch.[160]

14.61 GM Welch, on the other hand, had no recollection of that exchange with SM Walton, though he said that he had no reason to doubt what SM Walton had said.[161] He recalled having given someone the role of BA resources officer, but could not remember having any particular discussions or giving any instructions about EDBA wearers at that time.[162]

14.62 When GM Welch and SM Gareth Cook arrived at the bridgehead, they immediately started to assist with taking casualties from the returning BA crews. GM Welch explained that in the circumstances it was not a task that could have been delegated to a more junior officer, as would normally be the case, because the only firefighters not wearing BA were senior officers. Although he estimated that he continued to assist with casualties for around 45 minutes,[163] that is probably not correct, given that he was involved in the management of the bridgehead once it had been moved to floor 3 at around 02.17. GM Welch received a formal handover of the bridgehead command from WM O'Keeffe,[164] but there was no discussion about how FSG information was reaching the bridgehead,[165] or whether, and if so how, information about the results of FSG deployments was being communicated to the command unit.[166] He said that he had had no reason to think that this was not being done[167] and if information gathered at the bridgehead from returning crews had not been communicated to the command unit,

153 [INQ00000354].
154 Welch Day 44/132/21-133/18.
155 Walton Day 46/190/1-6, 46/190/14-18.
156 Walton witness statement [MET00010828] pp. 32-33. SM Walton incorrectly refers to CM Glynn Williams in his statement, rather than WM Glynn Williams.
157 Williams Day 31/42/1-14.
158 Williams Day 31/43/20-25.
159 Walton Day 46/190/19-191/7, 46/184/4-7.
160 Walton Day 46/192/18-24.
161 Welch Day 44/126/18-127/2.
162 Welch Day 44/127/15-25.
163 Welch Day 44/130/7-131/4.
164 Welch Day 44/138/14-19.
165 Welch Day 44/141/3-17.
166 Welch Day 44/145/20-25.
167 Welch Day 44/150/2-11.

the bridgehead would have heard about it.[168] GM Welch was satisfied that crews were being debriefed thoroughly and he was content with the information that was being collected, although he did not see it in every case.[169]

14.63 WM O'Keeffe's recollection of GM Welch's arrival at the bridgehead was broadly consistent with that of SM Walton's, namely that it occurred within about five minutes of SM Walton's arrival.[170] WM O'Keeffe said that GM Welch informed him that he was taking over as fire sector commander, which caused WM O'Keeffe some confusion as that was his role at the time. It had led him to understand that GM Welch had taken over the entire incident.[171] WM O'Keeffe also had a clear recollection of telling GM Welch that SDBA crews "were either in danger of getting killed themselves or couldn't reach the upper floors". On hearing this, GM Welch asked WM O'Keeffe what he needed. WM O'Keeffe told him that they needed EDBA, "all of it … otherwise we're not going to reach these people". He said that GM Welch agreed and returned back down the stairs.[172]

14.64 GM Welch remembered the conversation with WM O'Keeffe. Although he could not be sure of its timing, he remembered having asked for additional EDBA wearers in response to it.[173] He said that the SIL record of the message for "make FRUs 10", apparently from DAC O'Loughlin, had been sent in response to his own request.[174] Although his evidence was not consistent with that of DAC O'Loughlin, who said that the order for 10 FRUs had come from him,[175] it is unnecessary to resolve this disagreement. The important point is that the message was sent.

WM Paul Sadler briefed by WM Kentfield and establishes FSG point

14.65 Outside the tower WM Sadler was waiting underneath the covered area on the south-east corner. At about this time he was approached by an officer who informed him that his assistance was required in establishing an "FSG point" in that location.[176] WM Sadler did not know the identity of the officer,[177] but it was probably WM Kentfield, who instructed him to collate FSG information and transmit it to the bridgehead. WM Kentfield gave this instruction to WM Sadler because he had been told by WM Meyrick (either by radio or on returning to CU8, he could not recall which) that CU8 was receiving many FSG calls and considered that it was necessary to delegate that task to someone else.[178]

14.66 WM Sadler understood that the function of this "FSG point" was to act as a means of controlling FSG information at the base of the tower and communicating it to those inside the building.[179] He recalled WM Kentfield telling him that CU7 was his point of contact on channel 3 of the fire ground radio and he asked two firefighters from his own watch to run back to the command unit and confirm this.[180] Those firefighters (whose identity cannot be determined) reported back to him shortly afterwards that CU7 was not yet set up, but that the personnel

168 Welch Day 44/152/1-4.
169 Welch Day 44/146/20-25.
170 O'Keeffe Day 18/178/1-4; as above, also refer to Walton Day 46/190/4-6.
171 O'Keeffe Day 18/86/15-22.
172 O'Keeffe Day 18/83/7-21.
173 Welch Day 44/133/19-134/3.
174 This message was sent at 02.15.08 and recorded on the SIL (to which GM Welch was taken in his oral evidence) at 02.16.58: refer to Welch Day 44/136/12-17 and, for the messages: SIL p. 22 and radio transcript [LFB00002441].
175 O'Loughlin Day 48/107/12-14.
176 Sadler Day 29/26/20-27/15.
177 Sadler Day 29/29/15-30/3.
178 Kentfield witness statement [MET00023051] pp. 13-14.
179 Sadler Day 29/33/4-7.
180 Sadler Day 29/35/7-16.

on CU8 had confirmed that CU7 would be the point of contact for FSG calls on channel 3.[181] WM Sadler was not told as part of his briefing what system existed for managing FSG calls that had already come in[182] and he did not know who SM Loft was.[183]

14.67 WM Sadler set himself up on the south-east corner of the tower, using the bonnet of a parked car to manage the papers and boards that he had then started to use.[184] The car was partly under the walkway.

14.68 WM Sadler recognised that all fresh BA wearers should go into the building in order to be deployed. He therefore sought assistance from firefighters who had already been committed and were resting outside the tower. He thought that they had been the first crews to attend.[185] The two he chose were CM Charles Batterbee and FF Mark Brodrick.[186] In the first instance, CM Batterbee went to obtain a pad of control information forms[187] and an FIB.[188] WM Sadler instructed CM Batterbee to go to the bridgehead and record all the FSG information held there in order to check that it was the same as that held at the car bonnet.[189]

14.69 WM Sadler was able to speak to CU7 using channel 3 on his fireground radio.[190] His recollection was that he had not communicated with anyone on CU8.[191] He also received FSG information on control information forms that were brought to him by runners,[192] recorded it and sent a runner into the tower with the top (white) copy. A second runner took the yellow copy to CU7 and he retained the blue and green copies at the car bonnet.[193] He said he had done that so that he could amend the forms if further information about those FSG calls was received.[194] If new information was received, WM Sadler communicated it by radio directly to WM De Silvo at the bridgehead.[195] He also tried to send the amended blue or green copies to the bridgehead, although he could only recall one occasion on which he had been able to do that.[196] Finally, WM Sadler said that he also used the radio to transmit FSG information to WM De Silvo when communicating a priority call.[197]

14.70 WM Sadler said that in the early stages he had given each FSG call that he transcribed a number, which he marked at the top of the control information form. He confirmed that the control information form reproduced below, which is marked with a number 1 in a circle at the top of the page and with the time of 02.13, was the first FSG sheet he had completed while stationed at the car bonnet:[198]

181 Sadler Day 29/41/22-42/7.
182 Sadler Day 29/35/3-7.
183 Sadler Day 29/30/4-6.
184 Sadler Day 29/37/5-38/18.
185 Sadler Day 29/50/16-20.
186 Batterbee witness statement [MET00012871] pp. 10-11; Brodrick witness statement [MET00016789] p. 8, recalling that it was a command unit officer from Fulham called Mark (likely to be WM Kentfield) who asked him to assist WM Sadler.
187 Batterbee witness statement [MET00012871] p. 11.
188 Sadler Day 29/51/3-7.
189 Batterbee Day 12/135/10-136/5.
190 Sadler Day 29/44/18-22.
191 Sadler Day 29/45/7-10.
192 Sadler Day 29/52/16-20.
193 Sadler Day 29/56/14-18.
194 Sadler Day 29/56/19-25.
195 Sadler Day 29/106/21-107/19.
196 Sadler Day 29/57/2-11, 79/13-23.
197 Sadler Day 29/96/11-97/1.
198 Sadler Day 29/60/20-61/17.

White copy ICP Yellow copy Blue copy Green copy

Paul Sadler .F.S.G. OUTSIDE (1)

LFB LONDON FIRE BRIGADE

Control Information

Premise number:	205 12 FLOOR
Number of persons within location:	NOT KNOWN
Location within premises and access point:	
Condition within premises (Heavy smoke/Fire etc):	FIRE AT THE DOOR ~~F~~ ~~THROUGH~~ WINDOW
Proximity to fire (if known):	/
Advice to caller from Control:	/
Time call received by Control:	Time updated: 02:13.
Additional information:	

Figure 14.3

14.71 Early in this process WM Sadler was given a piece of paper on which someone had written a list of flats and floors from which FSG calls had been received.[199] He described it as an "envelope", but in fact it was an A4-size piece of paper. He thought that it had been given to him by the same officer who had instructed him to set up the FSG point at the car bonnet.[200] Immediately on being given the list WM Sadler photographed it.[201] When he gave evidence WM Sadler confirmed that, according to his mobile telephone, the photograph had been taken at 02.19.[202] FF Brodrick helped WM Sadler transcribe the information from this photograph on to control information forms.[203]

14.72 In his oral evidence WM Sadler originally said that he had started to transcribe FSG information onto the control information forms only after he had been given the A4 sheet,[204] but having seen the time notation of 02.13 on the first control information form, he thought that in fact he might have started processing FSG calls before the A4 sheet was provided to him. I think that must be the case, given that the photograph was taken at 02.19. Furthermore, since

199 Sadler witness statement [MET00012481] p. 3.
200 Sadler Day 29/39/22-40/2.
201 Sadler Day 29/67/16-17.
202 Sadler Day 29/64/22-24.
203 Brodrick witness statement [MET00016789] p. 8.
204 Sadler Day 29/65/9-20.

CU7 was probably not up and running as early as 02.13,[205] WM Sadler was probably in radio contact with WM Meyrick, who was still on CU8 at that time. The fact that there were two separate streams of FSG information coming in by radio messages and the A4 sheet would also explain why the information recorded by WM Sadler on his first few control information forms is not quite the same as that on the sheet of paper, although there is a degree of overlap.[206]

14.73 At about the same time, CM Batterbee went to the bridgehead, which he recalled as being on floor 2.[207] He copied the information that was recorded on an FIB into his own notebook,[208] a copy of which was exhibited to his witness statement:

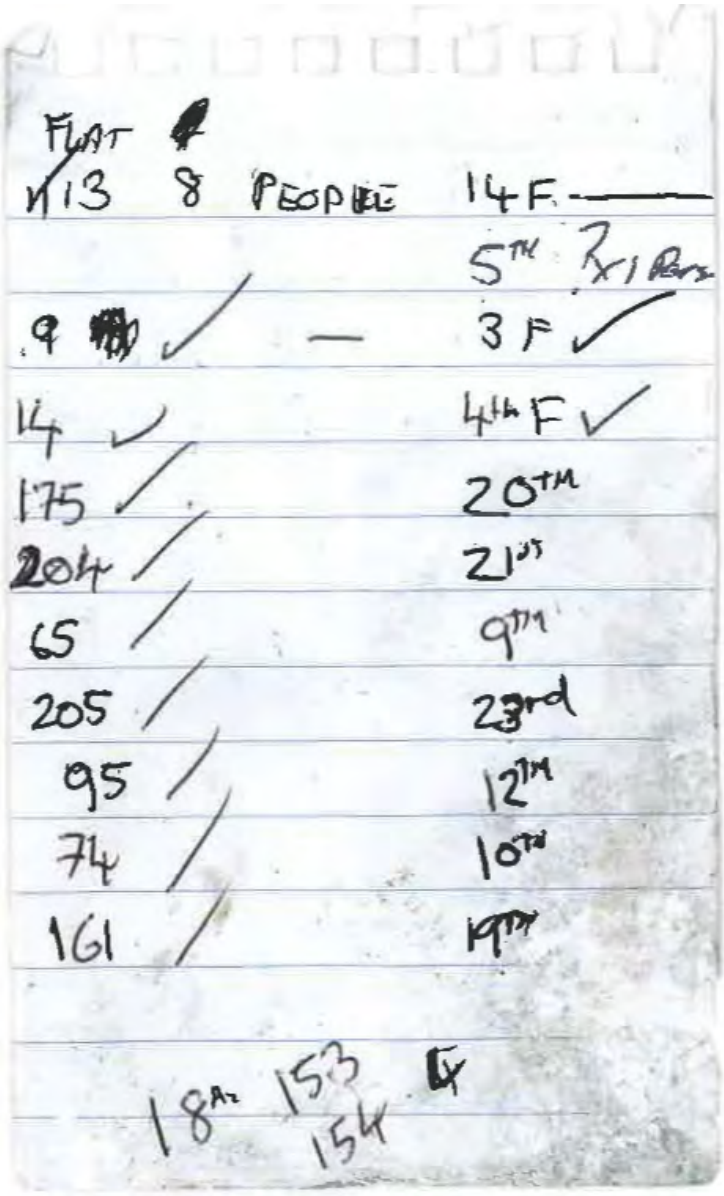

Figure 14.4

[205] Refer to the narrative set out below relating to the arrival of GM Goodall.

[206] For example, control information form number 1 records (incorrectly) Flat 205 as being on Floor 12, whereas the A4 sheet refers only to Flat 205; control information form number 3 refers to Flat 74 which does not appear on the A4 sheet at all: [LFB00001922] p. 33, [LFB00001968] p. 47 and [MET00016967].

[207] Batterbee Day 12/136/24-25. Refer also to ORR v 0.7 p. 165 which records CCTV of Batterbee entering the tower at 02.17.45.

[208] Batterbee Day 12/137/18-138/8.

14.74 CM Batterbee explained that the ticks were to indicate flats to which crews had been deployed, as reported to him by WM De Silvo.[209] After visiting the bridgehead he returned to WM Sadler's FSG point, which he believed had still been located at the car bonnet, and started to cross-refer the information recorded on his notepad to the information that WM Sadler had recorded on an FIB.[210]

14.75 WM Sadler estimated that he had remained at the car bonnet for 10 or 20 minutes[211] before moving further back underneath the covered walkway to get away from the falling debris.[212]

Arrival of GM Thomas Goodall

14.76 Soon after DAC O'Loughlin had taken over as incident commander, GM Goodall arrived on CU8, having booked status 3 at 02.04.41.[213] He estimated that he had reached CU8 between 02.10 to 02.15.[214] GM Goodall was briefed by DAC O'Loughlin to take charge of FSG calls. GM Goodall recalled this as a briefing to take over from SM Egan,[215] but DAC O'Loughlin said that he did not know who had been managing FSG calls up to that point and did not know SM Egan.[216] He left it to GM Goodall to find out from whom he was taking over.[217]

14.77 As he did not have the information to provide, DAC O'Loughlin gave no detailed briefing to GM Goodall about FSG calls. He told GM Goodall to contact the control room to find out how many FSG calls had been received and which ones were the priorities.[218] GM Goodall did not speak to the control room and was probably unaware that that was an express requirement of PN790.[219] There was no discussion of the "stay put" strategy[220] and DAC O'Loughlin did not tell GM Goodall that in his view the priority flats were those located on the north-east corner.[221]

14.78 GM Goodall then left CU8 for CU7. His recollection was that he had been with SM Egan when he did so, though he was not sure about that.[222] Given that SM Egan had been briefed by GM Welch before DAC O'Loughlin had taken over, it is more likely that SM Egan had already left CU8, albeit only a little while earlier. WM Antony Peckham, on the other hand, recalled GM Goodall being on CU8 and leaving for CU7 with him.[223] It may also have been at this point that WM Meyrick left CU8 to go to CU7.

14.79 GM Goodall then arrived at CU7. He did not recall whether SM Egan had entered CU7 with him. SM Kipling was starting to set up BA Main Control on CU7, but it was agreed that GM Goodall would take the command unit for FSG calls instead. SM Kipling left to operate BA Main Control from the area outside the leisure centre.[224] SM Egan went directly to the incident ground and returned some time later, by which point CU7 was operating and had started to handle FSG calls.

209 Batterbee Day 12/139/7-9.
210 Batterbee Day 12/139/13-140/8.
211 Sadler Day 29/60/5-7.
212 Sadler Day 29/111/1-7.
213 SIL p. 13.
214 Goodall Day 35/17/24-25.
215 Goodall Day 35/20/8-19.
216 O'Loughlin Day 47/205/1-8.
217 O'Loughlin Day 47/206/10-13.
218 O'Loughlin Day 47/207/20-208/2.
219 Goodall Day 35/68/22-69/15; refer also to PN790 [LFB00001257] paragraph 7.7.
220 O'Loughlin Day 47/210/22-25.
221 Goodall Day 35/55/25-56/7.
222 Goodall Day 35/20/2-7.
223 Peckham Day 30/149/14-20.
224 Goodall Day 35/2020-21/5; Goodall witness statement [MET000083296] p. 7.

Deployments of CM Craig Eden and FF Tom Welch, and of FF Vincent Williams and FF Agnel Fernandes

14.80 Early in this period CM Eden and FF Welch were briefed by WM O'Keeffe to go to floor 20.[225] At about the same time, FF Williams and FF Fernandes were briefed by WM De Silvo to go to Flat 175 on floor 20.[226] The two teams tallied out within a minute of each other, CM Eden and FF Welch at 01.59.42 and 01.59.49, and FF Williams and FF Fernandes at 02.00.23 and 02.00.39.[227]

14.81 CM Eden and FF Welch reached floor 20 but realised that they did not have much air left and decided that they would locate the riser and charge a hose that could then be used by the next crew. FF Welch said that he had not been informed that there were people who needed rescuing and that he had assumed that the building had been evacuated.[228]

14.82 Shortly afterwards, FF Williams and FF Fernandes also reached floor 20. They located Flat 175 and FF Williams went in and spoke to the family inside. He told them that they needed to leave, but they made no move to do so. He recalled having spoken by radio to the bridgehead to ask for assistance but having been unable to hear the response. He then took the youngest girl by the hand, thinking that the rest of the family would follow them down.[229] As they began their descent, FF Fernandes went down first, backwards, so that he could guide FF Williams with his hand on the child's back.[230] This was the second eldest daughter of Farah Hamdan and Omar Belkadi. She was carried out of the tower at 02.25.[231]

14.83 CM Eden heard a man shouting for help and a woman screaming not to forget her baby. FF Fernandes heard something similar. The woman must have been Farah Hamdan. CM Eden and FF Welch tried to help a male casualty down the stairs, after FF Williams and FF Fernandes had called for their help. That is likely to have been Omar Belkadi, who at some point collapsed. It was decided that CM Eden would go down alone to the bridgehead to ask for assistance while FF Welch stayed with Omar Belkadi.[232] The evidence of FF Welch was that another crew of two BA wearers, whose identity is unknown, then tried to assist him, though he had to leave them with Omar Belkadi and run back to the bridgehead as his air was running very low.[233] Neither CM Eden nor FF Welch said whether they had provided any kind of debrief to the bridgehead on their return.

Deployment of FF Lawson and FF Foster – contd

14.84 Further up the building, FF Foster and FF Lawson, who had been deployed at 01.53, were beginning their descent from floor 18. Both firefighters recalled having heard sounds of screaming on their way down, causing them to turn back momentarily, but the screaming stopped before they were able to locate the source.[234] I return to this topic in the next section of this Period.

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225 T. Welch witness statement [MET000080606] p. 5 and Eden witness statement [MET00008019] p. 7.
226 Fernandes witness statement [MET000083292] p. 3 and Williams witness statement [MET00010829] p. 5.
227 BA Telemetry Schedule [LFB00003115].
228 T. Welch witness statement [MET000080606] p. 7.
229 Williams witness statement [MET00010829] p. 9.
230 Fernandes Day 39/181/11-20, 39/183/2-10.
231 Annex A.
232 T. Welch witness statement [MET000080606] pp. 8-10 and Eden witness statement [MET00008019] pp. 11-13.
233 T. Welch witness statement [MET000080606] pp. 10-11.
234 FF Foster recalled this as happening at about floor 12: Foster Day 39/116/19-25; FF Lawson thought that they were at about floor 6 or 7: Lawson witness statement [MET00010815] p. 5.

Deployment of Paddington A216 crew – contd

14.85 At about this time, higher up the building, the Paddington EDBA crew had met FFs Steven Mills and Geoffrey Campbell. They were on their way down, having been unable to reach floor 20. The Paddington crew continued to make their way upwards, still at this time intending to reach the roof in accordance with their brief,[235] but at about floor 15 or 16 it became obvious that there was no realistic prospect of getting there. FF Martin Gillam recalled that it had been his idea to go to floor 20 instead to try and rescue the woman that FF Mills and FF Campbell had told them about.[236] They reached floor 20 but did not see anyone. FF Duane Harris opened the door into the lobby which he found fully smoke-logged.[237]

14.86 FF Dean Roberts continued up to the next floor and found a woman lying on her back against the wall on the half-landing in the stairwell between floors 20 and 21.[238] She was Fadumo Ahmed, who lived in Flat 164 on floor 19 but had come from Flat 201 on floor 23.

14.87 FF Gillam removed his own mask temporarily and gave it to Fadumo Ahmed to help her breathe.[239] While all that had been going on, FF Roberts had gone up to floor 21 and opened the door to the lobby. It was pitch black with smoke from floor to ceiling.[240] FF Roberts tried to contact the bridgehead on his fireground radio to tell them that he had found a casualty, but there was no traffic and he received no response.[241] FF Gillam's evidence was that Fadumo Ahmed had told him that there was no one left on her floor, but that none of the crew had asked her from which floor she had come.[242]

Deployments of FFs Desmond Murphy and Charles Cornelius and FFs Harvey Sanders and Nicke Merrion

14.88 Meanwhile, the two separate BA crews (FFs Murphy and Cornelius and FFs Sanders and Merrion) had met up in the lobby on floor 14. At the suggestion of FF Murphy they decided to move all the residents on that floor into Flat 113, which at that time was furthest from the fire.[243] FF Murphy attempted to radio down to the bridgehead to tell them what they had done, but was unable to make contact on either the BARIE or handheld sets.[244]

14.89 FF Murphy recalled that he and FF Cornelius had already moved the residents into Flat 113 by the time FF Sanders and FF Merrion reached floor 14.[245] That is unlikely to be correct, however, because both FF Merrion and FF Sanders remembered having assisted with that task.[246] FF Sanders said that he had gone into Flat 113 and had spoken to the family inside. When he went back out into the lobby he told one of the other firefighters that conditions in the flat were fairly clear and as a result they decided to move all the other residents into it.[247] I think that that is more likely to have been what had happened.

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235 Gillam Day 27/67/24-68/22.
236 Gillam Day 27/68/19-69/19.
237 Gillam witness statement [MET00008025] p. 10.
238 Gillam witness statement [MET00008025] p. 10 and Day 27/74/14-18.
239 Gillam Day 27/79/3-12.
240 Roberts witness statement [MET00007890] p. 6.
241 Roberts Day 27/124/10-24.
242 Gillam witness statement [MET00008025] p. 10 and Day 27/74/14-21.
243 Murphy Day 38/46/24-47/21; this was also consistent with FF Cornelius' recollection: Cornelius Day 38/82/12-16.
244 Murphy Day 38/47/22-25.
245 Murphy Day 38/47/14-21.
246 Merrion witness statement [MET000086060] pp. 7-8 and Sanders witness statement [MET00012482] p. 67.
247 Sanders witness statement [MET00012482] p. 6.

14.90 Once the other residents had been moved into Flat 113, FF Murphy said that he had counted six adults and two children in that flat. He spoke to them from the door as they were entering the flat and explained to them that the crew were low on air and needed to go and change their cylinders. Despite their wish to leave, he told the residents to remain in the flat with the door shut and reassured them that other crews would be coming up. He described conditions within Flat 113 at that time as clear.[248] FF Murphy said that he would not have countenanced taking any of the residents down the stairwell, which in his view was not safe due to the amount of smoke.[249]

14.91 Both crews then left floor 14 and started to make their way back down the stairs. It is not clear whether they went together or separately, although all the firefighters were clear that the residents had all been moved into the same flat by the time they left.[250]

Arrival of SM Peter Wolfenden

14.92 Meanwhile, outside the tower, SM Wolfenden had arrived at around 02.12.[251] He saw the fire from the west side and recalled that the edge of the north face was burning from about floor 3 to the top of the building.[252] He did not see any signs of the fire having penetrated internally into the flats[253] and told the Inquiry that he did not have any thoughts at that time about whether compartmentation had been breached. Part of him expected the fire to burn itself out once it had reached the top of the building.[254] He assumed that each individual flat would be self-contained and did not expect the fire to spread inside the building.[255]

14.93 Following his arrival SM Wolfenden spent some time standing below the west and north faces of the tower. He ordered that ground monitors be set up on the north side in an attempt to limit the spread of the fire.[256]

On board CU8: DAC O'Loughlin's strategy and make-up messages; the arrival of GM Dave O'Neill and the request for a dangerous structure engineer; the arrival of GM Patrick Goulbourne

14.94 DAC O'Loughlin was by now based on CU8. That was communicated to the control room, who confirmed receipt of the message at 02.11.59.[257] DAC O'Loughlin then discovered that the make-up messages he had asked WM Kentfield to send had not been transmitted.[258] Messages were then sent to make FRUs 6 at 02.11.02,[259] make command units 6 at 02.14.32,[260] and make FRUs 10 at 02.15.08.[261]

248 Murphy Day 38/49/17-50/23; Alhaj Ali witness statement [IWS00000781] p. 7 and Alhaj Ali Day 59/41/18-42/17.
249 Murphy Day 38/60/17-23.
250 Murphy Day 38/48/22-24; Cornelius Day 38/84/14-19; Merrion witness statement [MET000086060] p. 8; Sanders witness statement [MET00012482] p. 7. FF Cornelius also said that the other crew remained on floor 14 when he and FF Murphy left: Cornelius witness statement [MET00012663] pp. 9-10. If this is correct, FF Merrion and FF Sanders are likely to have left not long after FF Murphy and FF Cornelius, given that all the firefighters' "end of wear times" are within a few minutes of each other.
251 SIL p. 13.
252 Wolfenden Day 40/148/8-12.
253 Wolfenden Day 40/148/4-6, 11-12.
254 Wolfenden Day 40/147/24-148/1.
255 Wolfenden Day 40/149/1-5.
256 Wolfenden witness statement [MET00017428] pp. 7-8.
257 Radio transcript [LFB00002285].
258 O'Loughlin Day 47/146/1-147/18.
259 Radio transcript [LFB00003100].
260 Radio transcript [LFB00002980].
261 Radio transcript [LFB00002441].

14.95 On taking over incident command DAC O'Loughlin had not considered ordering a full or partial evacuation of the building; nor had he considered revoking the "stay put" advice. He told the Inquiry:

> "Again, I would be revoking it for people who were in unaffected parts of the building. So not only would I be risking exposing them to any potential smoke in the staircase from the original fire, they'd also then be hindering the firefighters getting into the building to get to the floors where the fire survival guidance calls are coming. So at that point, the primary focus was still to get firefighters to the fire survival guidance calls and to the top floors where the smoke may end up smoke-logging at the upper floors. So that was always the primary focus of it all."

He also said that he had had no means of communicating with people in the tower, many of whom might be asleep.[262]

14.96 DAC O'Loughlin then recalled briefing the senior officers who had recently arrived. GM Goulbourne boarded CU8 shortly before GM O'Neill,[263] the two having arrived at the incident ground at about the same time (02.12).[264] DAC O'Loughlin asked GM Goulbourne to support GM Welch in the fire sector[265] and said that the briefing that he was able to deliver to GM Goulbourne was, effectively limited to, "Go and assist Richard. He's got a lot to do".[266] GM Goulbourne's recollection was that when he arrived at CU8, it was he who suggested to DAC O'Loughlin that he go to assist GM Welch on the bridgehead.[267] He confirmed that his briefing had not involved any discussion about the nature of the fire, the floors to which BA crews were being committed, whether EDBA were being committed, or the FSG calls that were being received.[268] After that short briefing, GM Goulbourne left CU8 for the tower.

14.97 DAC O'Loughlin then gave GM O'Neill the role of sector commander for safety. The PRC notes indicated that at the time of this briefing DAC O'Loughlin was "concerned about [a] full or partial collapse of the building".[269] In his oral evidence DAC O'Loughlin explained that he had not been concerned about a total collapse at that stage and that his briefing of GM O'Neill was in relation to the risk of a partial collapse of the north-east side of the building only.[270] When in the course of giving evidence he was asked whether it had occurred to him that people on that side of the building should be told to leave their flats. He said that he was concerned about the risk of "chunks of building being pulled out of the north-east side in addition to a fire on the north-east side". He was trying to establish how much that would weaken the north-east corner of the building and whether it would give rise to a risk of partial collapse.[271]

14.98 GM O'Neill's recollection of the briefing was much simpler: he said that DAC O'Loughlin had told him to "put some structure around this" and to tell him "what effect this might be having on the building". GM O'Neill said that he understood from this what was required of him and he left CU8 for the tower.[272]

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262 O'Loughlin Day 47/211/6-25.
263 O'Loughlin witness statement [MET00012563] p. 15; O'Neill witness statement [MET00010758] p. 3; Goulbourne Day 41/87/20-25. There is no recorded arrival time for GM Goulbourne but in oral evidence he estimated that this would have been around 02.14, and that he would have been on CU8 at around 02.20: Goulbourne Day 41/80/11-16, 41/88/3-8.
264 SIL p. 13 (recorded arrival time for GM O'Neill).
265 O'Loughlin witness statement [MET00012563] p. 15.
266 O'Loughlin Day 47/214/25-215/3.
267 Goulbourne Day 41/93/22-25. The divergence of recollections on this point is immaterial.
268 Goulbourne Day 41/94/14-95/19.
269 O'Loughlin Day 47/217/5-25 and the PRC notes [LFB00003117] p. 20.
270 O'Loughlin Day 47/217/14-218/16; O'Loughlin Day 47/217/14-218/16-16; O'Loughlin Day 47/219/8-10; O'Loughlin Day 47/220/6-8.
271 O'Loughlin Day 47/221/2-25.
272 O'Neill witness statement [MET00010758] p. 3.

14.99 It was about that time that a request was made for a Dangerous Structures Engineer (DSE) to attend and also representatives of the gas and electricity suppliers and a Local Authority Liaison Officer (LALO). It was sent from CU8 by radio at 02.16.58.

Start of the system inside the tower for handling FSG calls

14.100 Inside the tower, at around this time (and before 02.15), WM Williams was on the mezzanine on floor 2 being briefed by GM Welch, having been taken there by SM Walton who had said that he had a job for him. WM Williams recalled that GM Welch had pointed down to the wall of the ground floor lobby and said that he wanted him to "set up FSG" there.[273] WM Williams' understanding of that instruction was "that FSG had been implemented and we needed to start collating information to prioritise rescues".[274] He believed that it needed to be done using the wall in the lobby because there was not enough space to carry out the work at the bridgehead itself.[275] WM Williams also recalled GM Welch telling him to "prioritise the calls",[276] although he had not explained what he meant by that or how it should be carried out.[277] Later in his evidence he said that he had understood it to mean that he should take into account the vulnerability of the caller rather than merely handing the information over to the bridgehead.[278] There had been no discussion about how many FSG calls had been received or how they had previously been managed. Nor had anything been said about how many crews had been committed in response to them or how information about FSG calls was being passed to the bridgehead.[279] GM Welch had no recollection of briefing WM Williams in relation to this role at all,[280] but WM Williams was an impressive witness and I accept what he said.

14.101 Having received his instructions, WM Williams asked WM Watson if the bridgehead was moving down to the ground floor. He assumed that would be so, as it is normal to manage FSG calls at a place close to where BA crews are being committed in order to ensure clear communication. On being told by WM Watson that the bridgehead was not moving, he considered how to maintain a clear line of communication between the two of them.[281]

14.102 WM Williams decided that he would receive information on control information forms rather than by radio or any other method.[282] He did not try to make radio contact with the command unit at this time; in fact, he did not know which command unit had been assigned to handle FSG calls.[283] (He was also unaware, and remained unaware throughout the incident, that WM Sadler had established a post for handling FSG calls outside the tower.)[284] WM Williams decided to rely on runners to transmit information to him from the command unit. He remembered having given that task to a firefighter, whose name he did not remember, as he came down from the mezzanine on floor 2.[285] It was that firefighter who brought WM Williams his first batch of control information forms, but several more runners were brought in to help shortly thereafter.[286]

273 Williams Day 31/43/21-25.
274 Williams Day 31/45/1-6.
275 Williams Day 31/51/2-52/3.
276 Williams witness statement [MET00008045] p. 7.
277 Williams Day 31/56/4-9.
278 Williams Day 31/57/12-18.
279 Williams Day 31/45/7-22.
280 Welch Day 44/144/4-15.
281 Williams Day 31/53-54/14-10.
282 Williams Day 31/55/3-16.
283 Williams Day 31/62/3-12.
284 Williams Day 31/70/9-14.
285 Williams Day 31/64/12-65/6.
286 Williams Day 31/67/22-68/7.

14.103 In his oral evidence WM Williams recalled that once his runner had returned with the first batch of slips he had started to write on the wall of the lobby, noting the time at which he started recording FSG information as 02.15.[287] He had then started shouting the information up to WM Watson on the mezzanine balcony, who recorded it, repeated it back to WM Williams and then, when he had passed it to a BA crew, confirmed that he had done so.[288] WM Watson said that that was the first time he had known anything about the FSG calls being received[289] and that he did not know how information had previously been passed to the bridgehead.[290] At first, he began to record the information he was receiving from WM Williams on the wall of the mezzanine, but he soon realised that that was too time-consuming, so he changed to using his notepad instead.[291] He wrote the information on individual sheets from his notepad and handed these slips of paper to the BA crews before they entered the bridgehead.[292] WM Watson himself made no record of which FSG calls he had given to which crews since (as he understood it) WM Williams was performing that task.[293] He did not at any stage check that the information recorded at the bridgehead was consistent with the information he had on the mezzanine and[294] he did not attempt any kind of prioritisation.[295] He said that it was a matter of pot luck to which flat on which floor any particular crew had been sent.[296] He remembered deploying crews to floors 21 and 23, and telling a crew who had questioned whether they would be able to reach that high, that: "You can only do what you can do, because that's all we've got at the moment".[297] He said that at that stage there had been few, if any, EDBA wearers available.[298]

14.104 When WM Watson had confirmed that he had passed the information received from WM Williams to a BA crew, WM Williams would write "BA" on the wall next to his note of that FSG call,[299] as can be seen in the photograph below, taken much later on in the incident.

287 Williams Day 31/68/24-69/3.
288 Williams Day 31/81/20-82/11; Watson Day 28/70/16-19.
289 Watson Day 28/69/19-23.
290 Watson Day 28/54/20-55/5.
291 Watson Day 28/74/11-17.
292 Watson Day 28/72/1-3.
293 Watson Day 28/78/13-20.
294 Watson Day 28/81/19-25.
295 Watson Day 28/80/22-81/1.
296 Watson Day 28/79/3-7.
297 Watson Day 28/123/10-19. WM Watson recalled that it was the crew tasked with floor 21 with whom he had this exchange, though this is more likely to be the crew tasked with floor 23 (FF Wright, FF Alassad and FF Bell). FF Wright specifically recalled having been tasked by WM Watson prior to the crew's tally out at around 02.10 – refer to his witness statement [MET000083339] p. 2. FF Bell similarly recalls being tasked by a "Paul Watkins", likely to be a reference to WM Watson; refer to his statement [MET00012995] p. 3.
298 Watson Day 28/122/10-13.
299 Williams Day 31/82/6-11, 31/106/2-23.

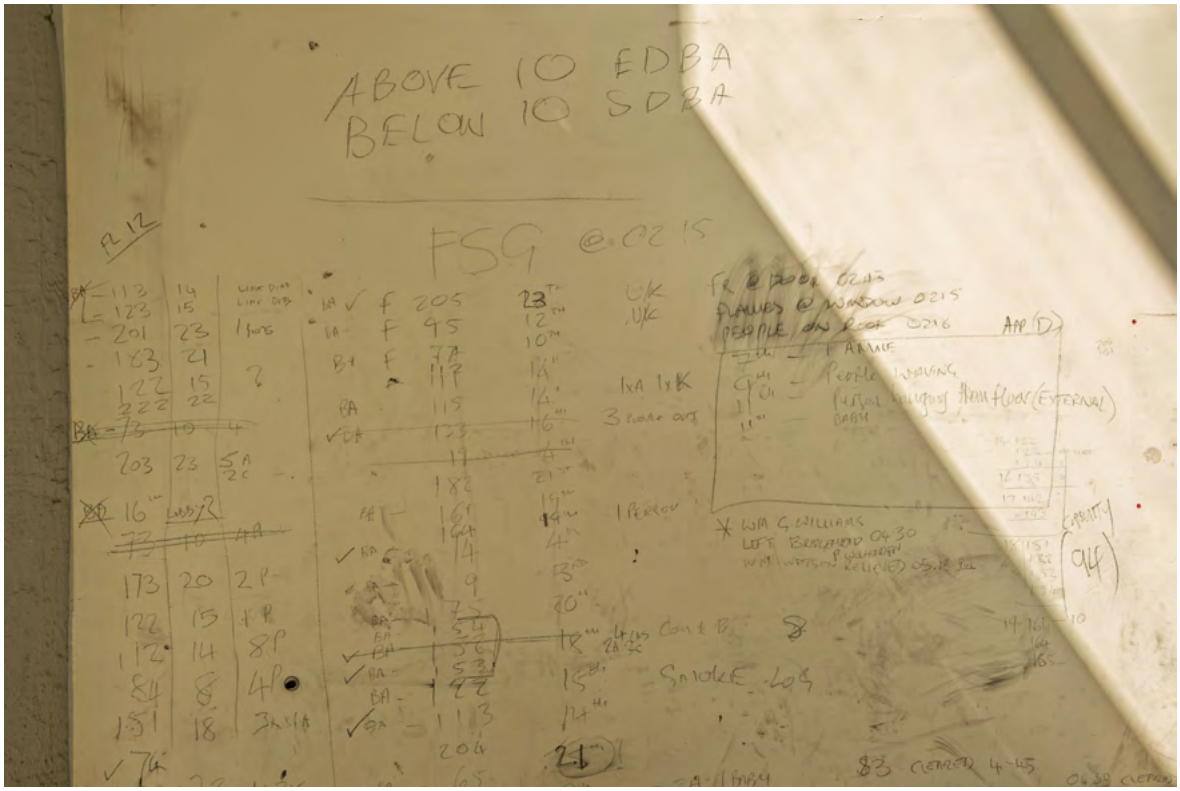

Figure 14.5

14.105 WM Williams confirmed that the list immediately below the notation "FSG" was the first list that he had transcribed onto the wall.[300] A number of ticks can also be seen on this photograph, which indicate that the crew had reached the designated flat. He based that on information obtained from firefighters as they returned from their deployments.[301] However, it had quickly become apparent to him that the information he was receiving was not very accurate[302] and he had found it "nigh on impossible" to relate it to the information on the wall.[303] He therefore did not attempt to communicate the results of particular deployments back to the command unit.[304] WM Watson said that at that stage in the incident, he too had been unable to get any reliable information from returning crews or casualties (many of whom were unconscious) about where they had come from.[305] He found it impossible in practice to prioritise calls because, when the FSG slips started to come in, he found that he was missing much of the information that he needed in order to make that kind of decision.[306]

The bridgehead moves to floor 3

14.106 Not long after WM Williams and WM Watson started their system for handling FSG calls, the decision was made to move the bridgehead up to floor 3. WM O'Keeffe raised the matter with GM Welch when the latter returned to the bridgehead following their initial exchange. WM O'Keeffe volunteered to go with CM Matthew Sephton to the upper floors without BA in order to see what conditions were like.[307] They went to floors 3, 4 and 5. WM O'Keeffe

300 Williams Day 31/100/8-13.
301 Williams Day 31/107/1-15.
302 Williams Day 31/108/17-18.
303 Williams Day 31/172/1-6.
304 Williams Day 31/174-175/16-4.
305 Watson Day 28/82/3-14.
306 Williams Day 31/59/6-18.
307 O'Keeffe witness statement [MET00013967] p. 13.

described floor 5 as a "no-goer" and floor 4 as having "a lot of black rolling smoke" in the lobby. Floor 3 however "looked OK", so he recommended to GM Welch that the bridgehead be re-established there.[308]

14.107 SM Cook had originally gone into the tower and up to the bridgehead with GM Welch at around 02.10. He recalled that very shortly after his arrival at the bridgehead GM Welch had asked him to leave the building again in order to establish whether there were any other ways in or out.[309] Once he was back outside, SM Cook took the two photographs reproduced below, which have time stamps of 02.15 and 02.17 respectively:

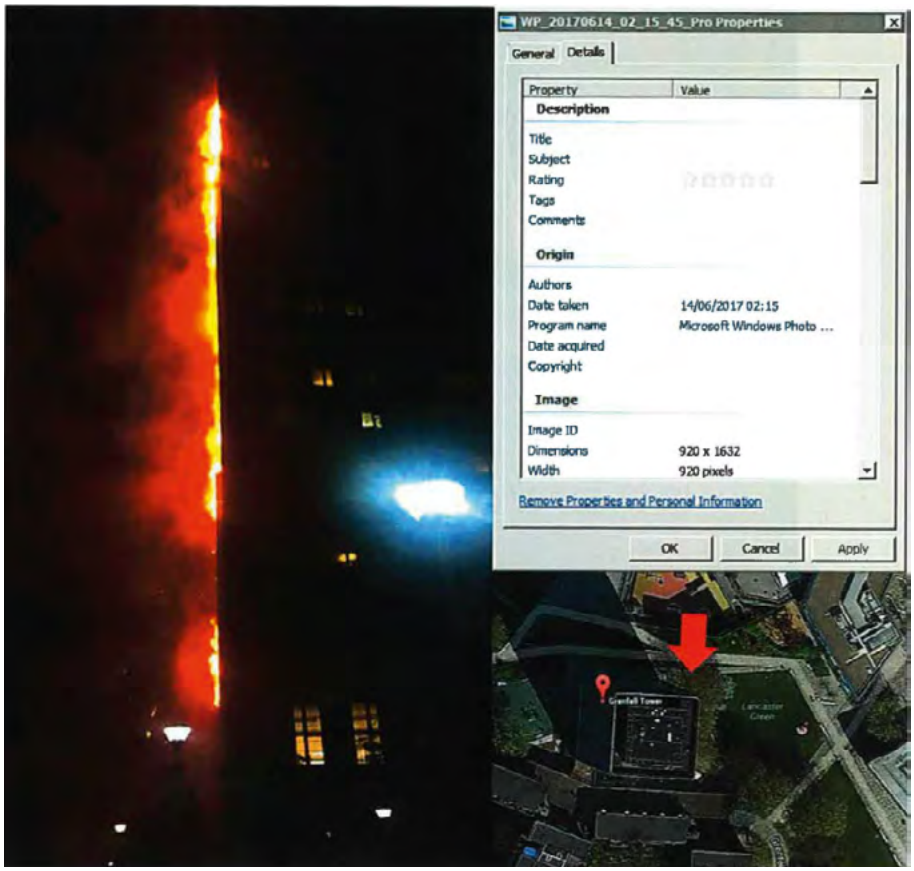

Figure 14.6

[308] O'Keeffe Day 18/179/20-180/10.
[309] Cook Day 28/187/4-10, 28/191/9-14.

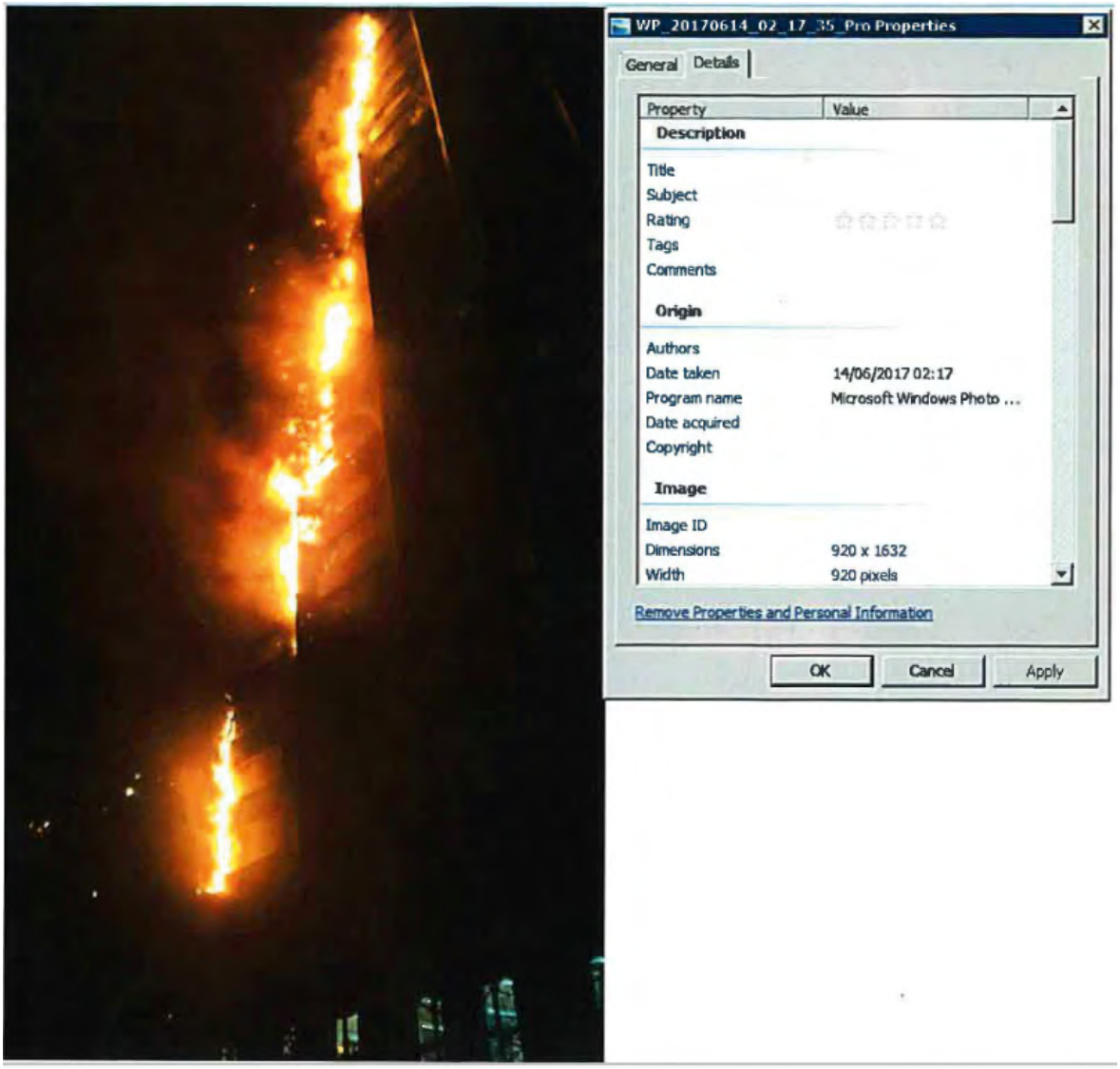

Figure 14.7

14.108 SM Cook said that after taking these photographs he had gone straight back into the building, where he had discovered that the bridgehead had moved to floor 3.[310] That was broadly consistent with WM De Silvo's recollection: she agreed that the move had taken place at around 02.15.[311] She said that, as well as the handful of FSG calls that had already been recorded on the FIB when she first arrived at the bridgehead on floor 2, by the time of the move to floor 3 she had added no more than 10 to that list, all of which she had taken up with her.[312]

310 Cook Day 28/196/10-16, 28/197/11-198/3.
311 De Silvo Day 29/213/1-13.
312 De Silvo Day 29/215/17-24.

Deployment of FFs Murphy and Cornelius and FFs Merrion and Sanders to floor 14

14.109 At around that time the two crews that had originally gone to floor 14 arrived back at the bridgehead, having moved all the residents into Flat 113. FFs Merrion and Sanders had "end of wear times" of 02.15.34 and 02.15.48 respectively. FFs Murphy and Cornelius had "end of wear times" of 02.19.54 and 02.18.35.[313] FF Murphy specifically recalled that by that time the bridgehead had moved to floor 3.[314]

14.110 FF Merrion said that he and FF Sanders had told the officers at the bridgehead that everyone on floor 14 had been put in the same flat. He believed that he had also told them how many people were there, but at the time of giving evidence he could not recall how many there had been.[315] FF Murphy was able to remember with precision that he had told WM O'Keeffe that he and FF Cornelius had swept floor 14 and had found six adults and two children, whom they had put in Flat 113 in "safe air", but that they needed to send crews back up there with second BA sets, as the air was not safe for them to be brought down.[316] FF Cornelius also recalled having given a separate debriefing to WM O'Keeffe that was effectively the same as that given by FF Murphy, which he had overheard. He said that they had both been pretty desperate to explain the situation.[317] A photograph of the bridgehead on floor 3 shows a sketch of a floor plan on one of the walls with the words "113 8 people" on the left-hand side. That suggests that the firefighters' recollection of the debriefing they had given was correct and that the information was recorded at the bridgehead while it was on floor 3, although the fact that there were two children in the flat, despite it being included in the debrief, was not recorded on the floor 3 bridgehead wall.[318]

14.111 At some point between 02.03 and 02.37 (probably at around 02.20) FFs Cook and Brian Flanagan visited Flat 113 and noted that it contained eight people, including two children. FF Flanagan spoke to the occupants.[319] There is no evidence that the firefighters reported that information to the bridgehead when they returned and tallied in.

Deployment of CM Tillotson's crew – contd

14.112 On floor 9, FFs Bettinson and Wolfenden remained in Flat 65 with Sharon Laci and her daughter while CMs Gallagher and Tillotson and FF Felton returned to the bridgehead to bring back spare BA sets for them. FF Bettinson said that they had waited there for around 15-20 minutes.[320]

14.113 While that was happening, a further BA crew consisting of CM Gregory Yeoman, FF Anthony Nelson, FFs Jonathan Saunders and Laurence Stavely had been briefed to go to Flat 65.[321] They had all tallied out by 02.04.43[322] and went up to floor 9. FF Bettinson recalled having

313 BA Telemetry Schedule.
314 Murphy Day 38/53/5-8.
315 Merrion Day 38/21/7-23.
316 Murphy Day 38/52/18-53/3.
317 Cornelius Day 38/88/9-12.
318 Exhibit of Matthew Sephton [MET00016948].
319 Cook witness statement [MET00012855] pp. 3-4; Flanagan witness statement [MET00007765] pp. 6-8. The BA Telemetry data for their deployment is incomplete but shows that they were under air from between 2.07.46 to 02.36.01 (FF Cook) and 02.03.12 to 02.35.23 (FF Flanagan). They visited Flat 113 on their descent from floor 20.
320 Bettinson Day 26/221/12-14.
321 Yeoman witness statement [MET00007862] p. 4 and Nelson witness statement [MET00007785] p. 2.
322 BA Telemetry Schedule.

heard a knock on the door while he was inside the flat and telling the crew outside that he and FF Wolfenden were waiting for the rest of their own crew to return with BA sets to bring the occupants down. CM Yeoman's crew then continued on to check the next flat.[323]

14.114 After that, CM Tillotson and CM Gallagher returned to Flat 65 with the fresh BA sets.[324] The crew decided that Sharon Laci should wear one of the new sets, with her daughter using a spare mask that was fitted to FF Bettinson's cylinder, sharing his air. CM Tillotson was very low on air by this point, so he fixed his mask to the other new BA set before the crew returned back down the stairs.[325] CCTV images show Sharon Laci, still wearing BA, being escorted by a firefighter from the stairwell into the ground floor lobby at around 02.19.[326]

Deployment of FFs James Cuthbert and Graeme Shaw – contd

14.115 On floor 5, the crew banged on the door of Flat 23, where Rebin Sabir and Milad Kareem were. FF Cuthbert recalled that one of them had been on the telephone to the control room and had told the crew that they had been instructed to stay in the flat, although the Inquiry has seen no record of any such call and these occupants have not said in their evidence that they made any 999 calls. The firefighters were concerned about the smoke and heat in the lobby and thought that the men would die if they tried to leave the building at that time, so FF Cuthbert told them to remain in the flat while he and FF Shaw returned to Entry Control.[327]

Other deployments during this period

FFs Terence Roots and Adam Johnson

14.116 FFs Roots and Johnson were initially briefed to go to Flat 14 on floor 4.[328] They tallied out at around 02.02.[329] They reached Flat 14, which was empty, and went back down to the bridgehead, where they were instructed to go to Flat 161 on floor 19. A photograph of the bridgehead on floor 2 shows that the briefings were recorded next to their names.[330] FF Roots expressed some concern that they might not have sufficient air to reach that floor, given that they had already been to floor 4.[331] However, the crew were able to reach floor 19, where they did a sweep of Flat 161, but found no one inside. They then helped two people from Flat 165 (Nicholas and Pily Burton) to leave the building.[332]

FFs John Wright, Zade Alassad and Scott Bell

14.117 FFs Wright, Alassad and Bell were briefed to go to two flats on floor 23; they tallied out at 02.08.45, 02.10.24 and 02.10.25. The flat numbers were written on a piece of paper that was handed to the crew by WM Watson, but by the time they gave evidence none of the firefighters could remember what they had been.[333] FF Bell was shown a photograph of the wall on floor 2 where the bridgehead had then been located, on which the crew's names had been marked alongside the numbers 201 and 205.[334] He agreed that they were likely to

323 Bettinson witness statement [MET00007879] p. 9.
324 FF Felton had to return to the bridgehead before the three made it back to floor 9, as he was low on air.
325 Bettinson witness statement [MET00007879] p. 10.
326 ORR v 0.7 p. 170.
327 Cuthbert witness statement [MET00012878] p. 6.
328 Roots witness statement [MET00012876] p. 4.
329 BA Telemetry Schedule. Note that there is no tally out time for FF Johnson.
330 [MET00013071].
331 Roots witness statement [MET00012876] p. 4.
332 Roots witness statement [MET00012876] pp. 4-6; Johnson Day 45/18/15-17.
333 Bell Day 40/44/22-25; Wright witness statement [MET000083339] p. 2.
334 [MET00013074].

have been the flats to which they had been deployed.[335] The firefighters started their ascent, but stopped in the area of floor 10 where they met another crew who were bringing down casualties. FFs Bell and Wright then together carried down an unconscious male casualty (now known to be Mohamednur Tuccu, as has been addressed in more detail in Period 1).[336] FF Alassad helped to bring down a female casualty (now known to be Khadija Khalloufi, as also addressed in Period 1).[337] On their return to the bridgehead FF Bell told someone that they had not reached floor 23, but he could not remember to whom he had spoken or what that person had done with the information.[338]

External firefighting and rescues: repositioning of Paddington's turntable ladder, A213; ladder and ground monitor on walkway; creation of "improvised" hose system on Soho's ALP, A245

14.118 Outside the tower Paddington's turntable ladder, A213, was being operated by CM Daniel Harriman and FF Christopher Reynolds on the east side of the building. At some time between around 02.10 and 02.25 (the precise time cannot now be reliably determined),[339] the turntable ladder was moved to the south side, where it was stationed partially under the covered walkway to protect it from falling debris. FF Reynolds recalled that at that time he had seen someone at a window on floor 4 or floor 5, just above the main entrance, who needed rescuing. That is likely to have been Rebin Sabir or Milad Kareem in Flat 23 on floor 5. FF Reynolds and CM Harriman tried to reach them using the turntable ladder, but could not extend it far enough.[340] They were eventually rescued through the window using a ladder that WM Steven Collins had set up on the walkway.[341] These occupants left the building between 02.19 and 02.21, as considered in more detail in section (3) below.

14.119 WM Collins' evidence was that at around the same time, he had set up a ground monitor on the walkway in order to apply water to the south face of the building, where residents could be seen at the windows at about floor 9, above the walkway and to the right-hand side of the entrance. He had asked CM Harriman to extend the turntable ladder to "do some rescues". CM Harriman extended the turntable ladder but could not get it close enough to the building due to the distance at which it had been parked in order to avoid the falling debris. He was able to communicate with a man at one of the windows, whom he told to stay put until the crews reached him. The turntable ladder was then parked back underneath the walkway to protect it from the falling debris, while CM Collins continued to operate the ground monitor against the side of the building.[342]

14.120 On the east side of the building, Soho's ALP, A245, was still being operated by CM Christopher Frost and FF Jason King, overseen by WM Stuart Beale. Having experienced significant lack of water pressure, FF King described having improvised a system for delivering water by fixing a high-pressure hose on to the cage of the ALP and operating it remotely from the bottom of the ladder. FF King estimated that they had rigged up the system about half an hour after having tried to work the ground monitor in the usual way (the ALP having started operating at around 02.00). With the system in operation the ALP was able to reach up to about floor

335 Bell Day 40/45/20-46/5.
336 Bell witness statement [MET00012995] pp. 4-5.
337 Alassad witness statement [MET00012991] pp. 4-5.
338 Bell Day 40/55/7-25.
339 This approximate time is based on FF Reynold's evidence that the turntable ladder moved to the south side 30-40 minutes after being operational: Reynolds witness statement [MET00010894] p. 5. As noted in Period 2, A213 arrived at 01.32.07 and was operational about 10-15 minutes thereafter.
340 Reynolds witness statement [MET00010894] p. 5.
341 Collins witness statement [MET00010086] p. 6.
342 Collins witness statement [MET00010086] p. 7 and Harriman witness statement [MET00007867] p. 3.

10.[343] WM Beale's evidence was that the arrangement was effective. They had been able to limit the spread of fire over the areas to which they had applied the jet, including around a window in the region of floors 11 to 13 where a man had been seen. The system had remained in operation for five hours.[344]

BA Main Control: SM Kipling and SM Loft

14.121 By around 02.15 to 02.20 SM Kipling and SM Loft had left CU7, where they had briefly started to set up BA Main Control before GM Goodall arrived. As they approached the tower, SM Kipling directed SM Loft to remain underneath the covered walkway and to communicate with the bridgehead,[345] which he did using channel 1 of his fireground radio.[346] SM Kipling then went to find a place within sight of SM Loft by the leisure centre where he could hold the incoming BA crews.[347] He sent a message to CU8 confirming that he had established BA Main Control and sent some other firefighters round the incident ground with instructions to send any unoccupied BA wearers back to him.[348] He then communicated with SM Loft every five minutes by mobile phone. SM Loft passed on to him requests from the bridgehead for BA crews.[349]

14.122 SM Kipling kept a record of how many crews he had committed and whether they were EDBA or SDBA wearers.[350] He also established a line of communication with CU8, using SM Saunders as a runner.[351] SM Saunders told the command unit when Main Control was going to run out of BA wearers and how many more were needed. SM Kipling said that this system worked well and that at no point did they run out of resources.[352]

14.123 SM Kipling said that from the moment that BA Main Control had been set up, they had always had at least 10 EDBA wearers ready and waiting to go in as required,[353] though it did not surprise him that there had apparently been delays between the arrival of some EDBA crews and their subsequent deployment.[354] He said that it was for the bridgehead to determine what resources they wanted and when, and that he was never short of BA wearers to send in when they were requested.[355] I accept what he said about that.

3 Conditions in the tower and movement of occupants

Flat occupancy in the tower at around 02.00

14.124 By around 02.00, 129 people remained in the tower. With the exceptions of Flat 9 on floor 3 and Flat 23 on floor 5, which were shortly to be evacuated, all the flats on floors 1 to 8 were empty. With the exception of floor 13, people remained in flats from floors 9 to 23.

343 King Day 36/127/3-128/1.
344 Beale Day 34/77/9-24.
345 Kipling witness statement [MET00012557] pp. 7-8 and Day 36/159/15-20.
346 Loft Day 37/189/6-14.
347 Kipling Day 36/162/1-12.
348 Kipling Day 36/165/1-9.
349 Kipling Day 36/168/9-24.
350 Kipling Day 36/169/12-20.
351 Kipling witness statement [MET00012557] p. 9.
352 Kipling Day 36/171/7-172/18.
353 Kipling Day 36/187/1-12.
354 Kipling Day 36/188/1-11.
355 Kipling Day 36/190/14-24; Loft Day 37/200/9-16, 37/204/12-18.

Floor 23

The progress of the fire on floor 23

14.125 Twenty-nine people were sheltering in five flats on floor 23 as follows:

Flat 201: Fadumo Ahmed, Amal Ahmedin, Amaya Tuccu Ahmedin, Raymond (Moses) Bernard, Berkti Haftom, Biruk Haftom, Amna Idris, Hamid Kani, Debbie Lamprell, Jessica Urbano Ramirez;

Flat 202: Marco Gottardi, Gloria Trevisan, Ernie Vital and Majorie Vital;

Flat 203: Gary Maunders, Rania Ibrahim and Fethia Hassan, Hania Hassan, Isra Ibrahim, Fathia Ahmed Elsanousi and Abufras Ibrahim;

Flat 204: Hesham Rahman; and

Flat 205: Flora (Shakila) Neda, Saber Neda, Shekeb (Farhad) Neda, Eslah Elgwahry and Mariem Elgwahry and Sakina Afrasehabi and Fatemeh Afrasiabi.

Flat 201

14.126 Fadumo Ahmed was one of a number of people who had moved to floor 23 from lower floors. She joined others in the hallway of Flat 201, where she and Amal Ahmedin had tried without success to douse flames appearing at the living room window.[356]

14.127 The group of 10 people now in the flat included Debbie Lamprell and Jessica Urbano Ramirez, both of whom were still speaking to CROs at 02.01. Jessica Urbano Ramirez's call with CRO Sarah Russell had begun at 01.29.48[357] and ended at 02.24.44. Debbie Lamprell's call with CRO Aisha Jabin had begun at 01.41.18[358] and ended at 02.21.41. When the call with Debbie Lamprell began, the group had moved into the single bedroom in Flat 201. Although their calls overlap and they were in the same room, no interaction between Jessica Urbano Ramirez and Debbie Lamprell is detectible from the transcripts.

Fadumo Ahmed

14.128 Fadumo Ahmed was the only occupant who between 01.50 and 02.20 successfully crossed the lobbies and reached the stairs without the assistance of firefighters. Having tried to put out flames in the living room, she had returned to stand near the front door. She then decided to leave. Fire had broken into the living room and thick smoke was coming into the flat from the lobby. Fadumo Ahmed ran from Flat 201 straight into the stairwell. The lobby was full of black smoke and there was no visibility.[359]

14.129 When she reached the stairwell, Fadumo Ahmed made for the gate to the roof, but found it locked. She began banging on the gate. Her family were calling her and, when she was able to answer, encouraging her to come down. Fadumo Ahmed was discouraged from doing so by the smoke that she could see coming up the stairs towards her. She "knew that the fire must have been stronger downstairs". The smoke was dark and smelled like gas. It became so thick that she could no longer see the stairs.[360]

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356 Fadumo Ahmed first witness statement [IWS00000729] pp. 4-5.
357 [LFB00055504].
358 [LFB00055500].
359 Fadumo Ahmed first witness statement [IWS00000729] p. 5.
360 Fadumo Ahmed first witness statement [IWS00000729] p. 5.

14.130 Fadumo Ahmed decided to walk down. The stairwell was dark and the smoke thickened as she went down. Breathing was difficult; the smoke made her cough and feel dizzy. Somewhere between floors 20 and 21 she sat down. After what seemed like half an hour a firefighter found her and helped her down the stairs.[361]

14.131 FFs Gillam,[362] Roberts,[363] Russell Gonzalez[364] and Harris[365] met Fadumo Ahmed in the stairwell between floors 21 and 22. FF Gillam spoke to her and described her as initially conscious and coherent. He helped her down the stairs, but she lost consciousness between floors 17 and 18.[366] She was carried out of the tower at 02.25.[367]

14.132 It is not possible to identify the precise time at which Fadumo Ahmed left Flat 201. Amal Ahmedin and her daughter, Amaya Tuccu Ahmedin, were found in the lobby.[368] It is not possible to say whether Amal Ahmedin and her daughter followed Fadumo Ahmed out of the flat or left later. Fadumo Ahmed said she had been in the hallway of Flat 201 rather than the bedroom. She knew Amal Ahmedin and did not say that she had followed her out of the flat. Both Debbie Lamprell and Jessica Urbano Ramirez mentioned a baby in the bedroom, which must have been Amaya Tuccu Ahmedin.[369] At around 02.00, during her call with CRO Russell, Jessica Urbano Ramirez said: "Don't leave" to someone in the room.[370] When asked by CRO Russell if someone was leaving, Jessica Urbano Ramirez said that she had been mistaken. It is possible, however, that she had been referring to the departure of Amal Ahmedin and Amaya Tuccu Ahmedin.

Jessica Urbano Ramirez

14.133 Throughout the call with CRO Russell, Jessica Urbano Ramirez repeatedly said that she was having difficulty breathing, which CRO Russell acknowledged.[371] Others in the room were having the same problem.[372] Jessica Urbano Ramirez told CRO Russell that there was a lot of smoke in the bedroom.[373]

14.134 At around 02.06[374] Jessica Urbano Ramirez told CRO Russell that "there is a fire in here" and later confirmed that flames were coming through the bedroom window.[375] CRO Russell tried to persuade her to move to another room. She suggested that Jessica Urbano Ramirez should speak to others in the room. She told CRO Russell that people had tried to leave and had been unable to do so because of the smoke, and that she could not pass the telephone to the person who had tried to leave as he could not talk and was too far away. There was no one next to her.[376]

361 Fadumo Ahmed first witness statement [IWS00000729] pp. 5-6.
362 Gillam Day 27/73/19-74/5; Gillam first witness statement [MET00008025] pp. 10-12.
363 Roberts first witness statement [MET00007890] pp. 4-5.
364 Gonzalez first witness statement [MET00012861] p. 7.
365 Harris first witness statement [MET00007884] p. 8.
366 Gillam Day 27/74/2-78/21; Gillam first witness statement [MET00008025] p. 12.
367 Annex A.
368 DVI plan [MET00012528] p. 3.
369 [LFB00055504] p. 26; [LFB00055504] p. 37.
370 [LFB00055504] p. 52.
371 [LFB00055504] pp. 10, 11, 18, 22, 23, 25, 26, 27, 28, 30, 32, 41, 47, 59, 60, 61, 63, 70, 71.
372 [LFB00055504] pp. 22, 23, 30, 34, 44.
373 [LFB00055504] p. 49.
374 [LFB00055504] p. 62.
375 [LFB00055504] pp. 62-63.
376 [LFB00055504] pp. 71-72.

14.135 A few minutes before the call ended, Jessica Urbano Ramirez stopped responding.[377] CRO Russell could hear the sound of breathing for some time after that and ended the call only when the line went silent.[378] That was the last known contact with Jessica Urbano Ramirez.

Debbie Lamprell

14.136 Debbie Lamprell was already in the bedroom of Flat 201 when she began her call with CRO Jabin.[379] She told CRO Jabin that she did not know where her friend was. That was a reference to Gary Maunders, who had moved to Flat 203. The group in the bedroom included a baby, a schoolchild and an elderly man.[380]

14.137 Like Jessica Urbano Ramirez, Debbie Lamprell said she had difficulty breathing.[381] Early in the call, she had told CRO Jabin that thick black smoke was coming through the window.[382] Later she said it was becoming thicker and was making her eyes burn.[383] The smoke was making others in the bedroom sick.[384]

14.138 At around 02.01,[385] Debbie Lamprell told CRO Jabin that the windows were cracking. Soon after, at 02.06, she said that she could feel the heat and then that the flat was on fire.[386] CRO Jabin reported to her team leader that she had been told that the fire was getting into the flat and was told to advise Debbie Lamprell to leave, which she did.[387]

14.139 Debbie Lamprell tried to leave the bedroom. She could be heard telling someone to move out of the way of the door. She told CRO Jabin: "I don't know who's blocked the door…" When asked if the door was locked, Debbie Lamprell said: "No, they won't move from the door".[388] CRO Jabin said that Debbie Lamprell had told her that people on the other side of the room were trying to get out and that's why she couldn't get out.[389]

14.140 Debbie Lamprell became less responsive towards the end of the call. At the end of it she confirmed that she was still on the floor of the bedroom. The call then went silent.[390] That was the last known contact with Debbie Lamprell.

Flat 202

14.141 Gloria Trevisan and her boyfriend Marco Gottardi had arrived in London in March 2017. They moved to Flat 202 in April 2017.[391] On the night of the fire, Gloria Trevisan spoke to her parents, Emanuela Disaró and Loris Trevisan, in Italy. I referred earlier to the call she made at 01.34.[392]

377 [LFB00055504] p. 81.
378 Russell first witness statement [MET00007698] p. 6.
379 [LFB00055500] p. 2.
380 [LFB00055500] p. 29.
381 [LFB00055500] pp. 3, 5, 6, 9, 11, 12, 13, 14, 16, 23, 34, 36, 37.
382 [LFB00055500] pp. 2, 3, 4, 5, 7, 9.
383 [LFB00055500] pp. 19, 21.
384 [LFB00055500] p. 24.
385 [LFB00055500] pp. 26-28.
386 [LFB00055500] pp. 26-27, 30.
387 Jabin first witness statement [MET00008028] p. 4 and Day 43/76/1-43/79/2-10; [LFB00055500] p. 31.
388 [LFB00055500] pp. 31-34.
389 Jabin Day 43/78/5-9.
390 [LFB00055500] pp. 42-43; Jabin first witness statement [MET00008028] p. 5.
391 Disaró first witness statement [IWS00000543] p. 3.
392 Disaró first witness statement [IWS00000543] pp. 4-5 and second witness statement [IWS00001227] p. 3.

14.142 At 02.13 Gloria Trevisan made a video call to her parents, which lasted 7 minutes and 28 seconds.[393] She told her mother that they could see that the fire was large and did not know what to do. It had reached floor 23. Black smoke was coming into the flat through the living room windows. The smoke was everywhere. Emanuela Disaró could not see her daughter which she thought was either because of smoke or that there was no light. She heard her daughter coughing and Gloria Trevisan told her mother that she was having difficulty breathing. Her mother advised her to breathe through a wet towel.[394]

14.143 During the call, Emanuela Disaró heard Marco Gottardi speaking to another man in the background. She thought he was one of the two people who had come into Flat 202 earlier. She heard Marco Gottardi ask if there was anyone in another apartment and then say that he would go out to ask. Then Emanuela Disaró heard Marco Gottardi say in English "I tried but there's too much smoke."[395]

14.144 It is clear that Marco Gottardi had at least been considering moving to another flat on floor 23. It is not possible to say how far he was able to venture from Flat 202, if at all. It appears likely that the extent of the smoke in the lobby on floor 23 led him to think that it was no longer possible to leave Flat 202. Gloria Trevisan spoke again to her parents later in the night and I shall return to that call later in this Narrative.

Flat 203

14.145 Flat 203 was in the south-west corner of the tower and so furthest away from the place where the fire had started. Isra Ibrahim made two 999 calls between 02.00 and 02.20 which illustrate the progress of the fire.

14.146 The first 999 call was made at 02.05.25.[396] She told CRO Christine Howson that there were five adults and two children in Flat 203. They were in the living room and kitchen area. Smoke was coming into the flat, but they were keeping the doors closed. No smoke was coming through the windows. Isra Ibrahim said she had smoke around her nose. CRO Howson told Isra Ibrahim that firefighters would come to all the flats to check on their occupants. She advised her that it was not safe to go into the communal areas as there was a lot of smoke coming up from the fire on floor 4. She advised her to remain in the flat.

14.147 At 02.21.32, Isra Ibrahim spoke to CRO Angie Gotts.[397] She reported that the occupants of the flat were stuck and the flat next door was on fire. Isra Ibrahim asked what those in the flat should do. CRO Gotts advised them to try to block the doors and to stay away from the side of the flat on fire. Isra Ibrahim asked if someone could come to the flat now. CRO Gotts explained that firefighters were on the lower floors but were coming up to floor 23.

Flat 204

14.148 Hesham Rahman had earlier reported a little smoke entering his flat in a 999 call timed at 01.39.[398] On that occasion he had spoken to OM Alexandra Norman. She called him back at 01.46. During that call Hesham Rahman said that the fire had not reached his flat but was

393 Disaró first witness statement [IWS00000543] p. 7 and second witness statement [IWS00001227] p. 4.
394 Disaró first witness statement [IWS00000543] pp. 7-8 and second witness statement [IWS00001227] p. 5.
395 Disaró second witness statement [IWS00001227] p. 5.
396 [LFB00000340].
397 [LFB00000663].
398 [LFB00000329] p. 3.

"next door". Hesham Rahman made no 999 calls between 02.00 and 02.20. He made one at 02.36.07, in which he said that smoke was coming into the flat but the fire itself had not reached it.[399]

Flat 205

14.149 While in Flat 205, Mariem Elgwahry was in contact with her brother, Ahmed Elgwahry, and a close friend, Lucy Ho. At around 02.00, Lucy Ho called Mariem Elgwahry and tried to persuade her to leave.[400] Mariem Elgwahry told Lucy Ho that the emergency services knew where they were and would come for them. Lucy Ho again told her to leave. After speaking to Mariem Elgwahry for five minutes, Lucy Ho went to find a fireman who told her to speak to a police officer. She told the officer that her friend, her mother and four others were in Flat 205. Lucy Ho then tried to call Mariem Elgwahry back but there was no answer.[401]

14.150 At around 02.13, after he had arrived at the tower, Ahmed Elgwahry called Mariem Elgwahry again. A police officer took Ahmed Elgwahry to a command unit. There a firefighter advised Mariem Elgwahry to lie low and breathe through the drain in the bathroom and block the smoke with wet towels. The firefighter then told her to call 999.[402] It has not been possible to identify the firefighter with any degree of confidence.

Floor 22

Smoke conditions on floor 22

14.151 Three 999 calls made between 02.00 and 02.20 are indicative of the progress of the fire on floor 22. At that time, Flats 192, 193 and 194 were still occupied.

14.152 On speaking to CRO Howson at 02.00.33,[403] Anthony Disson in Flat 194 immediately said: "The flat's worse. It's black in here. I can't see a thing. I'm on the 22nd floor". He added that smoke was coming through the letterbox. CRO Howson reassured him that firefighters were coming for him.

14.153 At about the same time, at 02.03.47, CRO Gotts took a call from Flat 192 and was told that there was smoke in the "corridor" and that the fire could be seen approaching the flat.[404] That call lasted 2 minutes and 36 seconds,[405] ending at 02.06.13. Four minutes later, at 02.10.31, CRO Howson took another 999 call from Flat 192 and was told repeatedly that the fire was "in the kitchen". The smoke was making everyone in the flat cough. CRO Howson's advice was that the caller had to decide whether to leave. When she asked whether the stairs were near, CRO Howson was told: "We're trapped".[406]

14.154 The next 999 call from Flat 192 was again answered by CRO Howson at 02.18.06. During this call, she was told again that the fire was in the kitchen and that because of the volume of smoke, it might now have reached the living room. The family wanted to move from the flat and CRO Howson advised them to go to the stairwell or somewhere where the smoke was less heavy.[407]

399 [LFB00000368] p. 3.
400 Lucy Ho first witness statement [IWS00000655] p. 8.
401 Lucy Ho first witness statement [IWS00000655] p. 8.
402 Ahmed Elgwahry first witness statement [IWS00000988] p. 6.
403 [LFB00000337].
404 [LFB00000339].
405 ORR v 0.7 p. 131.
406 [LFB00000345].
407 [LFB00000351].

14.155 There is no evidence about conditions in Flat 193 during this period. Nadia Choucair had rung 999 at 01.48 (Period 4) and reported smoke coming into the flat. Naomi Li's recollection was that even at 02.37 there had been no smoke in the living room, although she had not gone into the kitchen or hallway.[408]

Floor 21

The progress of the fire on floor 21

14.156 Flats 181, 182 and 183 were still occupied at 02.01. Ligaya Moore was alone in Flat 181. There is no evidence that she had any contact with the emergency services, another occupant of the tower or anyone outside it on 14 June 2017.

Flat 182

14.157 At 02.01, CRO Pam Jones was still speaking to the El Wahabi family in a call that had begun at 01.38.38.[409] She spoke to different members of the family during the call. At an early stage, when she was speaking to Abdulaziz El Wahabi, he had told her that he could see smoke in the lobby through the front door spyhole and that, as advised, he was putting blankets down to block the smoke coming underneath the front door. He said that the family had made the mistake of opening the door and trying to go down the stairs, but had had to come back.[410]

14.158 As the call continued the family told CRO Jones that blankets were not preventing smoke from coming underneath the front door, that they were all in their living room[411] and, a little later, that flames were visible from the living room window. The flames were on the left-hand side (which would have been from the direction of Flat 186).[412]

14.159 The El Wahabi family were in contact with friends and family outside the tower, one of whom, as CRO Jones was informed, had told them that the fire had reached the flat next door to the kitchen of Flat 182 (i.e. Flat 181).[413] Smoke began to enter the living room and the family had to close the living room windows. By this point they were able to see the approaching fire from that room.[414]

14.160 After 02.00, two significant events occurred. First, as the flames came near to the living room, CRO Jones advised the family to move elsewhere in the flat and secondly, at around 02.05, the fire reached the kitchen of Flat 182.[415] The bedroom in which the El Wahabi family sheltered was opposite their front door.[416] It was the bedroom of Abdulaziz and Faouzia El Wahabi.[417]

408 Li Day 62/185-188.
409 ORR v 0.7 pp. 88-89.
410 [LFB00055498] pp. 4, 8, 9.
411 [LFB00055498] pp. 15, 16.
412 [LFB00055498] p. 25.
413 [LFB00055498] pp. 31-32.
414 [LFB00055498] pp. 33, 35, 37.
415 [LFB00055498] pp. 42-46.
416 [LFB00055498] pp. 44, 51.
417 Hanan Wahabi first witness statement [IWS00000074] pp. 3, 22.

14.161 The family then reported to CRO Jones that the fire was in the kitchen.[418] The bedroom faced south, and as CRO Jones confirmed, remained smoke-free. She advised the family to keep the bedroom door shut and open the window for air.[419] At around 02.15, Faouzia El Wahabi spoke to relatives on the telephone. She told them in that call that the fire had reached the kitchen.[420]

14.162 Throughout the call, members of the El Wahabi family were in contact with friends and family outside,[421] who were telling them to leave their flat. The El Wahabis responded by saying that they had been advised to remain.[422] The advice given by CRO Jones was directed to staying in the flat. At approximately 02.34[423] she advised the family to leave. I return to this call later in the Narrative.

Flat 183

14.163 Marcio Gomes estimated that he had first looked out from the window of Flat 183 some 15 or 20 minutes after Helen Gebremeskel and her daughter had come in to his flat at around 01.30.[424] Spurred by the activity outside, Marcio Gomes started to fill the bath with water and soak sheets and towels. Shortly after, he noticed that smoke was coming round the side and underneath the bottom of the front door. He used wet towels to block it out. The smoke was dark grey in colour and made him gag. The smell of the smoke was new to him; he could only describe it as a chemical smell.[425]

14.164 Marcio Gomes was also in contact with Miguel Alves, who was by now outside the tower. In the second of two calls with Miguel Alves he overheard a policeman or firefighter advise him that Marcio Gomes should stay in his flat. This call happened before Marcio Gomes made his first 999 call at 02.21.[426] Miguel Alves was uncertain about the time of the call but recalled having spoken to a policeman and passing on the advice to Marcio Gomes. He said that Marcio Gomes had told him that he had tried a few times to come out, but was not able to do so, because his wife was pregnant and the smoke was very thick.[427]

14.165 Marcio Gomes, Andreia Perestrelo and Helen Gebremeskel agreed that they should try to leave. Helen Gebremeskel opened the front door but closed it immediately when thick black smoke came in from the lobby.[428] Marcio Gomes then made his first 999 call, timed at 02.21.04.[429] He told CRO Heidi Fox that he could not get out and was with his pregnant wife, daughters and his neighbours. CRO Fox advised him that the firefighters were going to the flats "at the moment". She assured him that she would tell the firefighters where they were. He assumed that they would reach his flat within 10 to 15 minutes. Smoke was still coming through the front door at that time.[430]

418 [LFB00055498] pp. 46, 47, 52, 54, 55, 61, 63.
419 [LFB00055498] pp. 49, 53.
420 Hanan Wahabi Day 70/173/15-70/177/24 and first witness statement [IWS00000074] p. 16.
421 [LFB00055498] pp. 10, 82.
422 Hanan Wahabi Day 70/173/15-70/177/24; Zakariya Chebiouni first witness statement [IWS00001076] pp. 6, 7; Chellat first witness statement [IWS00001006] p. 2; Chaer-Yemlahi first witness statement [IWS00000956] pp. 3, 4; Walid Wahbi first witness statement [IWS00000113] p. 7.
423 [LFB00055498] pp. 91-95; ORR v 0.7 p. 89.
424 Gomes Day 71(Fri)/50/24-51/21.
425 Gomes Day 71(Fri)/54/22-55/21.
426 Gomes Day 71(Fri)/70-72 and first witness statement [IWS00001078] p. 22.
427 Miguel Alves Day 53/30/12-53/33/24 and first witness statement [IWS00000538] pp. 7-8.
428 Gomes first witness statement [IWS00001078] p. 24.
429 [LFB00000348].
430 Gomes Day 71(Fri)/59-22/71/61/23.

Conditions on floor 20 and the evacuation of Flat 175

14.166 At 02.00, three flats on floor 20 remained occupied. Farah Hamdan, her husband Omar Belkadi and their three daughters were still in Flat 175. Khadija Saye and her mother Mary Mendy were in Flat 173. Alexandra Atala and her mother, Vicky King, were in Flat 172.

14.167 At 02.11, CRO Fox answered a 999 call from Farah Hamdan in Flat 175.[431] This was the third 999 call made by Farah Hamdan. Farah Hamdan reported that smoke was coming into the flat. She was concerned as there was now a lot of smoke and she had young children. Farah Hamdan said she had already put sheets under the front door. CRO Fox confirmed that she was passing the information on and advised Farah Hamdan to keep trying to prevent any smoke from coming in with damp towels and sheets and to call back if the situation worsened.

14.168 Farah Hamdan was also in contact with her sister, Samira Hamdan. She had first called Samira Hamdan at around 01.00 to tell her of a fire in the tower. Samira Hamdan lived nearby and as she saw the spread of the fire she decided to go to the tower. There, she tried to call her sister, but was unable to reach her. She was able to speak to Farah Hamdan again at some time after 02.00. In that call Farah Hamdan said a 999 operator had advised them to stay in the flat and wait for help. About 10 minutes after this conversation, Samira Hamdan spoke to her sister again. Farah Hamdan told her that she had been advised to remain in the flat and to put damp towels at the bottom of her door. This was the last contact that Samira Hamdan had with her sister that night.[432]

14.169 At 02.17.13, there was another emergency call from Flat 175. At its start, the caller said: "No, Malak, it's not safe" and then asked for the fire brigade. The BT operator put the call through to the LFB but there was no further response from the caller.[433]

14.170 By about that time, CM Eden,[434] FFs Fernandes,[435] Williams[436] and Welch[437] had reached floor 20. FF Williams carried the second eldest daughter of Farah Hamdan and Omar Belkadi out of the tower. As mentioned above, CM Eden and FF Welch tried to assist Omar Belkadi.

14.171 These firefighters described the lobby of floor 20 as hot, full of thick black smoke and with no visibility. They said they had banged on doors and shouted through letterboxes, but had obtained no response.[438] Khadija Saye had put a post on Facebook at 01.49. Her next post was at 02.41.[439]

14.172 Farah Hamdan, Omar Belkadi and their baby daughter, Leena, were found dead in the stairs between floor 19 and 20 after the fire.[440] It is likely that it was FF Nikki Upton who found Malak Belkadi, still alive, and carried her out down the stairs. Malak Belkadi was taken out of the tower at 03.07.[441] Samira Hamdan found both Malak Belkadi and her sister at St Mary's Hospital,[442] but, sadly, Malak Belkadi died the following day. Her sister was the only member of this family to survive the fire.

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431 [LFB00000342].
432 Samira Hamdan first witness statement [IWS00001180] pp. 3-7.
433 [COR00000402].
434 Eden witness statement [MET00008019] pp. 7-13.
435 Fernandes witness statement [MET000083292] pp. 3-5 and Day 39/175/7-39/181/24.
436 Vincent Williams witness statement [MET00010829] pp. 5-12.
437 Tom Welch witness statement [MET000080606] pp. 5-12.
438 Tom Welch witness statement [MET000080606] p. 8; Eden witness statement [MET00008019] pp. 9-10; Vincent Williams witness statement [MET00010829] pp. 6-7; Fernandes Day 39/176/19-177/4.
439 Telfer second witness statement [IWS00001188] and Exhibit MT/1 [IWS00001188] pp. 3, 18.
440 DVI PLAN [MET00012528] pp. 11-12.
441 Hoyle witness statement [COR00000955].
442 Hamdan first witness statement [IWS00001180] pp. 13-14.

Conditions on floor 19 and the evacuation of Flat 165

14.173 Having made a 999 call shortly before 02.00, Nicholas Burton and his wife Pily had remained in Flat 165. Prompted by a further call from his friend, Simon Jolly, Nicholas Burton was trying to find the safest place in the flat to wait, eventually settling on the bathroom. When he moved his wife there, he closed all the internal doors.[443] As he was moving around the flat, he saw, from a north-facing bedroom window, the glow of the fire itself.[444] That and the call from Simon Jolly led Nicholas Burton to make a second 999 call.[445]

14.174 CRO Yvonne Adams answered the call at 02.13.03.[446] Nicholas Burton told her that he was trapped on floor 19 and that no one had come to the flat. He explained that, even though Simon Jolly was telling him to leave, he had expected firefighters to carry out a floor by floor search and come to his flat.[447] During the call, he told CRO Adams that he could see "flames next door getting very close to our windows now…" That was a reference to seeing "a wall of fire" coming from the north-east side of the tower at what appeared to be a higher level.[448]

14.175 At the time of the call, the only smoke in Flat 165 was that which had entered from the lobby when Nicholas Burton had opened the front door. It had had no effect on either him or his wife.[449] The conversation with CRO Adams had left Nicholas Burton confident that firefighters would come to the flat and he reassured his wife that they were on their way.[450] They waited in the bathroom, which was near the front door.[451]

14.176 While in the bathroom, Nicholas Burton heard a noise at the front door. He thought that he would not have heard that noise had he been in a room further away from the front door. He went to the door and began banging on it. Firefighters outside the door told him to get wet towels and get ready to come out. He did so.[452]

14.177 When the front door was opened, thick black smoke came into the hallway of the flat. It had a very strong smell. It was the same as the smoke Nicholas Burton had encountered when he had opened the front door earlier that night. The lobby was pitch black. Nicholas Burton and his wife were pulled into the lobby. He was not able to see the firefighters or where he was going. They led him across the lobby and into the stairwell. As he crossed the lobby, Nicholas Burton was aware of a whirring sound, which he had also heard earlier that night.[453]

14.178 The stairwell was also pitch black and full of thick smoke. Nicholas Burton struggled to breathe and was assisted all the way down by a firefighter. The lobby had, he said, felt hot, but the stairwell was much hotter. The temperature difference was not immediate. It became hotter as he went down the stairs. At one point the handrail became so hot that he could not hold on to it. He could not say where that had been, save that it was below floor 19. Nicholas Burton said that he had no recollection of coming down the lower part of the stairs until he reached the level of the boxing club, when he saw firefighters carrying his wife.[454]

443 Burton Day 68/46/13-49/24, 68/56/21.
444 Burton Day 68/50/18-51/11.
445 Burton Day 68/52/1.
446 [LFB00000344].
447 Burton Day 68/52/6-54/13.
448 Burton Day 68/54/14-55/19.
449 Burton Day 68/55/20-57/12.
450 Burton Day 68/57/22-59/11.
451 Burton first witness statement [iWS00000064] p. 9; Burton Exhibit NTB/1 [IWS00000063].
452 Burton Day 68/59-25-63/21.
453 Burton Day 68/63/22-68/25.
454 Burton Day 68/70/20-78/21 and first witness statement [IWS00000064] pp. 11-12.

14.179 Nicholas Burton followed behind his wife as she was carried out of the tower.[455] They left the tower at 02.32.[456]

Firefighters reach floor 18

14.180 At 02.00, the two adjacent flats on the south side of floor 18 were the only flats on that floor still occupied. Rabia Yahya and her children were in Flat 152. Yehualashet Enyew had moved to Flat 153 to join Paulos Tekle and Genet Shawo and their two sons.

14.181 Rabia Yahya had not looked into the lobby after she had spoken to Sayeda Ahmed. She estimated that at around 02.00 two firefighters had come to her home. They were FFs Katie Foster and Gregory Lawson. There had been no smoke in the flat at that time, although from her windows she could see sparks outside. When she opened the door to FFs Foster and Lawson, Rabia Yahya saw that there was dark, thick smoke in the lobby. The lobby looked black, but she could not tell whether that was because of smoke or because the lights were no longer working. The smoke smelled strongly of burning plastic. Rabia Yahya recalled that the firefighters had come into the living room but had stayed for no more than five minutes. She also recalled that her children had been with her when she spoke to them and that she had told them she was pregnant.[457]

14.182 Rabia Yahya said that the firefighters had told her that they were going to check on the neighbouring flats and would get everyone out together. She assumed that they meant they would be bringing her out, although they did not say that explicitly. They advised Rabia Yahya to put damp blankets against the front door.[458] She found that she could not soak any blankets as there was very little water pressure in the flat, something she had not experienced before.[459]

14.183 Rabia Yahya waited for FFs Foster and Lawson to return, but she was clear in her recollection that they had not done so.[460]

14.184 After leaving Flat 152, FFs Foster and Lawson went to Flat 153. Those who were in Flat 153 agree that, at around 02.00, it was Yehualashet Enyew who answered the door to a single firefighter.[461] The firefighter confirmed to Yehualashet Enyew that it was safe to stay in the flat and advised him to keep safe.[462]

14.185 Paulos Tekle was sitting on the ledge of a lounge window when FFs Lawson and Foster reached Flat 153. He had climbed out in the hope that a helicopter might be able to rescue them and to see if it might be possible to jump from the window with one of his sons.[463] When he heard a knock on the front door, he climbed back into the flat and ran to the door. Yehualashet Enyew was ahead of him and opened the door. When Paulos Tekle reached it, he opened it further and spoke to a male firefighter who was not wearing a mask. Paulos Tekle estimated that his conversation with this firefighter lasted three minutes. He had a good conversation with the firefighter who told him that he was safe in the flat, that the fire was not on his side and that he should block up the door. Paulos Tekle gave the firefighter the number of occupants in the flat and specifically mentioned children. Save that it was dark, Paulos Tekle

455 Burton first witness statement [IWS00000064] p. 13.
456 Annex A.
457 Yahya Day 63/144/11-148/2.
458 Yahya Day 63/148/4-18.
459 Yahya Day 63/150/7-151/6.
460 Yahya Day 63/149/16-150/5.
461 Enyew first witness statement [MET00007347] p. 2; Tekle Day 63/43/3-15; Shawo first witness statement [IWS00001050] p. 9.
462 Enyew first witness statement [MET00007347] p. 2.
463 Tekle Day 63/36/2-40/18.

had little recollection of the conditions in the lobby. When he went to the door, he thought they were about to be rescued. He had been desperate to leave and did not tell the firefighter that it was safe in the flat. He thought it was possible that Yehualashet Enyew might have had a conversation with the firefighter before he reached the door.[464]

14.186 Genet Shawo, Paulos Tekle's partner, remembers him telling a male firefighter that there were three adults and two children in the flat and asking what they should do. The firefighter told them that they were safe in the flat, to stay there and to block out the smoke. After the firefighter had left, they covered the letterbox with a plastic bag and covered the door with a blanket. They sat down to wait. Although friends were calling on them to leave, they stayed because they believed they would be rescued.[465]

14.187 Between 02.00 and 02.30, Paulos Tekle received calls from his friend Abraham Abebe, who had by now left the tower. Abraham Abebe told Paulos Tekle to leave. Paulos Tekle said they had been told to stay inside the flat.[466]

Conditions on floor 16

14.188 At 01.49, Sener Macit's brother-in-law, Abdullah, sent him a WhatsApp message with two photographs showing the tower ablaze. Abdullah then telephoned, telling the Macits to leave.[467] Sener Macit then made a second 999 call. Sue Pimblett, a CRO with North West Fire Control, answered this call at 02.10.33.[468] It lasted 27 minutes and 32 seconds, ending at 02.38.02.

14.189 Sener Macit was in his living room when he made the 999 call. He told CRO Pimblett that despite having already tried to block the doors with wet clothes, the level of smoke in the flat was getting worse. It was now in the hallway. The smoke was getting into his eyes and he could see the marks of black smoke on his wife's face.[469] At this time the smoke was coming into the flat underneath the front door and around its sides.[470] On the advice of the CRO, Sener Macit checked the front door and found it was hot to the touch but not hot enough to burn his hand.[471]

14.190 At this time, Sener Macit could see smoke travelling up past the living room window but did not see any flames.[472] For much of the call, the CRO's advice was, in effect, to remain in the flat, to block doors to stop smoke coming in, to keep low and to put a wet towel over the nose and mouth. Sener Macit followed that advice.[473] It changed in due course and I return to this call later in this Narrative.

Conditions on floor 15

14.191 Rebecca Ross was at home in Flat 122 with her father, Steven Power, on the night of the fire. She first became aware of the fire at 01.30 when her father woke her up. Although Rebecca Ross thought they should leave, her father did not think it necessary.[474]

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464 Tekle Day 63/41/24-51/3.
465 Shawo first witness statement [IWS00001050] pp. 9-10.
466 Tekle first witness statement [IWS00001051] p. 8.
467 Sener Macit first witness statement [IWS00000069] pp. 14-15.
468 [LFB00055499]; Pimblett witness statement [MET00008034] p. 7.
469 [LFB00055499] pp. 2, 4, 5, 6, 8, 9, 11.
470 Sener Macit Day 65/147/2-148/12, 65/149/7-150/9.
471 [LFB00055499] p. 8; Sener Macit Day 65/150/10-65/151/11.
472 Sener Macit Day 65/153/5-22.
473 Sener Macit Day 65/154/1-11.
474 Ross first witness statement [IWS00001036] pp. 7-8.

14.192 At 01.47, Rebecca Ross made a short video recording from her living room showing the fire on the exterior of the tower.[475] At 01.56, she made a second recording of a jet of water going past the living room window and no visible sign of a fire. At the time, Rebecca Ross thought the fire had been extinguished.[476] She then saw a photograph of the tower on fire on Twitter.[477] It showed the extent of the fire. Friends and family were calling Rebecca Ross and her father to tell them to leave. She again tried to persuade her father that they should do so.[478]

14.193 It appears from Rebecca Ross's written account that no smoke entered Flat 122 before 02.00. At about that time she opened her front door out of curiosity. There was a cloud of thick grey smoke in the lobby but it was still possible to see the lighting. Rebecca Ross kept the front door open for a matter of seconds. The smoke alarms in the flat were not activated, nor did the smoke have any effect on her. She then placed wet towels against the front door to prevent any smoke coming in.[479] I return to the circumstances in which Rebecca Ross left her home later in this Narrative.

14.194 Christos Fairbairn was alone in Flat 124. He was awake that night playing computer games. He recalled hearing banging on the front door. A little while later the smoke alarm in the hallway sounded. Christos Fairbairn attempted to leave but was unable to do so due to the smoke. He returned and called 999 at 03.00.[480] I return to this later in this Narrative. Christos Fairbairn does not appear to have been aware of the fire between 02.00 to 02.20.[481]

The movement of flat occupants to Flat 113 on floor 14

14.195 The following flats on floor 14 were still occupied at 02.00: Flat 111 (Denis Murphy), Flat 112 (Mohammad Alhajali and his brother Omar Alhaj Ali), Flat 113 (Rosemary Oyewole, Oluwaseun Talabi and their daughter) and Flat 115 (Zainab Deen and Jeremiah Deen). By 02.00, Denis Murphy,[482] Zainab Deen[483] and Rosemary Oyewole[484] had made six 999 calls. The evidence indicates that the conditions in the lobby were such that none of the occupants on floor 14 had felt able to leave their flats and use the stairs.

14.196 In Flat 112, Omar Alhaj Ali noticed that the smell of smoke in the flat was getting stronger. It was coming from the front door.[485] At around 02.00, he and his brother opened the front door to see if it had become easier to leave. There was smoke everywhere in the lobby with limited visibility.

14.197 Shortly after, a firefighter wearing breathing apparatus knocked at Flat 112. As set out in Period 4, it is likely that this firefighter was FF Merrion.[486] At that time, save for some smoke in the hallway by the front door, the flat was clear. It was Omar Alhaj Ali's evidence that the brothers pleaded with this firefighter to take them out and asked if he had masks they could use. The firefighter said he did not have spare masks and told the brothers to stay in the flat

475 Ross first witness statement [IWS00001036] pp. 8, 22; Ross Exhibit RSR/02 [IWS00001044].
476 Ross first witness statement [IWS00001036] p. 9; Exhibit RSR/03 [IWS00001041].
477 Ross first witness statement [IWS00001036] p. 9-10; Ross Exhibit RSR/04 [IWS00001045].
478 Ross first witness statement [IWS00001036] p. 10.
479 Ross first witness statement [IWS00001036] pp. 10-11.
480 Fairbairn first witness statement [IWS00001025] pp. 3-4.
481 Fairbairn first witness statement [IWS00001025] p. 2.
482 [LFB00000308]; [LFB00000322].
483 [INQ00000270]; [LFB00000321; [LFB00000331].
484 [LFB00000678].
485 Alhaj Ali Day 59/23/2-4 and first witness statement [IWS00000781] p. 7.
486 FF Murphy had been instructed with FF Cornelius to respond to an FSG on floor 14 to find a male in Flat 111. FF Murphy tallied out at 01.51.24 and FF Cornelius at 01.51.00. FF Sanders and FF Merrion were deployed separately to floor 14. FF Sanders tallied out at 01.50.57 and FF Merrion at 01.51.13. LFB Telemetry Data [LFB00023326].

and that he would return. Omar Alhaj Ali took the firefighter to an east-facing window in the kitchen and living room area from which he had earlier seen the fire. Omar Alhaj Ali could see that the fire was now above floor 14. In response, the firefighter said: "OK" and then left.[487]

14.198 FFs Murphy and Cornelius were also deployed separately to Flat 111 to conduct a search and rescue operation.[488] It was the first flat they reached on beginning a search of floor 14. They found it smoke-logged with dark grey or black smoke. Denis Murphy was conscious but bent over and coughing with soot on his face. When FF Murphy stepped back into the lobby, the door to Flat 112 opened and two men appeared. Noticing that the air in Flat 112 was clear, FF Murphy asked if he could move Denis Murphy there.[489]

14.199 Omar Alhaj Ali remembered that Denis Murphy was coughing and having difficulty breathing when he reached Flat 112. When the flat door was opened, Omar Alhaj Ali saw a group of firefighters in the lobby. The conditions there appeared to have improved. The firefighter who brought Denis Murphy into Flat 112 advised them to stay in the flat and said that he would return.[490]

14.200 In Flat 113, Rosemary Oyewole and her partner, Oluwaseun Talabi, had been able to reduce the thick black smoke that had been coming around the edges of their front door and through the letterbox by leaving windows open and using damp blankets. No smoke had come through the windows at that stage.[491] Standing at the front door Rosemary Oyewole heard a voice and radio feedback and banged on the door. A firefighter then came into the flat. He told Rosemary Oyewole and Oluwaseun Talabi to stay in the flat and that firefighters would return.[492] The firefighter is likely to have been FF Sanders, who had been deployed with FF Merrion to Flat 111 but had gone to Flat 113.[493]

14.201 One or more of the firefighters then on floor 14 (it is not clear exactly which) decided to move all the occupants to Flat 113, which they considered to be the safest of the flats.[494]

14.202 Two firefighters came to Flat 113. Rosemary Oyewole and Oluwaseun Talabi agreed to their request to bring their neighbours into the flat. Soon after, firefighters brought Omar Alhaj Ali, his brother Mohammad Alhajali, Zainab Deen and her son into Flat 113 as one group, followed by Denis Murphy alone, his face still covered in soot. At the time there was no smoke in Flat 113. Rosemary Oyewole had a view of the lobby from her flat door at this time. It was very smoky, such that those entering Flat 113 seemed like shapes emerging from nowhere.[495] Omar Alhaj Ali said it had taken seconds to run from Flat 112 to 113. He thought the smoke in the lobby was not as thick as it had been earlier and he had been able to see the stairwell door. He could see a number of firefighters in the lobby.[496]

487 Alhaj Ali Day 59/27/9-59/31/11 and first witness statement [IWS00000781] pp. 7-8.
488 Murphy Day 38/37/6-25.
489 Murphy Day 38/41/22-45/7.
490 Alhaj Ali Day 59/32/7-36/2.
491 Oyewole Day 58/29/2-32/7.
492 Oyewole first witness statement [IWS00000852] p. 8 and Day 58/33/8-37/14.
493 Harvey Sanders witness statement [MET00012482] pp. 4-6.
494 Merrion first witness statement [MET000086060] p. 8 and Day 38/16/9-12.
495 Talabi first witness statement [IWS00000851] p. 11 and Day 59/125/20-25; Oyewole first witness statement [IWS00000852] p. 9; and Day 58/39/16-44/20.
496 Alhaj Ali Day 59/32/7-36/2.

14.203 FFs Murphy and Cornelius were involved in transferring people to Flat 113 as well as checking all the flats on floor 14. FF Murphy recalled that when they found Zainab Deen in Flat 115, she had been frightened and had asked them not to leave her and her son alone.[497] As she was being moved, FF Cornelius was kicking and banging on the door of Flat 116. There was no response from that flat or from Flat 114.[498]

14.204 In her witness statement Nida Mangoba recalled that she may have left the front door of Flat 116 open on leaving.[499] The evidence of FFs Murphy and Cornelius that the front door was closed when they reached it means that (unless their recollection is wrong) either Nida Mangoba's recollection was itself wrong or the door closed some time after she left. I am not able to say which of those is correct.

14.205 Once in Flat 113, Omar Alhaj Ali had immediately insisted on taking Rosemary Oyewole to the kitchen, which faced west, to show her smoke coming from the back of the building. It was coming from the right, i.e. from the north.[500] When, after all her neighbours had arrived in Flat 113, two firefighters came into the flat and Rosemary Oyewole took one to the kitchen to show him the smoke. The firefighter just acknowledged what he was being shown.[501] Omar Alhaj Ali recalled that he had been with Rosemary Oyewole and the firefighter at the kitchen window. He had been able to see the fire on his right and about two floors below.[502]

14.206 FF Murphy said that before he had left Flat 113 he had told those who were there that the firefighters were now low on air but that, if they remained in the flat in "safe air", other firefighters would come to them.[503] Rosemary Oyewole recalled having been told that they should all stay in a bedroom. Initially, everyone had been in different parts of the flat but after that they had all moved into her bedroom.[504] The door of this bedroom faced the front door of Flat 113.[505] I return to the further events that occurred in Flat 113 later in this Narrative.

Conditions on floor 11

14.207 In Flat 82, Natasha Elcock made her fourth 999 call at 02.02.47. The flat was still relatively clear of smoke at that time. She told CRO Fox that her smoke alarm had not been activated but that some smoke had come into the flat when her partner had opened the door because they thought the firefighters had arrived.[506] Thick black smoke came into the flat and then dispersed.[507]

14.208 During that call Natasha Elcock told CRO Fox that the fire was spreading above her flat, but that information had come from people outside the tower who had been calling her rather than from anything she had seen for herself.[508] CRO Fox told Natasha Elcock that firefighters were "going along and getting people out of flats". When she gave evidence, Natasha Elcock said she had understood that to mean that the fire brigade knew where people were and were sending crews to get them.[509]

497 Murphy Day 38/49/1-16.
498 Murphy Day 38/49/1-16; Cornelius witness statement [MET00012663] p. 10.
499 Mangoba second witness statement [IWS00001145] p. 1.
500 Oyewole Day 58/45/12-24 and first witness statement [IWS00000852] p. 10.
501 Oyewole Day 58/50/8-15.
502 Alhaj Ali Day 59/44/15-45/15.
503 Murphy Day 38/49/19-50/21.
504 Oyewole Day 58/47-24-51/5; Talabi Day 59/1295-59/132/11; Alhaj Ali Day 59/53/1-56/19.
505 Oyewole Day 58/9/5.
506 [LFB00000338].
507 Elcock Day 70/55/6-59/1.
508 Elcock Day 70/59/6-25.
509 Elcock Day 70/55/11-56/6.

14.209 Having made the call at 02.02.47, Natasha Elcock called 999 again at 02.13.00.[510] It was the fifth time she had spoken to an emergency operator. On this occasion the call was transferred to Essex FRS, something of which she was not aware. She immediately asked the operator when someone was coming to get her and her family out. The CRO responded that there was a "stay put" policy in place and took her details to pass on to the LFB. During this call, Natasha Elcock reported that the fire looked as if it was spreading. When she gave oral evidence, she said that at that time her information about the progress of the fire had been coming from people outside with whom she was in contact.[511]

14.210 Elpidio Bonifacio and his wife had lived in Flat 83 for 36 years. He is partially sighted and registered as blind.[512] On 14 June 2017, he was asleep alone in the flat when he was woken by a call from his wife at around 01.00 or shortly thereafter. She told him there was a fire and to put wet towels around the doors. He opened the front door and was able to smell smoke. The lobby felt hotter than usual. He was not confident that he could navigate his way out because the internal layout of the tower had been changed when it was refurbished.[513]

14.211 At approximately 02.00, Elpidio Bonifacio received a call from his son, Gordon Bonifacio, who told him that he had spoken to firefighters, who said they would come and rescue him. From his living room window, Elpidio Bonifacio shouted for help and was able to attract the attention of firefighters and local residents on the ground. He packed a bag with important documents and waited to be rescued.[514]

Conditions on floor 10

14.212 In the 20 minutes that followed 02.00, it appears that those still on floor 10 remained protected from smoke and fire in their homes. No significant amount of smoke came into Flat 74 until nearly an hour after 02.00.[515] Antonio Roncolato in Flat 72 did not see any smoke coming round his closed front door or flat windows before 02.30.[516] In Flat 73, Ann Chance had followed the advice given to her in a 999 call at 01.41.21 to block the entry of any smoke. She did not express any further concerns about smoke coming into the flat until after 02.28, when she made further 999 calls.[517]

Evacuation from the lower floors

14.213 As well as the evacuation of Flats 165 and 175, firefighters evacuated residents from three flats between 02.01 and 02.20.

Flat 23, floor 5

14.214 At 02.00, Milad Kareem and Rebin Sabir were both still in Flat 23. As they waited, Milad Kareem noticed that the smell of smoke was getting stronger in the flat and that smoke was "slowly creeping into the flat, trying to force its way through the keyhole, under the door and through the sides of the front door".[518]

510 [LFB00000343].
511 [LFB00000343]; Elcock Day 70/60/2-63/14.
512 Bonifacio first witness statement [IWS00001085] p. 1.
513 Bonifacio first witness statement [IWS00001085] pp. 4-5.
514 Bonifacio first witness statement [IWS00001085] pp. 5-6.
515 Hamide first witness statement [IWS00001175] p. 5.
516 Antonio Roncolato Day 52/43/13-44/24.
517 [LFB00000356]; Chance first witness statement [IWS00000783] pp. 4-5.
518 Kareem first witness statement [IWS00001077] p. 6.

14.215 FFs Shaw and Cuthbert were deployed by WM O'Keeffe to undertake search and rescue operations on floor 5. They found the lobby on floor 5 to be smokelogged. They found two men in what must have been Flat 23 and advised them to stay put because of conditions in the lobby. By comparison, FF Shaw described the conditions in this flat as clear, with clean air.[519] The two firefighters reached Flat 23 at some time between 01.45 to 02.10.[520]

14.216 Milad Kareem recalled that the two firefighters, both wearing masks, who came into the flat had told them to stay there as they did not have any oxygen masks with them and the smoke made it too dangerous for them to use the stairs. On leaving, the firefighters told them they would find another way to get them out.[521] A lot of smoke came into the flat when the firefighters opened the door to leave. It was not thick smoke and did not affect visibility.[522]

14.217 FF Shaw's recollection was that the two men in Flat 23 had said that they had been advised in an FSG call to stay put. FF Cuthbert said that one of the two men had been on a call to the control room when they had arrived.[523] Neither Milad Kareem nor Rebin Sabir said that they had made a 999 call and there is no other record of one. The two firefighters may have confused this with Milad Kareem's evidence that he had spoken to a firefighter on the ground, who had told him to stay put.[524]

14.218 Both Milad Kareem and Rebin Sabir said they had been desperate to leave but believed that there was no way out. They saw firefighters putting a ladder up against the building, but it was too short to reach the flat.[525] The firefighters involved were FF Thomas Abell and WMs Collins and Nathan Ashe.[526] Having unlocked a gate, firefighters were then able to reach Flat 23 using a ladder positioned on the bridge between the tower and Grenfell Walk.[527]

14.219 FF Abell climbed up the ladder and helped Milad Kareem down.[528] Milad Kareem recalled that while he was sitting on the window ledge:

> "I could see heavy flames, black smoke and pieces of the building falling from the building. The corner of the building on the north-east side was burnt completely."[529]

14.220 Rebin Sabir filmed Milad Kareem's descent in a short video which was taken at 02.19.[530] He then recorded himself walking around the flat, which appears to be relatively smoke-free. He opened the front door and recorded the conditions in the lobby. He recalled:

> "On opening the front door this time, I could see the smoke was only 20% of what it had been the first time we opened the door."

The video shows white smoke in the lobby but the floor is visible.

519 Shaw first witness statement [MET00012798] pp. 4-5; Cuthbert first witness statement [MET00012878] pp. 4-7.
520 FF Cuthbert tallied out at 01.44.58 and out at 02.09.51; FF Shaw tallied out at 01.45.13 and in at 02.10.05: LFB Telemetry Data [LFB00003115].
521 Kareem first witness statement [IWS00001077] p. 6.
522 Kareem first witness statement [IWS00001077] p. 6.
523 Shaw first witness statement [MET00012798] p. 4; Cuthbert first witness statement [MET00012878] p. 5.
524 Kareem first witness statement [IWS000001077] p. 4.
525 Kareem first witness statement [IWS00001077] p. 6; Sabir first witness statement [IWS00001224] p. 8.
526 Collins first witness statement [MET00010086] p. 6; Abell first witness statement [MET000080558] pp. 6-7; Ashe first witness statement [MET00012653] p. 6.
527 Kareem first witness statement [IWS00001077] p. 8; Collins first witness statement [MET00010086] p. 6.
528 Abell first witness statement [MET000080558] p. 7.
529 Kareem first witness statement [IWS00001077] p. 9.
530 Sabir first witness statement [IWS00001224] p. 10; Exhibit RS/1 [MWP00000027].

Figure 14.8

Figure 14.9

14.221 Rebin Sabir then returned to the window. His video ends with a firefighter at the top of the ladder asking if he is ready to go down. Rebin Sabir left through the window at approximately 02.21.[531]

[531] Annex A; Sabir first witness statement [IWS00001224] p. 10; Exhibit RS/1 [MWP00000027].

Flat 9, floor 3

14.222 Of the four flats on floor 3, only Flat 9 was still occupied after 01.30. Mariko Toyoshima-Lewis moved into Flat 9 in July 2016 with her three children aged nine, seven and five years. She is registered as disabled and uses an electric wheelchair on a daily basis. That and her mobility scooter were stored in the lobby outside her flat.[532] Her only access to the ground floor was by the lift.[533]

14.223 Mariko Toyoshima-Lewis was separated from her husband, David Lewis, but on the evening of 13 June he had arranged to stay to help care for their son. At a few minutes before 01.00, he noticed orange sparks floating in the air outside the bedroom window (which faced north), in which the family was sleeping. He associated these with fireworks. He then saw large pieces of debris falling to the ground.[534]

14.224 Mariko Toyoshima-Lewis thought it was around 01.15 when David Lewis woke her.[535] She could see objects falling outside her bedroom window.[536] She also heard explosions outside, which sounded like fireworks.[537] She recalled having made a 999 call at 01.27. The call was put through to North West Fire Control at 01.36.23 and lasted 30 minutes and 20 seconds.[538] Mariko Toyoshima-Lewis told the CRO, Helen Oulton,[539] that she could feel heat in the room and that there was smoke coming into the room. CRO Oulton advised Mariko Toyoshima-Lewis to block her doors to prevent the entry of smoke, which she did. The CRO was also aware that the occupants of the flat included a wheelchair user and three children, one of whom was ill.[540]

14.225 Mariko Toyoshima-Lewis explained that the heat she had reported to the emergency operator had been in the bedroom where the family had been sleeping. It had been in a corner of the ceiling near the window. The ceiling had looked normal.[541] No flames had been coming into the room and smoke had come in only when the window had been opened. It had a smell like burning plastic.[542] During the call, Mariko Toyoshima-Lewis could still hear what sounded like fireworks outside. Objects were still falling outside the window but she could not tell what they were.[543]

14.226 The CRO offered to remain on the call with Mariko Toyoshima-Lewis until firefighters arrived at Flat 9.[544] Mariko Toyoshima-Lewis's recollection was that the firefighters arrived very shortly after the call had ended at around 02.06.[545]

14.227 David Lewis and their three children were evacuated first. They left the tower at 02.07. Firefighters then returned for Mariko Toyoshima-Lewis. She left the tower at 02.10.

532 Toyoshima-Lewis Day 57/5/1-7/3.
533 Toyoshima-Lewis Day 57/7/12-8/9.
534 Lewis first witness statement [IWS00000297] p. 2 and first witness statement [IWS00000304] pp. 3-4.
535 Toyoshima-Lewis Day 57/16/14-17/2.
536 Toyoshima-Lewis first witness statement [IWS00000304] p. 4.
537 Toyoshima-Lewis Day 57/23/3-12.
538 Toyoshima-Lewis Day 57/23/17-24/1; [LFB00000506].
539 Oulton first witness statement [MET000080595] p. 4.
540 [LFB00000506] pp. 3-4, 8, 10; Toyoshima-Lewis Day 57/28/10-29/11.
541 Toyoshima-Lewis Day 57/14/16-15/18, Day 57/20/4-21/9, Day 57/29/20-30/15.
542 Toyoshima-Lewis Day 57/30/16-31/23.
543 Toyoshima-Lewis Day 57/37/19-39/18.
544 [LFB00000506] pp. 15-17, 32.
545 Toyoshima-Lewis Day 57/46/19-48/12.

4 Events in the control room

14.228 By the start of this period there were only four CROs to take new calls as CROs Russell, Jones and Peter Duddy were engaged on long FSG calls and would remain so throughout the period. During this time the control room received 25 emergency calls, 11 of which were FSG calls. Additionally, the MPS, North West FRS, Essex FRS and Kent FRS all contacted the control room either to pass on emergency calls from the tower or to obtain details of the incident to establish call-taking arrangements.

14.229 At 02.00.11, the control room received another 999 call from Meron Woldeselassie Araya and Lina Hamide in Flat 74 on floor 10. They had called 12 minutes earlier at 01.47.49. CRO Fox took the call and asked if they had any smoke coming into their property. Meron Woldeselassie Araya confirmed that smoke was coming in. CRO Fox told her that the firefighters were aware of them and that she would send messages by radio to communicate the information. CRO Fox established that there were two persons in the flat and advised the caller to block the windows and doors, which Meron Woldeselassie Araya had already done. CRO Fox created a service request at 02.02.36 containing the information from the call and CRO Sharon Darby passed it to the incident ground three minutes later.

14.230 At 02.00.34, CRO Adams rang CU8 for a second time using the admin line phone to pass on further FSG messages. She explained that, because the supervisors were so busy, she had decided to go round the CROs and take the flat numbers and other information relating to their calls in order to pass it all on to CU8. She did not think that OM Norman, AOM Debbie Real or CRO Darby had been aware of what she was doing. She had thought that it was the quickest way of getting information to the incident ground and that it was better for information to be duplicated than not to be received at all.

14.231 In the course of her conversation with WM Meyrick, CRO Adams passed on messages relating to:

a. Flat 182 on floor 21 (containing two adults and three children);

b. Flat 201 on floor 23 (containing 11 adults and one child);

c. Flat 92 on floor 12;

d. Flat 165 on floor 19; and

e. Flat 194 on floor 22 (containing a pensioner).

14.232 CRO Darby had already passed on a message about 11 adults and a baby in Flat 201 a minute earlier, but CRO Adams did not know that.

14.233 CRO Adams also gave WM Meyrick information about conditions in some of the flats. She said that she had not been able to give details of the smoke conditions in the flats because she had been trying to gather information quickly from her fellow CROs, who were still on calls, and wanted to get it to the incident ground as quickly as possible. She said that the occupants of Flat 182 had reported that the fire was next door and that smoke was “just pouring in”. She told him that there was just a bit of smoke coming into Flat 92. As a result, WM Meyrick got the impression that conditions were most severe between floors 21 and 23. CRO Adams confirmed that they were the most worrying. As she ended the call, she told him that she expected to be speaking to him again before long, because things were not sounding good.

14.234 CRO Adams had intended to continue passing on FSG messages in that way, but before she could do so SM Jason Oliff took over the role of communicating with CU8.

14.235 Between 02.01.14 and 02.02.58, CROs Gotts and Howson received three calls from members of the public telling them that they could see people at the top of the tower waving and signalling for help.[546] In the call that CRO Howson took at 02.02.56, the caller told her that they could see people outside and on the top of the building calling for help.[547] As a result, CRO Howson created a service request at 02.05.05 which said:

> "REPORTS OF PEOPLE ON THE ROOF OF THE BUILDING."[548]

14.236 CRO Darby passed that message to the incident ground at 02.05.32.[549]

14.237 At 02.02.47, Natasha Elcock in Flat 82 on floor 11 called the control room for the fourth time to ask how long it would be until the firefighters were able to get them out.[550] CRO Fox reassured her that they were passing messages to the crews and told her that "they're going along and they're getting the people out of the flats".[551] Natasha Elcock reported that she was concerned that the fire was spreading above her flat.[552] CRO Fox provided her with FSG advice and ended the call.

14.238 At 02.03.44, the control room received a message that GM Welch had become incident commander.[553] That was the first message informing the control room of a change of command since WM Dowden had become incident commander on his arrival at the scene over an hour earlier.

14.239 At 02.04.00, CRO Katrina Marshall in the Essex FRS control room entered details in the incident log after she had had a conversation with the NILO for Essex FRS, GM Nigel Dilley about his attempt to contact the LFB.[554] GM Dilley informed her that he could not get hold of the LFB using the direct line and that they should advise callers to stay put until they had obtained further information from the LFB. He asked her to continue to try to contact the LFB. By this point, GM Dilley had already tried to contact the NILO for the LFB, GM Mark Hazelton, on a dedicated channel on the Airwave radio, but he had received no response.[555]

14.240 At 02.05.00, the control room received a radio message requesting four command units.[556] Those units and the appliances required to respond to the message to make pumps 40 were deployed at 02.05.50.[557]

14.241 At 02.05.25, CRO Howson took a call from Isra Ibrahim in Flat 203 on floor 23 reporting that there were five adults and two children inside the flat.[558] That was the second call alerting the control room to the presence of people inside the flat; the first call had been made at 01.57.16 by a family member of Rania Ibrahim. Isra Ibrahim reported that smoke was coming in to the flat and CRO Howson reassured her by saying "The fire is actually on the fourth floor

546 Control Report pp. 61-62.
547 [LFB00000513].
548 SIL p. 21.
549 [LFB00003029].
550 [LFB00000338].
551 [LFB00000338] p. 2.
552 [LFB00000338] p. 4.
553 [LFB00002730].
554 Essex FRS incident log [LFB00003625].
555 Dilley Day 76/164/5-19.
556 [LFB00003063].
557 ORR v 0.7 p. 134.
558 [LFB00000340].

but it's creating obviously a lot of smoke".[559] As the call progressed, CRO Howson provided further reassurance that the fire was on floor 4 and that firefighters were coming to all flats to ensure that the occupants were safe. She continued to give "stay put" advice.[560]

14.242 Shortly after CRO Howson gave that advice, she ended the call. It is unclear how the message was passed to the incident ground, if it ever was, since there is no record of it in the radio messages or on the SIL.

14.243 At 02.06.00, SM Oliff made the first of a number of calls from his personal mobile phone to the mobile phone of WM Meyrick on CU8, none of which were recorded.[561] The first call lasted 15 minutes and 58 seconds. SM Oliff remained in almost continuous contact with WM Meyrick until around 06.42.[562] At first, SM Oliff was asked by OM Norman to pass on to the incident ground messages that were being received from the NPAS helicopter.[563] However, SM Oliff's role soon developed into one of passing FSG messages instead.

14.244 At 02.06.03, GM Welch declared a Major Incident and this was recorded in the incident log at 02.06.58.[564] CRO Darby recalled having shouted out the message to the control room.[565] It took AOM Real just over 30 minutes to inform the LAS (at 02.37.26) and the MPS (at 02.38.06) that the LFB had declared a Major Incident.[566] It also took her around 35 minutes to contact RBKC (at 02.42.38).[567] AOM Real attributed the delay to the fact that at the time she had still been dealing with messages arising from the request to make pumps 40.[568]

14.245 At 02.06.06, CRO Fox created a service request in response to the call she had taken from Natasha Elcock at 02.02.25. It stated:

> "FURTHER CALL X 2 ADULTS AND 1 CHILD TRAPPED INSIDE FLAT 82 ON FLOOR 11."[569]

14.246 At 02.06.55, CRO Gotts spoke to Karen Aboud in Flat 92 on floor 12, who advised her that she had tried to leave but could not do so. CRO Gotts told her that she would let the firefighters know and that they would come up to her flat.[570] It is unclear if this message was passed to CU8 as it does not appear in a radio message or admin line call after this time.

14.247 At 02.09.25, CRO Darby passed on the message about Flat 82 on floor 11 to CU8 by radio. She also passed messages about three other flats, as follows:

> "We've got a caller in flat 192 on the 22nd floor unable to leave. We've got a fire in the corridor on floor 12. Caller trapped in flat 95. And a caller has attempted to leave from the 22nd floor but they've had to go back."[571]

14.248 The message concerning the person trapped in Flat 95 resulted from a service request created by CRO Duddy a few seconds earlier at 02.09.08.[572] However, the information about the caller in Flat 192 on floor 22 and the caller who had attempted to leave from floor 22 do not appear

559 [LFB00000340] p. 3.
560 [LFB0000340] pp. 3-4.
561 JAO/7 Exhibit [MET00016910] p. 3; Oliff Day 23/96/8-13.
562 JAO/7 Exhibit [MET00016910] p. 3; Oliff Day 23/96/8-13.
563 Oliff witness statement [MET00012791] p. 4 and Day 23/69/1-70/9.
564 [LFB00003015] and SIL p. 21 at 02.06.38.
565 Darby Day 33/187/5-22.
566 Control Report pp. 92-93.
567 Control Report p. 97.
568 Real Day 43/42/10-20.
569 SIL p. 21.
570 [INQ00000371].
571 [LFB00002190].
572 SIL p. 21.

on the SIL as service requests. CRO Gotts (at 02.03.47) had taken a call with Hashim Kedir in Flat 192 and it is possible that the message originated from this call, which CRO Gotts likely passed to CRO Darby either in person or on paper.[573]

14.249 Also at 02.09.25, CRO Gotts took a call from the MPS control room, which reported that it had received a call from a woman who was trapped with her son in Flat 115. (They were Zainab and Jeremiah Deen.) The caller had said that she did not know where the exits were before the line had cut out.[574] CRO Gotts told the MPS operator that she would pass on the message. The MPS call operator then told CRO Gotts that her supervisor had said that the MPS were getting "loads of calls" from persons trapped in the building, and that her supervisor wanted the LFB to tell them what instructions they should give to callers, since the LFB were too busy on the radio to confirm such instructions. CRO Gotts told the MPS operator that the advice was to block up doors in order to stop the smoke entering. When asked if the LFB were directing people to fire exits, she told the MPS operator that she did not know where the fire exits were and that the people she had spoken to had told her they had to go back to their flats because of the smoke. When asked for confirmation if the LFB were advising callers to stay put, CRO Gotts then said:

> "Well, it's, it's not - we're not, we're not there knowing how the fire is going, we generally do tell people to stay in their properties, but with fire it's a bit unpredictable. So if they think they can leave … but, I mean, we, we don't generally tell people to leave, but if they think they can then …"[575]

14.250 Just before they ended the call, the MPS operator asked CRO Gotts to try to get one of her supervisors to ring one of the MPS control room supervisors. CRO Gotts agreed to try, but said that it was "going absolutely crazy" in the LFB control room.[576] CRO Gotts explained in evidence that by that stage, she still had not known that there was only one way out of the building down the staircase.[577] She could not remember asking a supervisor what advice to give the MPS, although she would usually have done so,[578] and there is no evidence of any conversation having taken place between the LFB and MPS supervisors.

14.251 At 02.10.31, CRO Howson took a call from Hashim Kedir in Flat 192 on floor 22; it was his third call to the control room.[579] He reported repeatedly that there was a fire and smoke in the kitchen. CRO Howson advised him that the firefighters were dealing with a fire on floor 4. After Hashim Kedir had repeated that the fire was in his kitchen, CRO Howson said:

> "All right. Well, listen, I mean, at the moment we're advising people to stay in their flats, but if you've got a fire in your flat, it's your decision; you may have to try and get out, OK? How near are you to the stairwell?"

14.252 CRO Howson tried to find out how near Hashim Kedir was to the stairs and further details about his children but the call ended.[580] She did not create a service request and no radio message relating to the call appears to have been sent to the incident ground. In evidence, CRO Howson explained why she had continued to advise the caller that the fire was on floor 4. She said:

> "Because that's where the original fire was, you know, and everything -- the fire, it just … it didn't do what other fires do. It just -- it shouldn't have happened, you know, the fire shouldn't have been there. And I think I still couldn't get my head round what was happening on the building, within

573 [LFB00000339].
574 [LFB00000341].
575 [LFB00000341] p. 4.
576 [LFB00000341] p. 4.
577 Gotts Day 43/194/16-25.
578 Gotts Day 43/195/15-22.
579 [LFB00000345].
580 [LFB00000345].

> the building, and I was still working, trying to keep people safe, to be rescued, and I still felt at that point that was the safest place for them. I was just trying to keep them away from the worse of it and keep them safe in their flats." [581]

14.253 At 02.10.33, North West Fire Control took a call from Sener Macit in Flat 133 on floor 16.[582] It lasted for 27 minutes and 32 seconds. At the start of the call, Sener Macit explained that there was smoke coming from the corridor. He was advised to block out the smoke and was told that the firefighters were trying to get to people as soon as possible.[583] There is no record of a call between North West Fire Control and the LFB control room passing the information to the LFB but during the 999 call with Sener Macit, the North West Fire Control CRO told him that they were in contact with the LFB.[584]

14.254 At 02.11.48, an informative message was sent from CU8 to CRO Darby reporting that DAC O'Loughlin was now incident commander.[585] It was not recorded in the incident log.

14.255 Between 02.12.09 and 02.12.50, BT contacted North West Fire Control three times attempting to pass on three different calls intended for the LFB.[586] At 02.12.50, the North West Fire Control CRO called Zainab Deen in Flat 115 on floor 14 and reassured her that firefighters would be with her.[587]

14.256 At 02.13.03, CRO Adams received a call from Nicholas Burton in Flat 165 on floor 19. He told her that there was smoke in his whole flat "but not bad smoke". She asked him to confirm that he had blocked his doors and reassured him that the firefighters were trying to get to everyone. However, she told him that there were a lot of people trapped and that he should call back if it got worse.[588]

14.257 At 02.13.00, CRO Marshall in the Essex FRS control room took a call from Natasha Elcock in Flat 82 on floor 11.[589] She said that she understood that there was a "stay put" policy in place until they heard otherwise and that she would pass the details over to the LFB. Natasha Elcock gave her name and said: "It looks like it's spreading quite rapidly; that's why I'm just getting a bit concerned". CRO Marshall did not find out how many people were in the flat. She logged the details of the call in the Essex FRS incident log.[590]

14.258 At 02.14.00, CRO Sharon Lancaster in the Essex FRS control room asked CRO Claire Bannister to put in the incident log some information about the tower which she had found on the internet.[591] She explained that she had tried to obtain further information about the tower from the internet because it was not on their ground. Since they had been unable to get through to the LFB, she thought that any information would be useful.[592] She said that she had decided to enter the most relevant information in the incident log.[593] The entry read as follows:

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581 Howson Day 80/155/1-17.
582 [LFB00055499].
583 [LFB00055499] p. 6.
584 [LFB00055499] p. 4.
585 [LFB00002285].
586 Control Report p. 71.
587 Control Report p. 71 and [MET00017520].
588 [LFB00000344].
589 [LFB00000343] and Marshall witness statement [MET00012848] p. 4.
590 Essex FRS incident log [LFB00003625] p. 3.
591 Lancaster Day 76/212/14-24, 76/214/20-25.
592 Lancaster Day 76/212/2-20, 76/214/1-8.
593 Lancaster Day 76/213/19-25.

> "ON THE GRENFELL TOWER REGENERATION THERE IS AN EMERGENCY FIRE ARRANGEMENT PARAGRAPH THEIR POLICY STATES TO STAY PUT UNLESS OTHERWISE ADVISED, GRENFELL WAS DESIGNED TO RIGOROUS FIRE SAFETY STANDARDS. EACH FRONT DOOR FOR EACH FLAT CAN WITHSTAND A FIRE FOR UP TO 30 MINUTES." [594]

14.259 At 02.14.12, SOM Joanne Smith called the control room in response to a paging notification and told AOM Peter May that she was "round the corner".[595]

14.260 At 02.14.32 and 02.15.08, DAC O'Loughlin sent radio messages asking for six command units and 10 FRUs.[596] AOM Real mobilised the command units and four FRUs a minute later at 02.16.23 and additional FRUs at 02.21.03.[597]

14.261 At approximately 02.15.00, SOM Smith arrived in the control room.[598] Her arrival was logged in the incident log by AOM Real at 02.22.33.[599] When she entered the control room, SOM Smith noticed that everyone was extremely busy.[600] She saw and heard that SM Oliff was passing FSG call information to a command unit on the incident ground.[601] She did not see any whiteboard system in operation and remembered that it had been set up later when DAC Adrian Fenton arrived.[602] She then spoke with OM Norman and AOM May and asked what she could do to help and which CROs had been on the telephone to single calls for the longest.[603]

14.262 It is likely that SM Oliff had already started to pass FSG calls to the incident ground at some point during his first telephone call to WM Meyrick on CU8, which he had started at 02.06.00 and which concluded at 02.21.58.[604] SM Oliff received messages from control room staff, mainly on pieces of paper which were passed to him by individual CROs or by OM Norman and SOM Smith who had collected them from the CROs.[605] He then passed the information to CU8 by telephone. He did not have access to the incident log and therefore could not see the messages typed by the CROs.[606] When SM Oliff embarked on that task, he had not been told how many FSG calls had already been received; nor was he told about CRO Adams's earlier call with WM Meyrick during which the need to prioritise calls on the basis of the density of the smoke affecting the caller had been raised.[607] He did not attempt to prioritise calls as he understood that that would be done on the incident ground.[608]

14.263 SM Oliff said that there had probably been some overlap between the information being passed by radio by CRO Darby and the information he was passing by mobile telephone. He was not told by anyone to speak to CRO Darby about communication of messages and he did not do so.[609] For her part, CRO Darby did not speak to SM Oliff and did not tell him which FSG messages she had passed to the incident ground over the radio.[610] It would seem that SM Oliff did not record the information he passed to WM Meyrick at this time. It seems likely

[594] Essex FRS incident log [LFB00003625] p. 3.
[595] Admin line call [INQ00000192].
[596] ORR v 0.7 pp. 158-159.
[597] ORR v 0.7 pp. 160, 175.
[598] Smith Day 22/37/1-3 and Control debrief notes [LFB00003113] p. 5.
[599] SIL p. 22.
[600] Smith Day 22/37/21.
[601] Smith Day 22/38-39.
[602] Smith Day 22/40/10-41/3.
[603] Smith witness statement [MET00007766] p. 3.
[604] Oliff Day 23/97/14-25.
[605] Duddy Day 42/197/13-198/10; Norman Day 42/134/3-12. Examples of pieces of paper collected from the control room: [MET00017094].
[606] Smith Day 22/71/8-12.
[607] Oliff Day 23/120-24-121/3, 23/109/24-110/4.
[608] Oliff Day 23/110/11-20.
[609] Oliff Day 23/98/10-99/2 and Darby Day 34/7/2-15.
[610] Darby Day 34/14/19-22.

that the whiteboards of which SM Oliff spoke were not being used at that stage to record the information he had received from the CROs. That happened later at around 02.25 when DAC Fenton arrived. As a result, it is possible that any of the 999 calls received during this time period, whether passed by radio or not, could have been passed by SM Oliff to CU8.

14.264 At 02.15.07, CRO Gotts took a 999 call from the elder son of Karen Aboud in Flat 92 on floor 12.[611] It was the fourth time that they had called the control room. He said that there was "too much smoke" and that there were "fireballs falling down on us" past the window.[612] CRO Gotts advised him to block up the smoke and to stay by the window for fresh air. She reassured him that the firefighters would come and that they knew they were on floor 12.[613] CRO Gotts did not create a service request in relation to this call and no radio message was sent to the incident ground. It is possible that it was passed to CU8 by SM Oliff.

14.265 At 02.16.58, CU8 sent a radio message requesting, for the first time, the attendance of a DSE, representatives of the gas and electricity suppliers and a LALO.[614] The message was logged as a service request by CRO Darby in the incident log at 02.17.44.[615] CRO Gotts made the first call to RBKC for a dangerous structure engineer and a LALO at 03.17.21, an hour later.[616] The service request was then only marked as completed at 03.31.04, again by CRO Gotts.

14.266 At 02.18.06, CRO Howson received another call lasting for 6 minutes and 39 seconds, from Hashim Kedir who was with his wife and three children in Flat 192 on floor 22.[617] It was his fourth call. He said that there was smoke coming into their flat and that their kitchen was on fire. As a result, CRO Howson advised them to make their way to the stairwell, to take blankets and towels to cover their mouths and to try to get to the place where there was the least smoke. Hashim Kedir did not leave the flat and told CRO Howson so. Towards the end of the call Hashim Kedir asked when the firefighters were coming. CRO Howson replied:

> "They're making their way now. They're just – but – it's slow progress, I'm afraid, but they will get to you as soon as they can."[618]

14.267 CRO Howson did not create a service request after she had taken the call. In evidence she accepted that she had not had any positive information to confirm that crews would be able to reach floor 22; she had simply assumed that family would be rescued.[619]

14.268 At 02.18.47, CRO Fox received a call from Kent FRS control room who asked for the reference number of the incident. She reminded them that if they took any calls, they should take a flat and floor number and pass the information to London.[620]

14.269 At 02.18.55, the Essex FRS control room made the first contact with the LFB since they had first attempted to do so at around 01.48.[621] CRO Marshall spoke with CRO Adams and relayed the message from Natasha Elcock in Flat 82 on floor 11 and Nadia Choucair in a flat on floor 22. CRO Adams asked her for information about the occupants of Flat 82, but CRO Marshall said that they had not obtained that information.[622] CRO Adams also asked

611 [LFB00000346].
612 [LFB00000346].
613 [LFB00000346].
614 Radio message [LFB00002423].
615 SIL p. 22.
616 [INQ00000211].
617 [LFB00000351].
618 [LFB00000351] p. 9.
619 Howson Day 80/159/1-9.
620 Control Report p. 76.
621 [LFB00000347].
622 [LFB00000347].

for details about conditions in Flat 82 and was told that the caller had not said that there was smoke entering her flat.[623] CRO Adams also asked for the flat number for the caller on floor 22, but CRO Marshall said that they had not obtained it. That was in fact incorrect, as in the 999 call she made at 01.48.00 Nadia Choucair had told CRO Lancaster that she was in Flat 193, but that piece of information had not been logged on the Essex FRS incident log.[624] After her call, at 02.21.00, CRO Marshall entered a note on the Essex FRS incident log stating:

> "HAVE SPOKEN TO LFB THEY WANT TO KNOW HOW MANY PEOPLE FLAT NUMBER FLOOR NUMBER AND IF FIRE IS AFFECTING THEIR FLAT."[625]

14.270 It is unclear whether the messages relayed to the control room by Essex FRS were passed on to the incident ground, and if so how. There is no record that the messages were passed on at that time, although it is possible that SM Oliff did so.

5 The actions of the MPS, the LAS, RBKC and the TMO

14.271 During this period CAD 482 recorded numerous messages from the incident ground and the NPAS helicopter about the spread of fire and the actions of those still in the building. For example, at 02.07.25 there was a message that "flats [sic] from 115 are trapped, unable to get out", and at 02.09.32 the NPAS helicopter reported that "residents on the top 6 floors of the west and south west aspect all leaning out of open windows, they will be in danger of the fire inside".

14.272 At 02.03 the MPS called the RBKC using the out-of-hours service (General Dynamic Information Technology). The Borough Duty Officer, Nickolas Layton, received a notification of the incident.[626]

14.273 At 02.04.43 Laurence Ioannou (LAS) sent a message that the casualty clearing centre was the Kensington Leisure Centre.[627]

14.274 At 02.10.02 MetCC recorded that they had contacted RBKC (Katherine Anscombe) who would be contacting their duty officer who would liaise with the MPS, and that they had a dedicated operative named "Errin" for any further police contact.[628] Inspector Nicholas Thatcher had no contact with anyone called "Errin" and there is no evidence that any other police officer did so.[629]

14.275 Meanwhile, also at 02.10, Chief Inspector Duane Barrett had rung Commander Neil Jerome at his home in Kent from the GT special operations centre in Lambeth. Commander Jerome was the chief officer for London on call that night. His role was to make significant decisions or authorisations requiring a pan-London response. Chief Inspector Barrett gave Commander Jerome sufficient information about the fire to enable him to start thinking about what was needed, ahead of a further call at 02.30. Commander Jerome had no remote access to the CAD.[630] He did not know, and Chief Inspector Barrett did not tell him at that stage, that the MPS had declared a Major Incident some 44 minutes previously.

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623 [LFB00000347].
624 Essex FRS incident log [LFB000003625] p. 5.
625 Essex FRS incident log [LFB00003625] p. 3.
626 David Kerry's emergency log sheet entry 1 [RBK00028849].
627 CAD 247 p. 5.
628 CAD 482 p. 11; [MET00023294].
629 Thatcher Day 71(Mon)/147/2-3. "Errin" (or more likely Erin) was in fact an RBKC employee; she dealt with the request for a Dangerous Structures Engineer later at 03.48.57 [INQ00000212] p. 3.
630 Jerome Day 71(Mon)/169/21-171/4.

14.276 At 02.15 Hash Chamchoun, Head of Supported Needs for the TMO, arrived at the incident.[631] This was the first TMO presence at the scene. He had been contacted at around 01.30 by Robert Black, the CEO of the TMO, who had informed him of the fire. Hash Chamchoun had volunteered to attend.[632] He left home at 01.45 and estimated his time of arrival as around 02.15, taking into account the time it took to pass through the two police cordons. He identified himself at the command unit upon arrival and offered to assist.[633] He explained that he would be outside the unit if they needed him. He described the scene as "horrific chaos". He subsequently met the two LALOs, Nickolas Layton and later Michael Rumble. No requests for information were made by the LFB or either of the LALOs to him.[634]

631 Chamchoun Day 75/149/13-18.
632 Chamchoun witness statement [TMO10048962] paragraph 3 and Day 75/144/10-145/1, 148/7-8.
633 Chamchoun Day 75/151/1-18.
634 Chamchoun Day 75/151/19-25, 152/18-21, 75/155/7-8.

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Chapter 15
Period 6: 02.20-02.50

1 External fire spread

15.1 At 02.23 the flame front had moved from the east face onto the south face of the tower. That can be seen in the following image taken from the NPAS helicopter footage:[1]

Figure 15.1

15.2 At the same time flames could be seen at the crown on the north face between columns A2 and A3 on the far west side of the north face.[2] By 02.32 flames were extending beyond column A2 (the internal column on the west side of the north face) at the upper levels, the furthest horizontal progression still being at the crown,[3] as can be seen in this image:

1 Professor Bisby supplemental report [LBYS0000001] p. 210 Fig. 129.
2 Professor Bisby supplemental report [LBYS0000001] p. 216 Fig. 134.
3 Professor Bisby supplemental report [LBYS0000001] p. 213 sections 1021-1023.

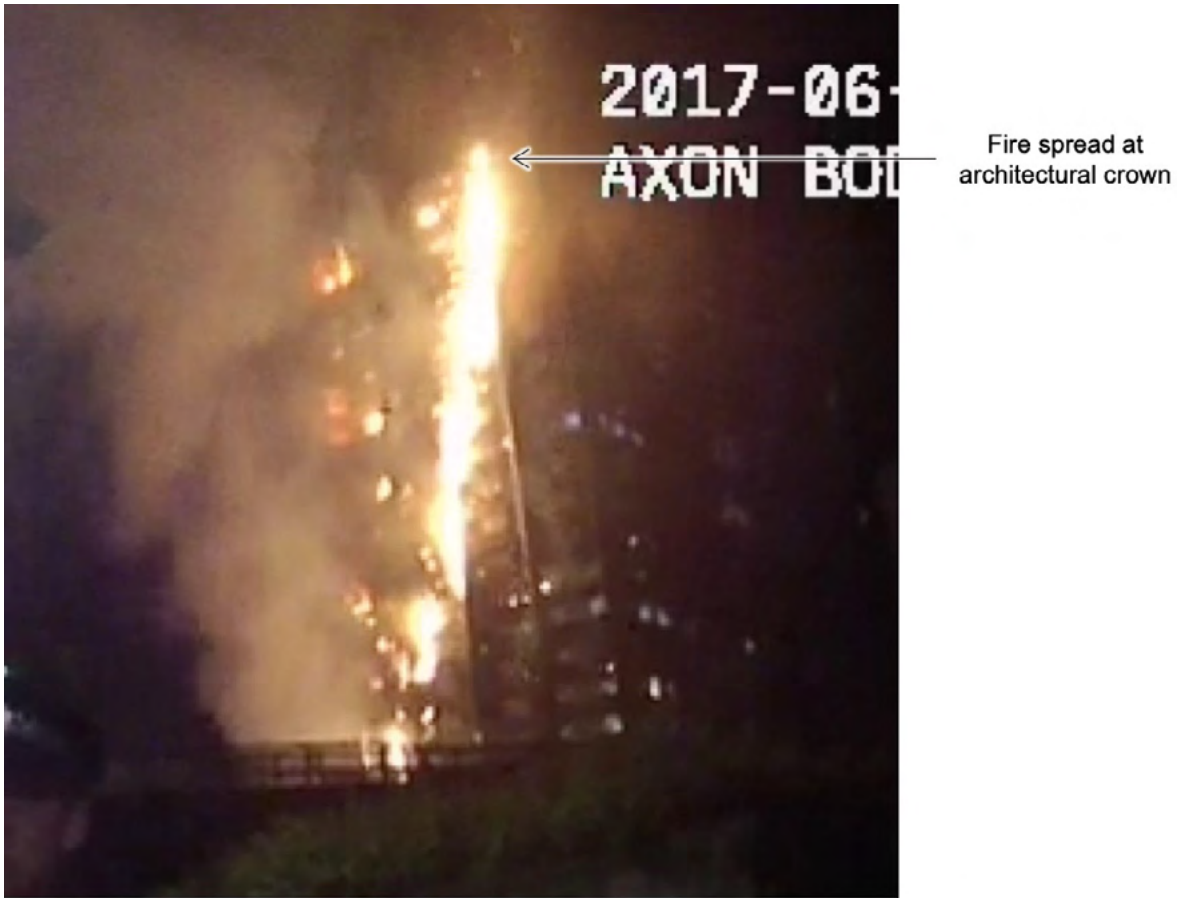

Figure 15.2

15.3 By 02.22 to 02.23 Flats 91, 101, 111, 121 and 131 on floors 12 to 16 in the centre of the east face of the tower and Flats 122, 132, 142, 152 and 162 on floors 15 to 19 at the south-east corner had become affected by the external flame front moving southward across the east face. On the north face Flats 95, 105, 115, 125, 135, 145, 155, 165 and 175 on floors 12 to 20 had also become involved in the fire.[4]

15.4 By 02.33 to 02.34 Flats 92, 102 and 112 on floors 12 to 14 in the south-east corner of the tower had been affected by the advancing flame front.[5]

15.5 At 02.39 on the south face, the furthest extent of the horizontal burning was at the crown and the fire had begun to spread vertically down column D5 at the south-east corner, as is shown in this image:[6]

4 Dr Lane supplemental report [BLAS0000012] p. 10 Fig. 12.3.
5 Dr Lane supplemental report [BLAS0000012] p. 10 Fig. 12.3.
6 Professor Bisby supplemental report [LBYS0000001] p. 229 sections 1063-1065 and p. 231 Fig. 150.

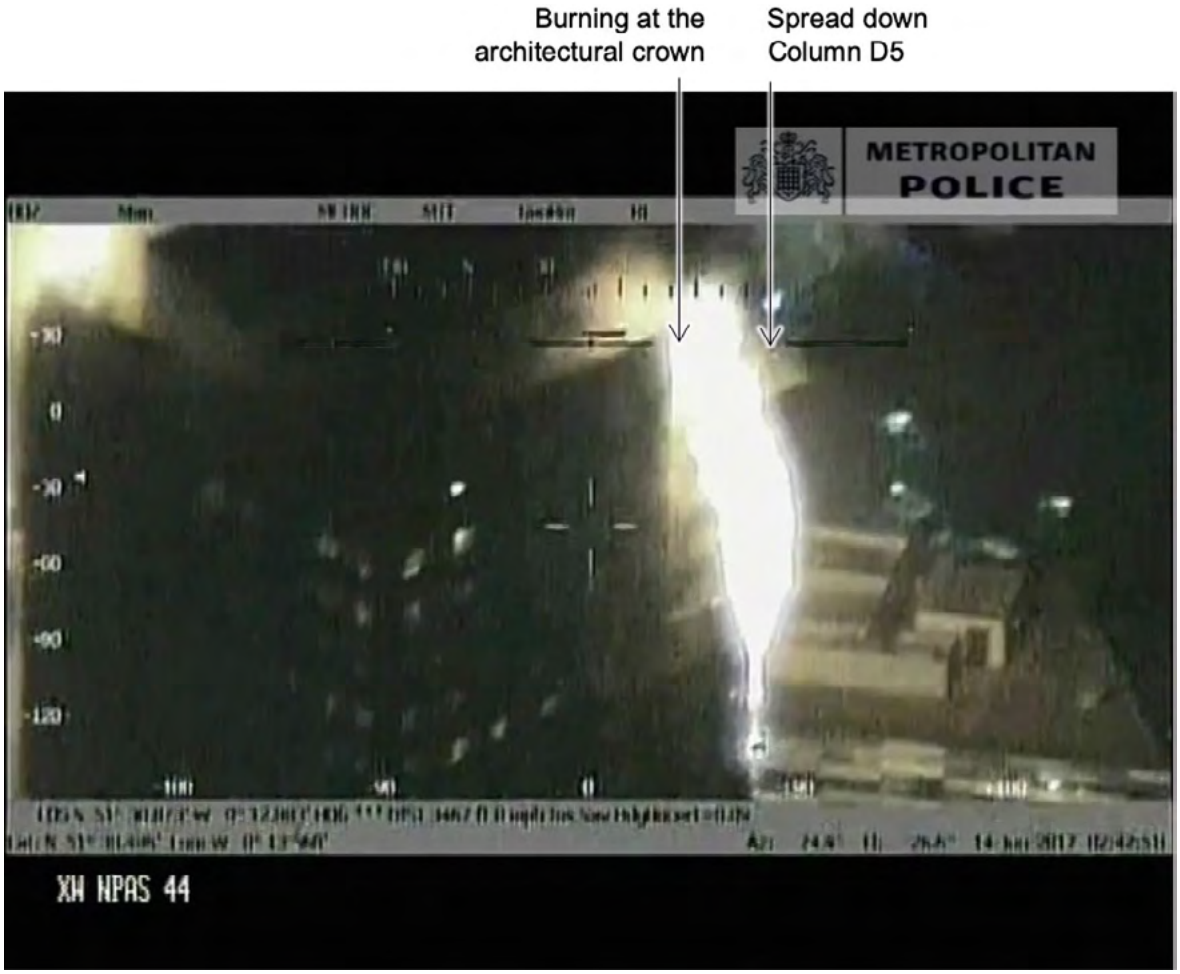

Figure 15.3

15.6 By 02.45 the fire had spread from the north face over the top of column A1 at the north-west corner of the tower and had started to burn on the west face.[7] Again, the horizontal progression was most advanced at the crown and the fire front lay diagonally, as can be seen in this image:[8]

[7] Professor Bisby supplemental report [LBYS0000001] p. 213 sections 1024-1025.
[8] Professor Bisby supplemental report [LBYS0000001] p. 218 Fig. 137.

Figure 15.4

15.7 At 02.40 and 02.43 smoke could be seen emerging from the windows of Flat 205 on the west face of the tower at floor 23.[9]

15.8 By 02.47 the fire had spread horizontally across the south face and had reached the top of column D4 (the internal column on the far east of the south face)[10] as can be seen in the following image:[11]

9 Professor Bisby supplemental report [LBYS0000005] 02.08, 02.19 in the compilation; refer also to Professor Torero [JTOS0000001] p. 88 Fig. 50.
10 Professor Bisby supplemental report [LBYS0000001] p. 229 paragraph 1066.
11 Professor Bisby supplemental report [LBYS0000001] p. 232 Fig. 151.

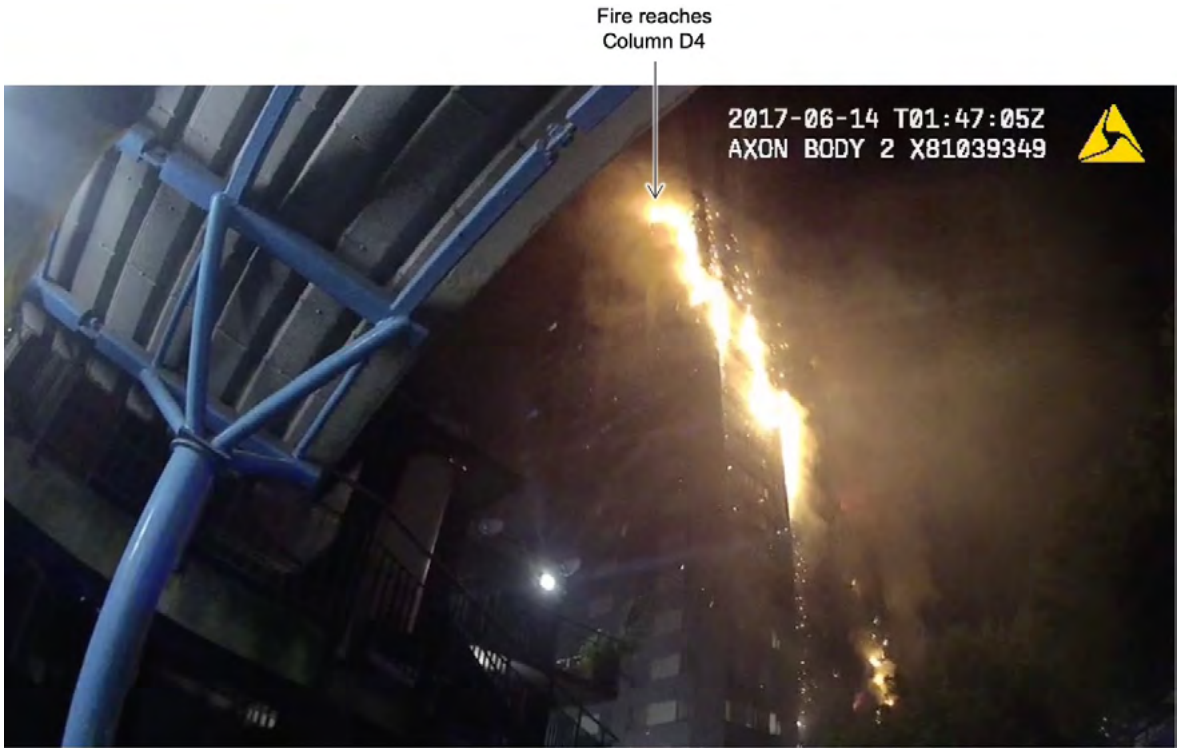

Figure 15.5

2 Events on the incident ground

The system on CU7 for managing FSG information

15.9 On CU7, GM Tom Goodall had started to implement a procedure for managing the FSG information being received from the control room. At 02.22.54, a message was sent by radio from CU7 to the control room asking for all FSG calls to be sent to CU7.[12]

15.10 It is clear that communications between CU7 and the control room continued. WM Antony Peckham recalled that he had been sitting in the radio operator's chair and had been inundated with calls with very few breaks between them.[13] He used channel 4 on the main scheme radio to speak to the control room,[14] recording the information on control information forms, which he then passed to other members of the team.[15] WM Daniel Meyrick was also in separate communication with the control room, using the mobile telephone that he had taken with him when the management of FSG calls had been transferred to CU7.[16] WM Meyrick could not recall what he had been doing with the information he had received from the control room in the early stages of operations on CU7. He could not say, for example, whether he had recorded it on blank pieces of paper, as he had while on CU8, or had passed it directly by

12 [LFB00002301]. SM Egan said that it was he who asked WM Meyrick to send that message (Day 15/109); GM Goodall also said that he asked for the message to be sent (Day 35/28). WM Peckham said that it was he who had spoken to the control room to send that message (Day 30/152).
13 Peckham witness statement [MET00007889] p. 3.
14 Peckham Day 30/160/4-9.
15 Peckham Day 30/161/2-23.
16 Meyrick Day 20/100/7-13.

word of mouth to other officers for them to record, either on the whiteboard or on control information forms.[17] He was clear, however, that he had not been using control information forms himself[18] and had not at that stage been recording information on the whiteboard.

15.11 In the early stage of the operation of CU7,[19] information coming into CU7 was recorded in the form of a simple list on one of the whiteboards.[20] WM Norman Harrison compiled the initial list in order to transcribe information that had been recorded on the 30 or so pieces of paper that SM Dan Egan had brought with him from CU8.[21] As well as those pieces of paper, I am satisfied that WM Harrison must also have been transcribing onto this list the information that was being received on CU7 by WM Meyrick on the mobile and by WM Peckham on the radio. WM Harrison identified the initial list as the one shown on a laminated sheet in the following photograph:

17 Meyrick Day 20/105/1-7.
18 Meyrick Day 20/137/17-20.
19 As considered in more detail in Periods 10 and 11, at a later stage FSG information started to be recorded on a more sophisticated "grid" system on a whiteboard on CU7. It is likely that that was not before 03.00.
20 SM Egan, WM Harrison and GM Goodall are consistent in recalling that FSG information was first recorded in a list form on CU7: Egan Day 15/142/15-19; Harrison Day 45/120/17-24 and 120/12-16; Goodall Day 35/31/6-16.
21 Harrison Day 45/118/17-119/15.

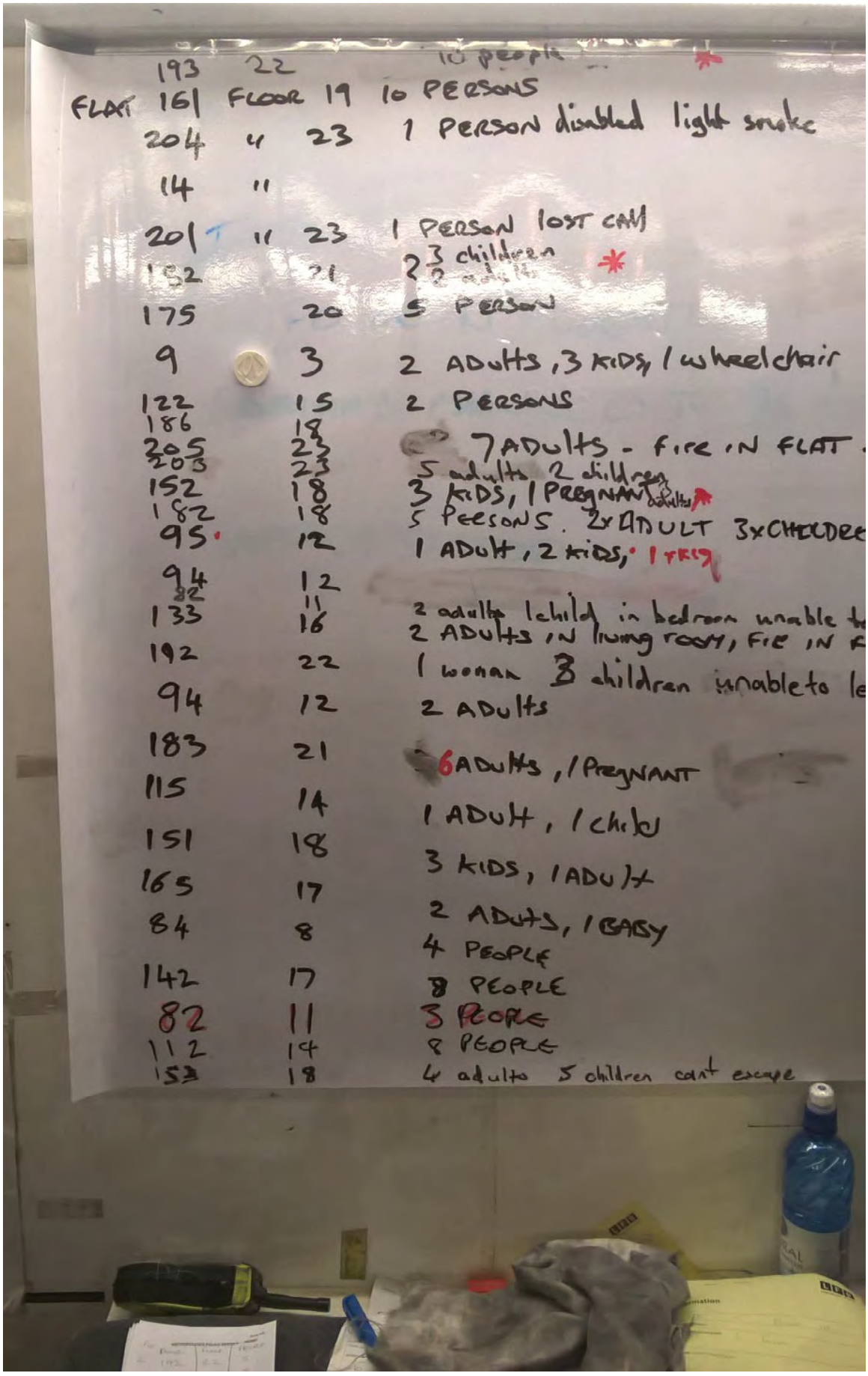
193 22 10 people
FLAT 161 FLOOR 19 10 PERSONS
204 4 23 1 PERSON disabled light smoke
14 11
201 11 23 1 PERSON lost call
152 21 2 3 children
175 20 5 PERSON
9 3 2 ADULTS, 3 KIDS, 1 wheelchair
122 15 2 PERSONS
186 18
205 23 7 ADULTS - FIRE IN FLAT
203 23 5 adults 2 children
152 18 3 KIDS, 1 PREGNANT
182 18 5 PEESONS. 2x ADULT 3x CHILDRE
95 12 1 ADULT, 2 KIDS,
94 12
82 11
133 16 2 adults 1child in bedroom unable t
192 22 2 ADULTS IN living room, FIRE IN
94 12 1 woman 3 children unable to le
183 21 2 ADULTS
115 14 6 ADULTS, 1 PREGNANT
151 18 1 ADULT, 1 child
165 17 3 KIDS, 1 ADULT
84 8 2 ADULTS, 1 BABY
142 17 4 PEOPLE
82 11 8 PEOPLE
112 14 3 PEOPLE
153 18 8 PEOPLE
4 adults 5 children can't escape

Figure 15.6

15.12 In his oral evidence, GM Goodall said that the writing on the laminated sheet shown in that photograph represented an initial attempt to record FSG information in the form of a list,[22] but he accepted that it was possible that the laminated sheet had been brought over from CU8.[23] SM Egan did not recall having seen the list shown in the photograph at all.[24]

15.13 The list was later replaced with a grid set out on one of the whiteboards when it became apparent that merely listing the flats from which FSG calls had been received was not a sufficiently systematic approach to identifying where people were trapped.[25] However, it is likely that the grid system was not implemented until later in the incident, and probably not before 03.00[26] for the reasons that are explained in this Narrative under Period 7.

15.14 WM Meyrick said that, as far as he was aware, the method of passing information to the bridgehead that had been used when he had been on CU8 continued following the move to CU7. He had his own line of communication with WM Mark Kentfield (as he understood it) and once the rest of the FSG crew were on CU8 they had also been passing information on. He said, however, that he did not know exactly how they had been doing it and would not have been aware if the system had changed in any way.[27] WM Meyrick did not recall WM Kentfield having established a system for handling FSG information that involved WM Paul Sadler and thought that the only person to whom he had passed FSG information on the incident ground was WM Kentfield. He did not recall having had any contact with WM Sadler.[28]

15.15 WM Sadler for his part was clear that he had been in direct radio communication with CU7, which had been passing FSG information to him, but if he did speak to anyone on CU7 by radio, it could only have been to WM Meyrick.[29] WM Kentfield's evidence[30] was that he had been on the incident ground with a radio link to WM Meyrick in CU8, and had provided the link between WM Meyrick and WM Sadler at the car bonnet. At some time after this, probably around 02.30, WM Kentfield returned to CU8 where he remained for the rest of the incident. Viewing the evidence as a whole, I think it is likely that although the original line of communication was between WM Meyrick and WM Kentfield, WM Sadler then took over and communicated directly by radio with WM Meyrick, even though at the time WM Meyrick thought he was speaking to WM Kentfield.

15.16 In addition to passing information by radio, GM Goodall used WM Shaun Coltress and FF Mandeep Singh as runners to take information to the bridgehead.[31] FF Singh arrived at 01.35.31[32] and CCTV images show him entering the tower holding small slips of paper as early as around 02.08,[33] suggesting that the "runner" system was probably in place when FSG calls were still being managed from CU8. FF Singh in his witness statement described running

22 Goodall Day 35/31/6-32/5.
23 Goodall Day 35/52/16-53/6.
24 Egan Day 16/40/15-21.
25 E.g. Goodall Day 35/31/10-16.
26 Time based on the time stamp of the photograph at [MET00015934].
27 Meyrick Day 20/103/4-104/3.
28 Meyrick Day 20/113/8-14.
29 WM Peckham said that he did not speak with anyone on the incident ground (Peckham Day 30/163/19-24); WM Harrison's role was in populating the whiteboards with the information passed on to him by WM Meyrick and WM Peckham (Harrison Day 45/123/19-25); GM Goodall described his role as co-ordinating and overseeing the activity on CU7 rather than having any communications himself (Goodall Day 35/90/9-17); SM Egan established a direct line of communication with SM Wolfenden on the incident ground, but that is likely to have been after 03.00 for the reasons set out in the body of the text (Egan Day 15/157/1-25).
30 Kentfield witness statement [MET00023051] pp. 13, 14.
31 Goodall Day 35/39/9-13.
32 SIL p. 8.
33 ORR v.0.7 p. 142.

information on paper from the command unit only to the bridgehead and to WM Glynn Williams in the lobby; he did not refer to WM Sadler or to the system set up by WM Sadler on the car bonnet.[34]

15.17 WM Coltress arrived at 02.21.00.[35] Unlike FF Singh, his role initially entailed running FSG information from CU7 to WM Sadler,[36] but later it involved running between what he referred to as 'three FSG points', namely CU7, WM Sadler and a person he referred to as "the search co-ordinator" (likely to have been WM Williams or SM Pete Wolfenden) inside the tower.[37] He started as a runner some 10 to 15 minutes after his arrival at the incident.[38] He went to CU7 where he said he had been briefed by a Station Manager, possibly SM Egan.[39] He was told, in broad terms, about the system being operated by WM Sadler, although not "how that fed into the overall system".[40] Most of the time the information that he carried from CU7 had been recorded on control information forms. Any information that had been recorded on pieces of paper had been transferred onto control information forms after he had reached what he called WM Sadler's "forward fire survival point"[41] before being sent into the building for the search coordinator.[42] He also ran control information form duplicate copies back to CU7, when they had been created at the forward point on the basis of information obtained directly from members of the public.[43] He was never asked to take any information about the outcome of deployments in response to FSG calls from the incident ground back to CU7.[44]

15.18 Finally, GM Goodall also recalled that some FSG information had been passed by SM Egan from CU7 directly to SM Wolfenden at the bridgehead using the radio.[45] SM Egan explained in his evidence how he had established that line of communication,[46] but SM Wolfenden said that he had become involved in handling FSG information only after he had presented himself at CU7, which was well after 03.00.[47] I shall therefore return to this aspect of the matter later.

15.19 At that stage, therefore, it seems that there were two parallel lines of communication from CU7 to the incident ground: one involved WM Meyrick speaking by radio to WM Kentfield and WM Sadler outside the tower; the other involved runners carrying control information forms or other pieces of paper to WM Sadler (WM Coltress) or directly to the bridgehead and to WM Williams in the lobby (FF Singh).

WM Sadler's FSG system, contd

15.20 At around 02.25 to 02.30, WM Sadler moved from the car bonnet to a position under the covered walkway, where he carried on processing FSG information lying on the ground.[48] At that point, he continued to work through the information recorded on the photograph of the A4 paper (the "envelope") he had been given,[49] the original document having by then been

34 Singh witness statement [MET000083327] p. 12.
35 He arrived on F241. SIL p.9.
36 Coltress Day 45/57/11-15.
37 Coltress witness statement [MET00010911] p. 10.
38 Coltress Day 45/43/5-6.
39 He was not briefed by GM Goodall: Coltress Day 45/39/19-40/6.
40 Coltress Day 45/43/15-23.
41 WM Coltress confirmed that that was the "car bonnet" system at the base of the tower: Coltress Day 45/45/14-16.
42 Coltress Day 45/44/24-45/7.
43 Coltress Day 45/55/4-11.
44 Coltress Day 45/52/6-11.
45 Goodall Day 35/37/8-17.
46 Egan Day 15/157/1-21.
47 Wolfenden Day 40/152/24.
48 Sadler Day 29/110/17-111/17.
49 Sadler Day 29/116/4-12.

sent up to the bridgehead with CM Charles Batterbee. It was also around that time, having reached control information form number 14, that he abandoned the numbering system that he had adopted at an early stage of his operations.[50]

15.21 CM Batterbee continued to carry control information forms from WM Sadler into the building, where they were taken from him by WM Williams in the ground floor lobby.[51] At some point WM Sadler became aware that his control information forms were being intercepted in that way, rather than being taken directly to the bridgehead, but he assumed that that was because those responsible for acting on the information were "getting some kind of control on these searches".[52]

15.22 Later on, it is not clear when, WM Sadler moved his area of operations to a bin area under the covered walkway and about five metres further back in order to avoid the water running off the tower. There the firefighters placed wooden boards over the bins to act as desks.[53] WM Sadler estimated that he had remained there carrying out the same role for about another five or six hours.[54]

The bridgehead on floor 3: GM Richard Welch and GM Patrick Goulbourne

15.23 When the bridgehead was moved to floor 3, WM Louisa De Silvo realised that FSG information was going to continue arriving in great quantities. She therefore stopped using the FIB that she had been using to record information when the bridgehead had been on floor 2 and started to use the wall of the lobby on floor 3 instead, writing floor numbers from 3 to 23 in a vertical line and adding specific flats as the information came in.[55]

15.24 A photograph of the wall taken from later in the incident after FSG information had been recorded on it is reproduced below:

50 Sadler Day 29/60/3-18. [LFB00001922] p. 5.
51 Batterbee Day 12/150/2-15.
52 Sadler Day 29/73/4-8.
53 Sadler witness statement [MET00012481] p. 5; Batterbee Day 12/148/6-15.
54 Sadler witness statement [MET00012481] p. 5.
55 De Silvo Day 30/6/12-7/22; 8/15-23.

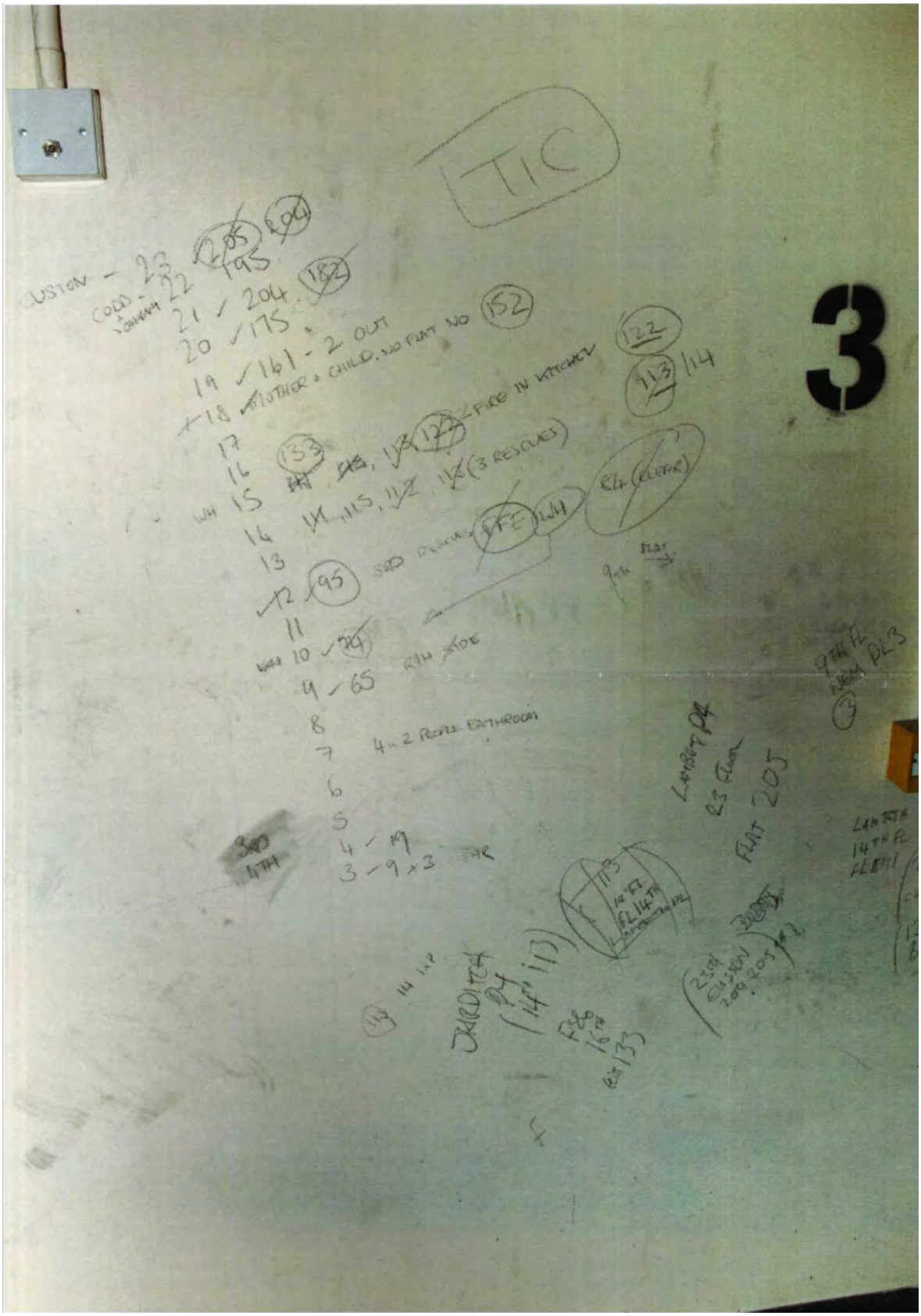

Figure 15.7

15.25 WM De Silvo explained that a tick against a particular flat indicated that a BA crew had been sent there and a circle indicated that she had received further information, either by runner radio, or from the returning crew. A cross through the flat indicated that it had been searched and a rescue carried out.[56]

15.26 GM Goulbourne arrived at the bridgehead soon after it had been moved to floor 3, following his briefing from DAC Andrew O'Loughlin. CCTV images show him entering the tower for the first time at around 02.28.[57] GM Welch's recollection was that he had asked GM Goulbourne to take charge of managing FSG information to make sure that they were committing crews to the right floors at the right times.[58] According to GM Goulbourne, however, although GM Welch had given him a general briefing about what was going on at the bridgehead, he had not given him any particular job to do[59] and there had been no detailed discussion about FSG calls.[60] GM Goulbourne said that, immediately on his arrival on floor 3, he had carried out some "supporting tasks" and that by the time he had been able to speak to GM Welch about his role in the Search Sector, the bridgehead had begun to be compromised by smoke, making it necessary to move it down to the ground floor.[61]

15.27 Once the bridgehead had been established on floor 3, GM Welch had a conversation with WM De Silvo about prioritising the young, elderly and those with mobility issues. Apart from that, calls were being responded to as they were received.[62] GM Welch understood that WM De Silvo was receiving sufficient information over her fireground radio to enable her to decide which calls should be given priority. He did not see any runners at the bridgehead when it was on floor 3.[63]

15.28 GM Welch said that in the early stages BA crews were being committed to fight the fire as well as to carry out rescues, but that firefighting very quickly became a secondary consideration.[64] He could not recall whether EDBA crews had been committed from floor 3 or whether they had been deployed only after the bridgehead had been moved to the ground floor, but he was clear that there had been enough EDBA wearers available to him.[65] When shown the photograph of the lobby wall reproduced above, GM Welch said that his understanding of the ticks against the flats below floor 17 was that they indicated that BA crews had reached those floors and had rescued the occupants. He assumed that EDBA had been used, as would be appropriate, in order to reach the furthest destinations.[66] He was not able to explain why one of three EDBA crews which had been deployed when the bridgehead was on floor 3 had been sent to floor 4 shortly after 03.00.[67]

The Paddington EDBA crew return to the bridgehead

15.29 Inside the tower, Paddington's EDBA crew made their way back down to the bridgehead with Fadumo Ahmed, whom they had rescued from the stairwell landing between floors 20 and 21. On the way down the stairs she had initially been alert, but as the temperature increased

56 De Silvo/Day 30/5-15.
57 ORR v.0.7 p. 194.
58 Welch Day 44/174/13-23.
59 Goulbourne Day 41/129/13-130/2.
60 Goulbourne Day 41/133/13-20.
61 Goulbourne Day 41/130/17-131/24.
62 Welch Day 44/156/3-19.
63 Welch Day 44/157/18-158/20.
64 Welch Day 44/158/13-23.
65 Welch Day 44/160/7-21; WM De Silvo also said that she did not recall any problem with lack of EDBA wearers but that it would not be part of her role to assess BA resources: De Silvo/Day 30/14/6-11.
66 Welch Day 44/163/15-164/18.
67 Welch Day 44/164/19-165/6.

she collapsed and became unconscious.[68] When they reached the bridgehead FF Martin Gillam and FF Dean Roberts carried her out onto the mezzanine and started to perform CPR, using the mask from FF Gillam's BA set. She regained consciousness and they carried her out to the ambulance that was waiting about 150 metres away from the tower in the direction of the leisure centre.[69]

15.30 The "end of wear times" of the Paddington EDBA crew were recorded as between 02.21.49 and 02.23.12.[70] CM Raoul Codd, who was one of the Chelsea FRU crew (G346) that had arrived at the incident at 01.47.33, saw the Paddington crew on their way out of the building while he was outside the entrance to the tower waiting to be deployed with the rest of his crew. CM Codd heard FF Tom Reddington, also from the G346 crew, say to the Station Manager who was in charge (probably SM Brett Loft): "That is your only FRU crew. We're FRU and we need to get in there."[71] FF Nikki Upton similarly recalled FF Reddington telling the Chelsea crew to be more proactive, get their sets on and go in, as they had EDBA. They decided to go to the bridgehead and get involved, rather than wait for someone to call for them.[72]

FFs Katie Foster and Gregory Lawson return to the bridgehead

15.31 FFs Foster and Lawson returned to the bridgehead not long after the Paddington EDBA crew. Their "end of wear time" was 02.27.18 and 02.27.36.[73] FF Foster was not involved in the debrief given by FF Lawson, who told her to return her tally and close down her BA set.[74] FF Lawson delivered his debrief to an officer in a white helmet, and drew a plan on the wall of the bridgehead to indicate which flats they had been to and which were empty. He also explained why they had not taken the occupants to whom he had spoken down the stairs and said that it was necessary to send more crews back there immediately.[75]

15.32 On leaving the bridgehead and going back through the ground floor lobby, FF Lawson spoke to CM Batterbee. He drew another plan of floor 18 on a piece of paper, which he gave to CM Batterbee, repeating the information that he had given at the bridgehead.[76] He did not see what CM Batterbee did with the information.[77]

Arrival of AC Andrew Roe on CU7

15.33 AC Roe arrived at 02.31.18[78] and started to make his way towards the tower. He had in mind the LFB decision-making model which at that point he felt simply required him to get a proper understanding of what he was facing. He expected the senior officers already there to have put in place some form of plan to manage the incident.[79]

15.34 As he walked towards the tower, he saw that the whole of it was alight from floor 3 upwards and that there was fire inside many windows. That led him very quickly to the conclusion that the fire was inside the building. He said that it had been very obvious to him at that point that there had been a complete building system failure. He saw that the fire had broken out of the

68 Gillam witness statement [MET00008025] pp. 11-13.
69 Roberts witness statement [MET00007890] pp. 6-7; Gillam witness statement [MET00008025] p. 13.
70 BA Telemetry Schedule.
71 Codd witness statement [MET00012539] p. 3; Codd Day 39/76/3-17.
72 Upton witness statement [MET00007524] p. 5.
73 BA Telemetry Schedule.
74 Foster Day 39/118/20-119/6.
75 Lawson witness statement [MET00010815] p. 5; Lawson Day 39/156/19-157/4.
76 Lawson Day 39/157/5-23.
77 Lawson Day 39/158/9-11.
78 SIL p. 14.
79 Roe Day 48/227/10-25.

compartments initially affected and had entered the compartments beyond,[80] and that the extent of the internal fire spread was significant.[81] He said that at the same time he was very sure that they were no longer going to be able to advise people that they should stay put. That, he said, had been the first thing in his mind.[82] He decided at the same moment that the only purpose of fighting the fire would be to maintain conditions, in order to mitigate the risk to BA crews when sending them in as far as they could.[83]

15.35 AC Roe went first to CU7, where GM Goodall told him that he thought there had been about 100 FSG calls.[84] GM Goodall briefed him about the system he had put in place, including the system of running hard copy records of FSG calls into the bridgehead, and AC Roe was satisfied with that.[85] AC Roe could not recall whether he had learnt at that stage or later on that GM Goodall had been finding it difficult to get information back from the bridgehead about the results of deployments.[86] He remembered having reminded GM Goodall of the need to get information back to the control room, but said that he had been conscious that the officers handling FSG calls were working at absolute capacity and that "closing the loop was just very, very difficult".[87] It had simply been impossible to inform the control room about the outcome of every deployment in response to an FSG call.[88]

15.36 AC Roe then left CU7 to go to CU8.[89]

DAC O'Loughlin on CU8: make aerials 4 and the informative message

15.37 Meanwhile, on CU8, DAC O'Loughlin had remained in command. During that period, indeed during the entire period during which he had been in command, he had received no additional information from GM Goodall nor any information from GM Goulbourne on the fire sector[90] and had not attempted to leave CU8 in order to speak in person to anyone on CU7.[91]

15.38 At 02.31.22, a radio message was sent from CU8 to the control room seeking confirmation that the request for four aerials had been received.[92] That was one of the messages that DAC O'Loughlin recalled having asked WM Kentfield to send on his behalf, shortly after his arrival at the incident at around 02.00, but there is no record of its having been sent or received before 02.31. The request was entered in the VISION system at 02.32.01.[93] In oral evidence DAC O'Loughlin said that he did not think that the delay had made any difference, because he felt that the appliances would not have been able to gain access to the building in any event.[94]

15.39 DAC O'Loughlin also asked for an informative message to be sent that was recorded in VISION by the control room at 02.42.03.[95] It read as follows:

80 Roe Day 48/230/1-17.
81 Roe Day 48/233/5-10.
82 Roe Day 48/231/3-6.
83 Roe Day 48/231/9-14.
84 Roe Day 48/235/6-20.
85 Roe Day 48/236/1-21.
86 Roe Day 48/241/14-25.
87 Roe Day 48/247/5-248/1.
88 Roe Day 48/248/15-20.
89 Roe witness statement [MET00007520] p. 3.
90 O'Loughlin Day 48/13/12-14/5.
91 O'Loughlin Day 48/15/5-16/6.
92 [LFB00002258].
93 SIL p. 23.
94 O'Loughlin Day 47/149/14-150/1.
95 SIL p. 23.

> "SUP CU8 FROM DAC OLOUGHLIN A RESIDENTIAL BLOCK OF FLATS 27 FLOORS 25M X 25M FIRE ON ALL FLOORS FROM 2ND TO 27TH FLOOR LARGE NUMBER OF PERSONS INVOLVED FSG CALLS BEING DEALT WITH MAJOR INCIDENT DECLARED HIGH RISE PROCEDURE IMPLEMENTED TL ALP EDBA MAIN CONTROL FSG GROUND MONITOR 5 JETS SAFETY CORDEN IN PLACE TACTICAL MODE OSCAR."

15.40 DAC O'Loughlin said that when sending a "persons reported" message you should specify how many people you know are involved, but that at that stage of the incident the most he could say was that there was a large number of FSG calls.[96] He explained that the message referred to 27 floors because the floor plaque, which had been brought from the building onto CU8 (probably by WM Kentfield), listed additional levels below the ground floor, making it appear that were more floors than was actually the case.[97]

15.41 Immediately after that message had been sent, DAC O'Loughlin recalled that someone from CU7 had come onto CU8 and provided him with a slip of paper on which it was recorded that FSG calls had been received from 58 adults and 16 children (as recorded on VISION at 02.42.50[98]). He had been shocked by the number,[99] but it had not prompted him to think that firefighting was no longer a viable option. (He had not still received a briefing as to the extent of the fire.)[100] Nor did it cause him to consider revoking the "stay put" advice. Notwithstanding that (as he accepted) some of the FSG calls might have come from parts of the building other the north-east corner, he maintained that at that time there had been no reason to think that it would not be safer for people whose flats were not directly affected by fire or smoke to stay in them.[101]

DAC O'Loughlin and withdrawal of the "stay put" advice

15.42 After the informative message had been sent, DAC O'Loughlin recalled that one of the Watch Managers on CU8, whose name he did not know, had told him that a message had been received from the control room notifying them that the "stay put" advice had been changed.[102] DAC O'Loughlin's recollection was that the control room had already made the decision and that he had not been asked for his permission.[103]

15.43 DAC O'Loughlin said he had been confused by that: his understanding was that people making FSG calls should be encouraged to find a way to escape if they thought they could.[104] He therefore understood the message as meaning that people who called the control room from flats that were not affected by fire or smoke would also be told to leave,[105] even though they were not actually FSG callers in the true sense of the term,[106] and that people making "true" FSG calls should be encouraged to check again to see whether there was a way of leaving.[107] He asked the Watch Manager on CU8 to call the control room again to clarify the position, since callers from flats that were not affected might be encouraged to enter

96 O'Loughlin Day 47/236/16-237/5.
97 O'Loughlin Day 47/237/23-238/24.
98 SIL p. 23.
99 O'Loughlin Day 47/240/3-14.
100 O'Loughlin Day 47/242/7-21.
101 O'Loughlin Day 47/244/6-23.
102 O'Loughlin Day 48/2/20-3/8.
103 O'Loughlin Day 48/4/25-5/7.
104 O'Loughlin Day 48/7/8-17; 11/19-12/4.
105 O'Loughlin Day 48/5/25-6/5.
106 O'Loughlin Day 48/8/10-11.
107 O'Loughlin Day 48/9/14-17.

a smoke-filled environment if they were told to leave.[108] The second call did not resolve his confusion, however, because the control room continued to refer simply to "FSG callers", but he did not take any steps to seek further clarification.[109]

15.44 Following the second call, therefore, DAC O'Loughlin understood that anyone who made an emergency call from inside the building would be told to leave[110] and that callers who said they were trapped would be "encouraged" to leave.[111] However, he also said that the change in the "stay put" advice amounted to saying: "If you feel you can escape, you should", but did not involve telling people to enter a smoke-filled environment.[112] He did not understand that the advice being given to occupants from that point onwards was that they must leave at all costs and that it was a matter of life and death. He thought that if occupants were telling CROs that they could not leave their flats, they would not be able to get out in any event.[113]

15.45 DAC O'Loughlin's recollection was that AC Roe had arrived on CU8 within a few minutes of the message coming in from the control room.[114]

Arrival of AC Roe at CU8: the decision to revoke the "stay put" advice

15.46 AC Roe arrived on CU8 and immediately asked for a message to be sent confirming that he had taken over as incident commander.[115] It was sent at 02.43.51.[116] AC Roe said that as he entered the CU he had been thinking very clearly that he wanted to end the "stay put" advice.[117] He said that he knew at that moment that it was "absolutely unsustainable".[118]

15.47 AC Roe was given a briefing by DAC O'Loughlin, who told him that the tower was alight from floor 3 to floor 24, with many people trapped, and that GM Welch and GM Goulbourne were in command of the fire sector.[119] He did not recall having discussed with DAC O'Loughlin whether the fire had penetrated the interior of the flats, as he thought there had been a general understanding that they were facing a building system failure.[120] AC Roe recalled that DAC O'Loughlin had been able to tell him about the organisational structure that he had put in place and how he was ensuring that there was a supply of BA wearers to go into the tower and said that he had felt reassured by that.[121] AC Roe said that he had not been told by DAC O'Loughlin that no information had come back to CU8 from either the fire sector or CU7 for the past 25 minutes.[122] He also said that DAC O'Loughlin had not revoked the "stay put" advice at that time. [123]

108 O'Loughlin Day 48/12/11-13.
109 O'Loughlin Day 48/12/13-25; O'Loughlin Day 48/13/2.
110 O'Loughlin Day 48/17/13-20.
111 O'Loughlin Day 48/18/24-19/4.
112 O'Loughlin Day 48/34/8-12.
113 O'Loughlin Day 48/32/13-16.
114 O'Loughlin Day 48/7/21-25; O'Loughlin Day 48/8/1.
115 Roe Day 48/254/10-16.
116 [LFB00002272].
117 Roe Day 49/5/1-2.
118 Roe Day 49/26/7-8.
119 Roe Record of Actions p.2.
120 Roe Day 48/256/7-13.
121 Roe Day 48/256/13-23.
122 Roe Day 48/257/16-19.
123 Roe Day 48/257/13-14.

15.48 AC Roe's evidence about how the decision to change the "stay put" advice came to be made differed from that of DAC O'Loughlin. AC Roe did not remember a message from the control room saying that it had changed the advice being given to FSG callers. He said that immediately after he had told the crew on CU8 that he was taking over, he directed SM Jackie McConochie to act as his loggist and as a first step to record that he wanted to end the "stay put" advice.[124]

15.49 At that point, AC Roe recalled that he had turned to the officers on CU8 to give them the necessary instruction but had found that one of them was already on the telephone to the control room which was asking to withdraw the "stay put" advice. AC Roe told the officer that he wanted to end it anyway and to tell the control room that that is what they should do.[125] He told SM McConochie to record the decision,[126] which appears in his log timed at 02.47.[127]

15.50 AC Roe did not speak to the control room about withdrawing the "stay put" advice. In his view it was unnecessary to do so, because it was advice that could no longer properly be given.[128] His decision to withdraw the advice was prompted by the fact that the fire had spread in all directions, resulting in a total failure of compartmentation.[129] He acknowledged that by telling callers to leave there was a risk of sending them into a smoke-logged environment. He said that he had grappled with that dilemma, but had concluded that compartmentation had failed to such an extent that it was impossible to see how any flat in the building could be relied on to provide a survivable environment.[130] Anyone who was in the building above floor 4 was "in great danger".[131]

15.51 The officer on CU8 who took the call from the control room concerning the withdrawal of the "stay put" advice may have been SM Peter Johnson, who had arrived at the incident at 01.58.45[132] and had boarded CU8 not long thereafter.[133] He took a call from someone in the control room, whom he thought might have been DAC Adrian Fenton,[134] informing him that the control room had taken the decision to tell callers to leave the building[135] and passed the information on to AC Roe.[136] As he recalled it, the control room had announced its decision; it had not asked for permission to withdraw the advice.[137]

15.52 GM Stephen West was also on CU8 at that time. He remembered that he had taken a call from DAC Fenton seeking the Commissioner's permission to change the "stay put" advice, following which he had had a brief conversation with the Commissioner, who told him that they should do whatever was required. However, I think he must have been mistaken about that because the Commissioner did not arrive at the incident until 02.50.48[138] and she said that AC Roe had told her shortly after she went on to CU8 that he had revoked the "stay put" advice.[139] She did not recall having had any conversation with GM West of the kind he

124 Roe Day 49/5/7-13.
125 Roe Day 49/5/14-6/9.
126 Roe Day 49/5/7-13.
127 Roe Log [MET00005404] p. 1.
128 Roe Day 49/7/19-8/11.
129 Roe Day 49/19/18-21.
130 Roe Day 49/15/17-16/10.
131 Roe Day 49/12/12-13/2.
132 SIL p. 9 (SM Johnson was on CU2).
133 SM Johnson's evidence was that he arrived some time after 02.11, when the message was sent confirming that DAC O'Loughlin had taken command, but before 02.43, which was the time that he sent the message confirming that AC Roe had taken command: Johnson Day 37/59/20-61/1.
134 Johnson Day 37/95/25-96/3.
135 Johnson Day 37/93/12-94/12.
136 Johnson Day 37/95/16-20.
137 Johnson Day 37/96/4-12.
138 [LFB00002814].
139 Cotton Day 50/146/25-147/3.

described.[140] In addition, DAC Fenton did not recall a conversation in which he had asked for permission to change the "stay put" advice, although his recollection of the calls he had made to CU8 was in some respects unclear.[141]

15.53 Although it is not entirely clear whether it was SM Johnson or GM West who took the call notifying the incident ground that the control room had withdrawn the "stay put" advice, nothing turns on the point. It is clear that someone in the control room, most likely DAC Fenton, spoke to someone on CU8 and told him of the control room's decision.[142] The fact is that DAC Fenton and SOM Joanne Smith together had made that decision and that the purpose of calling CU8 was to inform the incident commander of that fact. AC Roe made the same decision, independently, at almost the same time.

Other significant BA deployments during this period

CM Richard Evans and FF Gemma Bloxham

15.54 CM Evans and FF Bloxham were briefed to go to Flat 205 on floor 23[143] and tallied out at 02.24.24 and 02.24.33.[144] On their way up, somewhere between floor 18 and floor 20,[145] the firefighters came across two casualties in the stairwell, a man and a woman (probably Shekeb (Farhad) Neda and Flora (Shakila) Neda). CM Evans and FF Bloxham took them into the lobby where the air quality was better. FF Bloxham recalled that the woman had been on the telephone to members of her family on floor 23 and that on overhearing the conversation CM Evans had tried to make radio contact with the bridgehead, but had not been able to obtain a response.[146]

15.55 The crew then started to take the two casualties down. On the way, they became separated from the man.[147] They then came across an injured firefighter without his helmet (now known to be FF David Hill). FF Bloxham took hold of him in order to lead him down to the bridgehead while CM Evans looked after the woman, who by that point had collapsed.[148]

15.56 When the crew arrived back at the bridgehead CM Evans took the woman outside to the LAS[149] while FF Bloxham gave FF Hill oxygen in the lift lobby. CM Evans then returned to the bridgehead and told the officer in charge that he and FF Bloxham had brought two people down but that they had not reached Flat 205.[150] The crew's "end of wear time" was 02.42.59 and 02.42.47.[151]

140 Cotton Day 50/156/4-10.
141 Fenton Day 24/153/10-19.
142 Fenton Day 24/154/11-155/2.
143 Evans witness statement [MET00010089] p. 7.
144 BA Telemetry Schedule.
145 CM Evans recalled that it was between floor 18 and floor 20 that they came across the casualties, FF Bloxham said that it was around floor 20: Evans witness statement [MET00010089] p. 9; Bloxham witness statement [MET00010866] p. 4.
146 Evans witness statement [MET00010089] pp. 9-10; Bloxham witness statement [MET00010866] p. 4.
147 CM Evans said that he handed the man to the Chiswick crew, while FF Bloxham recalled that the man ran off on his own down the stairs: Evans witness statement [MET00010089] p. 11; Bloxham witness statement [MET00010866] p. 5.
148 Evans witness statement [MET00010089] p. 11; Bloxham witness statement [MET00010866] p. 5.
149 Flora (Shakila) Neda's exit time is 02.43.32. Annex A.
150 Evans witness statement [MET00010089] p. 12; Bloxham witness statement [MET00010866] p. 5.
151 BA Telemetry Schedule.

FF Reddington and FF Upton

15.57 FFs Reddington and Upton tallied out at 02.44.07 and 02.44.39,[152] deployed to two flats on floor 21. FF Upton's recollection was that they had either been briefed to go to Flats 182 and 183 or to Flats 183 and 184.[153] At about floor 18 the crew came across an unresponsive female casualty. Her leg was stuck in the bannister railings and the firefighters could not move her. FF Upton then discovered another casualty, this time a child, close to the woman. The crew decided that, since they could not move the woman, they had to leave her there in order to take the child down.[154] It is likely that the woman was Farah Hamdan and the child Malak Belkadi, from Flat 175 on floor 20.

15.58 On their way down, the firefighters came across another crew on their way up and told them that they had left a woman behind who needed assistance. On reaching the bridgehead, FFs Reddington and Upton reported that they had not reached floor 21. Their "end of wear time" was 03.06.59 and 03.07.52.[155]

FF Leon Whitley and FF Ricky Nuttall

15.59 FF Whitley and FF Nuttall tallied out at 02.44.32 and 02.45.07 respectively,[156] having been briefed to go to Flat 122 on floor 15 taking a hose with them.[157] Once the crew were in the lobby on floor 15, they located the riser, rolled out the hose and waited until the water had charged the hose. They then located Flat 122, but at that point the whistles on their BA sets sounded, indicating that they were low on air.[158] The firefighters decided that they would return to the bridgehead rather than trying to gain entry to Flat 122, as they were concerned that they would not have enough time to help the casualties out, particularly if they were elderly or there were a group of people.[159]

15.60 The crew reached the bridgehead, which by that time had been moved the ground floor. Their "end of wear time" was 03.10.03 and 03.10.49 (in Period 8).[160] FF Nuttall recalled trying to tell WM Williams that they had not reached Flat 122 but that he had been too busy to take the information. The crew then left the building and FF Nuttall tried again to pass the information to a Crew Manager standing by some garages near the front of the tower. He said that he could not take the information either. Finally, FF Nuttall was able to give it to a Watch Manager who told him that he would deal with it.[161]

152 BA Telemetry Schedule.
153 Upton witness statement [MET00007524] p. 5; Upton Day 38/145/2-24.
154 Upton witness statement [MET00007524] p. 8; Upton Day 38/147/8-21.
155 BA Telemetry Schedule.
156 BA Telemetry Schedule.
157 Nuttall witness statement [MET00012561] p. 7.
158 Nuttall witness statement [MET00012561] p. 11.
159 Nuttall witness statement [MET00012561] p. 12.
160 BA Telemetry Schedule.
161 Nuttall witness statement [MET00012561] pp. 13-14.

3 Conditions in the tower and movement of occupants

The progress of the fire on floor 23

Flat 205

15.61 At 02.25.38, CRO Christine Howson answered a 999 call from Mariem Elgwahry.[162] During the call, she told CRO Howson that she was one of seven adults who were now cornered in the kitchen. They were running out of air and the whole flat was black. There were flames outside the window. Mariem Elgwahry said that she was with her mother who was diabetic and had asthma. She then said that the fire had reached a bedroom and confirmed to CRO Howson that the bedroom door had been closed. CRO Howson advised her to leave, if necessary. Mariem Elgwahry said those in the flat had already tried to leave, but that it was totally black outside the front door. CRO Howson advised using wet towels, which Mariem Elgwahry said they had done. CRO Howson then advised that, if the fire had reached the flat, everyone needed to leave.

15.62 While the call was continuing, Ahmed Elgwahry (Mariem Elgwahry's brother) tried to telephone her. She called him back at 02.31. Ahmed Elgwahry felt that in this call his sister did not want to worry him. She told Ahmed Elgwahry that there were six or seven people in the flat. She was sitting in the kitchen. She could only see smoke from the window. It was not possible to leave because the area outside the flat was full of black smoke and it was impossible to see.[163]

15.63 Ahmed Elgwahry had a further telephone conversation with his sister, which began at 02.33. I return to this call later.

15.64 The bedroom in Flat 205 first reached by the fire was immediately opposite the front door. When Mohammed Amied (Saber) Neda discovered the fire he closed the bedroom door and told everyone not to enter it.[164] By that point those in Flat 205 had moved into the kitchen as that was least affected by smoke. Farhad Neda decided that they could not stay. He estimated the time of that decision as around 02.15 based on a text exchange with a friend outside the tower. He grabbed his mother and shouted to his father to leave. His father agreed and told Farhad Neda that he would be right behind. As they were leaving, Saber Neda was handing out wet towels to the four women who had taken refuge in Flat 205.[165]

15.65 There was already thick smoke in the hallway of the flat when Farhad Neda opened the front door. The lobby was dark and thick with smoke. Flora (Shakila) Neda remembered that, in the hallway light, the smoke in the lobby looked greasy or shiny like glitter. The flat door did not close automatically and Farhad Neda left it open believing his father was following behind. The lobby was hotter than the flat and the smoke caused a burning sensation in the throat and lungs. It had a sour taste and made Flora (Shakila) Neda vomit and choke. They both had wet cloths over their mouths and noses but struggled to breathe. Carrying his mother, Farhad Neda felt his way to the stairwell door, which took him no more than 20 seconds. He pushed the stairwell door open.[166]

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162 [LFB00000670].
163 Ahmed Elgwahry first witness statement [IWS00000988] p. 10.
164 Farhad Neda Day 61/53/3-7; Day 61/63/1.
165 Farhad Neda first witness statement [IWS00000886] pp. 8-9; Farhad Neda Day 61/69/4-24; Day 61/71/1-75/9; Flora (Shakila) Neda first witness statement [IWS00000887] p. 10.
166 Farhad Neda first witness statement [IWS00000886] p. 9; Farhad Neda Day 61/75/14-21; Day 61/76/21-81/25; Flora (Shakila) Neda first witness statement [IWS00000887] pp. 10-11; Flora (Shakila) Neda Day 61/139/15-141/19; Day 61/144/4-145/11.

15.66 The stairs were also thick with black smoke. There was no apparent lighting and the handrail was not visible. The smoke had a sour, acidic taste. Farhad Neda helped his mother down the stairs. As they descended it became just possible to make out the floor. At one point they tripped and saw an open stairwell door. They returned to that door and entered the lobby to try and find some air. There was less smoke there. They sat down by the air vents on the south side of the lobby. Within a minute or so they continued their descent. Two or three floors down they encountered two firefighters, probably FFs Bloxham and Evans, in the darkness of the stairwell. It was at that point that Farhad Neda realised his father was not following behind. When he told one firefighter that his father and four others were trapped in Flat 205, the firefighter wrote that information in a notebook.[167]

15.67 The two firefighters then assisted them down the stairs. The Nedas did not see any light into the stairwell until about floor 4. At about floor 2 or 3, they were handed over to other firefighters and helped out of the tower. As he was leaving the main entrance Farhad Neda told firefighters that there were still people in his flat.[168] Farhad and Flora (Shakila) Neda are recorded as leaving the tower at 02.42.10 and 02.43.32 respectively.[169]

15.68 At 02.37, Saber Neda telephoned his nephew, Lotfrahman (Massi) Abdulrahman. He was still in Flat 205 and asked why no one had come to help. Massi Abdulrahman could hear female voices in the background.[170] After this call had ended, Massi Abdulrahman tried repeatedly to call his uncle throughout the night. The telephone would ring but was not answered. After 05.00, the calls went straight to voicemail.[171]

15.69 At 02.40, Saber Neda left a voicemail for his brother in law, Habibrahman Abdulrahman. He said:

> "Goodbye. We are now leaving this world, goodbye. I hope I haven't disappointed you. Goodbye to all."[172]

15.70 At 02.41, the body of Saber Neda was found in the children's playground on the west side of the tower.[173] He had jumped from the tower after leaving the voicemail message.

Flat 204

15.71 At 02.36.07, CRO Sarah Russell spoke to Hesham Rahman.[174] She had difficulty hearing him because of the smoke alarm in his flat. He told her that smoke was coming into the flat but not flames. She suggested that it might be better to leave. He responded by saying that he could not see anything outside the door and had problems walking and so would need help on the stairs. He was in the sitting room. CRO Russell confirmed that she would pass on the information and advised Hesham Rahman about what to do while he waited in his flat.

15.72 At 02.36.12 a female relative of Hesham Rahman spoke to CRO Angie Gotts. Hesham Rahman had told his relative on the telephone that there was already a lot of smoke in the flat and that the fire was now travelling towards him.[175]

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167 Farhad Neda first witness statement [IWS00000886] pp. 10-11; Farhad Neda Day 61/82/2-93/-25; Flora (Shakila) Neda first witness statement [IWS00000887] pp. 11-13; Flora (Shakila) Neda Day 61/145/12-148/5.
168 Farhad Neda Day 61/87/13-17; Day 61/93/6-23.
169 Annex A.
170 Lotfrahman Abdulrahman first witness statement [IWS00000882] pp. 2-3.
171 Lotfrahman Abdulrahman first witness statement [IWS00000882] p. 3.
172 As played at the Commemoration Hearing on 21 May 2018. Habibrahman Abdulrahman first witness statement [IWS00000883] p. 2; Lotfrahman Abdulrahman second witness statement [IWS00001132] p. 1.
173 CAD 428 [MET00023294] p. 16.
174 [LFB00000368].
175 [LFB00000364].

Flat 203

15.73 At 02.42.06, Isra Ibrahim spoke to CRO Howson.[176] She told her that the amount of smoke in the flat was increasing. They had put blankets by the front door. The flat next door (probably Flat 202) was on fire. There were five adults and two children in the flat. CRO Howson advised Isra Ibrahim about blocking out the smoke, told her that firefighters were making their way to her and said that, as long as there were no flames, the flat was the safest place "because you don't know what's going on outside".

The progress of the fire on floor 21

15.74 At 02.32, Marcio Gomes in Flat 183 made a 30-second video recording on his mobile telephone of his front door and that part of the lobby immediately outside the door.[177] Just before he made that recording, he had tried to get to Flat 181, the home of his neighbour, Ligaya Moore, who lived alone. He had not gone beyond his own door.[178]

15.75 The video recording shows:

a. smoke coming through the gap at the bottom of the front door where a towel has been laid across it;[179]

b. smoke coming through the left-hand side of the front door where a towel has been hung on a hook;[180] and

c. the area of the lobby outside the front door, which was pitch-black with no indication of functioning lighting.[181]

15.76 The threshold of Marcio Gomes's front door was usually illuminated by a lobby light fixed to the wall on the right-hand side of the door. It had been working earlier when Helen Gebremeskel and her daughter had knocked on the door.[182]

15.77 On the recording, and before and after he opened the front door, traces of smoke are visible in the air as Marcio Gomes moves around the hallway.[183] The front door of Flat 183 faced a white wall in the lobby. That wall cannot be seen in the recording. A shower can be heard in the background. As well as filling the bath, Marcio Gomes had turned on the shower because the smoke in the flat had made the air dry. He hoped that if he could get wet particles into the air it would make breathing easier. The shower stopped running 5 or 10 minutes after the video recording was made. It did not start again that night.[184]

15.78 At 02.46.58 Marcio Gomes made another 999 call.[185] He told CRO Howson that the fire had reached the flat next door and was coming through the windows. At the time he could see from a bedroom window (which faced south) a bright light coming from Flat 182.[186] CRO Howson told him that it might be necessary to leave the flat, to which he responded that there was too much smoke outside. CRO Howson gave further advice about using wet clothes

176 [LFB00000375].
177 Marcio Gomes Exhibit MG/1 [IWS00000623].
178 Gomes Day 71(Fri)/67/24; Gomes first witness statement [IWS00001078] p. 21; Gebremeskel [IWS00000933] p. 5.
179 At 0.03 seconds on recording.
180 At 0.05 seconds on recording.
181 At 0.20 seconds on recording.
182 Gomes Day 71(Fri)/43/12-44/25.
183 At 0.01 and 0.29 seconds on recording.
184 Gomes Day 71(Fri)/65/5-70/14.
185 [LFB00000672].
186 Gomes Day 71(Fri)/73/7-74/25.

as protection and making for the stairwell. She said firefighters were making their way up but that progress was slow. Marcio Gomes assumed that firefighters were still coming to flats and he had a choice whether or not to leave.[187] He did not leave the flat at that stage.

The progress of the fire on floor 18

15.79 Flat 152 had an open-plan kitchen and living room, the windows of which faced east.[188] The kitchen shared a wall with the bedroom of Flat 151.[189] Before 02.30, there had been no smoke in the flat, but it had begun to feel warm particularly on the north side of the flat. Rabia Yahya and her three children were in the living room. By reference to a 999 call she made at 02.34.42,[190] Rabia Yahya thought that it had been at around 02.30 that she had seen sparks land on the outside ledge of the kitchen window. She estimated that within a minute the sparks had become a "full-blown fire" which came through the kitchen window. The window seemed to be melting. The fire appeared to be on the window frame and covered about 60 or 70 per cent of the window. The flames were a vibrant orange colour and were accompanied by dark grey smoke. The smoke had a similar smell to the smoke Rabia Yahya had encountered earlier and it triggered her asthma.[191]

15.80 Using wet towels to cover her and her children's faces, Rabia Yahya immediately left for Flat 153. She decided to move there because the two firefighters who had earlier come to Flat 152 (FFs Foster and Lawson) had said that they would take everyone on floor 18 out together. She did not want to go to the stairwell as she did not know what conditions there were like. The smoke in the lobby had worsened since she had opened her door to the two firefighters. There was no visibility and she used the wall as a guide while pulling her children along as they were scared. The lobby felt hotter than a summer's day.[192]

15.81 Everyone in Flat 153 was in the living room when Rabia Yahya and her children entered the flat. There was no smoke in Flat 153. Within minutes of arriving, Rabia Yahya called 999 to report that she had moved. She told CRO Heidi Fox that she was in Flat 153 and that the fire had reached Flat 152. CRO Fox advised that they should all try to leave. Rabia Yahya explained that they could not leave because of the thick, black smoke and added that the firefighters had said they would come back but had not. CRO Fox said she would alert the command unit to go directly to them. Rabia Yahya said that she understood that firefighters would come to Flat 153.[193]

15.82 Rabia Yahya's 999 call overlapped with one made by Paulos Tekle, which CRO Yvonne Adams answered at 02.32.30.[194] His confirmation of the number of people in his flat shows that Rabia Yahya was already in Flat 153. He told CRO Adams that the fire was coming near and that they could not leave. Her advice was to move to the safest room. Paulos Tekle said in evidence that when he made that call there had been no smoke or fire in Flat 153. From a window of the bedroom closest to Flat 152 he had been able to see orange flames coming from the direction of that flat.[195]

187 Gomes Day 71(Fri)/75/1-77/9.
188 Rabia Yahya Day 63/155/10.
189 Operation Northleigh report "External spread of fire at Grenfell Tower" v.4 [MET00012593] p. 12.
190 [LFB00000365].
191 Rabia Yahya Day 63/156/5-15.
192 Rabia Yahya Day 63/157/2-161/5.
193 Rabia Yahya Day 63/157/2-161/5; Day 63/162/16-166/9; [LFB00000365].
194 [LFB00000361].
195 Tekle Day 63/56/25-67/24; Tekle Exhibit PT7 [IWS000010521] p. 24.

15.83 At 02.48.22, CRO Howson responded to a call which Rabia Yahya took over from her daughter. It was not a call, however, of which Rabia Yahya had any recollection. On being told that the fire was in the flat next door, CRO Howson advised Rabia Yahya to leave using the stairs. Rabia Yahya's subsequent decision to leave was motivated by a desire to protect her children. In hindsight, she thought that being told that no one was coming to rescue them had affected her decision.[196]

Events on floor 17

15.84 At around 01.50 Husna Begum called her cousin Rohema Khanom to tell her that there was a fire in the building. After she had started to make her way to the tower, Rohema Khanom called Husna Begum between 02.20 and 02.50. She spoke to her aunt Rabeya Begum who told her that the fire was now in the flat. Her aunt said that the family were all in the bedroom used by Mohammed Hanif and Mohammed Hamid. She then handed the phone back to Husna Begum, who said it was pitch-black in the flat, before terminating the call.[197]

15.85 At 02.27, Husna Begum was connected to the LFB Control room. She told CRO Fox that they had been waiting for assistance for an hour.[198]

Events on floor 16

15.86 At 02.21, Sener Macit was still speaking to CRO Sue Pimblett of North West FRS in a 999 call which had begun at 02.10.33 and ended at 02.38.05.[199] During that call, he told CRO Pimblett that his wife was speaking to relatives, who, he explained in evidence, had been telling them to leave. Their response was that the smoke was preventing them from doing so. Sener Macit was also worried that if they went down the stairs they might find themselves running into the fire.[200]

15.87 At a late stage in the call, CRO Pimblett told Sener Macit that the firefighters were working their way up from floor 14 and so should reach floor 16 soon. A few minutes later, she told him that she had been instructed to ask him and his wife to cover themselves with wet towels and leave the flat. Sener Macit said in evidence that he had been relieved to hear that help was on the way but that, when the advice changed, his first thought had been whether he and his wife would be able to survive the stairs.[201]

15.88 The Macits then tried to leave Flat 133. The lobby was still full of thick black smoke. It was difficult to breathe and they had to feel their way to the stairwell door. Sener Macit compared the temperature of the lobby at that time to "a sauna in a Turkish bath, much hotter". When he pushed the stairwell door open, he found the stairwell to be no different from the lobby; it was dark, full of smoke and hot. Scared, faced with the conditions in the stairwell and concerned that he might not be able to reach the ground floor as he was already out of breath, Sener Macit decided to return to his flat with his wife. He had to search for the keyhole with his fingers to unlock his front door.[202]

196 Rabia Yahya Day 63/166/9-171/12; [LFB00000384].
197 Khanom witness statement [COR00001147] pp. 3-5.
198 [LFB00000354].
199 [LFB00055499] Pimblett witness statement [MET00008034] p. 7.
200 Sener Macit Day 65/154/9-155/17.
201 [LFB00055499] pp. 24, 28; Sener Macit Day 65/156/9-158/13.
202 Sener Macit first witness statement [IWS00000069] pp. 14-15; Sener Macit second witness statement [IWS00001156] p. 4; Sener Macit Day 65/158/14-163/12; Hanife Macit first witness statement [IWS00000904] p. 10.

15.89 On his return to Flat 133, Sener Macit made two further 999 calls, one at 02.41.31[203] and another at 02.49.05.[204] At that time, thick black smoke was still coming into the flat from the lobby.[205] Sener Macit believed that he must have made the call timed at 02.41.31 immediately on his return to Flat 133.[206] The earlier call with CRO Pimblett ended at 02.38.05, which provides an indication of how long it took the Macits to leave their flat, reach the stairwell and return.

15.90 The first of those 999 calls was taken by CRO Fox. When Sener Macit told her that he could not leave his flat, she advised him to put damp sheets around him and said that she would inform the command unit. Sener Macit understood from what she had said that the fire and rescue services would be told that he and his wife were still trapped in their flat. He could not remember why he had called 999 again a few minutes later. CRO Fox also answered that call. She told him a number of times that he had to leave the flat. She could not tell him whether there was smoke on the stairs but did tell him that firefighters were on different floors. Sener Macit told CRO Fox that he would try to leave, but he could not remember whether he and his wife had tried to do so at that time.[207] The Macits remained in their flat for some time and I shall return to their accounts later.

Deployments to, and evacuation of, Flat 113, floor 14

15.91 Two more crews were sent to floor 14. FFs Peter Herrera and Teresa Orchard tallied out at 02.26.44 and 02.27.08 respectively.[208] FF Herrera recalled having been briefed by WM De Silvo to go to Flat 113 where a man, a woman and a child were in need of rescue.[209] If that is right, it reflects the original FSG call made from Flat 113 and not the new information brought down to the bridgehead by FFs Desmond Murphy and Charles Cornelius. FF Orchard's recollection was that the brief had been to rescue six people in Flat 113.[210] It is unlikely that WM De Silvo would have given inconsistent briefs to two firefighters in the same crew, so either FF Herrera's or FF Orchard's recollection must have been mistaken. I am not able at present to resolve that question, but whichever of them is correct, it seems clear that neither FF Herrera nor FF Orchard was briefed to rescue eight people from Flat 113.

15.92 Very soon after, at 02.31.00, CM Benjamin McAlonen and FF Elliot Juggins tallied out.[211] Both firefighters said they had been briefed to go to a woman and child in Flat 111 on floor 14,[212] although their recollections of who had briefed them differed: CM McAlonen thought they had been briefed by WM Paul Watson on the mezzanine, whereas FF Juggins thought they had been briefed by WM Brien O'Keeffe at the bridgehead. Whoever gave it, however, the briefing was doubly erroneous, because Flat 111 had been occupied by a single man, Denis Murphy, who by that time had moved to Flat 113. Since it is unlikely that WM De Silvo briefed a crew to go to an empty flat, the errors probably stemmed from a separate briefing by WM Watson or (if FF Juggins' recollection is correct) by WM O'Keeffe at the bridgehead, neither of whom had heard or taken in what FFs Murphy and Cornelius had reported when they were debriefed. Since it is unlikely that WM O'Keeffe would have failed to take in what

203 [LFB00000372].
204 [LFB00000382].
205 Sener Macit Day 65/163/19-164/8.
206 Sener Macit Day 65/164/21-165/4.
207 Sener Macit Day 65/164/20-167/24.
208 BA Telemetry Schedule.
209 Herrera witness statement [MET00010876] p. 3; Herrera Day 38/103/21-104/6.
210 Orchard witness statement [MET000086069] p. 4; Orchard Day 39/49/6-25.
211 BA Telemetry Schedule.
212 McAlonen witness statement [MET00012679] pp. 7-8; McAlonen Day 38/164/23-165/5; Juggins witness statement [MET00010879] p. 8; Juggins Day 40/64/7-19.

had been said at the debrief, it is more likely that CM McAlonen's recollection that he and FF Juggins had been briefed by WM Watson is correct and that WM Watson on the mezzanine had not been aware of what FFs Murphy and Cornelius had said when they reported back to the bridgehead. Whatever the explanation, the fact remains that none of the four firefighters deployed to floor 14 knew that there were eight people to be rescued there.

15.93 It is likely that CM McAlonen and FF Juggins reached floor 14 first, as both FFs Orchard and Herrera recalled their being there when they arrived.[213] CM McAlonen and FF Juggins went first to Flat 111, the door of which was open. They searched the flat, which was empty.[214] CM McAlonen tried to make radio contact with the bridgehead to see if there was any more information in relation to Flat 111, but could not get through.[215] The crew then decided to continue searching floor 14.[216] They moved to Flat 112 which they also found empty.[217]

15.94 Meanwhile, FF Orchard and FF Herrera had also reached floor 14. They went to Flat 113 and knocked on the door, shouting "Fire brigade!". FF Herrera's evidence was that an adult opened the door and made it clear that the occupants were very reluctant to leave.[218]

15.95 There is a conflict of evidence about what happened after the firefighters reached Flat 113, but the upshot was that four of the occupants (Oluwaseun Talabi, Rosemary Oyewole, their daughter and Omar Alhaj Ali) were guided down the stairs by the firefighters and the other four (Denis Murphy, Mohammad Alhajali, Zainab Deen and Jeremiah Deen) were left behind. The mistake was reported to the bridgehead. FFs Jon Wharnsby and Terence Lowe were sent to Flat 113,[219] but they did not reach it because they stopped on their way up to assist casualties from a different floor (as described in Period 8). Another crew consisting of CM Jamie Mayne and FF Marcus Lundquist were then initially briefed to rescue the occupants of Flat 113,[220] but they then appear to have been redeployed to go to firefight on floors 3 and 4 instead, and did not go to Flat 113.

15.96 Denis Murphy, Mohammad Alhajali, Zainab Deen and Jeremiah Deen were all left behind in Flat 113 and lost their lives in the fire. It is therefore important that, as far as possible, findings be made about the circumstances in which they came to be left there. To do so, however, requires a more detailed examination of the evidence than can be undertaken at this stage. This matter will therefore be the subject of more detailed examination at a later date when, with the benefit of further submissions and perhaps additional evidence, the conflict of evidence including the dispute about what transpired between FF Herrera and Omar Alhaj Ali will be resolved. It is not in dispute that FF Herrera did not conduct a search or secondary sweep of Flat 113. The reasons why he did not do so will be considered as part of the more detailed investigation to which I have referred.

The progress of the fire on floor 12

15.97 By 02.20 three flats remained occupied on floor 12, Flats 92, 94 and 95.

213 Orchard [MET000086069] p. 5; Orchard Day 39/53/20-23; Herrera witness statement [MET00010876] p. 4; Herrera Day 38/108/6-8.
214 McAlonen Day 38/168/22-169/11; Juggins Day 40/70/4-11-71/1-8.
215 McAlonen Day 38/6-13.
216 Juggins Day 40/72/8-13.
217 McAlonen Day 38/169/21-24.
218 Herrera Day 38/109/7-21.
219 FFs Wharnsby and Lowe tallied out at 03.04.03 and 03.04.19: BA Telemetry Schedule.
220 CM Mayne and FF Lundquist tallied out at 03.29.05 and 03.29.29: BA Telemetry Schedule.

15.98 Karen Aboud and her two sons had tried unsuccessfully to leave Flat 92 and had then made two 999 calls. Her elder son subsequently made three more 999 calls. In the first of those calls, timed at 02.15.07,[221] he told CRO Gotts that the family could not leave their flat because there was too much smoke and they could not breathe. He could see "fireballs" falling past the window. In the second call, timed at 02.38.54,[222] he told CRO Pam Jones that "fireballs" were now hitting the window from above. It appears that at that time smoke was not getting into Flat 92.

15.99 CRO Howson answered his third call at 02.50.48.[223] He reported that the fire had reached a window and was coming into the flat. CRO Howson told him that if the fire was coming into the flat, they had to leave. She said that they should put wet towels over their mouths and leave by the stairs. That was the first time that they had been told in terms to leave the flat.

15.100 That sequence of calls indicates that it was not until relatively shortly before 02.50 that fire or smoke entered Flat 92. Karen Aboud recalled that it was at around 03.00 when smoke began to come under the front door and through a bedroom window. I return to events in Flat 92 later.

15.101 In Flat 94, having made an unsuccessful attempt to leave at some time between 01.35 and 01.45, Alemishet Demissie and Ethiopia Assefa sheltered in the living room.[224] Alemishet Demissie made a 999 call at 02.24.19.[225] Having obtained the location of the flat and the number of people in it, CRO Fox advised her to use towels to stop any smoke from coming in and said that she would pass the information to the command unit who would "come and check you".

15.102 Alemishet Demissie did not tell CRO Fox that there was smoke in Flat 94, but her recollection was that by about that time it had been entering the flat. They had closed a bedroom window when the smoke had started coming in and had then noticed that it was coming under the front door from the lobby. The temperature in the flat had risen. Alemishet Demissie agreed it had been "hotter than a summer's day". The smoke had come into different rooms, including the living room, but it had still been possible to see. The smoke had a "chemical smell', similar to the smell they had encountered in the lobby when trying to leave earlier, but stronger. It had made them both cough.[226] Ethiopia Assefa described the smoke as light grey in colour and unlike that which she had seen in the lobby.[227]

15.103 Her exchange with CRO Fox led Alemishet Demissie to expect that firefighters would come shortly, even though she thought the flat was not easily accessible and that someone would need to take a risk.[228] She made a second 999 call at 02.42.40, because firefighters had not yet come to the flat.[229] It was answered by CRO Peter Duddy. By that time the smoke in Flat 94 had become thicker but fire had not entered it. CRO Duddy's blunt advice was that they needed to leave and make for the stairwell. They would die if they did not.[230] As the call continued, Alemishet Demissie and Ethiopia Assefa tried to leave the flat. They got no further than opening the front door. Alemishet Demissie described the conditions in the lobby as

221 [LFB00000346].
222 [LFB00000370].
223 [LFB00000673].
224 Assefa first witness statement [IWS00000891] p. 5; Demissie Day 65/15/8-23.
225 [LFB00000353].
226 Demissie Day 65/16/6-24/22.
227 Assefa first witness statement [IWS00000891] p. 8.
228 Demissie Day 65/34/23-25/5.
229 Demissie Day 65/25/6-24.
230 [LFB00000683] pp. 4, 5, 7, 8, 11, 12.

terrifying and worse than before. The smoke there was black and made them cough. It was impossible to walk through it. In the rush, the telephone connection with CRO Duddy was cut off.[231]

15.104 In Flat 95, Roy Smith was still speaking to CRO Duddy on the call which had begun at 01.54.14. Flat 95 had three bedrooms. One shared a wall with the bedroom of Flat 96. It had a window which faced north. In June 2017, that was the bedroom of Roy Smith's younger daughter. His elder daughter's bedroom had been created by converting an internal space. It did not have an external-facing window but also shared a wall with Flat 96.[232]

15.105 Standing in his elder daughter's bedroom Roy Smith could hear a roaring sound through the shared wall with Flat 96. Looking through the spy-hole of his front door he had seen a bright light (the "yellow" he had previously described to CRO Duddy). That had led him to think that there was a fire in the lobby, although, with hindsight, he thought that the bright light might have been the lighting.[233]

15.106 The flames did not enter Flat 95. Roy Smith had seen them outside the window of his younger daughter's bedroom. That was the window closest to Flat 96. The whole window including the glass looked as if it was burning.[234] The explosions he reported to CRO Duddy had been noises outside the flat.[235]

15.107 Roy Smith said that before the fire it had been possible, when in his elder daughter's bedroom, to hear the smoke extraction system running, particularly after the refurbishment. He had heard the system working on at least seven or eight occasions. The noise was a whirring sound as loud as a vacuum cleaner. Roy Smith had also heard the system operating while in the lobby on floor 12. On that occasion he had looked through the grille of one of the extraction vents and had heard the movement of air similar to a draught, but (contrary to some people's recollection) it had not affected the operation of the lifts. Roy Smith had last heard the system working about two weeks before the fire. On the night of the fire he had listened to see if it came on but it had not.[236]

15.108 While his family sheltered in the living room,[237] Roy Smith moved around the flat. As the call continued, he reported that:

a. smoke was everywhere in the flat and that he and his family were struggling to breathe, even with wet towels. The smoke was continuing to come into the flat;[238]

b. it was hot; [239]

c. the fire had reached the lobby of floor 12; he could not see flames at the front door but could see "dark and yellow";[240]

d. the fire had reached the windows of the flat;[241]

231 Demissie first witness statement [IWS00000860] p. 4; Demissie Day 65/25/25-32/8.
232 Roy Smith first witness statement [IWS00000771] p. 2; Roy Smith Exhibit RS/1 [IWS00000931] p. 2; Roy Smith Day 64/8/23-9/17; Day 64/6/13-25.
233 Roy Smith Day 64/73/9-77/9.
234 Roy Smith Day 64/77/13-79/18; Day 64/84/14-85/3; Roy Smith Exhibit RS/1 [IWS00000931] p. 2; MPS Operation Northleigh report "External spread of fire at Grenfell Tower" v.4 [MET00012593] p. 32.
235 Roy Smith Day 64/81/2-13.
236 Roy Smith Day 64/22/12-28/24.
237 [LFB00055503] pp. 15, 24, 40.
238 [LFB00055503] pp. 10, 22, 23, 25, 26, 29, 32, 40, 41, 43.
239 [LFB00055503] pp. 21, 40.
240 [LFB00055503] pp. 9, 20, 22, 25, 26, 29, 32, 33, 42, 43.
241 [LFB00055503] pp. 18, 20, 31, 39, 42.

e. he could hear explosions;[242] and

f. the smoke extraction system on the landing was not removing the smoke.[243]

15.109 During the call, CRO Duddy repeatedly advised Roy Smith that he and his family should stay in the flat, block any smoke coming in, keep low and put wet cloths over their faces.[244] He assured Roy Smith that they were speaking to those at the scene and that firefighters were coming to rescue them.[245] CRO Duddy tried to clarify Roy Smith's precise location.[246] During that call, Roy Smith was also speaking on another line to his sister, Sharon, who was outside the tower. She spoke to firefighters and also told her brother that firefighters were going to come to them.[247]

15.110 Towards the end of the call, the advice given to Roy Smith changed. CRO Duddy told him to leave but to stay on the telephone. As he was advising Roy Smith how to leave, a firefighter, probably FF Hill, arrived at Flat 95.[248] The family followed him to the stairwell door. He told them to take a breath of oxygen from his mask and go down the stairs, where they would meet more firefighters. Roy Smith's partner shut their flat door. The lobby was full of thick black smoke and very hot. They made their way across the lobby and he pushed the stairwell door open.[249]

15.111 The stairwell seemed even hotter than the lobby. There was dark smoke in the stairwell which had a smell of burning plastic similar to that of the smoke in the lobby. The smoke in the stairwell burned Roy Smith's throat. It had the same effect on his younger daughter, who tried to go back up the stairs, before he picked her up and carried her. As he went down the stairs, Roy Smith recalled that the temperature seemed to rise. He noticed a bright orange glow through the glass of a closed stairwell door. He assumed that that was on floor 4. The smoke seemed to get thinner as they went down. There was little visibility in the stairwell.[250]

15.112 Roy Smith, his partner and their children left the tower between 02.40 and 02.41.[251]

Conditions on floor 11

15.113 Between 02.32 and 02.45 Natasha Elcock made three further 999 calls from Flat 82. In the first of them, timed at 02.32.41, she spoke to CRO Russell. Natasha Elcock was speaking to her partner while on the telephone to CRO Russell. He was moving around the flat. Although there was no smoke in the flat, flames had entered the kitchen through the extractor fan panel, but he was able to put them out with water. While in the kitchen he touched the wall between their flat and Flat 81, which felt hot. That prompted Natasha Elcock to tell CRO Russell that the fire was in the flat next door.[252]

15.114 CRO Russell asked Natasha Elcock if it was safer to leave. Natasha Elcock replied that she could not see anything. (She said in evidence that she had been referring to the lobby.) She trusted her partner's judgement that they would not be able to leave through the lobby and

242 [LFB00055503] p. 39.
243 [LFB00055503] p. 24.
244 [LFB00055503] pp. 4, 5, 7, 8, 10-13, 29, 40, 42.
245 [LFB00055503] pp. 14, 16, 21, 28, 32, 37.
246 [LFB00055503] pp. 34-35.
247 Roy Smith Day 64/79/18-81/1.
248 [LFB00055503] pp. 43-45; Roy Smith Day 64/85/24-88/15.
249 Roy Smith Day 64/90/14-93/10.
250 Roy Smith Day 64/93/25-99/23.
251 Annex A.
252 [LFB00000360]; Elcock first witness statement [IWS00000310] p. 4; Elcock Day 70/63/15-66/15.

wanted the fire and rescue services to come to the flat. At the start of the call she had asked when someone would be coming to the flat. No one had given her any information about conditions in the stairwell and she was afraid of what was going on there.[253]

15.115 At 02.37.56, Natasha Elcock spoke to CRO Howson again and reported that the fire was on her landing (meaning in Flat 81). At that time, she and her partner had not tried again to leave the flat. Water sprayed by firefighters outside the tower was entering the living room of her flat through vents in the windows, which caused them to move into the hallway. During the call Natasha Elcock once again asked for someone to come to them. CRO Howson reassured her and advised her that if there was no fire in the flat it was better to stay there.[254]

15.116 Natasha Elcock was still in the hallway of the flat when she made her next 999 call at 02.44.41, which was again answered by CRO Russell. She told CRO Russell that the door was "popping", by which she meant that the middle of the door was visibly bulging into the hallway and was hot to the touch. There was smoke in the living room and the kitchen. By now, the small pane in the kitchen window where her partner had previously put out the flames had lost its glass. Smoke was coming through the hole. During the call, which lasted 5 minutes and 23 seconds, Natasha Elcock asked when the firefighters were going to reach her. CRO Russell told her that they were on their way and were trying to reach everyone. She told the family to go into a room away from it all, block up any gaps and stay low. Natasha Elcock then moved into the bedroom closest to the front door.[255]

15.117 The kitchen of Flat 82 adjoined the single bedroom of Flat 81.[256] Abdeslam Sebbar, who lived alone in Flat 82, made two 999 calls during the night. In the first, timed at 01.25.36, he reported a fire but said nothing about what was happening in his own flat.[257] In the second call, timed at 01.33.12, he reported to CRO Gotts that the fire was inside his flat but then ended the call.[258] Abdeslam Sebbar had no further contact with the emergency services, but he spoke to his son, Mohamed Sebbar.

15.118 Mohamed Sebbar was alerted to the fire and to the fact that his father was still in Flat 81 at around 01.15. He drove to the tower taking his own son with him. While on the way there, his father called him. Mohamed Sebbar tried to reassure him. He told him to leave although he knew his father would need assistance to do so. Mohamed Sebbar was still on the telephone to his father when he reached the tower at around 01.30.[259] Police officers stopped him entering the building and told him that firefighters would help his father. Mohamed Sebbar heard his father choking and coughing on the telephone and there came a time when he was no longer responding.[260]

15.119 At 02.46.42, Merseyside FRS responded to a call from a person who reported that his grandfather was stuck in Flat 81. The call appears to have come from someone outside the tower, probably the son of Mohamed Sebbar, who had gone to the tower with his father. He explained that he had been advised to call 999 by a firefighter at the scene to report someone in need of rescue. The caller added that the occupant of the flat had stopped talking

253 [LFB00000360]; Elcock first witness statement [IWS00000310] p. 4; Elcock Day 70/66/18-68/24.
254 [LFB00000367]; Elcock first witness statement [IWS00000310] p. 4; Elcock Day 70/66/18-68/24-71/18.
255 [LFB00000377]; Elcock first witness statement [IWS00000310] p. 4-5; Elcock Day 70/71/19-78/12.
256 MPS Operation Northleigh report "External spread of fire at Grenfell Tower" v.4 [MET00012593] p. 20.
257 [LFB00000305].
258 [LFB00000312].
259 Sebbar first witness statement [IWS00000903] pp. 1-2.
260 Sebbar first witness statement [IWS00000903] pp. 1-2.

and that help was needed urgently.[261] Merseyside FRS passed this information on to LFB in a call answered by CRO Jones at 02.47.37.[262] That evidence indicates that Abdeslam Sebbar stopped responding to his family shortly before 02.46.

Conditions on floor 10

15.120 Having tried unsuccessfully to leave Flat 72, Antonio Roncolato went back in and shut the door to keep out the smoke.[263] The smoke did not get past his door and it was not until around 02.30 that he noticed smoke coming into the flat around the windows. He took two photographs showing smoke coming through the bottom of an east-facing window in his living room.[264]

15.121 Shortly after, Antonio Roncolato took a third photograph showing his living room obscured by smoke.[265] The smoke was different from that which he had found in the lobby when he had tried to leave. It was thick and grey in colour. It had a different smell from the black smoke in the lobby, which had felt hot and smelled like burning rubber. The smoke in the living room smelled more like burning rubbish. Although it burned his eyes and was uncomfortable, he was still able to breathe.[266] At that point, the two smoke alarms in Flat 72 sounded for the first time. Antonio Roncolato was able to clear the smoke by opening the windows in his bedroom and kitchen while shutting the doors so as to create a draught.[267]

15.122 In Flat 74, Lina Hamide was in telephone contact with friends and relatives, including a cousin in Switzerland to whom she spoke twice at 03.31 and 03.38 (UK time, 02.31 and 02.38). It was after the second of these calls, which lasted 2 minutes and 54 seconds, that she heard what sounded like knocking on the front door. She and Meron Woldeselassie Araya looked through the door's spy-hole, but could not see anything because of the smoke in the lobby. They shouted but got no response. At that point smoke started coming through the top of the closed front door. That and the absence of any response to their shouts caused Lina Hamide to wonder if the knocking sound had been the front door cracking as a result of heat from a fire in the lobby.[268]

15.123 The smoke continued to come into Flat 74 through the letterbox of the front door and around its edges. At some time after going to the front door in response to the knocking sound and before 03.00, Lina Hamide and Meron Woldeselassie Araya placed a mattress and a duvet, on which they threw water, up against the front door to try to stop the smoke.[269]

15.124 At 02.28.09, CRO Gotts answered a 999 call from Ann Chance who was with three members of her family in Flat 73.[270] Ann Chance told CRO Gotts that it was beginning to get hot inside the flat. She also mentioned that she thought the fire was on the other side of the building. CRO Gotts told Ann Chance that, if she could not leave, it was better to remain in the flat and

261 [INQ00000532] p. 4.
262 [LFB00000543].
263 Antonio Roncolato Day 52/40/20-41/1.
264 Antonio Roncolato third witness statement [IWS00001109] pp. 1-2; Exhibit AR8 [IWS00000892] p. 2, 17; Exhibit AR14 [IWS00000923] p. 2; Antonio Roncolato Day 52/43/13-44/24.
265 Antonio Roncolato third witness statement [IWS00001109] p. 1; Exhibit AR8 [IWS00000892] p. 2, 19; Day 52/44/25-45/12.
266 Antonio Roncolato Day 52/45/14-47/24.
267 Antonio Roncolato Day 52/48/14-49/16.
268 Hamide first witness statement [IWS00001175] pp. 5-6; Exhibit LH8 [IWS00001177] pp. 35-36.
269 Hamide first witness statement [IWS00001175] p. 6; Woldeselassie Araya [IWS00001193] p. 8.
270 [LFB00000356].

to block any smoke from coming in. Ann Chance thought that it was at about the time of that call that the family may have attempted to leave. However, on opening the front door, they found the heat in the lobby to be so unbearable that it was impossible to do so.[271]

15.125 Ann Chance made another 999 call a few minutes later, which was answered by CRO Duddy at 02.36.47.[272] In it she did not say that the family had tried to leave, but she said that it was pitch-black in the lobby. She also confirmed that there was smoke coming into the flat, even though they had covered up the doors and windows, and that it was getting really hot and the smoke was increasing. CRO Duddy advised Ann Chance to use wet towels to cool down and to block smoke and to move to the room furthest away from it. He said that the fire was not on floor 10. Ann Chance told him that she thought the fire had gone beyond the fourth floor. She expressed concern that if they were to go down the stairs they would run into the fire.

15.126 At 02.43.08, CRO Jones answered the fourth emergency call made by Ann Chance,[273] which lasted for 4 minutes and 20 seconds.[274] Ann Chance reported that it was pitch-black, that there was a lot of smoke coming into the flat and that the front door was "completely hot". A lot of smoke had come into the flat when they had opened a window and they were now able to see the fire.[275] Initially CRO Jones advised her to go into another room, but then told her that they should cover their faces with wet towels and try to get out. Once again, Ann Chance expressed concern that she and her family might encounter a fire on floor 4 if they left.[276] At the end of the call, she told CRO Jones that someone from the "fire department" was on the line. Asked if the fire and rescue services was with her, Ann Chance said not and then asked whether they had to leave now.[277]

15.127 In her statement Ann Chance said that smoke had come into the flat when they had opened a window and that there had been smoke in her aunt's room, which had been in the north-west corner of the flat. Ann Chance did not explain her reference to the "fire department" and there is no evidence of a call to her telephone having been made from any fire and rescue service. It seems likely, therefore, that she was mistaken about that.

15.128 The family did make other attempts to leave, but, despite covering themselves with wet towels, found the heat on opening the front door so intolerable that they could not venture any further.[278]

4 Events in the control room

15.129 Between 02.20 and 02.50 the control room received 45 emergency calls, 35 of which were FSG calls from, or on behalf of, trapped residents.[279] There were three calls from other fire and rescue services who had taken 999 calls on their behalf and five calls from the LAS and MPS control rooms passing on messages from trapped residents.

15.130 At 02.21.04, CRO Fox took a call from Marcio Gomes in Flat 183 on floor 21.[280] He reported that he was there with his wife, who was seven months pregnant, three children and an adult neighbour and that they could not get out. She told him to block out the smoke coming in,

271 Chance first witness statement [IWS00000783] p. 5.
272 [LFB00000679].
273 [LFB00000373].
274 ORR v 0.7 p. 225.
275 [LFB00000373] pp. 2-3, 8.
276 [LFB00000373] pp. 4-8.
277 [LFB00000373] p. 9.
278 Chance first witness statement [IWS00000783] p. 6.
279 Control Report pp. 75-103. This does not include call backs.
280 [LFB00000348].

that she would tell the command unit at the scene and that firefighters would come and take them out.[281] After she had ended the call, CRO Fox created a service request in the incident log at 02.24.11; CRO Sharon Darby passed the message by radio to CU7 at 02.24.42.[282]

15.131 At 02.21.22, CRO Adams took a call from an operator in the LAS control room who reported for the first time that they were taking calls from trapped residents.[283] The LAS operator told CRO Adams of people calling from Flat 102 and of people on floor 23 who were still alive. She also told her that there were people jumping out of windows.[284]

15.132 At 02.22.17, SM Paul McClenaghan was paged to attend control.[285] SM Jason Oliff explained that he had asked for him to come to the control room as he was the inter-agency liaison officer and could therefore have assisted with contacting other agencies, such as the police and the ambulance service.[286] However, at 02.23.55, GM Mark Hazelton, the Duty NILO for the LFB, was also paged by the control room to inform him of the incident.[287] At 02.28.58, he confirmed that he was monitoring it.[288]

15.133 At 02.22.54, CRO Darby received a radio message from CU7 asking for all FSG messages to be sent to CU7 instead of CU8.[289] CRO Darby logged this in the incident log at 02.23.33.[290] From that point on, all FSG radio messages were sent to CU7, even though new service request entries on the incident log still indicated that messages should be sent to CU8.[291] This does not appear to have had any adverse impact on CRO Darby sending FSG messages to the incident ground. All other messages and requests relating to the incident were sent to and from CU8, which had become the incident command unit.

15.134 At 02.23.30, an operator in MetCC spoke to CRO Adams to pass on a message from a caller trapped on floor 23 whose telephone had cut out.[292] CRO Adams commented "I think they're trapped everywhere".[293]

15.135 While all that had been going on, SOM Smith had received a briefing from OM Alexandra Norman and had then given her attention to listening in to those calls on which CROs had been engaged for a long time, because they were a matter of great concern to her.[294] AOM Peter May told her that CRO Jones and CRO Duddy had been on the telephone to single calls for longest.[295] By 02.24, CRO Jones had been on the telephone to the El Wahabi family in Flat 182 on floor 21 for over 45 minutes since 01.38.38 and CRO Duddy had been on the telephone to Roy Smith in Flat 95 on floor 12 for almost half an hour since 01.54.14.[296] CRO Russell had finished her call with Jessica Urbano Ramirez that had started at 01.29.48.[297] SOM Smith listened to and assessed the calls being taken by both CRO Jones and CRO Duddy.[298] She said:

281 [LFB00000348].
282 SIL p. 22; Radio message [LFB00002303].
283 [LFB00000349].
284 [LFB00000349].
285 End of Incident Report p. 287. SM McClenaghan has a call sign OF59.
286 Oliff Day 23/59/6-22.
287 End of Incident report p. 292.
288 End of Incident report p. 299.
289 Radio message [LFB00002301].
290 SIL p. 22.
291 Darby Day 34/11/9-13.
292 [LFB00000350].
293 Transcript [LFB00000350] p. 2.
294 Norman Day 42/140/2-20.
295 Smith witness statement p. 3 [MET00007766]; Norman Day 42/140/2-9.
296 [LFB00055503].
297 [LFB00055504].
298 Smith witness statement [MET00007766] p. 3.

> "Both calls indicated that the situation was getting worse in terms of smoke and heat. Owing to the developing factors involved, namely the duration and nature of the situation, I became increasingly uncomfortable with the 'stay put' policy – the national policy for high rises." [299]

15.136 When SOM Smith gave evidence she explained that she had been uncomfortable with the situation because, although they had been trying to protect people in their flats, it was clear that the advice was not working.[300] She said that she had considered whether compartmentation was failing or had failed,[301] but that she had not tried to contact the incident commander to obtain more information because it was not common practice to do that.[302] She accepted that she could have tried to contact him, but doubted whether he would have responded.[303] Instead, she spoke to DAC Fenton about changing the "stay put" policy.

15.137 DAC Fenton had arrived in the control room at around 02.25 with the intention of setting up the Brigade Coordination Centre.[304] However, he could see that the sheer number of FSG calls being received required a co-ordinated system, so he turned his attention to assisting the control room.[305] He saw that CROs were writing FSG information on pieces of paper and believed that messages were being sent to the incident ground by radio.[306]

15.138 SOM Smith briefed DAC Fenton about the FSG calls. He decided to set up a system of recording the FSG information on two whiteboards so that it was not lost or duplicated and could be sent across to the incident ground in the most effective way.[307] He said that he had thought there was a danger that CROs might become overwhelmed by the number of calls coming in and that collating the information in that way was likely to provide an effective solution. SOM Smith and OM Norman had agreed.[308] SOM Smith and DAC Fenton both said that that was not normal procedure.[309]

15.139 DAC Fenton dragged two whiteboards on wheels to the corner of the room and sought to brief SM Oliff, who was on the telephone to the command unit at the time.[310] When SM Oliff had ended his call, DAC Fenton briefed him.[311] That must have happened between 02.25.40 when SM Oliff finished his second call to SM Meyrick on CU7 and 02.33.00 when he began his third call.[312] DAC Fenton told SM Oliff to stay by the boards, write down on them the information that was brought to him and pass it on to the command unit.[313] The information was to include flat numbers, floor numbers, the number of people inside the flat (including the number of adults and children) and any progress in carrying out rescues.[314] However, DAC Fenton did not take any steps himself to ensure that the CROs were gathering all the necessary information to pass over to SM Oliff, because that was outside his role.[315] Nor did he ask SM Oliff to do so, as he would have expected the right information to come across and he thought that double-checking information would cause delay.[316] DAC Fenton assumed

299 Smith witness statement [MET00007766] p. 3.
300 Smith Day 22/107/2-10.
301 Smith Day 22/107/12-17.
302 Smith Day 22/112/11-24.
303 Smith Day 22/122/20-21.
304 Fenton Day 24/78/4-10; Day 24/80/15-19
305 Fenton Exhibit APF/1 [MET00005290] p. 2.
306 Fenton Day 24/83/18-85/7.
307 Fenton witness statement [MET000080569] p. 6; Fenton Day 24/81/5-11; Day 24/82/15-23.
308 Fenton Day 24/88/20-89/6.
309 Smith witness statement [MET00007766] p. 3; Fenton witness statement [MET000080569] p. 6.
310 Fenton witness statement [MET000080569] p. 6.
311 Fenton witness statement [MET000080569] p. 6.
312 Oliff Exhibit JAO/7 [MET00016910] p. 3.
313 Fenton witness statement [MET000080569] p. 6; Oliff day 23/72/14-19.
314 Fenton witness statement [MET000080569] p.6
315 Fenton Day 24/127/15-25.
316 Fenton Day 24/134/9-19.

that, if any new information was received relating to flats already entered on the whiteboard, SM Oliff would make the necessary changes to the whiteboard and send the new information to the incident ground.[317]

15.140 SM Oliff said that when he had embarked on that task at around 02.33.00, he had recorded all the information in the paper messages he received from CROs straight onto the two whiteboards.[318] At the end of the incident, the two whiteboards looked like this:

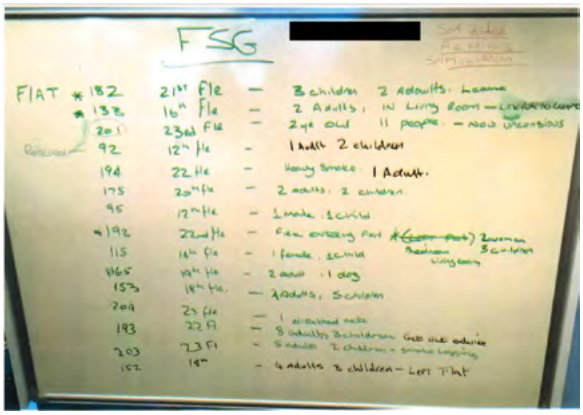

Figure 15.8

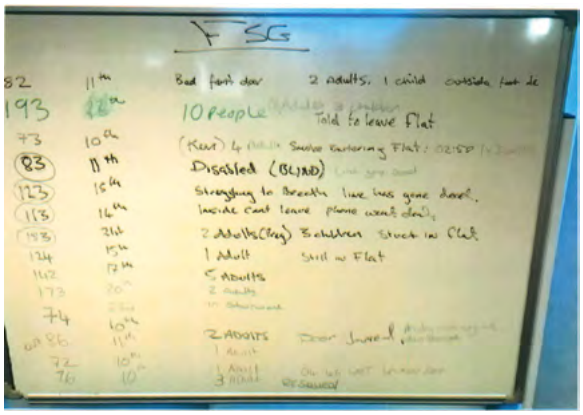

Figure 15.9

15.141 SM Oliff remembered that he had started collating information on the whiteboard on the left and that the information relating to Flat 182 on floor 21 had been the first fire survival guidance information he had passed over to the command unit under the new system.[319] As far as he was aware, he was the only person who had written on the whiteboards, although SOM Smith recalled that she and DAC Fenton had also made some entries.[320] SOM Smith and OM Norman passed information to OM Oliff that had been obtained from calls taken by the CROs, using either notes that the CROs themselves had written or notes that they had made of conversations they had overheard.[321]

15.142 CRO Darby said that even after the whiteboard system had been set up, she was still passing FSG information to CU7 at the incident ground by radio.[322] No one had asked her to stop sending radio messages and she did not tell SM Oliff what FSG information she was passing to the incident ground so that it could be recorded on the whiteboard.[323] She considered that the fact that SM Oliff was passing FSG information by mobile telephone freed up the radio to some extent, so that she could concentrate more on the operational side of the incident.[324]

15.143 At 02.25.38, Mariem Elgwahry in Flat 205 on floor 23 called the control room for the fourth and final time.[325] She spoke with CRO Howson for 4 minutes and 54 seconds. She explained that there were seven adults in the flat, that they were trapped in the kitchen and were running out of air and that the whole flat was black.[326] CRO Howson reassured her that the crews were trying to get to them. When Mariem Elgwahry asked if they could get a helicopter to get them out, CRO Howson said: "There is one there", although she said in evidence that

317 Fenton Day 24/143/1-19.
318 Oliff Day 23/106/2-9.
319 Oliff Day 23/75/19-25
320 Smith Day 22/48/16-19
321 Smith Day 22/46/2-25
322 Darby Day 34/8/10-12.
323 Darby Day 34/7/19-8/18; Day 34/14/19-22.
324 Darby Day 34/7/19-8/3.
325 [LFB00000670].
326 [LFB00000670] p. 2.

it had not been her intention to give them hope or foster an expectation that they could be rescued in that way.[327] Mariem Elgwahry then reported that there was fire in the flat. CRO Howson told them: "Listen, it's your decision. If you need to leave, you need to leave". She then continued to advise them to leave and to cover their mouths with clothes, blankets and towels before the call cut out.[328] After the call ended, she did not create a service request and the message was not added to the whiteboards, but CRO Adams, who was sitting near CRO Howson, passed the call to CU7 in an admin line call at 02.28.27.

15.144 At 02.26.22, CRO Darby sent a radio message to CU7 relating to persons in Flat 192 on floor 22 who had said that the fire was in the flat next door to them.[329] The message was not sent in response to a new service request, but probably in response to information obtained by CRO Gotts during her call with Isra Ibrahim at 02.21.32 and passed on orally to CRO Darby.[330] Isra Ibrahim was in fact in Flat 203 on floor 23, as she had told CRO Gotts at the start of the call. She explained that the fire was in the flat next door to them. During the call CRO Gotts checked that she had the right information and advised Isra Ibrahim to block out the smoke.[331] However, at the end of the call, when CRO Gotts repeated the address to Isra Ibrahim, she said: "22nd floor, Flat 192" and then the call ended.[332] She did not create a service request in relation to either flat.[333] It is possible that the radio message sent by CRO Darby resulted from CRO Howson's call from Flat 192, which started at 02.18.06, because in that call Hashim Kedir had explained that their flat was on fire and had been advised by CRO Howson to get out. On the whole, however, I think that unlikely.

15.145 At 02.26.30, GM Nigel Dilley, the Essex FRS NILO, who was still trying to get hold of the LFB, contacted the MPS to ask them to contact "Silver on scene" (i.e. the Silver Commander in the LFB) to pass a message to the LFB.[334] He gave the information he had relating to Flat 82 on floor 11 and Flat 193 on floor 22 and asked the MPS call operator to find another number for the LFB.[335]

15.146 At 02.27.04, as a result of a call she had received at 02.24.19 from Alemishet Demissie[336] CRO Fox created a service request reporting two adults still trapped in Flat 94 on floor 12. The message was sent by radio to CU7 at 02.27.29.[337] It did not appear on the whiteboards.

15.147 At 02.28.27, CRO Adams called CU8 on the admin line to pass on FSG information she had obtained from Mariem Elgwahry about seven adults in Flat 205 on floor 23.[338] She was not aware that there had been a message from CU7 recorded in the incident log a few minutes earlier asking for all FSG information to be sent to CU7 instead of CU8.[339] She said that she had not looked at the log all night and that it was very difficult to read.[340] She gave CU8 the message that the fire was in the living room of Flat 205, that their position was becoming quite desperate and that they had been told to leave.[341] CRO Adams explained that, although SM Oliff was in the control room passing on FSG information, she had decided to call the

327 Howson Day 80/162/1-23.
328 [LFB00000670] pp. 2-9.
329 Radio message [LFB00002090].
330 [LFB00000663].
331 [LFB00000663] pp. 1-2.
332 [LFB00000663] p. 5.
333 SIL p. 22.
334 Dilley Day 76/171/4-18; Transcript of call [INQ00000284] p.2.
335 [INQ00000284] p.2.
336 SIL p.22; [LFB00000353].
337 Radio message [LFB00002602].
338 [INQ00000204].
339 Adams Day 80/78/9-15.
340 Adams Day 80/79/2-4.
341 [INQ00000204] pp. 2-3.

command unit herself because she had overheard the call being taken by CRO Howson, who was sitting near to her. She said that it had been an extremely difficult call and she had thought it would be quicker to send the message herself.[342] She did not tell SM Oliff or CRO Darby that she had communicated with CU8 in that way; she thought that CRO Darby was no longer passing FSG information by radio and SM Oliff seemed busy.[343]

15.148 At 02.28.53, Surrey FRS was contacted for the first time to take a 999 call from Chanade Prentice reporting that her father-in-law, Anthony Disson, who was 70 years old, was trapped in Flat 194 on floor 22.[344] The Surrey call operator was not aware of the incident and said that she would contact London. Two minutes later, at 02.30.45, Surrey FRS managed to contact CRO Russell in the control room to pass on the details of the call.[345]

15.149 At 02.29.31, CRO Fox created a service request in relation to Flat 142 on floor 17, where five adults, including two elderly persons, were trapped. That was the result of a conversation at 02.27.12 with Husna Begum, who reported that she had been waiting for over an hour.[346] CRO Darby sent the message to CU7 at 02.30.42.[347]

15.150 At around 02.30.00, GM Steve Leader arrived at the Stratford control room. DAC Fenton asked him to set up the Brigade Coordination Centre on the ground floor of the building, away from the control room on the first floor.[348]

15.151 By 02.31.00, Roy Smith in Flat 95 on floor 12, still on his call to CRO Duddy, reported that the fire had now reached the window outside his flat.[349]

15.152 At 02.31.49 and 02.32.30, CRO Gotts and CRO Adams received calls from people telling them that the fire was now in their flats.[350] CRO Gotts spoke to Rosemary Oyewole in Flat 115 on floor 14 and CRO Adams spoke to Paulos Tekle in Flat 153 on floor 18, who reported that there were five adults and four children in his flat. They both advised them to get out if they could but, if not, then to block up any gaps around the doors and move to the place with the least smoke. No service requests were created when these calls ended and the messages were not passed to the incident ground by radio. However, both of these flats did appear on SM Oliff's whiteboard and it is likely, therefore, that he sent the information to the incident ground using his mobile telephone.[351]

15.153 At 02.32.31, the MPS tried to speak to GM Dilley, following their call at 02.26.30, but the operator had to leave a voicemail telling him that the advice to give callers was to get to the fire exit and leave the building, if they could.[352] That advice was given before anyone had decided to withdraw the "stay put" advice. GM Dilley gave that information to CRO Russ White in the Essex FRS control room and it was recorded in the Essex incident log at 02.40.00.[353]

342 Adams Day 80/81/9-21.
343 Adams Day 80/86/10-15.
344 [LFB00000649].
345 [LFB00000357].
346 [LFB00000354].
347 Radio message [LFB00002784].
348 Fenton witness statement [MET000080569] pp. 6-7; Leader witness statement [MET00016791] p. 7.
349 [LFB00055505] p. 45.
350 [LFB00000359]; [LFB00000361].
351 Oliff Exhibit whiteboard [MET00016912].
352 [INQ00000284] p. 3.
353 Essex incident log [LFB00003625] p. 2.

15.154 At 02.32.41, CRO Russell spoke to Natasha Elcock in Flat 82 on floor 11 and reassured her that there were a lot of fire engines present.[354] She asked her to describe the conditions in her flat. Natasha Elcock told her that: "it's okay at the moment, but the fire seems to be spreading and it's blocking past the windows". CRO Russell asked whether she thought it was safer for her to stay or to leave and Natasha Elcock said that she could not see outside and that she did not know what she was doing. CRO Russell checked that she was blocking all the gaps and told her to keep away from the windows and doors, to move to another room if smoke started to come in and to keep low.[355]

15.155 At 02.33.36, CRO Duddy, who was still speaking to Roy Smith in Flat 95 on floor 12, told him: "Right, we are going to tell you to leave, but you need to… stay on the phone".[356] CRO Duddy believed that it was about that time the "stay put" advice was changed.[357]

15.156 At 02.34.00, CRO Jones, who had been on the telephone to the El Wahabi family in Flat 182 on floor 21 since 01.38.38, and who had previously advised them to stay put, changed the advice and told them to put wet towels over them and to try and get out of the building.[358]

15.157 At 02.34.16, CRO Howson spoke to Hasham Kedir in Flat 192 on floor 22. He reported that there was fire in the flat and CRO Howson advised him to leave. She said:[359]

> "… you need to get some wet towels, you need to put them around your mouth, you and the children, you need to leave, and you need to go down. All right? It's going to be dark and that, so you need to stay together, hold hands, all right, but keep your mouth covered, all right?"

15.158 She told them that the firefighters were making their way and would come to meet them. CRO Howson said in evidence that she believed she had told the caller to get out before the "stay put" advice had been changed because he had said the flat was on fire.[360]

The decision to change the "stay put" advice

15.159 At 02.33.00, SM Oliff made a third call to WM Meyrick on his personal mobile telephone to pass over further FSG information.[361] During their conversation he asked WM Meyrick where the bridgehead was so that he could build a picture of the incident as he had not heard any informative messages from the incident ground.[362] WM Meyrick told him that the bridgehead was located on the ground floor and that fire crews were having difficulty going above floor 15 due to the intensity of the fire.[363] SM Oliff considered that information to be important, so he gave the information to DAC Fenton, and possibly SOM Smith.

15.160 It was at about that time that DAC Fenton decided that he wanted to get a "pictorial view" of the incident, so he went to look at the television downstairs in the Brigade Coordination Centre, as the television in the control room was not on.[364] He explained that he saw a picture

354 [LFB00000360].
355 [LFB00000360] pp. 4-6.
356 [LFB00055503] p. 43; Control Report p. 55.
357 Duddy Day 42/221/20-23.
358 [LFB00055498] p. 90; Control Report p. 38.
359 [LFB00000363].
360 Howson Day 80/171/14-17.
361 Oliff Exhibit JAO/7 [MET00016910] p. 3.
362 Oliff Day 23/124/4-25; Oliff Exhibit JAO/7 [MET00016910] p. 3.
363 Oliff witness statement [MET00012791] p. 5; Oliff Day 23/126/9-20.
364 Fenton Day 24/122/10-14.

on Sky News showing one side of the tower fully engulfed in fire, with flames coming out of the windows.[365] In evidence he said that he had been very surprised to see so much of the external envelope of the building alight.[366]

15.161 DAC Fenton returned upstairs to discuss matters with SOM Smith. He said that he had sought the advice of SOM Smith, whom he knew to be experienced in dealing with FSG calls and had been involved in the Lakanal House fire.[367] During the conversation, DAC Fenton told SOM Smith that the crews could not get above floor 15. Although she had thought he said floor 18, she accepted in evidence that he could have said floor 15.[368] DAC Fenton did not seek to ask anyone on the incident ground why crews could not go above floor 15, but he assumed that it was due to the fire.[369] DAC Fenton and SOM Smith then discussed the fact that crews were unable to get above floor 15, the large number of FSG calls that were being received and the image that DAC Fenton had seen of the tower on fire and decided to change the "stay put" advice.[370] SOM Smith explained the decision in her witness statement in these terms:[371]

> "The decision was made owing to a variety of factors – the duration of calls, the content of the calls and the resources available. These factors and my years of experience formed the basis of my rationale and coincided with the recommendations following the Lakanal fire in 2009 in which certain questions were asked by the CROs regarding smoke and fire levels. The information that was fed back by the CROs from residents and the conditions they were in led me to believe that they had no way of waiting to be rescued. I was aware of the previous Lakanal incident in which residents were in cleaner situations, less smoke, who were unable to be rescued. This also formed part of my decision that the 'stay put' policy needed to be changed."

15.162 DAC Fenton recounted that, for him, the visual image was the factor that had made all the difference when it came to making the decision to change the advice.[372]

15.163 After the decision had been made, DAC Fenton spoke to someone in CU8 to inform them of the decision. He also asked someone in the control room, possibly AOM May, to tell the incident ground by radio that the advice from the control room and the Duty DAC was that the "stay put" advice needed to change.[373] He also remembered having told SM Oliff to tell CU7 and he himself informed AC Richard Mills, who was located at LFB headquarters, so he could tell the Commissioner's group.[374] All that is generally consistent with the conclusion that the control room took the decision itself rather than waiting to obtain the agreement of the incident commander.

15.164 From then on, the advice given by the control room to people still in the building was to put wet towels over their faces, hold hands and get out.[375] SOM Smith also said that the CROs had been told that they might need to use more forceful and blunt language to emphasise the need to leave the building.[376] The debrief notes, which were written at a meeting on 24 July 2017 some weeks after the fire, also recorded that the advice was to get out because it could

365 Fenton witness statement [MET000080569] p.7.
366 Fenton Day 24/145/18-146/1
367 Fenton witness statement [MET000080569] p. 7.
368 Smith Day 22/117/16-25.
369 Fenton Day 24/142/3-10.
370 Fenton witness statement [MET000080569] p. 7.
371 Smith witness statement [MET00007766] p. 4.
372 Fenton Day 24/149/13-150/3.
373 Fenton witness statement [MET000080569] p. 7; Fenton Day 24/154/11-155/2. It is clear from his evidence that this was not a suggestion or request but a statement to the effect that the advice had been changed in the control room.
374 Fenton Day 24/155/1-9.
375 Smith witness statement [MET00007766] p. 4.
376 Smith witness statement [MET00007766] p. 4.

be the last chance.[377] SOM Smith admitted in the course of her evidence that she had known that the new advice might involve sending residents into conditions that were smoke-logged and hot. She said:[378]

> "Yes, we knew that, and that's why we instructed all the control officers to tell the callers to get blankets and towels, to wet them, to cover themselves with them, to keep low and more importantly to hold hands as they left so they wouldn't lose each other, because visibility probably would be nil, and that they should just head to the stairwell."

15.165 She had not obtained any information from the bridgehead about conditions in the stairwell, but believed that withdrawing the "stay put" advice was the only course that could be taken.[379]

15.166 As soon as the decision had been made, SOM Smith, OM Norman and AOM Debbie Real went around the control room telling the CROs that the advice they should give had been changed.[380] SOM Smith also spoke to BT to make them aware of the change in advice.

15.167 OM Norman communicated the change in advice using an A4 piece of paper she showed to the CROs.[381] She recalled that she had written words to the effect of: "Tell callers to put wet towels over their heads, cover their faces, hold hands, and leave". She said she had chosen to do it in that way because it had been the easiest way to communicate with them at that point. She could not easily talk to any of them because they had been constantly on the telephone with calls coming in at a high rate.[382] She said she had made sure that each CRO had understood the message.[383] AOM Real said she had communicated the message orally to the CROs and CRO Russell recalled that SOM Smith had also given her the message orally.[384] Later on, OM Norman also helped the CROs give advice to callers. She told them to use blunt and forceful language, emphasising to people that they had to leave the building because they really had no choice.[385]

15.168 When the "stay put" advice was changed, it took some time for the new advice to be disseminated to, and implemented by, all the CROs.[386]

15.169 At 02.36.07, CRO Russell took a call from Hesham Rahman in Flat 204 on floor 23, who reported that smoke was coming into his flat and that he was finding it difficult to breathe.[387] She advised him to cover himself with a wet towel and to try and make his way out of the building. She couched the advice in the following terms:

> "Listen, the fire is getting quite bad. Do you think it would be better if you covered yourself with a wet towel and tried to make your way down out of the building?"

He explained that he had a disability and needed assistance. CRO Russell therefore advised him to block out the smoke and told him she would tell the crews.[388] The left-hand whiteboard in the control room was updated with the details "1 disabled male".[389] CRO Russell thought that, by the time she took this call, she had received the instruction from SOM Smith to change the

377 [LFB00003113] p. 6.
378 Smith Day 22/129/15-24.
379 Smith Day 22/130/8-17.
380 Fenton witness statement [MET000080569] p. 7; Smith Day 22/136/1-7; Day 22/139/5-7; Real Day 43/35/9-24; Russell witness statement [MET00007523] p. 7.
381 Norman witness statement [MET000080589] p. 7.
382 Norman witness statement [MET000080589] p. 7.
383 Norman Day 42/157/3-19.
384 Real Day 43/35/9-24; Russell witness statement [MET00007523] p. 7.
385 Norman Day 42/157/23-158/22.
386 Smith witness statement [MET00007766] p.4; [LFB00003113] p. 6-7.
387 [LFB00000368].
388 [LFB00000368].
389 [MET00016912].

"stay put" advice.[390] She recalled that the new advice had been to cover themselves, to not breathe in the smoke and to make their way down the stairs.[391] She did not remember having been advised of the tone in which to convey the message and it appears from her evidence that she may have thought there was a chance that firefighters would still be able to rescue residents.[392]

15.170 Between 02.36.12 and 02.42.06, CROs Gotts, Duddy, Adams, Howson and Jones took six 999 calls between them and in none of those cases did they advise the caller to leave.[393] Instead, they advised the resident, or family member of a resident, to remain in their flat or that the firefighters were coming to rescue them.

15.171 At 02.37.25, CRO Darby sent an informative message to CU7 about conditions in the tower, saying: "We've had a report that the south-east corner of the building is completely alight, and the western aspect is completely smoke-logged".[394]

15.172 At 02.37.26 and 02.38.06, AOM Real contacted the LAS control room and MetCC respectively to inform them that the LFB had declared a Major Incident.[395] That was more than 30 minutes after the LFB had taken that step at 02.06.38. She was not aware that the other emergency services had been taking calls from persons trapped in the tower.[396] AOM Real did not tell either control room that the LFB had revoked the "stay put" advice and was now telling callers from the building to leave at all costs.

15.173 At 02.40.11, CRO Fox created a service request containing the information that the fire was in Flat 152 and four adults (including a pregnant woman) and five children aged between three and 11 years old were trapped in Flat 153 and unable to leave due to smoke. That was the result of a call she had received at 02.34.42 from Rabia Yahya.[397] At 02.41.27, the service request was updated and completed by CRO Fox.[398] The information in the service request did not appear in full on the whiteboard. The entry for Flat 153 read simply "153 18th flr. – 4 adults, 5 children".[399] SM Oliff did not have access to the incident log and therefore did not see any messages unless they were passed to him on paper.[400] SOM Smith believed that CRO Fox had passed the message to SM Oliff in full but accepted that she did not know.[401] The full details of the service request were not relayed in a radio message to CU7.[402] CRO Darby explained that she did not send the message and she believed that CRO Fox had typed the message into the incident log in order to keep a record of it, but had then completed it herself to stop CRO Darby from sending it.[403]

390 Russell Day 76/62/8-23; Russell witness statement [MET00007523] p. 7.
391 Russell Day 76/61/6-12.
392 Russell Day 76/61/13-23.
393 [LFB00000364]; [LFB00000679]; [LFB00000366]; [LFB00000367]; [LFB00000370]; [LFB00000375].
394 Radio message [LFB00002748].
395 Admin line [INQ00000376]; [INQ00000375].
396 Real Day 43/42/21-24.
397 [LFB00000365].
398 SIL p. 23.
399 [MET00016912].
400 Smith Day 22/71/13-72/25.
401 Smith Day 22/75/8-76/13.
402 The only radio message sent after that service request was sent at 02.48.07 by CRO Darby that there was a caller trapped in Flat 153 on floor 18 [LFB00002038]; [LFB00002340]; [LFB00002128].
403 Darby Day 34/11/14-13/6.

15.174 At 02.41.46, CRO Russell took a call from the MPS who passed over information about two adults and three children in Flat 192 who had a fire in their living room.[404] CRO Russell confirmed that she would pass the information to the crews. She did not advise the MPS call operator that the LFB advice to stay put had changed.[405] The same occurred on a call that CRO Howson took with the MPS at 02.45.35.[406]

15.175 At 02.42.03, CRO Darby entered a new informative message in the incident log as a result of a series of informative radio messages that had been sent on behalf of DAC O'Loughlin between 02.39.17 and 02.40.37.[407] That was the second informative message that the control room had received from the incident ground since the first one was sent at 01.14.21, 1 hour and 28 minutes earlier. Although set out above, it is useful to set out again the informative message as it illustrates the limited information that the CROs were receiving from the incident ground. The message, as recorded in the SIL, reads as follows:[408]

> "SUP CU8 FROM DAC OLOUGHLIN A RESIDENTIAL BLOCK OF FLATS 27 FLOORS 25M X 25M FIRE ON ALL FLOORS FROM 2ND TO 27TH FLOOR LARGE NUMBER OF PERSONS INVOLVED FSG CALLS BEING DEALT WITH MAJOR INCIDENT DECLARED HIGH RISE PROCEDURE IMPLEMENTED TL ALP EDBA MAIN CONTROL FSG GROUND MONITOR 5 JETS SAFETY CORDON IN PLACE TACTICAL MODE OSCAR."

15.176 At 02.42.40, CRO Duddy received a call from Alemishet Demissie in Flat 94 on floor 12.[409] That was the second time she had called. The call lasted for 10 minutes and 49 seconds. By that point, he had been told by SOM Smith about the change in the "stay put" advice.[410] Alemishet Demissie told him that the whole flat was full of smoke and CRO Duddy started to advise her to leave.[411] She explained that she could not see anything and he told her to get to the stairwell. He said: "Feel your way along the walls; do anything you can. You need to make it to that stairwell." Eight minutes into the call, at approximately 02.50.00, CRO Duddy told her: "If you don't do what I tell you, you are going to die in that flat". Alemishet Demissie told him that she would try to leave and the call ended.[412] When he spoke to her again at 02.58.44, he relayed the same advice.[413]

15.177 CRO Duddy explained in evidence that he recalled that even though he had started to tell callers to leave, he and others still recorded the flat and floor numbers of the calls on the whiteboard.[414] However, in this case the number of the flat was not recorded on the whiteboards and a service request was not created.

15.178 At 02.42.38, AOM Real contacted RBKC to inform them that a Major Incident had been declared. RBKC confirmed that it was already aware.[415]

15.179 At 02.42.50 another informative message was entered in the SIL stating that 58 adults and 16 children were believed to be involved.[416]

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404 [LFB00000540].
405 [LFB00000540].
406 [LFB00000541].
407 The series of radio message transcripts are: [LFB00002823], [LFB00002976], [LFB00002504], [LFB00002775], [LFB00002580], [LFB00002480], [LFB00002401], [LFB00002968].
408 SIL p. 23.
409 [LFB00000683].
410 Duddy Day 42/226/16-25.
411 [LFB00000683] p. 5.
412 [LFB00000683] p. 12; Brigade Control Report p. 96.
413 [LFB00000680].
414 Duddy Day 42/228/9-16. Howson also explained that she adopted the same practice: Howson Day 80/173/24-174/8.
415 [INQ00000188].
416 SIL p. 23.

15.180 By 02.43.00, CRO Jones, Fox and Adams had been told about the change in the "stay put" advice as they all took calls during which they advised residents to leave. At 02.43.08, CRO Jones spoke to Ann Chance in Flat 73 on floor 10, who reported a lot of smoke coming into in her flat and that her front door was hot. CRO Jones advised her to leave; she repeatedly told her to use wet towels to cover herself and to try to get out.[417] At 02.43.54, CRO Fox asked Nur Huda El Wahabi in Flat 182 on floor 21 whether she was able to get out of the property safely. She advised her how to get out but then the line cleared before she could say any more.[418] At 02.43.55 CRO Adams told Bassem Choukair in Flat 193 on floor 22 that if it got very, very bad he needed to get all his people out. She said: "Cover yourself with wet towels, wet sheets, anything and try and get out".[419]

15.181 At 02.43.51, CU8 sent a radio message to control informing them that AC Roe was now incident commander.[420] CRO Darby entered that in the incident log at 02.44.18.[421]

15.182 At 02.44.41, CRO Russell took a call from Natasha Elcock in Flat 82 on floor 11, who reported that her front door was hot and "popping".[422] That was the eighth time that Natasha Elcock had called the LFB control room. CRO Russell told her that she thought that the heat and popping meant that the fire was on the other side of the door and asked her to stay away from it. CRO Russell advised her to block the gaps around the door and told her that the firefighters were "fighting their way up to get to everyone".[423]

15.183 At 02.45.45, the Surrey FRS control room received another call from Chanade Prentice, the daughter-in-law of Anthony Disson, who was trapped in Flat 194 on floor 22.[424] The operator took the mobile number for Anthony Disson and said they would pass it to London so that the LFB could call him to reassure him. No advice was given. Three minutes later, at 02.48.49, Surrey made contact with CRO Gotts in the LFB control room to pass on the message.[425]

15.184 At around 02.46.03, SOM Adam Crinion and POM Scott Hayward arrived in the control room. SOM Crinion had been first paged at 01.49.13 and POM Hayward had been first alerted by SOM Smith between 01.30 and 02.00.[426] When SOM Crinion arrived in the control room he had a quick verbal briefing at the supervisors' desks and logged on to Twitter to see the scale of the incident and to get images of the scene.[427] He showed some of them to the supervisors to help them gain an idea of what they were dealing with.[428] He spoke to SOM Smith about staffing levels and, as there was no "recall to duty procedure", he rang four or five people who lived near Stratford to ask them to come in.[429] He explained in evidence that he had not called any more people because there were not enough seats in the Stratford control room to accommodate them.[430] He spoke to AOMs Pauline Warner and Kate Ranson, both of whom

417 [LFB00000373].
418 [LFB00000374]; Fox Day 80/213/3-214/10.
419 [LFB00000376] p. 4; Adams Day 80/103-106.
420 [LFB00002272].
421 SIL p. 23.
422 [LFB00000377].
423 [LFB00000377] p. 7.
424 [LFB00000650].
425 [LFB00000544].
426 SIL p. 14, 23. SOM Crinion's call sign is BC04; Hayward witness statement [MET00007894] p. 3.
427 Crinion witness statement [MET00008009] p. 3.
428 Crinion witness statement [MET00008009] p. 3.
429 Crinion witness statement [MET00008009] p. 4.
430 Crinion witness statement [MET00008009] p. 4.

volunteered to come in.[431] POM Hayward then monitored the control room staff and kept in touch with senior officers, providing them with regular information. He also provided support and assistance to the CROs.[432]

15.185 SM Oliff remembered that at some point shortly after the advice to callers had changed, DAC Fenton and another DAC had held an informal meeting. They had told him that the FSG advice "would have to be changed" and that the CROs were now telling people to leave.[433] It was around that time that SM McClenaghan arrived in the control room and showed SM Oliff pictures of the tower.[434] SM Oliff said that he was quite astonished by what he saw and that seeing the pictures on his telephone had allowed him to see what they were up against.[435]

15.186 At 02.46.42, CRO Adams received a call from Nur Huda El Wahabi in Flat 182 on floor 21.[436] She repeatedly advised her to cover herself up and get out of the building. When Nur Huda El Wahabi told her that she couldn't leave, CRO Adams said:

> "I know you can't but it's – We're not going to get to you. Get yourself out of the building as best you can, OK? Do you hear me? Try and get yourself out."[437]

15.187 Members of the El Wahabi family were subsequently connected to the control room at 02.51.06, 02.53.57 and 02.57.34. CROs Adams and Howson were able to speak to the caller on the first two occasions; on the third occasion the line was silent. Each time, the CRO advised the caller to leave the flat, but on each occasion they were told that the caller had tried to leave but that it was too smoky in the lobby, which was filled with black smoke.[438]

15.188 At 02.46.42, a 999 call was put through to Merseyside FRS. (It was the only call from Grenfell Tower that they took on the night.)[439] The call was from the grandson of Abdeslam Sebbar, who was trapped in Flat 81. He thought the flat was on either floor 11 or floor 14. He explained that "the person just stopped talking on the phone so it's very critical that somebody gets there".[440] CRO Jeanette Pike took down the details and ended the call.[441] At 02.47.37, CRO Pike called the LFB control room and spoke to CRO Jones to give her the information. When she was told the flat number, CRO Jones was horrified because she realised that the firefighters were not going to get there.[442] She told CRO Pike that the advice was to "get out and go for it".[443] CRO Pike gave the caller's number to CRO Jones and she said she would call him back.[444] At 02.50.01, CRO Jones called the number but no one answered.[445] No record of the flat number appears to have been made on the whiteboards.

15.189 At 02.46.58, CRO Howson received a call from Marcio Gomes in Flat 183 on floor 21, who told her that the fire had reached the flat next door to him.[446] She told him that they had to leave but she left the decision in his hands. She said:

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431 Crinion witness statement [MET00008009] p. 4.
432 Hayward witness statement [MET00007894] p. 4.
433 Oliff witness statement [MET00012791] p. 5.
434 Oliff witness statement [MET00012791] p. 5.
435 Oliff Day 23/147/1-17.
436 [LFB00000379].
437 [LFB00000379] p. 4.
438 [LFB00000383]; [LFB00000387].
439 [INQ00000532].
440 [INQ00000532].
441 Pike witness statement [MET00013002] p. 3.
442 [LFB00000543] p. 3.
443 [LFB00000543] pp. 3-4.
444 [LFB00000543] pp. 3-4.
445 Control Report p. 103.
446 [LFB00000672].

> "If you feel it's not safe to be in the flat any more, OK, you, you may have to leave the flat."

He told her that it was impossible for them to leave the flat and she then gave him the following advice:

> "OK, what you will need to do, wet blankets, wet towels, tea towels, put them around your mouth and around the mouth of your family and make your way out and make your way down."

He asked if firefighters were going to come and meet them and she said:

> "We, we've got the firefighters who are making their way up, but it's very slow progress at the moment."[447]

15.190 It is not clear whether CRO Howson had been told of the change in the "stay put" advice at that time, but at all events she gave the caller the impression that firefighters were still making their way up the building. In evidence, she said that she remembered having been told by AOM Real, who was standing in front of her, about the change in the "stay put" advice. She recalled that AOM Real had said something to the effect of

> "Right, get them all out now… Tell them wet towels, blankets, cover their faces and get them out of their flats, we can't get to them."[448]

15.191 She said that when AOM Real had told her about the change in advice, it was the first time that she had realised that the firefighters would not be able to rescue people in the building. She was under the impression that they could not reach all the floors.[449]

15.192 The next call taken by CRO Howson was at 02.48.22, when she spoke to Rabia Yahya in Flat 153 on floor 18.[450] She was told that there was a fire in the flat next door and she advised as follows: [451]

> "Listen, we're not going to be able to get up there to you. You need to leave the flat and get out…. What you need to do, you need to get some wet towels and towels, put them around your mouth so you won't inhale smoke and you need to get out, OK? Make your way down, don't use the lift, use the stairwells, OK, but you need to put wet blankets and that around your mouth and the kids as well, OK, and make your way downstairs if the fire's in the flat next door if that's what's going on, OK? Do you understand?"

15.193 In the light of the advice that CRO Howson gave Rabia Yahya, it is likely that she had just been instructed by AOM Real to tell residents who called that they had to leave.

15.194 At 02.48.07, CRO Darby sent a radio message to CU7 to say tell them there were about four persons trapped in Flat 153 on floor 18.[452] It is unclear where that message originated as no service request was created in relation to it.

15.195 At 02.48.49, CRO Gotts took a call from Surrey FRS who passed over a message about a person who had called about their 70-year-old father-in-law who was trapped on floor 22. That was Anthony Disson in Flat 194.[453] CRO Gotts told the operator about the change in the "stay put" advice. She said that they had just been told to tell people to put a wet towel over their heads and try and get out.[454] CRO Gotts said in evidence that she believed that by that stage she must have been told about the change in the "stay put" advice, but she could not

447 [LFB00000672].
448 Howson Day 80/168/3-15.
449 Howson Day 80/168/16-22.
450 [LFB00000384].
451 [LFB00000384] p. 4.
452 Radio messages: [LFB00002340], [LFB00002128], [LFB00002031].
453 [LFB00000544].
454 [LFB00000544].

remember who had told her or whether the information had been given to her on a piece of paper.[455] The call was the first occasion on which the Surrey FRS control room had been made aware of the change in the "stay put" advice, although they do not appear to have noted it on their system at that time.[456]

15.196 At the end of the call, the operator gave CRO Gotts Anthony Disson's telephone number and at 02.51.38 CRO Gotts called him.[457] He was very distressed and shouted that there were flames coming from next door. She told him to cover himself with wet towels and to get out, prompting the question whether she was serious. She asked if a neighbour could help him, but the call cut out.[458]

5 Actions of the MPS, the LAS, RBKC and the TMO

15.197 Throughout Period 6 (02.21 to 02.50) numerous radio messages were sent by police officers at the scene or on the cordon about individual occupants of the building who were trapped and in need of rescue. For example, at 02.26.44, a message was received concerning a woman who had an 81-year-old father with a heart condition who was believed to be in the lift on floor 12,[459] and a number of messages about a woman whose partially-sighted husband was stuck in Flat 83. (That was Elpidio Bonifacio, who was the last person to be rescued alive from the tower at 08.07.) Those messages were received as a result of police officers at the cordon speaking to family or friends of those still trapped within the building.

15.198 At 02.21 Nickolas Layton called David Kerry, RBKC's Contingency Planning Manager, to notify him of the fire. David Kerry despatched Nickolas Layton to attend the scene as LALO. David Kerry took on the role of organising the Borough Emergency Control Centre (BECC).[460]

15.199 At 02.22.29 Inspector Nicholas Thatcher began overseeing the evacuation of a building to the west of the tower, using the services of the TSG, which was on the scene by that stage (having been called just after 01.35, as recorded above). At 02.24 the NPAS helicopter sent a message that the fire was now in the south-east corner on the roof and also at least halfway along the northern aspect of the roof.[461] There is no evidence that this message was passed to the incident ground, and CU7 could not access the heli-tele images, as was made clear to Inspector Thatcher by SM Johnson when he was in CU7 between 02.36 and 02.39.[462] Inspector Thatcher thought that the line of communication at that point was from the NPAS helicopter to MetCC, from MetCC to the control room and then to CU7.[463] However, it seems from the notation of entries on CAD482 that the NPAS helicopter was broadcasting direct to the police radio system and not going through a MetCC operator. Indeed, Inspector Thatcher himself said that he could hear the NPAS messages over the general MPS radio.[464] The information in CRO Darby's radio message at 02.37.25 may have originated from the NPAS helicopter because it cannot be traced to any 999 or admin line call. Accordingly, it is possible that the NPAS messages were picked up in the LFB control room at Stratford through the radio tannoy on the head table, which was on and audible.

455 Gotts Day 43/198/17-199/5.
456 Surrey FRS Incident log for this call [LFB00003629] p. 3.
457 [INQ00010865].
458 Control Report pp. 106-107.
459 CAD 482 p. 14.
460 David Kerry's Emergency Event Log Sheet entry 1 [RBK00028849].
461 CAD 482 p. 13.
462 BWV clip [INQ00000520].
463 Thatcher Day 71(Mon)/79/8-18.
464 Thatcher third witness statement [MET00023284] p. 11.

15.200 At 02.23 Laurence Ioannou (LAS) went to CU8[465] and made his first contact with the incident commander, who at that point was DAC O'Loughlin. That was the first face-to-face contact between LAS and LFB senior officers at the incident ground.

15.201 At 02.26.53 Laurence Ioannou declared a Major Incident on behalf of the LAS.[466] That was as a result of his having gone back to CU7 and discovered that from the LFB that there were FSG calls reporting 40 people trapped and patients coming out of building unconscious.[467] At 02.38.40 the LAS recorded that the LFB had itself declared a Major Incident,[468] having been informed of that fact by telephone from the LFB control room at 02.37.26.[469]

15.202 Between 02.30.47 and 02.45 there were numerous radio messages from the NPAS helicopter broadcast over the MPS radio channel, identifying fire in certain locations on the southern elevation of the tower and the need for rescue, the fact that people were trying to escape by climbing down from flats on that elevation, and expressing the opinion that the fire was going to spread quickly.[470] Again, there is no evidence that these messages were passed to, or acted on by, the control room.

15.203 At 02.30 Commander Neil Jerome, still at home in Kent, took a further call from Chief Inspector Duane Barrett at GT at Lambeth. He was told that a Major Incident had been declared and that many casualties had been reported, but not by whom.[471] He did not in fact know that the MPS had declared a Major Incident an hour previously. He made a number of command decisions, in particular to establish a casualty bureau,[472] and directed that a "full multi-agency response" was required.[473] That included the activation of a strategic co-ordination group of senior representatives of the emergency services under the auspices of JESIP and the activation of the London Resilience Forum to provide support and the establishment of a special operations room for this incident at Lambeth in order to co-ordinate the response. Commander Jerome instructed Chief Inspector Barrett to take charge of ensuring that those steps were carried out.[474] His call to Chief Inspector Barrett ended at around 02.40 or 02.45.[475] Shortly afterwards he left for Lambeth under blue lights. He left Detective Superintendent Paul Warnett in charge as Gold Commander for the time being and intended to take over from him once he had arrived (which he later did, at 04.10) and had been briefed.

15.204 At 02.37.46 the MPS recorded that they had spoken to RBKC about "smoke screens" and water, but were yet to make contact with their LALO.[476] At 02.38.04 a new radio channel was established by command support within the Pan-London response team in order to carry messages concerning residents displaced from Grenfell Tower and the surrounding blocks. The purpose of doing that was to keep the working channel free for operational requirements.[477]

15.205 At 02.38 Laurence Ioannou (LAS) was informed by the LFB that there were now 58 adults and 16 children, 74 people in all, trapped in the building.[478]

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[465] Laurence Ioannou's reference in his statement [MET00010862] p. 6 to CU2 is incorrect since the incident commanders used CU8 for incident command throughout.
[466] CAD 247 p. 7. Laurence Ioannou's timing of that at 02.55 in his witness statement [MET00010862] p. 7 is probably incorrect.
[467] Ioannou witness statement [MET00010862] p. 7.
[468] CAD 247 p. 8 and the call transcript at [INQ00000380] p. 2.
[469] [INQ00000376].
[470] CAD 482 entries at 02.30.47, 02.35.42, 02.37.39 and 02.39.05 pp. 14, 15.
[471] Jerome witness statement [MET00023286] paragraph 42; Day 71(Mon)/175/7-25.
[472] Jerome Day 71(Mon)/192/4-12.
[473] Jerome witness statement [MET00023286] paragraph 43.
[474] Jerome witness statement [MET00023286] paragraph 44.
[475] Jerome Day 71(Mon)/202/11-12.
[476] CAD 482 p. 13.
[477] Winch witness statement [METS00020664] pp. 7-8.
[478] Ioannou witness statement [MET00010862] p. 7.

15.206 At 02.38.21 CU8 made a further request for a DSE and LALO.[479]

15.207 At 02.39, Inspector Thatcher met DAC O'Loughlin, then the incident commander. That was the first meeting that he had had with any LFB officer since his arrival over an hour before.[480] The meeting took place inside CU8 and was recorded on his body-worn video (as was the major part of his night at the incident).[481] DAC O'Loughlin was still incident commander at that point, although very shortly afterwards he was to be relieved by AC Roe. DAC O'Loughlin told Inspector Thatcher that the LFB had declared a Major Incident. That was the first that Inspector Thatcher had heard of the fact.

15.208 At 02.42.38 RBKC was notified of the fire by the LFB. The caller (AOM Real) informed the RBKC operator using the control room "admin line" that a Major Incident had been declared and that a 40-pump fire had been reported with many persons trapped in flats. The RBKC operator "Annette" asked whether there was anything they needed. AOM Real said that she needed to inform the London Borough Duty Officer. The RBKC operator confirmed that they were already aware of the fire.[482] It remains unclear why the LFB made contact with RBKC to tell it that it had declared a Major Incident only at that juncture and not soon after GM Welch had made the declaration at 02.06. It is also unclear why AOM Real failed to ask RBKC for a DSE at that point, notwithstanding the service requests from CU8 at 02.17.36 and 02.38.21.

15.209 At 02.43, David Kerry, at the RBKC BECC, called Michael Rumble, RBKC Parks Police Inspector and asked him to attend the scene as a second LALO.[483]

15.210 At 02.44 the NPAS helicopter left Grenfell Tower because of a fault and was replaced by another one (NPAS 13) from Lippitts Hill, which arrived at 02.58.01.[484] That second helicopter did not provide any video downlink facility either, for reasons explained at the end of Chapter 17.

15.211 At 02.45 the LAS command unit arrived and shortly afterwards the LAS sectorised the incident for casualty handling, making the original casualty area to the east of the tower sector 1 and an area to the west of the tower as sector 2.[485]

15.212 At around 02.47 Nickolas Layton, the RBKC LALO, arrived at the scene.[486] He went to CU8 and introduced himself to the incident commander (who by that stage was AC Roe) explaining that he was there to offer assistance.[487] He was asked by AC Roe to open up the Kensington Leisure Centre as a temporary mortuary. He agreed and gave permission for the LFB to make a forced entry.[488]

479 SIL [MET00013830] p. 23.
480 Thatcher Day 71(Mon)/73/21-23; 74/4-75/5.
481 Clip at [INQ00000521].
482 Control Admin Line [INQ00000188].
483 David Kerry's Emergency Log Sheet, entry 3 [RBK00028849].
484 CAD 482 pp. 16, 18.
485 Ioannou witness statement [MET00010862] p. 8.
486 Thatcher body-worn video [INQ00000524]; Thatcher Day 71(Mon)/149/2-5.
487 Layton Day 74/26/11-19.
488 Layton Day 74/27/8-12.

Chapter 16
Period 7: 02.50-03.00

1 External fire spread

16.1 By 02.57 the flame front had continued to move across the south face from east to west and had spread beyond column D3 (the middle internal column on the south face), the furthest horizontal spread being at the crown,[1] all of which can be seen in the following image:[2]

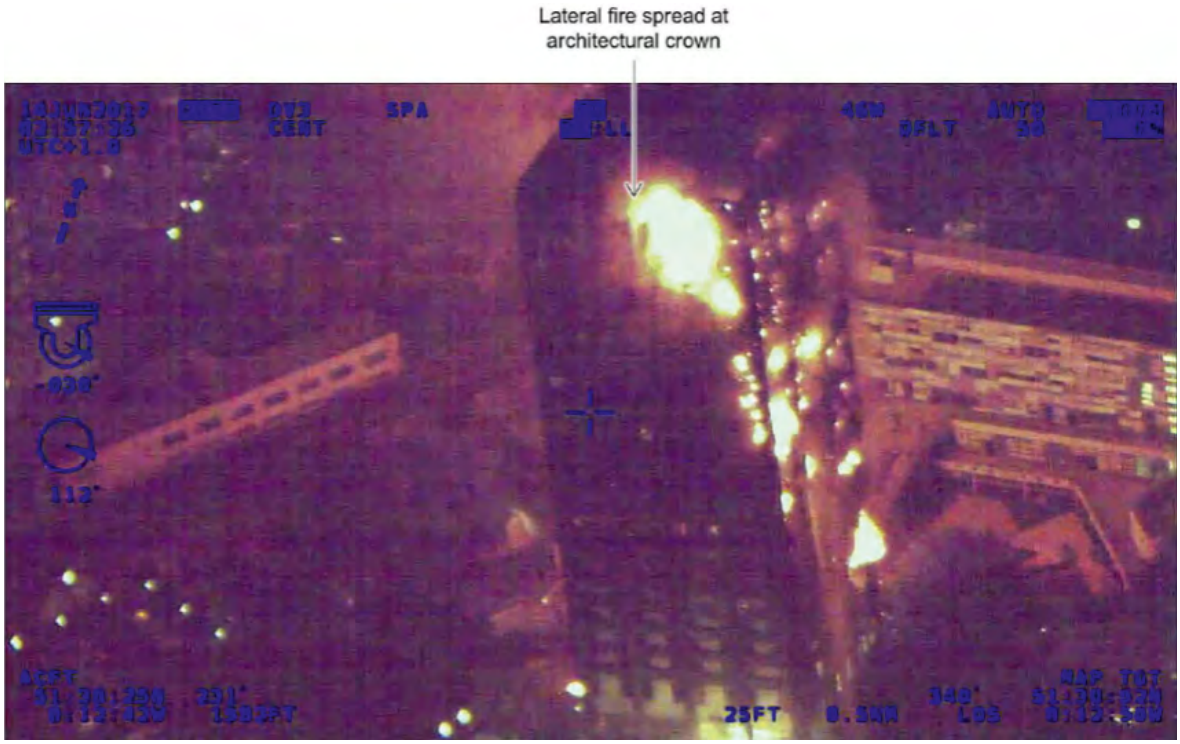

Figure 16.1

16.2 By 02.51 flames had appeared at the top of column A1 (the column on the north-west corner of the tower). Fire was also spreading down the edge of column A1 on the west face and there were flames at the horizontal joints between some of the ACM panels on column A1.[3] Those burning patterns can be seen in this image taken at 02.51:[4]

1 Professor Bisby supplemental report [LBYS0000001] p. 229 at sections 1067-1069.
2 Professor Bisby supplemental report [LBYS0000001] p. 232 at Fig. 152.
3 Professor Bisby supplemental report [LBYS0000001] p. 221 sections 1034-1037; [LBYS0000001] p. 190 Figs. 110 and 111 show downward fire spread at the corner of column A1 at 02.50 and 02.52 (refer to Professor Bisby errata sheet).
4 Professor Bisby supplemental report [LBYS0000001] p. 222 Fig. 138.

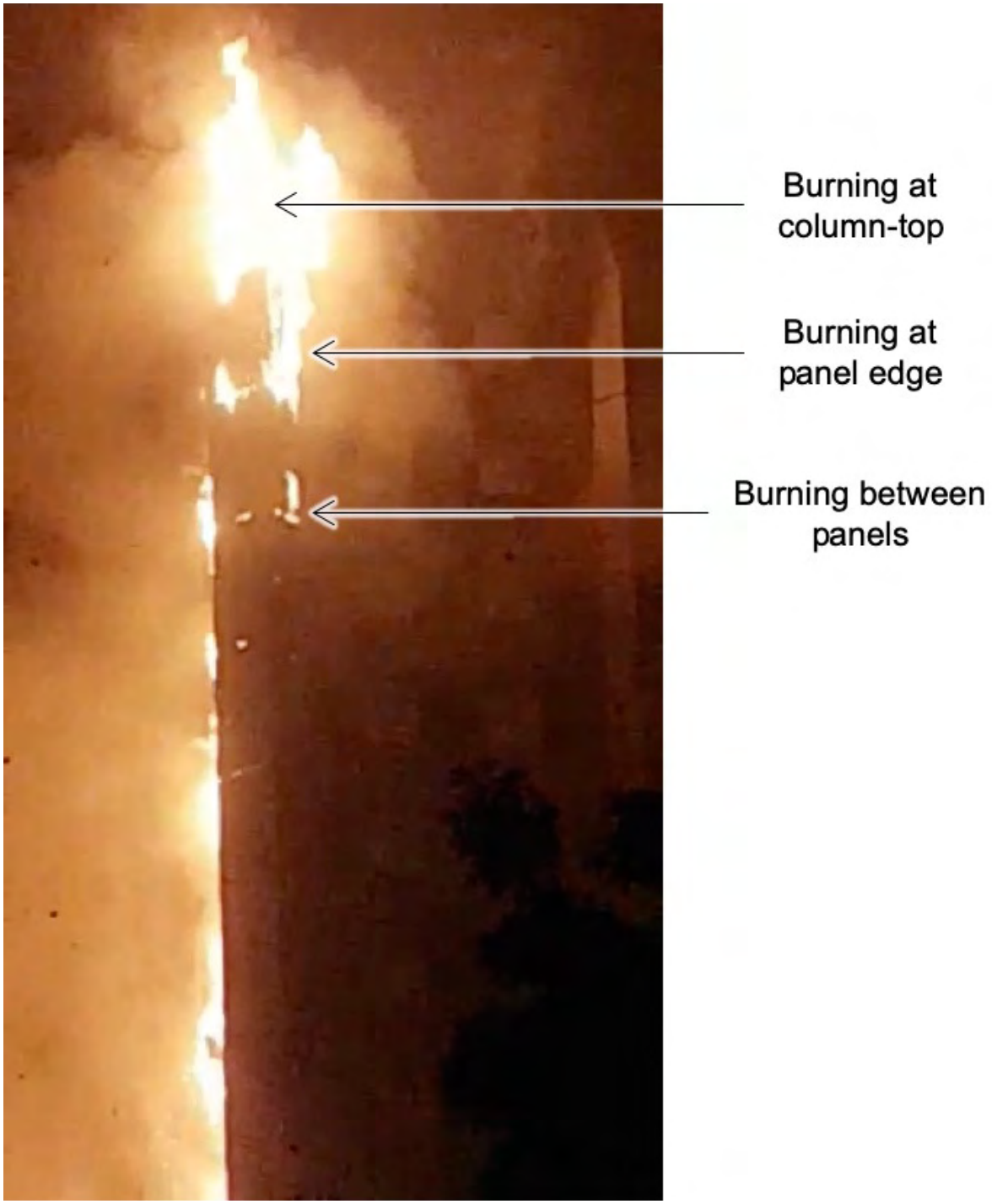

Figure 16.2

16.3 By 02.53 Flats 51, 61, 71 and 81 on floors 8 to 11 and Flat 82 on floor 11 had become involved in the external flame spread.[5]

[5] Dr Lane supplemental report [BLAS0000012] p. 10 Fig. 12.3.

2 Events on the incident ground

Arrival of Commissioner Dany Cotton

16.4 Commissioner Cotton arrived at the incident at 02.50.48.[6] She took a photograph of the east side of the tower from where she had parked her car. That photograph, which bears a time stamp of 02.51, is reproduced below:

Figure 16.3

[6] Radio transcript [LFB00002814].

16.5 On looking at the tower, the Commissioner's first thought was that there had been a complete failure of the building in which all the floors were alight, which she had not thought could ever happen to a building in England.[7] She thought that nothing could be done to extinguish the fire; the only question was how firefighters could get into the building in order to carry out as many rescues as possible.[8] At that point the Commissioner had not decided whether to take over command of the incident.[9] Having taken the photograph, she made her way to CU8.[10]

Briefing of DAC Andrew O'Loughlin as operations commander

16.6 Meanwhile on CU8, AC Andrew Roe was briefing DAC O'Loughlin to take over as operations commander with responsibility for the fire sector, FSG management and BA main control. The Roe Log records that briefing as taking place at 02.54.[11] DAC O'Loughlin explained that his new role had been to move between the different operational sectors on the fire ground[12] and to take responsibility for tactical decision-making in each of them.[13]

16.7 They agreed that DAC O'Loughlin would be based on the incident ground for that role, rather than on the command unit. AC Roe asked him to focus on two things in particular: establishing a safe means of entering and leaving the tower and driving the rescue effort.[14] DAC O'Loughlin did not recall his responsibility for the route into and out of the tower[15] and said that his objective at that time had been trying to reach those who had made FSG calls, starting on the north-east side of the building and then systematically working through the other floors.[16] He was unable to give AC Roe any information about the search and rescue strategies that until then had been adopted in the fire sector,[17] and he did not tell AC Roe that he had not in fact received any information from the fire sector during his time as incident commander.[18]

16.8 AC Roe also asked DAC O'Loughlin to establish a dedicated command radio channel on channel 2, but that was not possible, and so channel 1 continued to be used.[19]

16.9 Having been briefed as operations commander, DAC O'Loughlin left CU8 for CU7.[20] He saw that the fire had got significantly worse[21] and that it was wrapping around the south and west sides of the building.[22] It does not appear that he realised at that point that the fire had got into some of the flats, since he said that he had not seen that until he left CU7 and went to the tower. That was at some time after 03.00.[23]

7 Cotton Day 50/141/17-70; 141/24-142/3.
8 Cotton Day 50/142/5-19.
9 Cotton Day 50/142/20-143/4.
10 Cotton Day 50/144/7-145/1.
11 AC Roe record of actions [MET00005405] p. 3.
12 O'Loughlin Day 48/44/9-21.
13 O'Loughlin Day 48/50/1-15.
14 AC Roe record of actions [MET00005405] p. 3.
15 O'Loughlin Day 48/48/7-24.
16 O'Loughlin Day 48/52/8-17.
17 Roe Day 49/69/14-72/15.
18 Roe Day 49/72/16-25.
19 Roe Day 49/73/11-74/20.
20 O'Loughlin witness statement [MET00012563] p. 19.
21 O'Loughlin Day 47/169/19-23.
22 O'Loughlin Day 47/182/22-183/14.
23 Day 47/169/19-23.

AC Roe briefs GM Stephen West as sector commander for command support

16.10 AC Roe then briefed GM West to take the role of sector commander for command support, with instructions to concentrate on ensuring that there was a continuous supply of resources to the operational sectors, in particular BA Main Control. AC Roe directed GM West to run command support from CU1, which had arrived at the incident at 02.59.36. The Roe Log records that briefing as having taken place at 02.57.[24]

DAC O'Loughlin on CU7 – GM Thomas Goodall's grid

16.11 Meanwhile DAC O'Loughlin had arrived at CU7. He had a short discussion with GM Goodall to see if he needed anything,[25] but there was no substantial discussion of the FSG calls. DAC O'Loughlin saw the list of FSG calls, but did not look at it in detail.[26] He said that if at that time he had attempted to break down the calls and establish how they were going to prioritise them, he would have become caught up in managing them when he knew that he needed to go into the tower and acquaint himself with the firefighting and rescue operations.[27] He understood that his role was to ensure that there was an effective system in place for managing FSG information,[28] and in his view there was.[29] He did not check any particular flat numbers or carry out any check to see whether the correct information was being passed on,[30] because he did not see that as part of his role.[31]

16.12 Although DAC O'Loughlin referred to seeing a "list" of FSG calls on CU7, it is clear that it was at about that time that GM Goodall was implementing his whiteboard "grid" system containing all the flat and floor numbers together with any FSG information that had been received relating to them. GM Goodall recalled having started that system fairly soon after he had arrived at CU7, when it had become obvious that a simple list was not going to enable the FSG team to identify where people were trapped.[32] GM Goodall took a number of photographs of the whiteboards on CU7 during the course of the incident, one of which, reproduced below, appears to show the beginning of the "grid" system. It bears a time stamp of 03.00:

24 AC Roe record of actions [MET00005405] pp. 3-4; SIL p. 9.
25 O'Loughlin Day 48/68/11-14.
26 O'Loughlin Day 48/70/8-12.
27 O'Loughlin Day 48/69/1-6.
28 O'Loughlin Day 48/74/18-25.
29 O'Loughlin Day 48/73/11-12.
30 O'Loughlin Day 48/73/20-25; 75/18-20.
31 O'Loughlin Day 48/74/23-25.
32 E.g. Goodall Day 35/31/6-16.

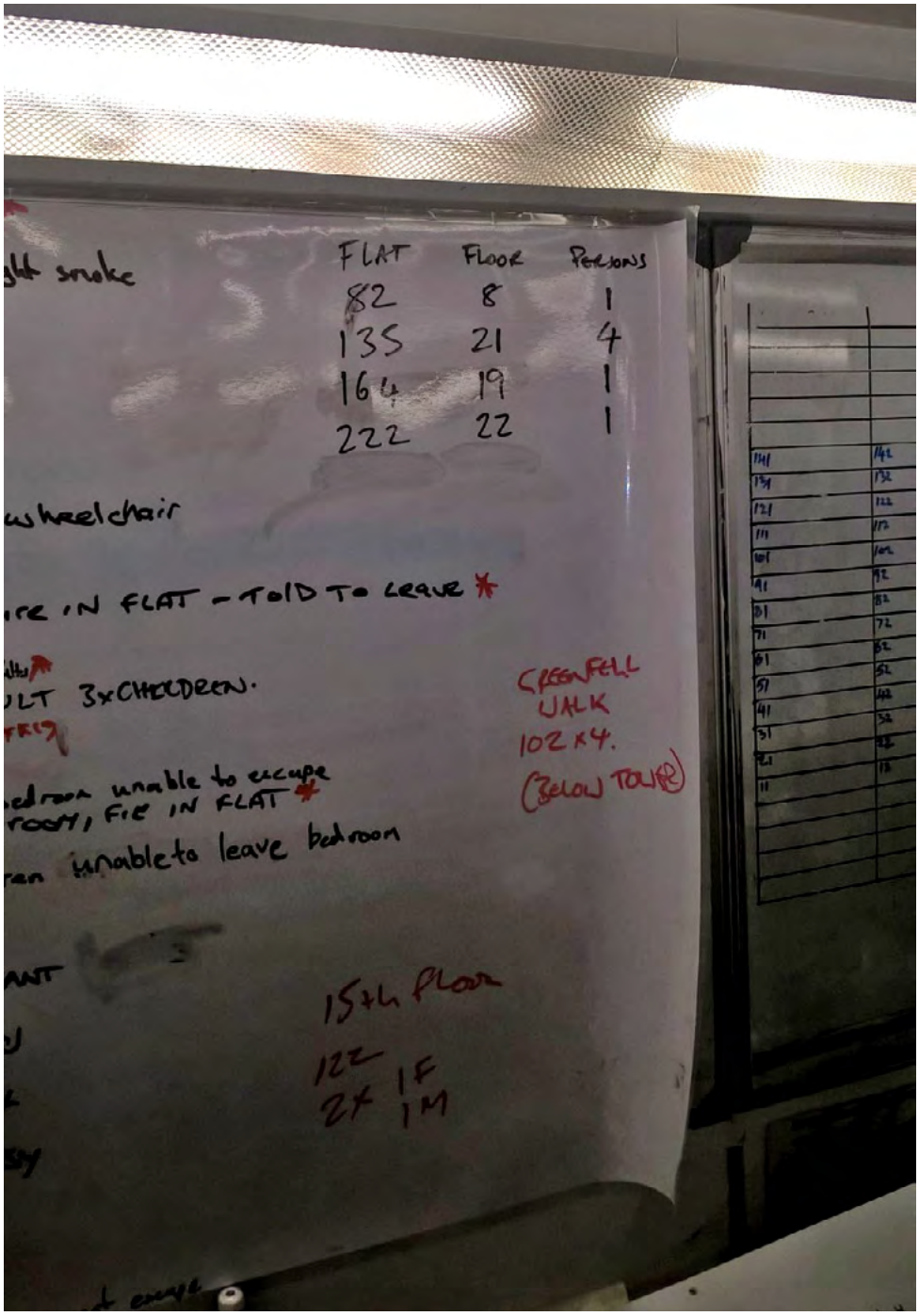

Figure 16.4

16.13 A photograph of the same whiteboard taken much later on shows how it looked after FSG information had been entered on it:

Figure 16.5

Commissioner Cotton on CU8 and going to the tower with AC Roe

16.14 At about that time (03.00) Commissioner Cotton reached CU8. She thought that she had arrived at about the time that AC Roe was leaving to go to the tower. She went with him and as they walked he gave her a briefing.[33] She recalled his telling her that the "stay put" advice had been revoked,[34] but she did not recall any discussion about FSG calls or AC Roe's tactical plan at that time.[35] She did not ask him why the "stay put" advice had not been withdrawn sooner; nor did she ask when compartmentation had failed.

BA deployments: FFs Michael Pole, Niki Mitchell, Chris Cheesman and Jessamine Bate

16.15 Inside the tower, FFs Pole, Mitchell, Cheesman and Bate from Euston Fire Station were at the bridgehead ready to go under air. All four recalled being briefed to go to floor 23.[36] The photograph of the wall on floor 3 where the bridgehead was then positioned shows that the word "Euston" had been written against Flats 204 and 205 on floor 23. In the bottom right-hand corner of the photograph can be seen the words "23rd Euston 204 205".

33 Cotton Day 50/146/3-14.
34 Cotton Day 50/147/1-2.
35 Cotton Day 50/146/20-24.
36 Mitchell witness statement [MET00039859] p. 5; Bate witness statement [MET00017072] p. 5; Pole witness statement [MET00039672] p. 8; Cheesman contemporaneous note [MET00005485] p. 1.

Figure 16.6

16.16 It seems likely, therefore, that the crew were briefed to go specifically to Flats 204 and 205, rather than to undertake search and rescue operations on floor 23 generally. The crew had tallied out by 02.53. FF Mitchell recalled thinking, when they set out, that they would struggle to reach floor 23 as they were wearing SDBA.[37] At about floor 12 they came across another crew of two firefighters who were on their way down (possibly FFs Nikki Upton and Tom Reddington) carrying an unconscious girl, now identified as Malak Belkadi.[38] One of the firefighters placed the child in FF Bate's arms and she decided to carry her down, leaving the rest of her crew to continue up to floor 23.[39]

37 Mitchell witness statement [MET00039859] p. 6.
38 ORR v 0.7 p. 264.
39 Bate witness statement [MET00017072] p. 6.

16.17 FFs Mitchell, Pole and Cheesman continued on their way up. They reached what they thought was floor 18, when they realised they would not have enough air to get all the way to floor 23 and back down again. They therefore decided to rescue anyone they could from that floor rather than go any higher.[40] They opened the door to the lobby on floor 18. FF Mitchell said that it was at that point that he had been grabbed by a man who had told him that there were seven people in need of rescue;[41] FF Pole said that they had come across the man after they had entered the lobby and knocked on the door of one of the flats.[42]

16.18 FF Mitchell decided that the crew would take the seven residents down in what he described as a "human chain". He remembered having checked before they set off that all seven were there.[43]

16.19 On their way down, FF Pole, who was at the back of the chain with a woman and a boy, realised that the boy was no longer with them. He found him sitting on a step. He picked the child up and continued down the stairs. Further on he came across another firefighter whom he asked for help. The other firefighter took the child from FF Pole.[44]

16.20 FFs Mitchell and Cheesman had got back to the bridgehead before they realised that FF Pole was no longer with them. They went back up the stairs, found him, and brought him back down. FF Mitchell remembered telling WM De Silvo that they had not reached floor 23 but had got "fairly high up" and that they had rescued a family of seven.[45] The crew's "end of wear times" were between 03.15 and 03.17. I set out further details about this deployment and rescue in Period 8.

3 Conditions in the tower and movement of occupants

Floor 23

Flat 202

16.21 In Flat 202, Gloria Trevisan began her last call to her parents at 02.45, which lasted 22 minutes 56 seconds, ending at 03.08. She told her mother, Emanuela Disaró, that the two people who had sheltered in Flat 202 (Majorie and Ernie Vital) were still with her as well as Marco Gottardi. He was speaking to his parents.[46] Gloria Trevisan told her mother that smoke was coming from everywhere and that there was no way out. The flat was full of smoke and she could see the fire outside the window. They had shut a window because pieces of glass had been coming in.[47]

16.22 Emanuela Disaró asked her daughter if they had made others aware that they were in the flat. Gloria Trevisan said she had and while speaking to her mother she asked others in the flat the same question. Emanuela Disaró could not hear their response,[48] but there is no evidence that any emergency calls were made by those trapped in Flat 202.

40 Mitchell witness statement [MET00039859] p. 7; Pole witness statement [MET00039672] p. 9; note that Cheesman in his contemporaneous note estimated that they were somewhere between floors 15 and 18 [MET00005485] p. 1.
41 Mitchell witness statement [MET00039859] p. 7.
42 Pole witness statement [MET00039672] p. 9.
43 Mitchell witness statement [MET00039859] p. 7.
44 Pole witness statement [MET00039672] pp. 11-12.
45 Mitchell witness statement [MET00039859] pp. 8-9.
46 Disaró first witness statement [IWS00000543] p. 8; Disaró second witness statement [IWS00001227] p. 7.
47 Disaró first witness statement [IWS00000543] p. 8; Disaró second witness statement [IWS00001227] p. 7.
48 Disaró first witness statement [IWS00000543] p. 8; Disaró second witness statement [IWS00001227] p. 7.

16.23 During the call, Gloria Trevisan told her mother that her eyes and throat were burning and hurting and that she was feeling unwell. Emanuela Disaró could tell her daughter was having problems speaking. Gloria Trevisan told her mother she was having difficulty breathing and could be heard coughing. At some point she told her mother that the fire had come through the window.[49] Gloria Trevisan ended the call.[50]

16.24 That was the last contact that the parents of Gloria Trevisan had with their daughter.

16.25 At around 02.45 (probably before Gloria Trevisan's final call to her mother), Emanuela Disaró called Giannino Gottardi, Marco Gottardi's father, to tell him of the fire.[51] He immediately called his son who sounded calm and said he had filled the bath with water. Marco Gottardi told his father that they had not evacuated because there was too much smoke and they had been told to stay put.[52]

16.26 Marco Gottardi made a further call to his father after Gloria Trevisan's final call to her mother, to which I shall return later in this Narrative under Period 8.

Flat 203

16.27 By this time, Isra Ibrahim had made a 999 call from Flat 203, timed at 02.42.06, and had been advised to stay there.[53] At 02.58.42, a man called the control room and spoke to CRO Christine Howson. He told her that the police would not let him into the tower and had told him to call 999. The caller said that he had just spoken to someone in Flat 203 with two children. CRO Howson told him that they needed to try to leave the building and that she would pass on the information that people were still in Flat 203.[54]

16.28 The caller must have been referring to Rania Ibrahim. It is not known if he was able to speak to her again to pass on CRO Howson's advice.

16.29 Rania Ibrahim appears to have thought that the "stay put" policy was still in place at that time. Munira Mahmud, a close friend who had earlier left floor 5, called Rania Ibrahim at around 03.00. Rania Ibrahim was coughing a lot and Munira Mahmud could tell that she was finding it difficult to breathe. Munira Mahmud tried to persuade her to leave. Rania Ibrahim said she had called 999 and that whoever had answered the call had told her to stay inside and wait for help. She also said that the roof door was locked but that they were sending help, as she could see a helicopter. Munira Mahmud continued to tell Rania Ibrahim that she should try to leave. That was the last conversation Munira Mahmud had with Rania Ibrahim; she was unable to reach her by telephone again.[55]

16.30 Sayeda Ibrahim's daughter spoke to her aunt Rania Ibrahim on several occasions (01.00, 02.50 and 03.00). Her last conversation was at 03.00.[56]

16.31 The contact Munira Mahmud and Sayeda Ibrahim's daughter had with Rania Ibrahim is, on the evidence, the last known contact with those in Flat 203.

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49 Disaró first witness statement [IWS00000543] pp. 8-9.
50 Disaró first witness statement [IWS00000543] pp. 8-9; Disaró second witness statement [IWS00001227] p. 8.
51 Gottardi first witness statement [MET00013011] p. 1.
52 Gottardi first witness statement [MET00013011] p. 1.
53 [LFB00000375].
54 [LFB00000558]; ORR v 0.7 p. 252.
55 Mahmud first witness statement [IWS00000776] p. 9; Mahmud Day 54/108/20-111/2.
56 Ibrahim witness statement [IWS00000323] p. 9.

Flat 204

16.32 Hesham Rahman had remained in Flat 204. Shafika Ragab, his aunt, lived close to the tower. Learning of the fire, and being concerned for her nephew, she called him at 02.59. She told him to leave as the tower was on fire. He said he had to wait. He told her that he had told the police that he had problems with his feet and could not walk, and that they had told him that they were coming to get him.[57] Shafika Ragab pleaded with Hesham Rahman to leave. He said he would try his best.[58] There is no record of an emergency call from Hesham Rahman having reached the MPS, so he must have been referring to his calls to the control room.

Floor 22

Flat 193

16.33 At about this time, the Choucair family made an unsuccessful attempt to leave the tower. Before this, Nadia Choucair and Bassem Choukair had made two separate 999 calls. CRO Yvonne Adams responded to both of them.

16.34 In her call at 02.37.00 Nadia Choucair told CRO Adams that she could see fire, that there was a lot of smoke coming into the flat and that it was getting worse. CRO Adams advised her to block out the smoke coming in and to close the windows. Nadia Choucair confirmed that the door had already been blocked. At the end of the call, CRO Adams said: "We are coming to you. We will get to you, OK?"[59]

16.35 In the second call at 02.43.55, CRO Adams encouraged Bassem Choukair to try to find the stairs and get out. He told CRO Adams that it was not possible to leave because of the smoke; he could not see. CRO Adams ended the call saying, "I'm going to leave you now. You make the decision whether you think you need to leave or not. All right?" The call lasted 2 minutes and 26 seconds.[60]

16.36 In both calls, CRO Adams had been told there were eight people in the flat, which would correspond to the members of the Choucair family and Naomi Li and Lydia Liao. Nadia Choucair told Naomi Li that they needed to leave the building. Naomi Li refused to do so, because she had been told to stay by the emergency services and she did not feel prepared to run down the stairs at that time.[61]

16.37 Naomi Li's understanding was that Nadia Choucair had spoken on the telephone to someone outside the building who had told her to get out. Naomi Li did not recall Bassem Choukair telling her that they had been advised by the emergency services to leave.[62] The Choucair family accepted that Naomi Li and Lydia Liao were going to remain and left the flat with wet towels over their heads.[63]

57 Ragab first witness statement [IWS00000475] p. 3.
58 Ragab first witness statement [IWS00000475] pp. 2-3.
59 [LFB00000366] p. 7.
60 [LFB00000376] p. 4; ORR v 0.7 [LFB00032988] p. 225.
61 Li first witness statement [IWS00000515] p. 7; Li Day 62/192/18-22.
62 Li Day 62/183/15-23.
63 Li Day 62/182/17-62/186/24; Li first witness statement [IWS00000515] p. 7.

16.38 As they left, Naomi Li saw a lot of smoke enter the flat through the open door and enter the hallway. She and Lydia Liao tried to tape up the gap around the door to the living room where they were sheltering.[64] Naomi Li said that, from the moment that the family had tried to leave, the smoke in the flat "felt toxic and spiky as if there was a lot of stuff going into your nose".[65]

16.39 Naomi Li called 999 at 02.51.09 and spoke to CRO Sarah Russell.[66] The call lasted 5 minutes and 32 seconds finishing at 02.56.41.[67] Naomi Li asked for advice about what they should do and said it was smoky everywhere. CRO Russell told her,

> "You can do one of two things. You can either make your way into a room and shut the door, keep the smoke out, and stay low, or you can try and make your way out of the building. You have to decide which is safer. Okay?"[68]

Naomi Li did not feel able at that point to decide which option was the safer.[69]

16.40 When Naomi Li asked again for advice, CRO Russell said that her "best bet" was to get out. CRO Russell said that there was a lot of smoke coming in and it was dangerous. In oral evidence, Naomi Li said that she had not understood CRO Russell's advice.[70]

16.41 While that call was in progress the Choucair family had returned to Flat 193. It is possible to time their return by reference to a 999 call answered by CRO Peter Duddy at 02.55.59. Lydia Liao confirmed in evidence that she was one of the two people who spoke to CRO Duddy on that call. The other was, she thought, Nadia Choucair. CRO Duddy's advice was that all those in Flat 193 needed to leave and get to the stairwell, because it was their only chance of survival. Lydia Liao said that the smoke was now so heavy that those in the flat could not see each other. The fire was in the next room. She explained that the fire was outside Flat 193. She was walking around the living room and had seen the fire outside either from a window facing west or one facing south.[71]

16.42 Naomi Li's recollection was that the family from Flat 192 had reached Flat 193 after her call to CRO Russell had ended. She had heard knocking on the door and had seen Nura Jemal and her daughter in Flat 193. She had not seen Hashim Kedir or the other children, but at that point the amount of smoke coming through the front door had made it difficult to see.[72]

Flat 194

16.43 Between 02.24 and 02.49, Anthony Disson had made three 999 calls,[73] in which he had repeatedly asked for someone to come to the flat. In the first, timed at 02.24.35, he threatened to jump out of the window. In the last, he told CRO Adams that he could see flames coming out of the "top of the roof" and down his flat.

16.44 Anthony Disson also spoke to his family while he was still in Flat 194. He told his wife, Cordelia Disson, that he was going to jump out of the window and that the lights in the flat had gone out. While he was on the telephone he heard knocking at the front door. He thought it was firefighters. He kept the line open while he answered the door. Cordelia Disson was able to hear a man ask Anthony Disson by name to help him and a baby crying in the background.

64 Li Day 62/185/13-62/192/2; Li first witness statement [IWS00000515] p. 8.
65 Li first witness statement [IWS00000515] p. 11; Li Day 62/202/1-25.
66 [LFB00000386].
67 LFB "Operational Response to Grenfell Tower" (v 7, 7 February 2019) [LFB00032988] p. 240.
68 [LFB00000386] p. 3.
69 Li Day 62/192/23-62/193/15.
70 Li Day 62/193/16-62/194/12.
71 [LFB00000389]; Liao second witness statement [IWS00001191] pp. 1-2; Liao Exhibit LL/6 [IWS00000503] p. 2.
72 Li Day 62/199/9-62/201/23; Li first witness statement [IWS00000515] p. 8.
73 [LFB00000352] p. 3.; [LFB00000695]; [LFB00000381] p. 3.

Anthony Disson told the man "I can't help myself".[74] Cordelia Disson did not hear the man again. She described Anthony Disson as becoming more desperate from that point. He told her that he could now see flames at the window.

16.45 Given what Anthony Disson had said in his 999 call at 02.49 and the evidence of Naomi Li about the time at which the Choucair family tried to leave, it is likely that the person who knocked at the door of Flat 194 was Bassem Choukair.

16.46 Shortly after his 999 call at 02.49, Anthony Disson was advised again to leave the building. At 02.51 CRO Angie Gotts called him using a number provided by Surrey FRS.[75] He told her that the flames were coming from next door. He was advised to cover himself with wet towels and get out. Anthony Disson said that he was 67 years old. When CRO Gotts asked if a neighbour could help him, he said there was no one there and ended the call.

Flat 192

16.47 By 02.51, the fire and rescue services had received a number of 999 calls from Flat 192. In two calls, timed at 02.03.47[76] and 02.18.06,[77] CROs were told that the fire had entered the kitchen of Flat 192. At 02.31.23, an MPS operator called and spoke to Nura Jemal, who reported that the fire had reached a bedroom.[78]

16.48 At 02.34.16, CRO Howson answered another 999 call from Flat 192.[79] She was told that there were two adults and three children in the flat, that the fire was in the living room and that the family were being affected by the conditions. CRO Howson advised that the family needed to leave and make their way down. She said she would alert the firefighters, who would try to meet them.

16.49 At 02.45.22, CRO Fox took a further call from Flat 192. It is clear that the family had tried unsuccessfully to leave. CRO Fox said again that they needed to leave and that firefighters were on different floors.[80]

16.50 Hashim Kedir and Nura Jemal and their family were still in Flat 192 at 02.53.17 when CRO Pam Jones told them that they needed to leave. The caller told CRO Jones "We are in 192 Grenfell Tower". CRO Jones advised the caller to try to leave. On that occasion the call lasted for 2 minutes and 32 seconds.[81]

16.51 In the light of those calls and Naomi Li's recollection, it is likely that the family went to Flat 193 shortly before 03.00. They were certainly in that flat by 03.07, because Naomi Li made another 999 call at 03.07.13, in which she told CRO Howson that there were 12 people in the flat.[82] The next call from the same caller was made at 03.08.56 when the caller said they were in Flat 193.[83]

74 Disson first witness statement [IWS00000242] pp. 11-12.
75 LFB Control Report pp. 105-106.
76 Transcript [LFB00000339].
77 Transcript [LFB00000345].
78 Transcript [INQ00000276].
79 Transcript [LFB00000363].
80 Transcript [LFB00000378].
81 Transcript [LFB00000385].
82 Transcript [LFB00000404].
83 Transcript [LFB00000406].

Floor 21

Flat 182

16.52 In a call that had begun at 01.38.38, CRO Jones spoke to the El Wahabi family in Flat 182 for almost an hour.[84] As the call progressed, CRO Jones was told that the fire had reached the kitchen and that the family had moved into a bedroom. Towards the end of the call her advice to them changed: she told them to try to leave the flat. Later 999 calls from Flat 182 (described in Periods 6 and 7) indicated the difficulties encountered by the family in following that advice.

16.53 At 02.39.09 (Period 6), a call from Flat 182 had been put through to the LAS. The operator was told that there were five people trapped in the flat.[85] At 02.43.54 (Period 6), CRO Fox was also told that there were five people trapped in Flat 182. When asked if they could leave safely, the caller said they could not.[86]

16.54 At 02.44.48[87], the family had made another emergency call, which BT put through to the LFB. It was answered by CRO Adams at 02.46.42 (Period 6). She was also told that there were five people trapped in the flat and that there was "too much smoke". When the call was disconnected by the LFB the line remained open to the BT operator. The call was reconnected to the LFB control room on a further three occasions during this Period:

a. It was reconnected to CRO Adams at 02.51.06, who was told "We're dying, please help me, please". She said that the family needed to get out, but was told that they could not do so, as it was too smoky. When CRO Adams repeated the advice, she was told that they would try to leave.[88]

b. At 02.53.57, CRO Howson was told that the family were stuck, that they could not breathe and that the fire was inside their flat. She said that in that case they needed to leave. She was told that they had tried, but that there was black smoke in the "corridors" and that they would faint. CRO Howson's advice was to feel their way to stairwell and get down the building. She was told that they would try to do so.[89]

c. At 02.57.34, BT put the call through again to the LFB. The BT operator told CRO Russell that a female was on the line but that the line had gone silent.[90]

16.55 During exchanges with the BT operator while waiting for the call to be connected, Abdulaziz El Wahabi is heard to say:

> "We could have left a long time ago, we could have but they said stay in the flat, stay in the flat. We stayed in the flat; we didn't leave."[91]

84 Transcript [LFB00055498].
85 Transcript [INQ00000383]
86 Transcript [LFB00000374]; LFB ORR v 0.7 p. 226.
87 Transcript [COR00000376] p.5.
88 Transcript [LFB00000383].
89 Transcript [LFB00000387].
90 Transcript [LFB00000390].
91 [COR00000376]; Wahabi Day 70/187/6-10.

Flat 183

16.56 In the adjacent flat Marcio Gomes had also made a number of 999 calls, most recently at 02.46.58. That call had left him with the impression that he had a choice about whether to stay or leave, if possible. He thought that it was after that call that all those in Flat 183 had made a second attempt to leave. When that attempt failed he called 999 again.[92] The call reached CRO Gotts at 02.55.38.[93]

16.57 CRO Gotts asked Marcio Gomes if he had tried to leave. He told her that they were unable to get out of the flat. He added that smoke was still coming into the flat despite his using towels to block it out and that the flat next-door was on fire. CRO Gotts asked him to confirm he felt unable to leave and then advised him to go to a window where he could get some fresh air. She said "I'll let the firemen know, OK, to come up to you".[94]

16.58 As a result of that call Marcio Gomes was left with the impression that firefighters would be coming to rescue him and his family. He felt he was still as safe as he could be in the flat and he decided that he had some time to wait.

Flat 173

16.59 At 02.26.48, CRO Russell had taken a call from Khadija Saye, who was in the living room of Flat 173 with her mother.[95] Smoke was coming into the flat. CRO Russell told Khadija Saye that she could either stay or leave. Khadija Saye responded that they were too high up to go out and that, when she had opened the front door, there had been a lot of smoke and she had not been able to see anything. CRO Russell then advised her to block the doors to prevent smoke coming in and to move to a different room if flames came in. She said that she would send a message to the fire crews and added, "It might take a little while, but they are on their way".

16.60 That was the only time at which those in Flat 173 made direct contact with the emergency services. Later, Khadija Saye posted messages on Facebook and friends called the emergency services on her behalf. There were five calls between 02.50 and 03.33. They reported that Khadija Saye and her mother were trapped in Flat 173 on floor 20. On each occasion the CRO who took the call advised the caller to tell Khadija Saye to try to get out of the flat.[96]

16.61 The advice to leave was posted on Khadija Saye's Facebook wall at 02.55 and 02.57. At 03.02, Khadija Saye posted that she was scared to leave.[97] I return to these Facebook exchanges later.

Floor 15

Flat 124

16.62 Just before 03.00, Christos Fairbairn decided to leave his flat. Opening his front door he found that the lobby was filled with thick smoke. The lights were on, but it was dim and the lobby appeared dark.[98] He tried to find his way to the stairs, but ended up in the bin room. Running out of breath, he returned to his flat.[99]

92 Gomes Day 71(Fri)/72/12-73/8; Gomes Day 71(Fri)/77/10-79/3.
93 Transcript [LFB00000392].
94 Transcript [LFB00000392] p. 3.
95 Transcript [LFB00000355].
96 Call at 02.50 – Transcript [LFB00000644]; Call at 02.56 – Transcript [LFB00000553]; Call at 03.04 – Transcript [LFB00000676]; Call at 03.18 – Transcript [LFB00000571]; Call at 03.33 – Transcript [LFB00000583].
97 Exhibit of Marion Telfer [IWS00001188] pp. 3-21.
98 Fairbairn first witness statement [IWS00001025] p. 3.
99 Fairbairn first witness statement [IWS00001025] p. 3.

16.63 Christos Fairbairn then called 999. He was connected to the LAS at 03.00.55.[100] During the call he told the operator that he could not breathe. The operator told him that they would get people to him and that they were also trying to get the latest information. The operator did not tell him to leave the building. The call ended abruptly.

Flat 122

16.64 In Flat 122, Rebecca Ross and her father Steven Power were in her bedroom. Suddenly she saw a cloud of black smoke, which activated the smoke alarm. She thought that the smoke had got into the flat even though she had blocked up the front door with wet towels. It spread rapidly. She and her father agreed to leave. Rebecca Ross waited while he put on his shoes and soaked two towels, one for herself and one for him. At this time she was on the telephone to her brother, who urged her to leave. She thought the call from her brother had taken place at 02.22.

16.65 As Rebecca Ross moved to the front door, she became of aware of flames coming from the next-door flat, which looked as though they were about to come through the kitchen window.[101] When she opened the front door, she found the lobby filled with black smoke, so that it was impossible to see. The smoke drifted into the flat. It made her eyes sting and smelled like burnt pork. Steven Power was still in his bedroom when she left the flat. She was still on the telephone to her brother and had to feel her way to the stairwell door and push it open.[102]

16.66 Having made her way down two or three floors, Rebecca Ross began to lose consciousness. Firefighters helped her down the stairs. Realising that her father was not behind her, Rebecca Ross told them that he was still in Flat 122 on floor 15.[103] She left the tower at 02.53.[104] Steven Power was later found in Flat 122 in his bedroom with his dogs close to him.[105]

Floor 12

Flat 94

16.67 In Flat 94 Ethiopia Assefa could see smoke coming into the living room from the hallway in the flat. It made her lungs feel tight; they were burning from the smoke and her eyes were watering.[106] Alemishet Demissie and Ethiopia Assefa also noticed the wooden floor turning black with the smoke.[107] Ethiopia Assefa could feel the heat through her shoes.[108]

16.68 Alemishet Demissie made another 999 call at 02.58.44[109] and reached CRO Duddy for a second time. He repeated his advice that they should leave the flat. She told CRO Duddy that they could not leave; there was smoke coming into the flat and they could not see where they

100 Transcript [INQ00000384].
101 Ross first witness statement [IWS00001036] pp. 12-13.
102 Ross first witness statement [IWS00001036] pp. 13-14.
103 Ross first witness statement [IWS00001036] p. 15.
104 Annex A.
105 Ross first witness statement [IWS00001036] p. 21.
106 Assefa first witness statement [IWS00000891] p. 8.
107 Demissie Day 65/32/9-65/34/2; Assefa first witness statement [IWS00000891] p. 10.
108 Assefa first witness statement [IWS00000891] p. 10.
109 Transcript [LFB00000680].

were going. Both she and Ethiopia Assefa were resigned to not being able to leave.[110] Shortly after that call had ended, however, they heard knocking and FFs Aston-O'Donovan and Green entered the flat and helped them to leave.[111]

16.69 At 03.05.27, a call from Alemishet Demissie's telephone was connected to an MPS operator,[112] but the caller did not respond. It is likely that that call took place as Alemishet Demissie and Ethiopia Assefa were leaving Flat 94 or going down the stairs. Ethiopia Assefa left the tower at 03.07; Alemishet Demissie left at 03.10.

Flat 92

16.70 Karen Aboud's elder son called 999 and spoke to CRO Howson at 02.50.48.[113] He told her that the fire was on the window and coming in. CRO Howson told them to leave using the stairs.

16.71 A few minutes later at 02.57.59 Karen Aboud's son spoke to CRO Adams again.[114] She told him they must leave, but he said they could not; they had tried to run out, but there had been smoke in the lobby and the stairwell. CRO Adams kept trying to encourage them to leave.[115]

16.72 Karen Aboud thought that it had been around 03.00 when, looking out from her kitchen window, she had seen flames lower down the building. There was a lot of smoke coming into the flat under the front door.[116]

Floor 11

Flat 83

16.73 Meanwhile, in Flat 83 Elpidio Bonifacio was waiting for assistance from the firefighters. His daughter-in-law (Donna Bonifacio) had called to tell him that firefighters would be coming to get him.[117] She first called 999 at 02.58,[118] telling CRO Russell that he was blind and disabled and unable to leave without assistance. She said she had been in contact with him and that he had told her the flat was now very smoky. The smoke alarm was sounding. CRO Russell said that he should leave if he could; if not he should remain in the flat and the crews would be informed of his location.[119]

Floor 10

Flat 74

16.74 Despite their best efforts, Lina Hamide and Meron Woldeselassie Araya had not been able to stop smoke coming round the door of Flat 74. By around 03.00, and because of the amount of smoke in the flat, they had retreated to the bathroom and blocked the door with wet towels.

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110 Assefa first witness statement [IWS00000891] p. 10; Demissie Day 65/28/15-29/24; Demissie first witness statement [IWS00000860] p. 5.
111 Aston-O'Donovan Day 32/7/18; Aston-O'Donovan first witness statement [MET00008002] pp. 5-6; Exhibit of Aston-O'Donovan MAD/2 [MET00013035]; Green first witness statement [MET000083297] p. 11.
112 Transcript [INQ00000281].
113 Transcript [LFB00000673].
114 Transcript [LFB00000391].
115 Transcript [LFB00000391].
116 Aboud first witness statement [IWS00000130] p. 8.
117 Bonifacio first witness statement [IWS00001085] p. 5.
118 Transcript [LFB00000559].
119 Transcript [LFB00000559].

Despite friends and family advising them to leave, they considered that there was too much smoke to do so.[120]

Flat 72

16.75 On the same floor, at around 02.30 Antonio Roncolato saw smoke coming into his living room through gaps around the closed window.

16.76 A photo taken in his bedroom between 02.30 to 03.00 shows the conditions at the time.

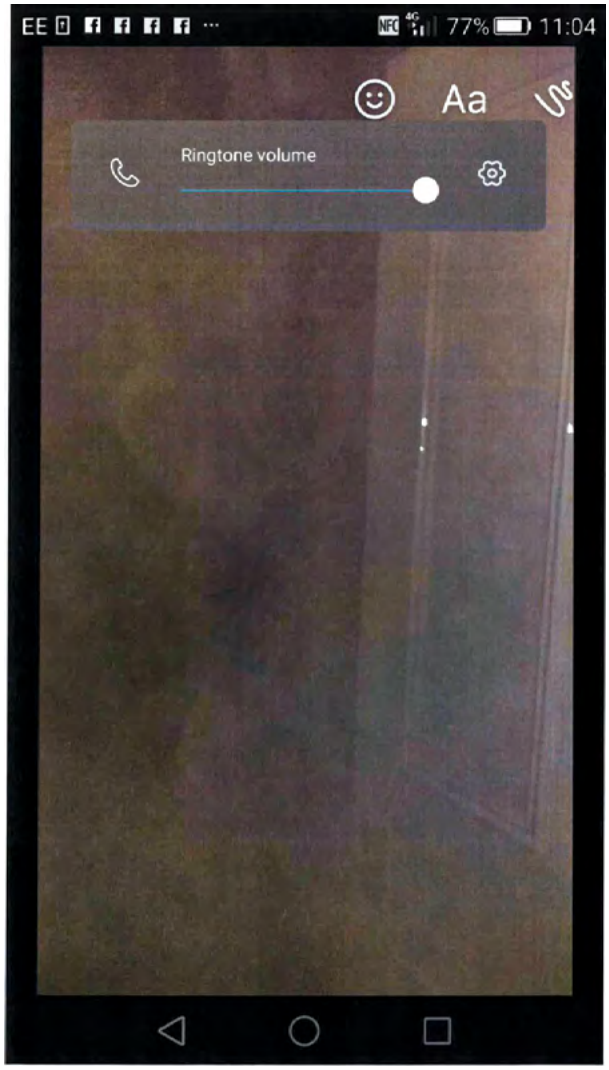

Figure 16.7

16.77 By opening windows and putting down wet towels and sheets, he was able to stop the smoke collecting in his flat.[121]

120 Hamide first witness statement [IWS00001175] pp. 5-6.
121 Roncolato Day 52/51/3-52/52/12.

4 Events in the control room

16.78 During this time period, the control room took 26 emergency calls; twelve of those calls were from those trapped in the building and nine calls came from friends and family calling on behalf of trapped residents.[122] The control room also took two calls from other fire and rescue services passing on details of trapped residents.

16.79 At 02.51.00, Essex FRS control room received a call from Paulos Tekle in Flat 153 on floor 18 who reported that the fire was all over the flat, which was full of smoke.[123] CRO Russ White answered the call and told him to block out the smoke, to try to get some fresh air, or to leave the building if it was safe to do so. By that point, Essex FRS control room had received a message from GM Dilley, which had been logged in their incident log at 02.40.00, that the LFB was advising residents to "make their way to a fire exit, if safe to do so". However, they had not yet received that message from the LFB control room.[124] CRO White called the LFB control room at 02.52.51 and spoke to CRO Adams.[125] She told him that they were now advising everyone to leave the building and that the callers should be told to cover themselves with wet towels and get themselves out. She told CRO White "I think it's spreading through the building. It started on the fourth" and that if they received any more calls, they should tell the callers to leave.[126] After their conversation CRO White added a note to the Essex FRS incident log at 02.56.00 recording what CRO Adams had told him.[127]

16.80 At 02.54.00 CRO White called Paulos Tekle and left a message on his voicemail telling him to make every possible effort to get out of the building and go to his nearest fire exit. He said that firefighters were in attendance dealing with the fire, but that he and his family should cover themselves with wet towels and make their way to the fire exit as soon as possible.[128] He repeated that advice when Paulos Tekle called Essex FRS control room again at 02.56.00.[129]

16.81 At 02.51.09, CRO Russell received a call from Naomi Li in Flat 193 on floor 22.[130] Naomi Li had previously called the LFB at 01.30.38. By the time she made the call she and Lydia Liao were in the same flat as the Choucair family.[131] Naomi Li told her that it was "very smoky" in the room and outside. CRO Russell gave her the following advice:[132]

> "Okay, listen. You can do one of two things. You can either make your way into a room and shut the door, keep the smoke out, and stay low, or you can try and make your way out of the building. You have to decide which is safer."

16.82 Naomi Li asked for her advice and CRO Russell told her to wet blankets and towels, to cover everyone in the flat with them and to try to leave the building. She said:

> "There's a lot of people inside and the firefighters are struggling to get to everyone, okay, so your best bet is to try and make your way out of the building."[133]

She repeated the advice, but the line cleared.

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122 Control Report pp. 102-112. This does not include call backs.
123 Transcript [LFB00000691].
124 Essex FRS incident log LFB00003625 p. 2.
125 Transcript [LFB00000546].
126 Transcript [LFB00000546] p. 3.
127 Essex FRS incident log [LFB00003625] pp. 1-2.
128 Transcript [LFB00000692]. White witness statement [MET00012847] p. 4.
129 Transcript [LFB00000380]. White witness statement [MET00012847] p. 5. The reference for the time is incorrect on the transcript. It has been taken from White's witness statement.
130 Transcript [LFB00000386].
131 The Kedir family were still in Flat 192 at this time.
132 Transcript [LFB00000386] p. 3.
133 Transcript [LFB00000386] pp. 7-8.

16.83 At 02.51.22, AOM Real contacted the Health and Safety Executive to report a Major Incident involving a 40-pump fire. She told them that the current advice being given by the LFB to residents was to leave the building.[134]

16.84 At 02.55.38, CRO Gotts received a call from Marcio Gomes in Flat 183 on floor 21.[135] She advised him to try to leave, but he explained that they could not get out. She advised him to block out the smoke and to try to get some fresh air. She noted that there were three children, three adults and one heavily pregnant woman in the flat and told him that she would let the firefighters know that they were there. CRO Gotts did not create a service request in relation to that message, but passed it to CRO Darby on a piece of paper. CRO Darby sent it by radio to CU7 at 02.58.01.[136] The information was also entered on the whiteboard.[137]

16.85 At 02.57.32, CRO Samson in the Kent FRS control room received a call from Ann Chance, who was trapped in Flat 73 on floor 10 with Adam, Chalalai and Waewta Supareogsanond.[138] The call lasted over 90 minutes. Kent FRS had not yet been told about the change in the "stay put" advice and so, at first, CRO Samson told them to remain in their flat.[139] Kent FRS were first told about the change of advice when a colleague of CRO Samson relayed the information about the call from Flat 73 to CRO Gotts in the LFB control room at 02.59.04.[140] CRO Gotts asked if Kent FRS were still speaking to the caller. When she was told that they were, she told them of the new advice, saying that the best thing for them to do would be to get wet towels over their heads and try to get out.[141] After Kent FRS had spoken to the LFB, CRO Samson told Ann Chance that they had passed on her details to the fire crews at the scene so they knew where she was. He did not advise her to leave.[142]

16.86 At that point, Ann Chance told CRO Samson that her brother was speaking to the LFB, who were advising him to get out and that she did not understand why CRO Samson was telling her to stay put. He said that his priority was to keep her as safe as possible. If the stairs were clear, she could leave, but if not, she should stay put and the crews would be making efforts to reach her.[143] However, he told her that if the LFB was giving different advice to her brother, she should follow it.[144] When she told CRO Samson that she understood that no one was coming to get them, he said "that's not necessarily the case… They'll be getting to you".[145] During the call she and her family attempted to leave but found that they were unable to do so. CRO Samson continued to provide FSG advice until they were rescued.[146]

16.87 At around 02.57.00, DAC Fenton received a call on his mobile from ORT Officer SM (now GM) Michael Mulholland, who told him that the stairwell at Grenfell Tower had been compromised with smoke. He asked for Positive Pressure Ventilation (PPV) fans to be brought to the incident, together with a Specialist Entry Recovery Team (SERT) Operator, to operate them. (PPV fans are used to clear smoke-filled environments.)[147] Although DAC Fenton thought that he had received the request later in the incident, it is more likely that it was made at this time

134 Control Report p. 106.
135 Transcript [LFB00000392].
136 Radio message [LFB00002017].
137 Whiteboard [MET00016906].
138 The call runs over two transcripts [LFB00055505] and [LFB00055502].
139 Transcript [LFB00055505] pp. 3-8.
140 Transcript [LFB00000664].
141 Transcript [LFB00000664] p. 2.
142 Transcript [LFB00055505] pp. 12-15.
143 Transcript [LFB00055505] pp. 16-17.
144 Transcript [LFB00055505] pp. 20-22.
145 Transcript [LFB00055505] p. 24.
146 Transcript [LFB00055505] pp. 22-74.
147 Fenton witness statement [MET000080569] p. 9.

because the Roe Log recorded that the PPV fans were requested at 02.57 and 03.07.36. AOM May added a 'turning out' message to the incident log recording the request.[148] SM Nicholas Harding, the SERT Operator, was mobilised to attend the incident at 03.35.32, which CRO Howson noted in the incident log at 03.36.06.[149] DAC Fenton authorised WM Gary Wilson to be released from the Brigade Coordination Centre to collect the PPV fans from the LFB's headquarters and deliver them to the incident.[150]

16.88 At 02.57.59, CRO Adams took another call from Karen Aboud's son in Flat 92 on floor 12.[151] He explained that the fire was getting worse, that they had tried to leave the flat, but that they could not get out because the smoke was too bad. She advised him repeatedly that he needed to try to run through the smoke and he asked what they should do if they could not leave. She told him that he had to try to leave, but it would have to be his decision about what the safest course was. She told him that they could not guarantee that the crews could get to him because they had so many people trapped in the building. She told him to be brave and get through the smoke.

16.89 At 02.58.01, CRO Darby passed on the information about Flat 183 on floor 21. That was the last FSG message that she sent by radio until she made contact again at 07.51.36 to ask about the rescue of Elpidio Bonifacio.[152]

16.90 At 02.58.52, CRO Russell took the first call about Elpidio Bonifacio, who was trapped in Flat 83 on floor 11. The caller was his daughter-in-law, Donna Bonifacio, who had been speaking to him by telephone. She called the control room three more times to provide current information and to seek advice. In the first call she explained that he was blind and disabled and "absolutely frantic". She said that she had told him to block out the smoke and open the windows.[153] CRO Russell told her that the firefighter were making their way up floor by floor searching for people, and going to the flats to which they had been directed.[154] However, she advised that "if there's any chance he can leave, that is the best thing, but if not stay put".[155] The information was added to the right-hand whiteboard.[156]

Ordering SDBA and EDBA: Periods 7 to 11

16.91 Although this section of the narrative is intended to be limited to the period between 02.50 and 03.00, it is convenient at this point to describe in one place the steps taken by the control room between 02.50 and 05.00 to ensure that there were a sufficient number of SDBA and EDBA wearers available to enable operations on the incident ground to be carried on without interruption.

16.92 At 02.51.38, CU8 sent a request by radio for two BA support units to be sent to the leisure centre.[157] CRO Darby entered a "make-up" message in the incident log at 02.52.32.[158] At 03.00.05, she asked whether the BA supports units were to be EDBA or SDBA and at 03.00.18 CU8 confirmed that both were required.[159]

148 Roe Log p. 1. SIL p. 24.
149 End of incident report p. 341. Harding witness statement [MET00012550].
150 Fenton witness statement [MET000080569] p. 9.
151 Transcript [LFB00000391].
152 Radio message [LFB00002017].
153 Transcript [LFB00000559] pp. 2-3.
154 Transcript [LFB00000559] p. 6.
155 Transcript [LFB00000559] p. 6.
156 Whiteboard [MET00016906].
157 Radio messages [LFB00002658], [LFB00002521], [LFB00002418].
158 SIL p. 23.
159 Radio messages [LFB00002658], [LFB00002807] and [LFB00002835].

16.93 At 03.05.51, AOM May created the necessary service request, which CRO Darby relayed to CU8 at 03.11.50.[160]

16.94 Despite the message sent at 03.11.50 it appears that no appliances or units carrying BA equipment were assigned to the incident at that time. The only appliances that appear to have been ordered were two operational support units at 03.11.14 and 03.30.44 respectively, which carried only bottled water, another utility unit at 03.15.41 and a portable hygiene unit at 03.46.48. Unfortunately, AOM May was not able to attend in person to give evidence, but in his contemporaneous note he wrote the following:[161]

> "0253 – 0438 I liaised with both Duty REPLO Geoff Avis and members of the BCC regarding the request for BA support units. I was told that these are no longer in brigade. However, there were already 2 x OSU's in attendance with that also have the BAU attribute and a third was ordered shortly after the request. The duty REPLO was confident he had put in place the necessary resources to meet the requirement. We discussed the sourcing and ordering of all spare EDBA sets in the Brigade. I also spoke to CU8 on the radio to check if SDBA was also required as there had been confusion that they required both. I also had conversations … regarding EBDA."

16.95 At 03.52.58, CU8 asked the control room if there was an estimated time of arrival for the EDBA cylinders. At 03.53.15, CRO Darby sent a message saying that they could try to get an estimated time of arrival and that "…the E-D-B-A, er, was gonna be an hour when I last passed you".[162] At 03.55.00, AOM May received a message from the BCC to "Mobilise all FRUs for EDBA".[163] Between 03.55.39 and 03.59.48, he mobilised four FRUs: E286, H316, F446 and A346.[164]

16.96 At 03.58.00, Commissioner Cotton decided to direct all EDBA resources to attend the incident ground.[165] As a result, someone (it is not clear who) passed that message to DAC Fenton and at 04.00, AOM May was sent a message from the BCC instructing him to mobilise all OSU's to attend with EDBA sets. He mobilised two operational support units (E29A and H38A) at 04.03.01 and 04.03.30 respectively and logged the message in the incident log at 04.03.01. [166]

16.97 At 04.03.58, CU8 confirmed that the rendezvous point for the EDBA mobilisation was Ladbroke Grove on the junction with Elgin Avenue, but at 04.13.32, AOM May was informed by radio that 78 EDBA cylinders and 48 sets were in attendance at the incident, although not at the designated rendezvous point.[167] It is unclear which units were in attendance when that message was sent, as none of the FRUs (only three of which booked status 3 times) arrived before 04.25.31 and the OSUs did not arrive until 04.45.25 and 04.50.49 respectively.[168]

16.98 At 04.13.47, CU8 sent a message that the rendezvous point was Elgin Crescent[169] and at 04.18.56 CRO Darby entered another informative message in the incident log to confirm the position.[170]

160 SIL p. 24; Radio message [LFB00003021].
161 May [MET00015882] p. 2.
162 Radio messages [LFB00002374]; [LFB00002432].
163 May [MET00015882] p. 3; SIL pp. 9-10.
164 SIL p. 10; May [MET00015882] p. 3.
165 Roe Log p. 2; AC Roe record of actions [MET00005405] pp. 5-6.
166 SIL p. 10, p. 26.
167 SIL p. 27; Radio messages [LFB00002948], [LFB00002988], [LFB00002414].
168 SIL p. 10.
169 Transcript [LFB00002800].
170 SIL p. 27.

16.99 At around 04.38.01,[171] AOM May in the control room sent a message to CU8[172] telling it that 60 EDBA cylinders were already on their way, that a further 36 would be collected from another depot at Park Royal and that another 51 were available at Barking, but that no means of transport were currently available.

16.100 The OSUs that had been ordered arrived at 04.45.25 and 04.50.49.[173]

5 Actions of the MPS, the LAS, RBKC and the TMO

16.101 At 02.54, Inspector Thatcher instructed PC Alice Jacobs, a very junior constable, to act as a link between the MPS and the LFB at the scene.[174] In that role she was required to collect information about where residents were trapped in the building and relay it to the LFB in CU8 (the main command unit on Bomore Road).[175] Between 02.54 and 03.20 she then moved to CU7 (the FSG command unit) on Grenfell Road. She said that she had passed messages about flats, floors and number of persons trapped to the officers on CU7 and had also been in contact by radio with the NPAS helicopter, which had given her information about the whereabouts of any residents the crew could identify. She had passed that information to the LFB.[176] Inspector Thatcher was unaware that she had been passing on those messages until he discovered that she had moved to CU7 and that PC Neave, a more senior constable, was with her.[177] He had joined her of his own volition at around 03.30[178] and had undertaken the same task of passing to the LFB FSG messages that he had received from families and friends at the cordon.[179]

16.102 At 02.56 there was a discussion between Inspector Thatcher and Detective Superintendent Warnett about whether the latter, as Gold Commander, should go to the special operations room at Lambeth. They decided, however, that he should stay at the incident since they could not afford to be without a Gold Commander for the time it would take to travel there, and because in any event Commander Jerome was on his way to Lambeth.[180]

171 There is no radio message to this effect and therefore the exact time when this was sent is unknown, but the message was entered on the SIL at this time. It is also unclear how this message was sent to CU8.
172 SIL p. 31.
173 SIL p. 10.
174 Refer to Inspector Thatcher's body-worn video footage [INQ00000525] at 02.54.25 to 02.54.59.
175 Jacobs witness statement [MET00012699] p. 3.
176 Jacobs witness statement [MET00012699] p. 3.
177 Thatcher Day 71(Mon)/106/10-14; 110/23-111/3.
178 Thatcher Day 71(Mon)/114/8-15.
179 Neave witness statement [MET00023633] pp. 5-6. Thatcher second witness statement [MET00023284] p. 9.
180 Thatcher second witness statement [MET00023284] p. 3.

Chapter 17
Period 8: 03.00-03.30

1 External fire spread

The west face

17.1 By 03.03 the furthest extent of horizontal flame spread on the west face was at the base of the architectural crown and there were flames across the full height of the crown. The flame front was moving horizontally across the west face, from north to south.[1] The image on the left below was taken at 03.03. (The image of the tower on the right helps to illustrate the location of the flame front at that time):[2]

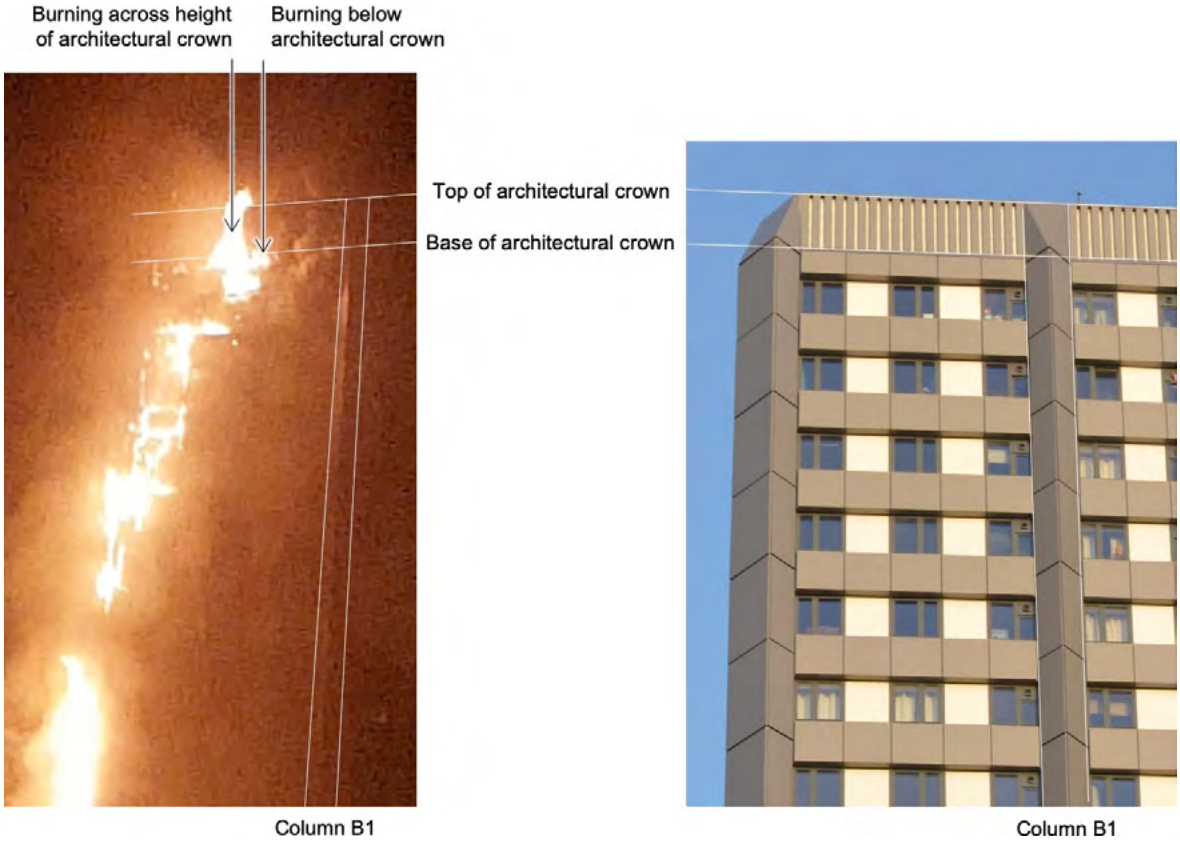

Figure 17.1

17.2 By 03.08 to 03.09 a number of additional "Flat 5s" located at the north-west corner had become involved in the fire. In particular, as the fire moved diagonally down the north and west faces, Flats 15, 25, 35, 45, 55, 65 and 75 on floors 4 to 11 had become affected by the external fire front. By about the same time Flat 9 on floor 3 at the north-west corner of the tower had also been affected by fire.[3]

1 Professor Bisby supplemental report [LBYS0000001] p. 221 sections 1038-1040.
2 Professor Bisby supplemental report [LBYS0000001] p. 223 Fig. 139.
3 Dr Lane supplemental report [BLAS0000012] p. 11 Fig. 12.4.

17.3 By 03.12 there were flames at the edge and at the very top of column B1 (the internal column to the north side of the west face), as can be seen in this image taken at that time:[4]

Figure 17.2

[4] Professor Bisby supplemental report [LBYS0000001] p. 221 section 1042 and p. 224 Fig. 140.

17.4 There was also downward spread of flame along the corner and at the tip of column B1 on the west face. Burning debris falling and landing on surfaces below the windows caused fires to break out on previously uninvolved external areas, as can be seen in the following two images taken at 03.28 and 03.27 respectively:[5]

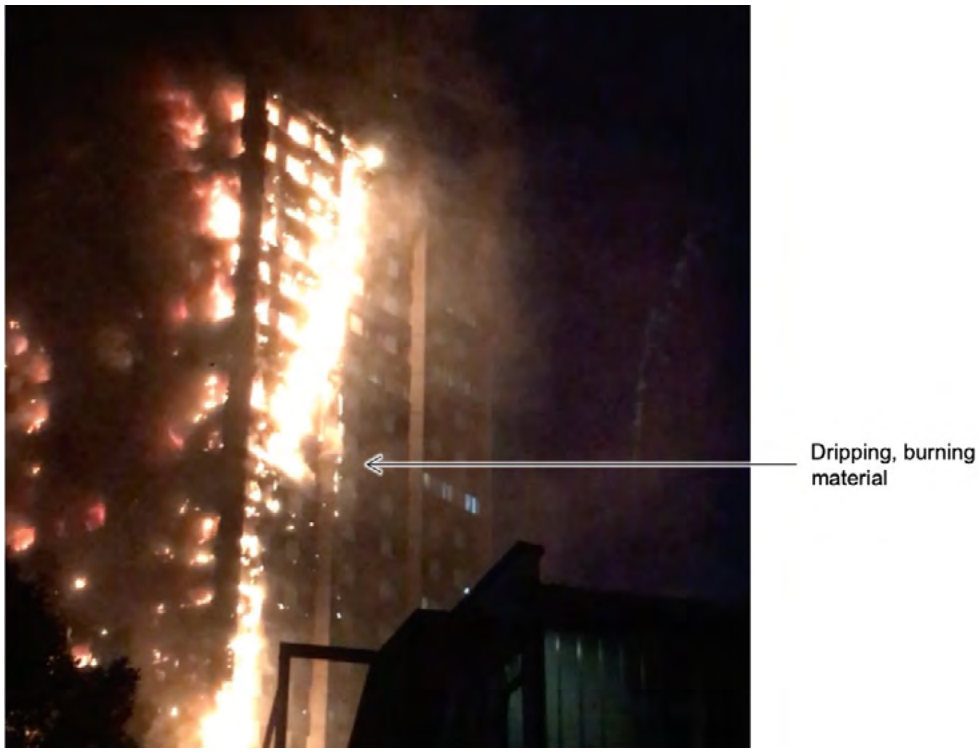

Figure 17.3

Figure 17.4

[5] Professor Bisby supplemental report [LBYS0000001] p. 191 Figs 112 and 113; video of the west face at [LBYS0000005].

17.5 By 03.27 on the west face of the tower the flames had spread furthest horizontally at the base of the crown, but above the flame front there was a small section of the crown which had not yet become involved in the fire. This thermal image was taken by the NPAS helicopter at that time:[6]

Figure 17.5

The south face

17.6 At 03.15, the fire front stretched diagonally across the south face of the building, moving east to west. Dripping, burning material continued to fall from the building.[7] At 03.18 it was clear that the furthest horizontal spread was at the crown. The flames extended to the full height of the crown, with burning below and behind it on the east side of the flame front.[8] The same horizontal pattern of flame spread could also be seen at 03.26, with similar burning patterns at and behind the crown. These three images were taken at 03.15, 03.18 and 03.26:[9]

6 Professor Bisby supplemental report [LBYS0000001] p. 221 sections 1044-1046 and p. 225 Fig. 142 (NB. The time from the figure of 03.27 has been used).
7 Professor Bisby supplemental report [LBYS0000001] p. 229 sections 1070-1072 and p. 233 Fig. 153.
8 Professor Bisby supplemental report [LBYS0000001] p. 229 sections 1073-1075.
9 Professor Bisby supplemental report [LBYS0000001] p. 233 Figs. 153, 154, 155.

Figure 17.6

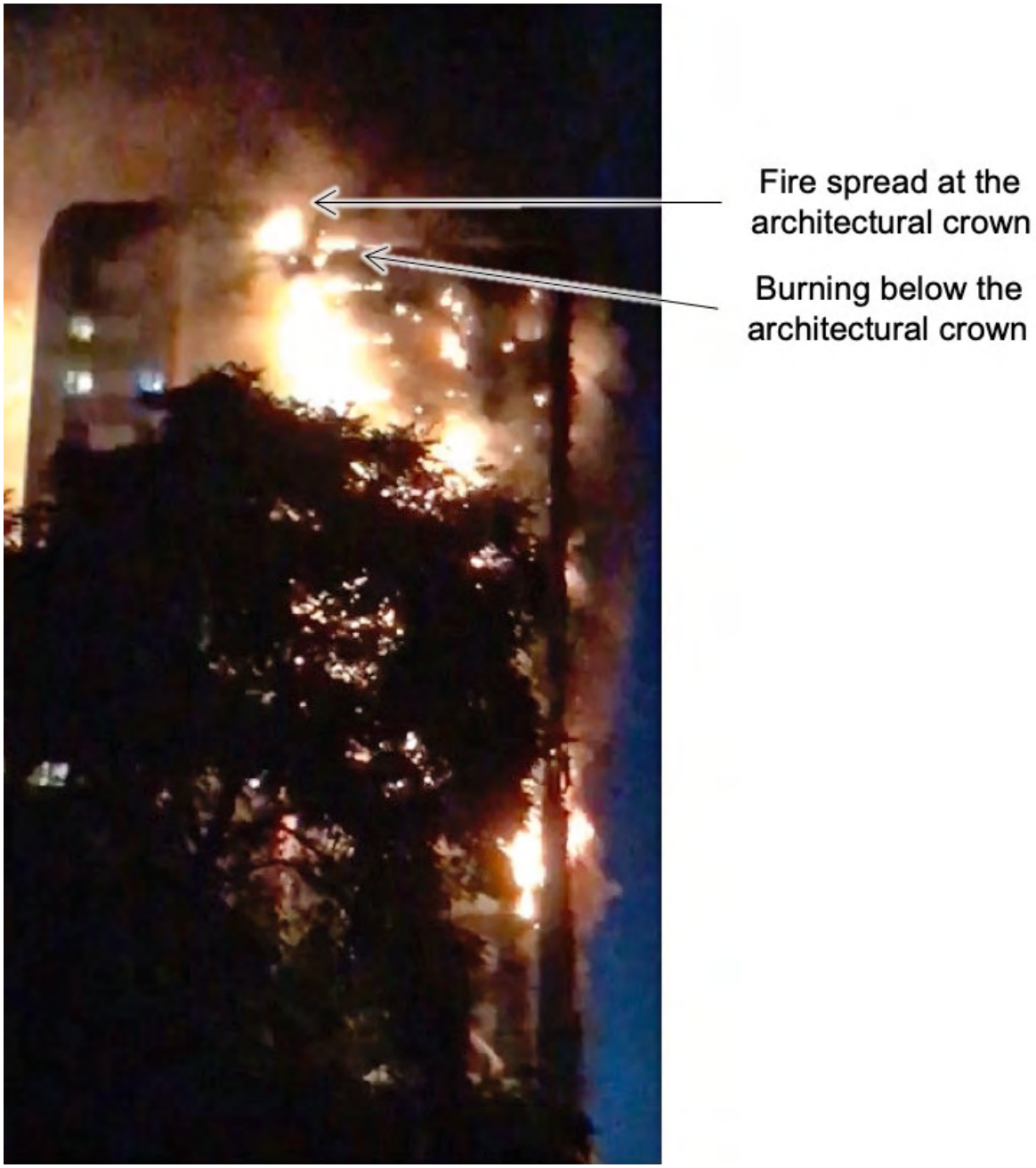
Fire spread at the architectural crown
Burning below the architectural crown

Figure 17.7

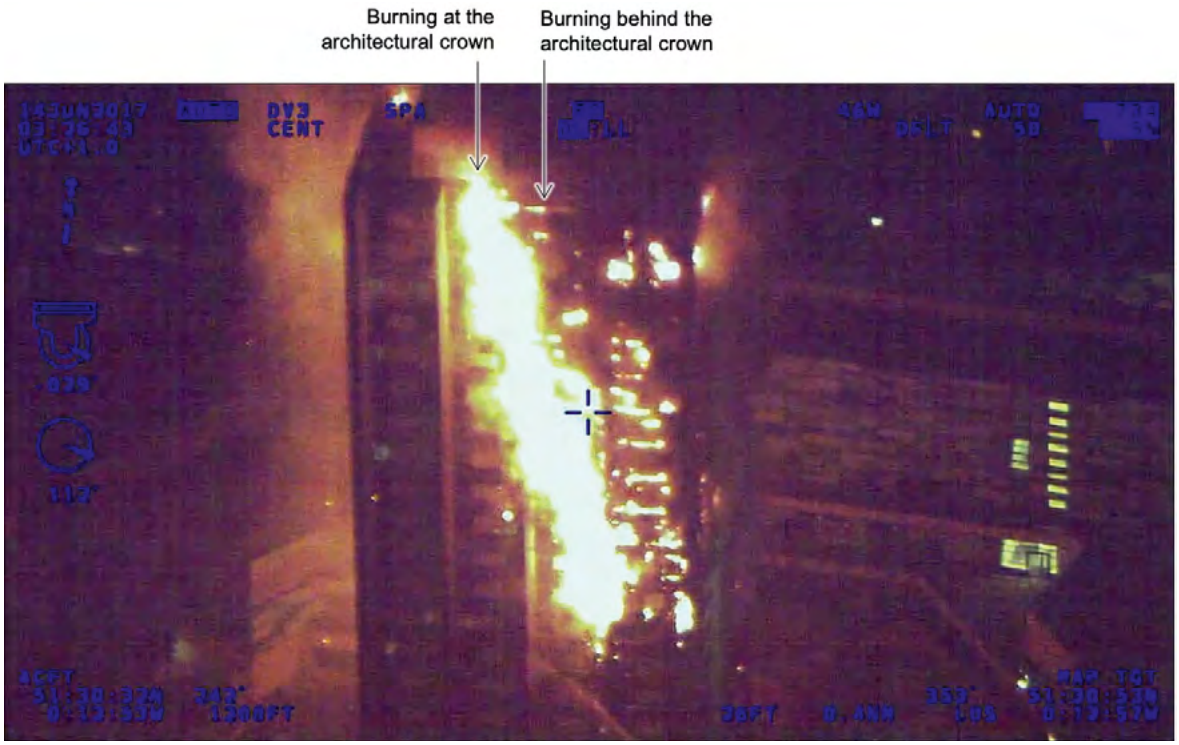

Figure 17.8

17.7 By 03.20 to 03.21 Flats 51 and 61 on floors 8 and 9 in the centre of the east face had become affected by the external flame front. In addition, some of the "Flat 4s", in particular Flats 184, 194 and 204 in the centre of the west face on floors 21 to 23, had become affected by the fire for the first time.[10]

2 Events on the incident ground

Request for SDBA and EDBA

17.8 At 03.11.50 the control room notified CU8 that a Respiratory Protective Equipment (RPE) Unit with SDBA sets was expected to arrive within 30 minutes and another carrying EDBA sets was due to arrive within an hour.[11] That was in response to the request from CU8 at 02.51.54 for BA support units, as set out in Period 7.

Commissioner Dany Cotton enters the tower

17.9 At 03.02 Commissioner Cotton entered the ground floor lobby of the tower with AC Andrew Roe. While AC Roe addressed the waiting firefighters, the Commissioner was briefed by GMs Matt Cook and Michael Mulholland, both members of the ORT.[12]

[10] Dr Lane supplemental report [BLAS0000012] p. 11 Fig. 12.4.
[11] ORR v 0.7, p. 279.
[12] ORR v 0.7, p. 263.

Request for an additional Deputy Assistant Commissioner

17.10 At 03.08.30, following AC Roe's request that DAC Lee Drawbridge attend the scene to act as his Sector Commander Command Support,[13] CU8 sent an assistance message to the control room requesting the attendance of an additional Deputy Assistant Commissioner.[14]

Relocation of the bridgehead

17.11 At around 03.08 the bridgehead was moved to the ground floor.[15] FF Alex De St Aubin moved the ECB to the wall next to the community room door.[16] At around 03.13 four more ECBs were brought down to the ground floor.[17]

SM Peter Wolfenden starts his FSG role

17.12 Having arrived at the incident nearly an hour earlier, as addressed in Period 5, SM Wolfenden went onto CU7 some time after 03.00.[18] GM Thomas Goodall asked him to go and oversee WM Glynn Williams and WM Paul Watson who were "co-ordinating the FSGs" in the ground floor lobby.[19] SM Wolfenden then left CU7. CCTV images show him in the ground floor lobby with WM Williams at 03.23.[20]

Firefighter activity in, or near, the tower (c. 03.00-03.10)

17.13 The following are examples of what firefighters were doing in the tower during the period between around 03.00 and around 03.10:

a. WM Brien O'Keeffe instructed WM Peter Clark and WM Alexander Cardy and FF Enrico Beltrami to go to floor 9 to conduct search and rescue operations.[21] They tallied out at 03.01.13, 03.02.38 and 03.02.42.

b. WM Marc Aston-O'Donovan (who had tallied out at 02.56.50 as part of an earlier deployment) recalled that as they had gone up the stairs from the bridgehead, visibility and air quality had been all right until the crew reached floor 5, which had been heavily smoke-logged.[22] As they went up, the crew had wiped soot from the walls to see any numbering that might indicate which floors they were passing. WM Aston-O'Donovan recalled a scene of "organised chaos", with the stairs being used mainly by firefighters.[23] CM Martin Hoare (who had tallied out at 02.55.05) said that floor 5 had been clear, but that by floor 7 he had been able to see nothing at all.[24] Conditions on floors 9 to 11 had been the same: no visibility and smoke so dense that it was irrelevant whether lighting in the stairwell worked or not.[25]

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13 AC Roe record of actions [MET00005405] p. 4. That was reported to AC Roe at a briefing at 03.39 – refer to paragraph 13 below.
14 ORR v 0.7 p. 271.
15 This time is taken from a photograph of the floor 3 bridgehead wall taken by SM Cook as the bridgehead was being relocated to the ground floor: [MET00015779] p. 16.
16 CCTV Camera 4; ORR v 0.7 p. 276.
17 CCTV Camera 2; ORR v 0.7 p. 280.
18 Wolfenden Day 40/152/21-24.
19 Wolfenden Day 153/13-24.
20 [INQ00000304].
21 Peter Clark witness statement [MET00017071] p. 3; Cardy witness statement [MET00010085] p. 7.
22 Aston-O'Donovan witness statement [MET00008002] p. 5.
23 Aston-O'Donovan witness statement [MET00008002] p. 5.
24 Hoare witness statement [MET00008027] p. 13.
25 Hoare witness statement [MET00008027] p. 13.

c. WM Aston-O'Donovan, FF Neil Green, CM Hoare and FF Matthew Tanner entered the lobby on floor 12. On being told that the missing firefighter had been located, CM Hoare and FF Tanner returned to their original brief to search Flat 74 on floor 10.[26]

d. WM Aston-O'Donovan and FF Green stayed on floor 12 to search each of the flats. As part of their search, they opened the door to what is now thought to have been Flat 96. The crew found the flat fully alight. They immediately closed the door and proceeded to Flat 95. While they were trying to force the entrance door, they heard shouts for help from Flat 94 where they found two women, Alemishet Demissie and Ethiopia Assefa. They told the women that it would take about 90 seconds or so to reach breathable air and explained the escape route. The women were able to escape and leave the tower.[27]

e. When they reached floor 10 and opened the lobby door (which they then wedged open),[28] CM Hoare and FF Tanner were confronted by intense heat. CM Hoare compared it to opening an oven door.[29] FF Tanner recalled that every time he had tried to kneel, he had felt an intense heat in his helmet.[30] They dived to the ground where they noticed that the smoke extended down to a foot from the floor. Despite the conditions, they brought a casualty, Ali Yawar Jafari (a resident of Flat 86, floor 11), out to the stairwell.[31]

f. FFs Leon Whitley and Ricky Nuttall (who had tallied out at 02.44.32 and 02.45.07) thought they had reached floor 15. FF Nuttall remembered that the thermal imaging camera had registered temperatures of 550-555°C in the lobby.[32] FF Whitley connected his hose to the rising main outlet, but the alarm on their BA sets sounded so they returned to the bridgehead and tallied in.[33] As they descended, they noted that visibility remained poor. FF Nuttall described radio communications as "an absolute nightmare".[34]

g. CM Raoul Codd and FF John Joseph tallied out between 03.03.24 and 03.05.41.[35] They had been briefed by WM Louisa De Silvo to go to floor 22 following receipt of an FSG call.[36]

h. During this period the MPS supplied riot shields to protect firefighters from falling (and often burning) debris as they moved in and out of the tower.

i. CM Craig Eden and FF Tom Welch were helping to supply water to A245 (Soho's aerial ladder platform), which was being used to direct water on to the tower's eastern elevation.

Urgent request for a DSE

17.14 At 03.12.52, at AC Roe's direction,[37] CU8 sent a priority message to the control room asking for the attendance of a DSE, if one had not already been requested. At 03.13.11 CU8, in response to a question from the control room, emphasised that it was "a matter of real urgency".

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26 Aston-O'Donovan witness statement [MET00008002] p. 6.
27 Aston-O'Donovan witness statement [MET00008002] pp. 6-7.
28 Hoare witness statement [MET00008027] p. 15.
29 Hoare witness statement [MET00008027] p. 15; Tanner witness statement [MET00010826] p. 7.
30 Tanner witness statement [MET00010826] p. 8.
31 Hoare witness statement [MET00008027] p. 16.
32 Nuttall witness statement [MET00012561] p. 11.
33 Nuttall witness statement [MET00012561] p. 11.
34 Nuttall witness statement [MET00012561] p. 10.
35 [LFB00023326] p. 2.
36 Codd witness statement [MET00012539] p. 4.
37 ORR v 0.7 p. 280. AC Roe times the message as being sent at 03.15 in his Record of Actions and his witness statement: Record of Actions [MET00005405] p. 4; Roe witness statement [MET00007520] p. 6.

Relocation of the entry control boards

17.15 At 03.17 or thereabouts, due to smoke-logging in the main lobby, the entry control boards were moved to the base of the stairs by a green wall. By 03.26 four entry control boards were operating in the stair lobby at the bottom of the stairs.[38]

First Tactical Co-ordination Group meeting (03.20 – 03.32)

17.16 The Roe Log records that at 03.20 AC Roe chaired the first Tactical Co-ordination Group (TCG) meeting.[39] It was attended by representatives of the other emergency services (Detective Superintendent Paul Warnett and Inspector Nicholas Thatcher from the MPS, Geoff Long and Laurence Ioannou from the LAS) and by Nickolas Layton, RBKC's LALO.

17.17 AC Roe briefed the meeting. There were a large number of people unaccounted for and some 100 people were believed to be trapped in the tower. At that stage it was understood that three people had died. The LAS confirmed details of the casualty handling arrangements at the Kensington Leisure Centre and Nickolas Layton reported that RBKC were making arrangements for setting up places to which residents could go.

17.18 AC Roe's main priority at the meeting was to ensure that the MPS had set up an effective security cordon to manage what he considered to be a deterioration in public order. If that were done, he could concentrate on the very high-risk rescue operation, pushing crews up into the tower as high as he could.[40] AC Roe's recollection was that with that aim in mind he had asked Nickolas Layton for plans of the tower. I return to that subject later in this Period.

17.19 At the conclusion of the meeting AC Roe made three points: first, that the first priority was the saving of life over and above any effort to save the building itself; secondly, that there might come a point at which the building would no longer be sufficiently safe for him to commit crews into it; and, thirdly, those who called the control room seeking advice were being told to leave their flats, if it was safe to do so. The meeting ended at 03.32 with a second meeting fixed for 04.32.

Firefighter activity in the tower (c. 03.10-03.30)

17.20 The following are examples of what firefighters were doing in the tower during the period between around 03.10 and around 03.30:

a. WM Peter Clark's crew reached floor 9. They entered the lobby on their knees. FF Enrico Beltrami tried to enter the first flat on the left-hand side using an enforcer. Each member of the crew remembered intense heat and very limited visibility in the lobby.[41] At one point, their TIC recorded 1,080°C.[42] They were unable to open the door of the flat, so WM Cardy returned to the stairwell to find a halligan bar. The visibility was very poor. As he was searching for the halligan bar on the floor he saw the legs of a child standing by the door to the stairs.[43] The crew found two children (Karen Aboud's two sons from Flat

38 ORR v 0.7, p. 299.
39 [MET00005404] p. 1; Roe witness statement [MET00007520] p. 6.
40 [MET00005405] p. 2.
41 Cardy witness statement [MET00010085] p. 8.
42 Beltrami witness statement [MET00008004] p. 8.
43 Cardy witness statement [MET00010085] p. 9.

92) and three women, Karen Aboud herself and Naomi Li and Lydia Liao from Flat 195 on floor 22.[44] The crew then went down the stairs with the casualties.[45]

b. FFs Jon Wharnsby and Terence Lowe, who were on their way to Flat 113 on floor 14, met an adult (Rabia Yahya) and a child and led them down the stairs.[46] At that stage, FF Lowe noticed that the smoke was getting thicker and people were struggling to breathe.[47] The crew were unable to reach Flat 113 and they later tallied in at the bridgehead at times between 03.17 and 03.19.[48]

c. As CM Hoare and FF Tanner brought Ali Yawar Jafari down the stairwell, CM Hoare was running out of air. They concluded that Ali Yawar Jafari had died, so they decided to leave him on the stairs for the time being. When they returned to the bridgehead they informed BA entry control that they had not reached Flat 74, as they had found a casualty in the area of the lobby on floor 10.

d. CM Jamie Mayne and FF Marcus Lundquist were in the ground floor lobby, waiting to be deployed. They were initially briefed to go to Flat 113 on floor 14, either (as CM Mayne said)[49] by a senior officer in the ground floor lobby (probably either WM Williams or SM Wolfenden), or by GM Patrick Goulbourne at the bridgehead itself (as FF Lundquist said)[50]. FF Lundquist recalled that the briefing had been to rescue a mother and baby or small child.[51] That can only have been Zainab Deen and her son Jeremiah Deen. When the crew reached the front of the queue of BA wearers at the bridgehead, they were told to go to floors 3 and 4 to fight the fire and carry out search and rescue operations.[52] CM Mayne said that GM Goulbourne had changed their instructions and although GM Goulbourne did not remember having done so, CM Mayne was probably correct, since GM Goulbourne was in charge of deployments at that time. CM Mayne and FF Lundquist tallied out at 03.29.05 and 03.29.29 respectively. The evidence does not enable me to say why their instructions were changed or why no further deployment was made to Flat 113.

e. While helping with the management of casualties, FF Robert Dwyer was instructed to use a covering jet on the west face of the tower. He described what looked like sandwich panels, steel channels and metal balls falling off the building.[53] Because of the falling debris, he was later withdrawn.

44 Cardy witness statement [MET00010085] p. 9. WM Cardy recalled only two women, but it is likely that the three identified in the body of the text were all present, as is addressed again in section (3) of this Period.
45 Cardy witness statement [MET00010085] pp. 9-10.
46 Wharnsby witness statement [MET000083336] p. 6; Lowe contemporaneous note [MET00005246] p. 1.
47 Wharnsby witness statement [MET000083336] p. 7.
48 [LFB00023326] p. 2.
49 [MET00008033] p. 5.
50 [MET00007888] p. 7.
51 Lundquist witness statement [MET00007888] p. 7.
52 Lundquist witness statement [MET00007888] p. 7; Mayne witness statement [MET00008033] pp. 5-6.
53 Dwyer witness statement [MET00012781] p. 9.

3 Conditions in the tower and the movement of occupants

Conditions on floor 23

Flat 205

17.21 The last telephone call between Mariem Elgwahry and her brother Ahmed Elgwahry began at 02.33 and ended at 04.27. Ahmed Elgwahry described the background sound in Flat 205 as quiet. He could not hear any smoke alarms; he could hear coughing but no screaming or shouting. Ahmed Elgwahry noticed that his sister's coughing was increasing. He repeatedly tried to encourage her to leave but she said: "No. I can't get out. The landing is filled with thick black smoke and I can't see". Ahmed Elgwahry believed that his sister had not wanted to leave because it would have meant leaving Eslah Elgwahry, their disabled mother, behind.[54]

17.22 Ahmed Elgwahry believed that his sister was in the kitchen. He had heard others in the background and she had told him that she was with other people. From outside, he could see that the kitchen appeared to be the last room in the flat affected by the fire. At some point, Mariem Elgwahry began to panic. She did not tell her brother why.[55]

17.23 What followed was very quick. The panic was brief and then she began coughing. Others in the background were also coughing. Less than a minute later Mariem Elgwahry began mumbling and then making a deep humming sound. She was able to make banging noises at her brother's request. Soon she stopped responding altogether. Twenty or 30 seconds later, Ahmed Elgwahry heard his mother, Eslah Elgwahry, say in Arabic: "I can't breathe, I can't breathe". He thought that that had been at around 03.10 to 03.15.[56] He did not hear his mother or his sister again.

17.24 Five to 10 minutes later, Ahmed Elgwahry heard what he believed was the sound of glass windows breaking and fire entering the flat. He remained on the phone long after he had ceased to hear from Mariem Elgwahry and his mother. At 04.27, he ended the call.[57]

17.25 Shahrokh Aghlani spoke to his mother, Sakina Afrasehabi, and his aunt, Fatemeh Afrasiabi, several times after she had first called him at around 01.20 to tell him of the fire. He went to the tower and told police officers there that his mother and aunt were on floor 23. They said that they were aware of that. During his last call to his mother and aunt, Shahrokh Aghlani heard them wheezing. He then heard his aunt say: "Forgive us." before the line was disconnected. About 50 seconds before that he heard the sound of an explosion.[58] It is difficult to determine with any precision when those conversations took place.

Flat 204

17.26 After speaking to Shafika Ragab, his aunt, Hesham Rahman made two more 999 calls. In the first at 03.10.34 he told CRO Sarah Russell that he was in the living room and that there was a lot of smoke coming into the flat. He had blocked the front door but the smoke was still coming in. He confirmed that there were no flames in the flat. CRO Russell advised him to leave and told him that the firefighters were not able to reach everyone. Hesham Rahman said that he could not leave, because he could not see and he could not walk properly as he

54 Elgwahry first witness statement [IWS00000988] pp. 11-12, paragraph 38.
55 Elgwahry first witness statement [IWS00000988] p. 12, paragraph 39.
56 Elgwahry first witness statement [IWS00000988] p. 12, paragraph 39.
57 Ahmed Elgwahry first witness statement [IWS00000988] p. 12, paragraph 42.
58 Shahrokh Aghlani first witness statement [IWS00001200] pp. 3-4.

was disabled. He was lying on the floor with a wet cloth over his nose and the windows were shut. CRO Russell told him that she would tell the crews. She said: "I promise you they're coming up to you, but it's a big fire, OK? They're gonna get there as quickly as they can".[59]

17.27 Ten minutes later, at 03.20.31, Hesham Rahman spoke to CRO Yvonne Adams. He told her that the flat was now full of black smoke and that he could not see anything. The fire was coming into his flat.

17.28 A relative, who identified herself as Hesham Rahman's daughter, had called 999 and spoken to CRO Adams at 03.16.12. When told to call him back and tell him that he needed to leave, the caller explained that Hesham Rahman could not leave because of his disabilities.[60]

17.29 I return to the later 999 calls relating to Hesham Rahman elsewhere.

Flat 202

17.30 Marco Gottardi spoke to his father, Giannino Gottardi, for the last time at 03.15 (UK time).[61] Giannino Gottardi described the conversation as brief and he did most of the talking.[62]

The movement and partial evacuation of occupants on floor 22

Flat 193

17.31 By this time, everyone on floor 23 was together in Flat 193, apart from Anthony Disson, who was alone in Flat 194.

17.32 Those in Flat 193 were aware of the fire approaching from Flat 192. Between 02.59[63] and 03.07, Naomi Li made calls to her husband, Lee Chapman, and then to the emergency services.[64] During that time she could see the fire on the outside of the building coming from Flat 192 towards Flat 193. The smoke was so thick that those in Flat 193 could not see each other.[65]

17.33 Despite having been advised to leave by CRO Russell in a call timed at 02.51,[66] Naomi Li made another 999 call because she was not sure whether it was safe to walk down the stairs.[67] CRO Christine Howson answered that call and also urged her to leave. She told Naomi Li to cover her nose and mouth with a wet cloth to avoid inhaling smoke, to get to the stairwell and to make her way down. Naomi Li asked if the stairs were safe because of the fire. CRO Howson replied: "It's not fire. It's not fire, it's smoke".

17.34 Having been reassured, Naomi Li felt that it would be possible to run down the stairs. That and the proximity of the fire persuaded her that she needed to leave. She and her cousin, Lydia Liao, agreed to take the chance. Naomi Li told the other occupants, who were all in the living room, that they had been told to leave. She could not see any reaction because of the amount of smoke. By now it was also coming through the windows and was everywhere.[68]

59 [LFB00000409] p. 6.
60 [LFB00000417] pp. 2-3.
61 Gottardi first witness statement [MET00013011] p. 1.
62 Gottardi first witness statement [MET00013011] p. 1.
63 Li Day 62/203/2-204/14.
64 [LFB00000404].
65 Li Day 62/208/12-208/25.
66 [LFB00000386].
67 Li Day 62/207/17-208/11.
68 Li Day 62/209/6-62/212/3.

17.35 Naomi Li and Lydia Liao felt their way to the kitchen where she soaked a scarf. (She appears to have had no problem with the water pressure.)[69] When they left the flat, the others were gathered in the corner of the living room near to the one window which was giving some air.[70]

17.36 The smoke in the lobby was light white or greyish in colour. Although it was possible to see the lighting, the density of the smoke reduced the visibility.[71]

17.37 Naomi Li's call overlapped with a separate 999 call from Flat 193, which was answered by CRO Angie Gotts at 3.08.56.[72] The callers repeatedly asked CRO Gotts to send a helicopter to rescue them and said that the fire had reached the flat. CRO Gotts told them to use wet towels and leave. She also said that she would give the information to the firefighters.

17.38 Another call was made from Flat 193 at 03.14.40. The caller was probably Nadia Choucair. She told the BT operator that her daughter was unconscious. Before putting the call through to the LFB, the BT operator said that the advice from the LFB was to get out of the building. The BT operator then repeated that advice adding: "If you can't get out, you need to get wet towels and cover yourselves with wet towels". The caller is then heard to say that everyone needed to get to the staircase. She was repeating that instruction when, at 03.15.51, CRO Howson answered the call. There was no exchange with CRO Howson before the line cleared.[73]

17.39 Nadia Choucair was still in Flat 193 at 03.21.50 when she received a call back from the MPS. At 03.14.07 a call had been put through to the police from Nadia Choucair's telephone but the line cleared. In the call back, the MPS operator advised Nadia Choucair to try to escape by any means necessary. At the end of the call, Nadia Choucair is heard telling others that the police have said that they need to leave.[74]

17.40 I return to events in Flat 193 later.

Flat 194

17.41 Anthony Disson had been told to leave in calls with CRO Adams and CRO Gotts at 02.49.20[75] and 02.51.38.[76] He made another emergency call, which was answered by CRO Heidi Fox at 03.01.20. Anthony Disson again asked for firefighters to come for him because the fire was by then next door. He said that he was unable to leave because it was "too dark and too hot".[77]

17.42 Anthony Disson's wife, Cordelia Disson, and their son, Alfie Disson, had tried to persuade him to leave his flat in the course of telephone calls they thought had been made between 01.00 and 01.22. He had refused to leave because the control room had told him to stay in his flat and that firefighters would come to him.[78] Given that his first 999 call was made at 01.30.08, the conversations with Cordelia and Alfie Disson must have taken place after that time.

69 Li Day 62/212/4-16.
70 Li Day 62/213/16-215/5.
71 Li Day 62/212/19-62/213/23.
72 [LFB00000406].
73 [COR00001081]; [LFB00000414]; Andrew Mobbs exhibit AM/1 [LFB00004695].
74 [INQ00000377] p. 3.
75 [LFB00000381].
76 [INQ00000469].
77 [LFB00000395] p. 3.
78 Alfie Disson first witness statement [IWS00000241] p. 5, paragraph 65; Cordelia Disson first witness statement [IWS00000242] p. 10, paragraph 122.

17.43 In later telephone calls to his family Anthony Disson told them that the conditions in his flat were becoming progressively worse and that it was filling up with smoke.[79] At around 03.00 he told Alfie Disson that the firefighters were not coming for him and that he was going to try to leave.[80]

17.44 Alfie Disson's partner, Chanade Prentice, made 999 calls at 02.28.23,[81] 02.45.45,[82] and 03.05.38.[83] On each occasion she was connected to her local fire and rescue service, Surrey FRS. She spoke with CRO Caili Beckham.[84] In the first two calls she described Anthony Disson as panicking. In the third she told CRO Beckham that the fire was now in his flat and that he was having difficulty breathing. CRO Beckham did not advise that Anthony Disson should leave the flat. Chanade Prentice was told that the information she had previously given the control room had been passed to the firefighters and that it would be passed to them again.

17.45 Following a call to the LFB, in which Crew Commander Rob Brown of Surrey FRS was told that the "stay put" advice had been changed,[85] CRO Beckham from Surrey called Alfie Disson at 03.09.17. She told him to tell his father to wrap something around himself and to leave. Alfie Disson said that his father would not leave, as he could not see enough to reach the stairs.[86]

17.46 Cordelia Disson called 999 at 03.22.51.[87] As she was in Kent, she was put through to Kent FRS and spoke with CRO Zoe Martin.[88] She gave Anthony Disson's location as Flat 249 on floor 22. She said she had just spoken to him and he had told her that the fire had reached his front door. He was having difficulty breathing. CRO Martin said she would call him directly.

Conditions on floor 21

17.47 At about this time, Marcio Gomes was waiting in the hallway of Flat 183, ready to open the front door should firefighters arrive and monitoring the smoke coming through the door. Everyone else was in the kitchen or living room as they had the clearest air.[89]

17.48 At 03.09.52, CRO Howson answered what was the fourth 999 call made by Marcio Gomes.[90] At that time he could see the glow of the fire next door,[91] but he could not remember what had prompted him to make the call. He told CRO Howson that there was no fire in the flat, but that he could see the fire next door. Smoke was coming into the flat. CRO Howson advised him to try to leave. He told her that his wife was panicking and could not do it. CRO Howson told him that she would inform the crews and make reaching him a priority.[92] CRO Howson asked him to try again to leave the flat.

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79 Cordelia Disson first witness statement [IWS00000242] pp. 10-11, paragraph 126; Alfie Disson first witness statement [IWS00000241] p. 5, paragraph 72.
80 Alfie Disson first witness statement [IWS00000241] p. 6, paragraph 78.
81 [LFB00000649].
82 [LFB00000650].
83 [LFB00000549].
84 Beckham witness statement [MET00010784] p. 3.
85 [LFB00000685].
86 [LFB00000654].
87 [LFB00000659].
88 Martin witness statement [MET00012678] pp. 3-4.
89 Gomes Day 71(Fri)/86/9-21.
90 [LFB00000412].
91 Gomes Day 71(Fri)/80/7-71/81/17.
92 [LFB00000412] p. 9.

17.49 Marcio Gomes remembered having been told that he was a priority. That meant to him that firefighters were coming up to them and he felt that they had a bit more time to wait. He said in oral evidence that, if he had been told that crews were unable to reach floor 21, that would have affected his decision or at any rate his attitude to evacuation.[93]

17.50 Marcio Gomes described his flat as becoming steadily smokier during that time. His daughters were now sitting on the floor in the living room, because the density of the smoke was such that they could not comfortably stand. As far as he had been aware, the smoke was still coming through the front door but he could not be sure that it was not also coming through the windows.[94] His last 999 call began at 03.25.45 and lasted 33 minutes and 53 seconds.[95] I will return to that call and the evacuation of Flat 183 later.

Conditions on floor 20

17.51 Khadija Saye, in Flat 173, learned of the change in the "stay put" advice through messages posted on her Facebook wall by a friend who had made 999 calls.[96] At 03.02, she had posted that she was too scared to leave her home. There followed an exchange of messages with the friend which overlapped a 999 call made by that friend.[97] At 03.05 Khadija Saye confirmed that there was a lot of smoke in her flat but no fire.[98] Her friend told her that there was no fire in the stairwell, only smoke.[99]

17.52 Shortly before 03.14, Khadija Saye tried to leave her flat, but shortly afterwards posted that the smoke had been too strong. She had not been able to see the stairwell.[100] At 03.20 she confirmed that her mother was with her. She made a second attempt to leave before posting another message at 03.27 in which she said that it had been impossible to do so.[101]

17.53 At 03.30, Khadija Saye posted: "It's in my rooms", but it is not known whether that was a reference to the fire or the smoke.

17.54 That was the last message Khadija Saye left on Facebook. She did not respond to any further Facebook messages, which were to the effect that "they" were advising evacuation if possible.

17.55 The body of Mary Mendy was later found in the lobby on floor 13. Khadija Saye's body was recovered from the lobby on floor 9, having been moved there from the stairs by firefighters.[102]

The evacuation of Flat 153

17.56 By this time all those on floor 18 were in Flat 153. They remained in the living room. Paulos Tekle could see the fire coming from Flat 152 on the south side of the tower.[103] He could also see it coming from the other side (the west side).[104] He could not remember having seen any smoke coming into the flat, but he recalled Genet Shawo going to the kitchen and telling him that smoke was coming in through the kitchen window.[105]

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93 Gomes Day 71(Fri)/84/19-85/11 and Gomes Day 71(Fri)/88/2-7; Perestrelo first witness statement [IWS00000349] p. 10, paragraph 62.
94 Gomes Day 71(Fri)/86/13-71/87/24.
95 [LFB00055501].
96 Telfer Exhibit MT/2 [IWS00001188] p. 18.
97 Telfer Exhibit MT/2 [IWS00001188] pp. 18-19; [LFB00000676].
98 Telfer Exhibit MT/2 [IWS00001188] p. 18.
99 Telfer Exhibit MT/2 [IWS00001188] p. 18.
100 Telfer Exhibit MT/2 [IWS00001188] p. 18.
101 Telfer Exhibit MT/2 [IWS00001188] p. 20.
102 DVI plan [MET00012528] p. 11.
103 Tekle Day 63/63/5-22, 63/67/4-10.
104 Tekle Day 63/76/1-21.
105 Tekle Day 63/64/2-22.

17.57 By now, the people gathered in Flat 153 had made a number of 999 calls. Paulos Tekle spoke to CRO Russ White from Essex FRS at 02.51.00, who told him to block the entry of smoke and get fresh air from a window or leave if it was safe to do so. CRO White told Paulos Tekle that he would pass the information to the LFB. When he spoke to the LFB, CRO White was told that the advice to occupants was now to leave. [106] At 02.54, CRO White rang Paulos Tekle and left a message telling him to leave the flat, if possible.[107]

17.58 At 02.56 a CRO from Essex spoke to Paulos Tekle and told him that the current advice from the LFB was that occupants should cover themselves with wet sheets and go to the nearest fire exit.[108] Having received that advice, Paulos Tekle and Genet Shawo made preparations to leave. They gathered towels for everyone.[109] As they were preparing to leave, Yehualashet Enyew went to the front door. Paulos Tekle and Genet Shawo recalled having told him not to open the door because she did not yet have a wet towel.[110] However, Yehualashet Enyew did open the front door and smoke immediately spilled into the flat. Paulos Tekle then saw a firefighter in the lobby through the open door. The firefighter did not say anything to him. Yehualashet Enyew was offering to take one of the children, so, as his younger child refused to go with Yehualashet Enyew, Paulos Tekle gave his elder son, Isaac Paulos, to him. Yehualashet Enyew then left first with Isaac. He was followed by the children of Rabia Yahya and then Rabia Yahya herself. Paulos Tekle, who was carrying his younger son, and Genet Shawo brought up the rear.[111]

17.59 Paulos Tekle remembered that the firefighter had been behind them at that stage. The firefighter then moved to the right corner of the lobby near to the staircase and showed them the stairs using a torch. Paulos Tekle could only remember seeing one firefighter, but said there may have been another. He could not see as it was very dark in the lobby.[112]

17.60 Paulos Tekle said that he had not been able to see anything through the dense smoke as they went down the stairs. He was carrying his younger son and as he went down the stairs he slipped and lost consciousness for a short time. He then got up and tried to walk, but found himself sliding down. He felt the smoke become denser at a certain level and was unable to breathe. He had to share the towel with his son who had lost his own towel on the way down.[113] Genet Shawo recalled taking their younger son from Paulos Tekle when she saw that he had fallen to the floor. They then met a firefighter who took their younger son from her at the lobby.[114]

17.61 Yehualashet Enyew's evidence was that he had been prompted to leave by Paulos Tekle, who had said that there were firefighters outside the door. They had assembled at the door and he had held the hand of Isaac Paulos. He went out, grabbing the firefighter by the hand. He had seen more than one firefighter in the lobby. He had held on to Isaac Paulos with his right hand. The firefighter had led him down the stairs while he held on to the firefighter's arm. As they descended the smoke had become thicker. About halfway down he had realised that he had lost Isaac Paulos and he had begun to lose consciousness. He felt that he could not have survived without the help of the firefighter.[115]

106 [LFB00000546].
107 [LFB00000692].
108 [LFB00000380].
109 Tekle Day 63/85/4-19.
110 Tekle Day 63/86/23-63/88/7; Tekle first witness statement [IWS00001051] pp. 12-13; Shawo first witness statement [IWS00001050] p. 12.
111 Tekle Day 63/86/23-63/88/10, 63/91/14-63/93/17; Tekle first witness statement [IWS00001051] pp. 12-13.
112 Tekle Day 63/93/22-63/94/6.
113 Tekle Day 63/91/14-63/93/17.
114 Shawo first witness statement [IWS00001050] p. 13.
115 Enyew first witness statement [MET00007347] p. 3.

17.62 Before leaving, Rabia Yahya had gone to the kitchen with Genet Shawo to wet towels for her children. Rabia Yahya noticed the same problem with water pressure in Flat 153 as she had experienced in her own flat after 02.00, when she had tried to wet blankets to block the door. Genet Shawo noticed similar problems with the water.[116]

17.63 Rabia Yahya recalled Yehualashet Enyew opening the door. She was not sure whether Yehualashet Enyew or Paulos Tekle had left first, followed by Genet Shawo. As she remembered it, she had been the last one to leave with her children. That was because she had wanted to prepare her children for the journey.[117] Rabia Yahya was clear in her recollection that there had been no firefighters in the lobby when they left.[118] She was sure of it, because she thought that the firefighters would have given them instructions if they had been there. She did not recall having seen any torches. Rabia Yahya said that it had been difficult going down the stairs and that one of her children had slipped. She was familiar with the building and had been able to feel her way out.[119]

17.64 Rabia Yahya said that she had first met a firefighter on floor 7. Her son had collapsed on that floor from the smoke. Her daughter had been shouting, asking what floor they were on. The firefighter came out of the lobby on floor 7 wearing a torch on his head. He had told her they were on floor 7 and that they should keep going. He had picked up her son and carried him down.

17.65 Rabia Yahya recalled that there had been thick black smoke in the lobby on floor 7. It had also been very hot, although not as hot as on the higher floors. Rabia Yahya did not remember seeing any stairwell doors being held open on the way down.[120]

17.66 FFs Niki Mitchell, Michael Pole and Chris Cheesman had tallied out at 02.51.01, 02.51.08 and 02.53.07 and had reached floor 18 at the time the occupants of Flat 153 decided to leave.[121]

17.67 There were significant differences between the recollections of the firefighters about what had taken place when they reached floor 18. FF Pole said that he had reached the door of Flat 153 first and had banged on it. It had opened straight away and FF Mitchell had spoken to a man who had told him that there were seven people in the flat. He described the lobby as filled with dark thick smoke. Initially he had thought it would be better to leave the occupants in the flat, because that floor did not seem to be affected by the fire, but ultimately they decided to take them down. He said that he had led the group to the stairs in single file, with FF Cheesman in the middle and FF Mitchell at the rear. However, he (FF Pole) had mistaken the front door of another flat for the door into the stairs and the order of firefighters had become reversed. As a result, FF Mitchell had been in the front, FF Cheesman in the middle and himself in the rear. FF Pole said he had seen a woman carrying a baby, a teenage girl, a five- or six-year-old boy (probably Rabia Yahya's son) and two or three adults ahead of him. Both the woman with the baby and the girl had been wearing headscarves. He said that the girl had wanted to go back and that he had told her to cover her mouth with a headscarf. He had to keep persuading the woman to keep going. One point he had realised that the boy was no longer with them, so he had stopped, turned around and found him on the steps. The boy had become unconscious, so he told the woman and girl to keep going and picked up the boy and carried him down. He met another firefighter who had helped him.

116 Shawo first witness statement [IWS00001050] p. 12.
117 Yahya Day 63/173/6-24.
118 Yahya Day 63/173/25-63/174/20.
119 Yahya Day 63/175/13-19.
120 Yahya Day 63/175/13-63/182/14.
121 Pole first witness statement [MET00039672] p. 9; Mitchell first witness statement [MET00039859] p. 7.

17.68 FF Mitchell recalled it differently. He remembered that when they opened the stairwell door on floor 18 he had met a resident, who had grabbed him. He said there had been seven people in the flat. It had been dark and smoky, but not hot. The firefighters had taken them down using a human chain, with FF Cheesman in the front, himself in the middle and FF Pole last. He was clear that none of the firefighters had gone into any of the flats and did not know how the group had come to be together.[122] He said that he had seen a group of men and women, but could not remember having seen any children at any stage. Some of the women had been wearing sheets or scarves around their faces to help them breathe.

17.69 FF Mitchell said that as they had gone down the stairs, the man who had grabbed him when he first went into the lobby on floor 18 had been holding on to him tightly. He had been of Somali or Eritrean appearance, in his "40s, slim and about 5'9" tall". Behind him had been a woman who had held on to his shoulder straps. The man had been very anxious as they were going down. FF Mitchell said that he had tried to stop him talking to avoid taking in smoke. He had not seen any other firefighters until he saw some light and heard other crews. The casualties had been handed over. They had to go back up again to find FF Pole, who was about two flights of stairs away. They had helped him out but FF Mitchell could not remember whether he had been with any casualties.[123]

17.70 FF Cheesman's recollection, consistent with that of FF Mitchell, was that when they entered the stairs he had been leading, with FF Mitchell in the middle and FF Pole in the rear. However, FF Cheesman said that FF Mitchell had been behind him with a child.[124]

17.71 If FF Pole's recollection that FF Mitchell led the group down the stairs is correct, then the man holding on to FF Mitchell is likely to have been Yehualashet Enyew, who was first out of the flat and who said that he had held on to a firefighter's hand as he went down. However, FF Mitchell did not mention having seen a child with Yehualashet Enyew at any stage, which might indicate that Isaac Paulos had become detached from Yehualashet Enyew very soon after leaving the flat. If FFs Mitchell and Cheesman are correct in recalling that it was FF Cheesman who led the group into and down the stairs, then it is very difficult to determine who assisted Yehualashet Enyew and who, therefore, was closest to Isaac Paulos either at the start of their journey or after the order of firefighters had changed before they entered the stairs. On one point these diverse recollections are consistent: that neither FF Mitchell nor FF Cheesman assisted a man with a child at any stage.

17.72 Paulos Tekle left the tower with Genet Shawo and their younger son at 03.12.[125] Yehualashet Enyew followed them out a minute later at 03.13. Rabia Yahya left at 03.18. Her children left the tower between 03.15 and 03.18. Isaac Paulos was later found dead in the lobby of floor 13.[126]

17.73 I regret to say that the differences of recollection to which I have referred make it impossible to reach any clear conclusion about how or when Yehualashet Enyew let go of Isaac Paulos's hand and Isaac Paulos became detached from the group. Nor is it possible to determine how he came to be in the lobby on floor 13. Although there remains some doubt about the order in which the occupants left Flat 153, it is likely that Yehualashet Enyew left the flat first holding Isaac Paulos's hand. It is not possible to tell, however, which firefighter assisted them. Nor is it possible to determine with any confidence which firefighter led Yehualashet Enyew down the stairs. It is doubtful whether it was FF Pole because he said that at that stage he had been

[122] Mitchell first witness statement [MET00039859] p. 8.
[123] Mitchell first witness statement [MET00039859] pp. 6-11.
[124] Cheesman first witness statement [MET00039905] p. 8.
[125] Annex A.
[126] DVI plan [MET00012528] p. 17.

assisting Rabia Yahya and one or more of her family.[127] If that is right, it must have been either FF Cheesman or FF Mitchell and of the two, FF Mitchell seems the more likely because he says that he assisted a man who fits Yehualashet Enyew's description in the stairs. However, as I have said, neither FF Mitchell nor FF Cheesman recalled having assisted a man with a child at any stage.

17.74 One of the mysteries surrounding the tragic death of Isaac Paulos is how none of those descending the stairs noticed that he had become detached from Yehualashet Enyew and was on his own. If they had been at the front of the group, it is difficult to see how those following could have failed to come across him. It is possible that, having lost his grip on Yehualashet Enyew's hand, he continued to follow him down the stairs until he found the door to the lobby on floor 13 open, but that is little more than speculation. Yehualashet Enyew said that he had been badly affected by the smoke in the stairwell and was unable to remember where or when he had lost contact with Isaac Paulos. Unfortunately, there is insufficient reliable evidence to enable me to make any finding about that.

The attempted evacuation from Flat 142

17.75 By 03.01 Flat 142 was the only flat on floor 17 which was still occupied. Kamru Miah, Rabeya Begum and three of their four children, Mohammed Hamid, Mohammed Hanif and Husna Begum, had remained in the flat together. Following a 999 call at 02.27.12, the family did not contact the emergency services again until 03.09.18.

17.76 Mohamed Hakim, the eldest son of Kamru Miah and Rabeya Begum, was at home when he received a call from a cousin telling him about the fire.[128] He was about to get into a taxi to go to the tower when Husna Begum, his sister, called him at 03.08. She said there was a fire and they were all trapped in the flat. She said she did not think she would survive. She then ended the call.[129] Husna Begum also called Rohema Khanom again. Rohema Khanom had previously spoken to Mohammed Hanif at around 03.00 when he had said that the family were all together. During the last call, Husna Begum told Rohema Khanom that it was smoky and dark. She could not see anything. Husna Begum was having difficulty breathing and was coughing continuously. It is not known what time this call took place.[130]

17.77 CRO Adams answered the 999 call from Flat 142 timed at 03.09.18. She was told that the fire had reached the hallway and kitchen of the flat. CRO Adams advised that the family should cover themselves with wet towels and leave. She was told that it was not possible to do so, as the smoke on the stairs was too thick.[131]

17.78 The last 999 call from Flat 142 came shortly afterwards. CRO Fox answered it at 03.18.45. She was aware that there were five people alive in the flat, including two elderly people. They were all by the front door. CRO Fox said that they should leave, but the caller said that it was too hot outside the front door. CRO Fox said that she would pass the message on by radio.[132]

17.79 After this time, no one in Flat 142 contacted the emergency services or anybody else outside the tower. Husna Begum was later found in the lobby on floor 17. The rest of her family were found inside Flat 142.[133]

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127 That is consistent with the descriptions of those he was assisting and with the fact that he was originally last (and Rabia Yahya said that she left the flat last).
128 Hakim first witness statement [IWS00000019] p. 4.
129 Hakim first witness statement [IWS00000019] p. 5.
130 Rohema Khanom witness statement [MET00015675] p. 5.
131 [LFB00000408].
132 [LFB00000419].
133 DVI plan [MET00012528] p. 19.

Conditions on floor 16

17.80 Sener Macit in Flat 133 spoke to CRO Adams at 03.02.27 and to CRO Gotts at 03.12.56. He told CRO Adams that there were two people in the flat; they had tried to leave but had gone back inside because of the smoke.[134] CRO Adams advised Sener Macit that he should try to leave. When he said he could not, she told him to stop the smoke coming in and said: "We'll get to you as soon as we can. We'll tell the crews that you can't get out".[135]

17.81 During the call at 03.12.56,[136] CRO Gotts tried to persuade Sener Macit to make another attempt to leave. When he told her he could not because he was nearly fainting, she again encouraged him to try. She told him to block out any smoke if he could not leave and said she would let the firemen know.[137]

17.82 At the time Sener Macit still thought that the firefighters were coming. In an earlier 999 call he had been led to believe that they were on floor 14[138] and he had called again at 03.12.56 to ask where they were.[139] He said that he had not left after being advised to do so because he was afraid that he and his wife would not survive the experience.[140]

17.83 At the time of his call to CRO Gotts he had felt dizzy and was having difficulty breathing. He had been coughing and had thought he would pass out.[141] By that time, the smoke inside the flat was becoming very thick. He was on the floor trying to get more air. The smoke was so thick he was unable to see his wife's face if she was standing up.[142]

17.84 After the call at 03.12.56, Sener Macit and his wife Hanife Macit made another attempt to leave.[143] They managed to reach the stairwell. He did not think it was possible to go down, because he could still see black smoke in the stairs. He had been hoping that it would be clear in the stairs,[144] but when he found that the conditions in the stairs were much the same as in the lobby, he and Hanife Macit returned to Flat 133.

Conditions on floor 15

17.85 On the floor below, Christos Fairbairn was trapped in Flat 124. His first 999 call, made at 03.00.55, had reached the LAS. He had been advised to wait for assistance. He subsequently made four more 999 calls:

a. At 03.04.00,[145] he spoke to a CRO in North West FRS control room who told him to cover himself and to get out by whatever means he could.

b. At 03.15.20[146] he spoke to CRO Russell, who advised him to leave. He said that he could not breathe; he had tried to leave but had been unable to see anything.

134 [LFB00000398].
135 [LFB00000398] p. 3.
136 [LFB00000416].
137 [LFB00000416].
138 [LFB00055499] p. 24.
139 Macit Day 65/170/17-65/171/10.
140 Macit Day 65/170/17-65/171/23.
141 Macit Day 65/171/17-23.
142 Macit Day 65/171/24-65/172/13.
143 Macit Day 65/173/23-65/176/12.
144 Macit Day 65/174/2-65/175/16.
145 [MET00018759].
146 [LFB00000415].

c. At 03.18.43,[147] Christos Fairbairn called 999 again and was put through to the LAS. Again, he said he could not breathe. He had tried to go outside but the smoke was too thick and he was slipping. He ran back to the door and nearly fainted. The operator then put him on hold and the line disconnected.

d. At 03.22.35,[148] Christos Fairbairn called 999 once more and spoke to CRO Russell for a second time. He told her that he had tried to leave but had nearly fainted and that he could not breathe. He was then by the front door. CRO Russell told him to go to another room, block out the smoke, stay low and cover his mouth. She explained that the two options were to stay and wait for the fire crews or to leave. He said he could not leave. CRO Russell then advised him to stay where he was and to keep away from the smoke. She told him that she would tell the firefighters where he was.[149]

Conditions on floor 14

17.86 Mahmoud Al-Karad shared Flat 112 with Omar Alhaj Ali and his brother, Mohammad Alhajali. He was not at home when the fire started. He spoke to Mohammad Alhajali for the first time at 01.39 and continued to call him throughout the night. While the brothers were still in the tower, he had approached a police officer to report that they were in their flat. The officer said he should tell Mohammad Alhajali and Omar Alhaj Ali to stay inside and block the smoke from coming into the flat. He approached the police a second time and the officer took a note of the number of the brothers' flat.[150]

17.87 The events surrounding the rescue of four of the occupants of Flat 113 (including Omar Alhaj Ali) have been described elsewhere and aspects of it remain to be examined further. In this Period I am concerned with what those who were left behind in Flat 113 (Mohammad Alhajali, Denis Murphy and Zainab and Jeremiah Deen) experienced and the circumstances surrounding their deaths.

17.88 At 02.55, Mahmoud Al-Karad spoke to Mohammad Alhajali, who told him that he could not see Omar Alhaj Ali. He told Mahmoud Al-Karad that he was dying. Mahmoud Al-Karad spoke to Mohammad Alhajali for the last time at 03.19. He tried to urge him to leave the flat, but Mohammad Alhajali said: "I can't leave. There is a mother and child with me. How can I leave them?" He asked that the LFB keep hosing Flat 113 with water.[151]

17.89 Mahmoud Al-Karad said that he went to the police and told them what Mohammad Alhajali had said. They said they would inform the control room. Meanwhile, at around 02.44, Omar had told WM Williams and other firefighters in the ground floor lobby that his brother was still in Flat 113.[152]

17.90 After he had spoken to Mohammad Alhajali, Mahmoud Al-Karad discovered that Omar Alhaj Ali was outside the tower. Omar Alhaj Ali was distressed and upset. He called his brother while Mahmoud Al-Karad was with him and tried to persuade him to leave. In one of the calls with Omar Alhaj Ali, Mohammad Alhajali said that smoke continued to come into the flat

147 [INQ00000385].
148 [LFB00000421].
149 [LFB00000421].
150 Exhibit MAK/2 [IWS00000791] p. 2.
151 Al-Karad first witness statement [IWS00000821] p. 8.
152 [INQ00000450] and [INQ00000449]; Alhaj Ali Day 59/87/1-89/23.

and that the others had stopped breathing.[153] Mahmoud Al-Karad called Mohammad Alhajali eight times between 04.26 and 05.05 but there was no response. The phone went straight to voicemail.[154]

17.91 Francis Dean, a friend of Zainab Deen, was in contact with her during the night. He had first become aware of the fire at 01.38. Zainab Deen had called him and told him there was a fire and that she had her son Jeremiah Deen with her. Francis Dean went to the tower, arriving at around 02.00. He called Zainab Deen again at 02.03 and she told him she was in Flat 113. He continued to speak to Zainab Deen until around 02.44.

17.92 Francis Dean tried to tell firefighters that Zainab Deen was trapped in the tower by calling 999[155] and also by telling police at the cordon. A police officer at the cordon recorded the number of the flat where Zainab Deen was and the number of the floor.[156]

17.93 Zainab Deen made two further 999 calls after 03.00. In a call made at 03.06.06, she said they were covered with smoke.[157] During the call she told someone else in the flat not to open the door. She ended the call saying: "No, we can't leave. Nobody is coming for us".[158]

17.94 At 03.17.05, Zainab Deen made her last 999 call.[159] CRO Howson advised her to cover herself with a towel and make her way down the stairwell. She told Zainab Deen to expect smoke in the stairwell. Zainab Deen appeared to agree to leave with Jeremiah.[160]

17.95 Zainab Deen then made her final telephone call to Francis Dean. That is likely to have taken place soon after 03.19 when her call to CRO Howson ended.[161] Zainab Deen told Francis Dean that Jeremiah had collapsed. Francis Dean tried to tell her to cover herself and her son in wet blankets and leave, but she refused to do so because of the smoke.

17.96 Francis Dean went to the basement entrance on the south side of the building to try to gain entry to rescue Zainab Deen. While there he saw a firefighter, CM Christopher Batcheldor, who took the telephone to speak to Zainab Deen. He remained on the telephone to Zainab Deen for nearly an hour.

17.97 While speaking to Zainab Deen, CM Batcheldor gave WM Thomas Furnell her location. WM Furnell confirmed that he was already aware of a call from Zainab Deen. He did not know that firefighters had already been deployed to the flat but that their brief had been changed.

17.98 CM Batcheldor recalled that Zainab Deen had told him that she could not get out and had been told to stay in the flat, which had led him to believe that the "stay put" policy was still in place. He took her at her word that she could not leave the flat. During the call, Zainab Deen told him that her son had died. He passed the phone to Francis Dean briefly so that he could encourage her to keep fighting. CM Batcheldor kept speaking to her for another 35 to 40 minutes. He returned to WM Furnell for the latest information about rescue operations

153 Alhaj Ali Day 59/96/1-15.
154 Al-Karad first witness statement [IWS00000821] p. 9.
155 North West FRS voicemail for Francis Dean at 01.45 [MET00014978]; call from Francis Dean to North West FRS at 02.17 [LFB00000694]; BT report to North West FRS a call from Francis Dean which dropped out at 02.21 [MET00014980].
156 Francis Dean first witness statement [IWS00001048] p. 5 and Exhibit FD/3 at 00.38 seconds [IWS00001005]; [LFB00001968] p. 17.
157 [LFB00000405].
158 [LFB00000405].
159 [LFB00000418].
160 [LFB00000418].
161 Exhibit of Francis Dean FD/1 [IWS00001048] p. 7.

and was told that crews could not get past floor 12 at that time. He then heard Zainab Deen screaming before the line went silent. When he could no longer hear her, he disconnected the call.

17.99 CM Batcheldor decided not to tell Francis Dean that the line had gone silent. He handed the phone back to him telling him that the battery had died. Francis Dean tried calling Zainab Dean again but the phone went to voicemail.[162] On the evidence as it stands, that was the last contact with Zainab and Jeremiah Deen.

Conditions on floor 12

17.100 At around 03.00, Karen Aboud in Flat 92 noticed black smoke coming through her children's bedroom window and under the front door. By that time, they were struggling to breathe.[163] She called 999 again because she was desperate to leave and was connected to CRO Duddy at 03.08.01.[164] He immediately advised her that she needed to go to the staircase with wet cloths covering her face.[165] She told him that the smoke was hurting their eyes and that they could not see. She tried to leave the flat, but said that she could not reach the door.[166] She then confirmed that she had gone back into her flat.[167]

17.101 CRO Duddy continued to encourage her to leave. He told her:

> "Right. You need to make it to that staircase. OK? That's your only chance."

17.102 Halfway through the call, Karen Aboud confirmed that she and her sons had reached the stairs.[168] She said that the stairwell was dark; the smoke was thick and hot and smelled like burning plastic.[169] On the way down she met some firefighters, as she told CRO Duddy, who was still on the line.[170]

17.103 Karen Aboud and her sons came down from floor 12 at the same time as Naomi Li and Lydia Liao were coming down from floor 22. Naomi Li and Lydia Liao left the tower at 03.21. Karen Aboud and her sons left at 03.20 to 03.22.[171] Karen Aboud's son told her later that they had gone down the stairs with a Japanese couple.[172] Naomi Li recalled having seen a young boy in front of her on the stairs.[173]

17.104 It is likely that it was WM Peter Clark, WM Cardy and FF Beltrami who met Naomi Li, Lydia Liao and Karen Aboud and helped them down the stairs. Naomi Li said that when she met the firefighters, they had asked her whether she could walk and whether she was with anyone else. When they reached the bottom of the stairs, she told the firefighters that she had come from Flat 193 on floor 22 and that there were more than 10 people there. She did not know what the firefighters had done with that information.[174]

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162 Batcheldor Day 34/154/11-34/174/3.
163 Aboud first witness statement [IWS00000130] p. 8.
164 [LFB00000402].
165 [LFB00000402] p. 2.
166 [LFB00000402] p. 5.
167 [LFB00000402] p. 6.
168 [LFB00000402] p. 8.
169 Aboud first witness statement [IWS00000130] p. 9.
170 [LFB00000402] p. 11.
171 Annex A.
172 Aboud first witness statement [IWS00000130] p. 9.
173 Li first witness statement [IWS00000515] p. 11.
174 Li Day 62/216/1-62/217/4; Li first witness statement [IWS00000515] p. 11.

Conditions on floor 11

Flat 82

17.105 Between 03.00 and 03.30 Natasha Elcock in Flat 82 called 999 five times.

17.106 At 03.00.50, she was advised for the first time to try to get out.[175] Her partner went to the bathroom and soaked something she could use to cover herself. He then went to the door and opened it. A huge amount of smoke came in and set off the smoke alarm. He immediately shut the door and they did not pursue their attempt to leave. Natasha Elcock could see into the lobby. It was still black[176] and the heat was intense.[177]

17.107 At 03.03.05 she was advised for a second time to leave her flat.[178] In her evidence she explained that she had not left, because she did not think she could.[179] She still believed that the firefighters were coming for her. She called 999 again at 03.13.06 and asked CRO Pam Jones to send someone to them. That was the first call in which she reported fire inside the flat.[180] CRO Jones told her to leave if the fire was in the flat.

17.108 Natasha Elcock said that her partner had been moving to the other rooms throughout this time checking whether the fire had spread into the flat. If he saw there was a fire, he put it out using water from the bath.[181] She remained on the bedroom floor with her daughter trying to keep calm. She continued to call friends and family and to contact 999.[182]

Conditions on floor 10

Flat 73

17.109 By 03.01, the family in Flat 73 had been advised to leave a number of times. At 02.43.08, CRO Jones responded to a call from Ann Chance.[183] Ann Chance said there was a lot of smoke coming through the front door which was "completely hot". CRO Jones initially told her to go to a room where it was safe, but soon after she advised her to leave. Ann Chance asked if they would be prevented from leaving by the fire on floor 4. Ann Chance's cousin, Adam Supareogsanond, raised the same concern during his call to CRO Fox at 02.56.[184]

17.110 Ann Chance recalled that the family had made an attempt to leave after her 999 call at 02.43.08. In her statement she said:

> "The heat was intolerable when we opened the front door and we could not persevere through it, even when we had put wet towels over our heads."[185]

175 [LFB00000393].
176 Elcock Day 70/81/2-70/86/7.
177 Elcock Day 70/86/8-70/87/20.
178 [LFB00000394]; Elcock first witness statement [IWS00000310] p. 5.
179 Elcock Day 70/87/21-70/88/18.
180 [LFB00000410].
181 Elcock first witness statement [IWS00000310] p. 7 and Day 70/92/4-70/96/17.
182 Elcock Day 70/92/4-70/97/11.
183 [LFB00000373].
184 [LFB00000388].
185 Chance first witness statement [IWS00000783] p. 6.

17.111 The temperature in Flat 73 started to rise and the smoke became worse, making them cough. When Ann Chance called 999 again at 02.57.32, she told the CRO at Kent FRS, CRO Mitch Samson, that the door was hot.[186] The intense heat they felt when they opened the door made her think that there must be flames outside. Ann Chance then told CRO Samson that the fire was getting worse. She said:

> "We can't open the door. It's completely hot, and when we tried to open it earlier the smoke come [sic] in, and there's so much smoke."[187]

He advised them to get low and put wet towels on their faces to keep out the smoke.[188] Ann Chance told him they had already done all they could to block out the smoke. She then said:

> "Like I said, I've called about ten times. All you guys keep telling us [is] to stay put, but the fire's getting worse, and there's a lot of smoke, increasing by the minute." [189]

She asked him if they could use the stairs.[190] CRO Samson was unable to answer the question. He offered instead to pass her details to the LFB.[191] The call lasted over 90 minutes, ending at 04.30.

17.112 At 03.06.57, Adam Supareogsanond spoke again to CRO Fox.[192] She advised him to leave. During the call, he explained that his mother and aunt did not want to go. They then spoke to CRO Fox directly and told her that there was too much smoke. CRO Fox told them that there was no one coming to get them.

17.113 Ann Chance said in evidence that about a quarter of an hour into her own call to CRO Samson she had become aware that her cousin and aunt were also speaking to the emergency services. She said that they were being told to get out. CRO Samson responded by saying that she should remain in the safest place.[193] He said that if it was safe for them to leave they should do that, but that he did not want to put her in more danger.[194]

17.114 CRO Samson does not seem to have been aware at that point that the LFB had changed the "stay put" advice. He then asked Ann Chance to check whether her brother was speaking to the LFB and told her that they should follow the LFB's advice if it was different.[195] Ann Chance then told CRO Samson that they had been warned that no one was coming to get them, but he told her that that was not necessarily the case.[196]

17.115 CRO Fox had been trying to persuade Ann Chance's mother and aunt to try to leave. Adam Supareogsanond told CRO Fox that they were frightened of attempting to leave and asked her to speak to them. CRO Fox spoke to them and said:

> "They're not coming to get you at the moment. They're not coming to get you, so you need to get out."[197]

186 [LFB00055505] p. 3.
187 [LFB00055505] p. 3.
188 [LFB00055505] pp. 3-8.
189 [LFB00055505] p. 7.
190 [LFB00055505] p. 8.
191 [LFB00055505] p. 8.
192 [LFB00000413].
193 [LFB00055505] p. 16.
194 [LFB00055505] p. 20.
195 [LFB00055505] pp. 22-24.
196 Chance first witness statement [IWS00000783] pp. 6-7; [LFB00055505] p. 24.
197 [LFB00000413] p. 14.

When they had given the telephone back to Adam Supareogsanond, CRO Fox told him that she had warned them that nobody would be coming.[198] CRO Fox encouraged him again to get them to leave. The call ended at 03.15.

17.116 Ann Chance said that at about 20 minutes into the call (i.e. at around 03.15) they tried to leave, but that they had found that the door was too hot. It had expanded and they could not close it again properly.[199] The smoke became worse as it was coming around the door, even though they had put towels down to block the gaps. [200]

17.117 About half an hour into the call with CRO Samson (i.e. at around 03.26) Adam Supareogsanond started to shout for help from the window.[201] They all remained in the flat.[202]

Flat 72

17.118 Antonio Roncolato was still in Flat 72. He was in contact with his son Christopher Roncolato who was still outside the tower. At 02.59, Christopher Roncolato called 999 for the second time. He told CRO Jones that the fire had not yet reached his father. She advised him to tell his father to get a wet towel over his face and leave. He said that he would tell his father to try to get out.[203] Antonio Roncolato said in evidence that he had not made a second attempt to leave until 04.00.[204]

4 Events in the control room

17.119 Between 03.00 and 03.30, there were 47 emergency calls, 28 of which were from trapped residents and seven of which were from relatives or friends of residents still trapped in the tower.[205] For the most part CROs continued to advise residents to leave, but in some cases CROs were told that residents had tried to leave and could not get out. As a result, some of the CROs decided to tell people to remain in their flats and protect themselves, while others, such as CRO Peter Duddy, told them in no uncertain terms that they had to get to the staircase because it was their only option.

17.120 During this period, the MetCC, Kent FRS, Surrey FRS and North West FRS between them received and made seven calls which they passed on to the LFB control room.[206]

17.121 At 03.02.27 CRO Adams received a call from Sener Macit in Flat 133 on floor 16.[207] He explained that he and his wife had tried to leave but had been forced to return to their flat. CRO Adams told him that, if he could not get out, he should try to stop the smoke from coming into his flat. She told him that she would tell the firefighters that they were trapped and that a crew would rescue them as soon as they could.[208] When she asked if he was sure that they could not make a run for it he explained that they had tried twice but they couldn't breathe as there was so much thick smoke. She told him to try again if the fire started to come into his flat.[209]

198 [LFB00000413] p. 16.
199 Chance first witness statement [IWS00000783] pp. 6-7.
200 Chance first witness statement [IWS00000783] pp. 6-7.
201 Chance first witness statement [IWS00000783] p. 7.
202 They left the tower at 04.18 and 04.20.
203 [LFB00000554]; Christopher Roncolato first witness statement [IWS00000840] p. 9.
204 Antonio Roncolato Day 52/59/7-52/60/24.
205 Control Report pp. 113-135.
206 Control Report pp. 113-135.
207 [LFB00000398].
208 [LFB00000398] p. 3.
209 [LFB00000398] p. 4.

17.122 At 03.02.35, CRO Duddy called Paulos Tekle in Flat 153 on floor 18 after CRO White from Essex FRS had given him his mobile telephone number.[210] CRO Duddy told him that the family should cover their faces with wet towels and leave the building.

17.123 At 03.03.05, CRO Gotts received a call from Natasha Elcock who was trapped in Flat 82 on floor 11 and who by that time had called nine times.[211] CRO Gotts told her that they should put wet towels over their heads and run for it. At 03.04.52, Natasha Elcock called once more and CRO Gotts answered again. She established that she had just spoken to Natasha Elcock, who said that it was not possible to get out because it was "too hot". CRO Gotts told her to block out the smoke and said that more aerial ladders were attending the incident and that she should stay calm. CRO Gotts said she would pass a message to the fire crews that she could not get out.[212]

17.124 At 03.03.56, 03.29.40 and 4.07.28 Kent FRS gave the LFB control room further information about the call with Ann Chance and asked for further advice. The details were added to the right-hand whiteboard. On each occasion, the LFB CRO told Kent to urge the caller to leave. In the last call, the Kent operator explained that the caller in Flat 73 had tried to leave the flat three times and that she had been on the phone for an hour and 10 minutes. They asked for further advice, but CRO Gotts explained that there was no other advice to give.

17.125 At 03.04.00, a North West FRS operator called back Christos Fairbairn, after a call passed to them by BT at 03.03.48 had dropped out. The BT operator who had connected the call believed that he was calling from Flat 123 on floor 15. When the North West FRS CRO spoke to Christos Fairbairn he said that he was calling from floor 16. The CRO told him to cover himself in wet towels and to get out by whatever means he could.[213] It is not known how North West FRS had learned about the change in advice. At 03.09.17, a North West FRS CRO told the LFB that there was a person trapped in Flat 123 on floor 15. OM Alexandra Norman told him that the advice had been changed because the fire was out of control.[214] She told him that they were advising people to cover their heads with wet towels and find any way out they could.[215]

17.126 At 03.05.09, CRO Duddy received a call from Bassem Choukair in Flat 193 on floor 22.[216] Bassem Choukair told him that he could not get to the stairwell as there was smoke and he could not see. CRO Duddy told him to cover himself in wet towels and feel his way along the wall. He said that his only chance was to get to the stairwell. Bassem Choukair explained again that he would not be able to see as there was smoke in the stairs, but CRO Duddy told him:

> "I know there's smoke and I know it's gonna be hard, but this is your only chance, your only chance."[217]

17.127 At 03.06.00, SOM Joanne Smith answered a call from CC Rob Brown in Surrey FRS who passed on details of a call they had received at 03.05.38 from Anthony Disson's daughter-in-law.[218] He was trapped in Flat 194 on floor 22. While SOM Smith was on the phone, she told CC Brown about the change in advice and said that they were telling the residents to rescue

210 [LFB00000557] and Control Report p. 117.
211 [LFB00000394].
212 [LFB00000401] pp. 3-4.
213 [MET00018759].
214 [LFB00000690].
215 [LFB00000690] p. 3.
216 [LFB00000400].
217 [LFB00000400] pp. 3-4.
218 03.06.00 call; [LFB00000685]; 03.05.38 call [LFB00000651].

themselves.[219] She asked him to pass the message to the Kent and Essex FRS, which were also taking calls and to which they had not yet managed to communicate the change in advice. CC Brown spoke to Kent FRS at 03.09.03 and Essex FRS at 03.14.23.[220]

17.128 At 03.06.18, CRO Sharon Darby sent a radio message to CU7 passing on information given to the control room by the NPAS helicopter, which had identified people on floors 17, 21 and 22.[221]

17.129 At 03.08.30, CU8 requested an additional Deputy Assistant Commissioner to attend the incident. DAC Lee Drawbridge was assigned at 03.12.29[222] and was mobilised at 03.14.57.[223]

17.130 At 03.08.56, CRO Gotts spoke with Nura Jemal and Hashim Kedir in Flat 193 on floor 22.[224] They asked if they could escape by the helicopter they could see, but CRO Gotts told them that the firefighters were coming up to them on the inside. She also told them that the LFB were sending "more big ladders". She asked them to try and get out by putting wet towels over their heads. Towards the end of the call, they asked again for the LFB to send a helicopter so they could escape. CRO Gotts said: "OK. All right. Well, I'll pass that over".[225]

17.131 At 03.09.17, CRO Beckham from Surrey FRS rang the Disson family to tell them that the advice had changed and that they should tell Anthony Disson, in Flat 194 on floor 22, to leave.[226] They told him that Anthony Disson was not able to leave his flat, that he was 70, that he could not see in front of him and the flat underneath was burning. CRO Beckham said she would let the LFB know because he ought to be a priority.[227] At 03.10.26, CRO Beckham contacted the LFB control room again and spoke to CRO Jones.[228] She told her that Anthony Disson was trapped in his flat by smoke and flame and could not possibly get out.[229] CRO Jones could not offer any further advice, but she offered to call Anthony Disson. At 03.15.58, she tried to call him but was put through to his voicemail.[230]

17.132 At 03.09.52, Marcio Gomes in Flat 183 on floor 21 called the control room and spoke to CRO Howson.[231] He explained that smoke was coming into his flat and that the fire had reached the flat next door. CRO Howson told him that the advice was to cover himself with wet sheets and leave, but he explained that he had already tried to leave and that when he had opened the door the smoke had been black and overpowering.[232] CRO Howson told him that the firefighters were not going to reach him for some time and that he should make another attempt to leave. She told him that people on higher floors were making their way out of the building and she urged him once again to try to leave. But she also told him that she would tell the crews that he was still in his flat and that they would make it a priority to get to him.[233]

219 [LFB00000685] p. 2.
220 03.09.03 call [LFB00000653]; 03.14.23 call [LFB00000655].
221 Radio message [LFB00002925].
222 Radio message [LFB00002715] and SIL p. 14.
223 SIL p. 14.
224 [LFB00000406].
225 [LFB00000406] p. 6.
226 [LFB00000654].
227 [LFB00000654] p. 2.
228 [LFB00000407].
229 [LFB00000407] p. 2.
230 Control Report p. 127.
231 [LFB00000412].
232 [LFB00000412] pp. 2-5.
233 [LFB00000412] pp. 7-9.

17.133 At 03.10.34, CRO Russell received a call from Hesham Rahman in Flat 204 on floor 23.[234] That was his fifth call to the control room since 01.39.15.[235] CRO Russell tried to advise him to leave, but he explained that he was not able to get out because there was too much smoke coming into the flat and because he was disabled and could not walk. She took his details, told him to cover his mouth and nose and reassured him that the firefighters were coming to get him.

17.134 At 03.12.56, CRO Gotts received a call from Sener Macit, in Flat 133 on floor 16, who told her that he and his wife had tried to leave twice already but had been unable to get out. CRO Gotts tried to persuade them to leave with wet towels over their heads and said that she would pass his details to the firefighters.[236]

17.135 At 03.14.22, CRO Darby sent CU7 another message from the NPAS helicopter which had spotted several occupants three floors from the top on the west face of the building.[237]

17.136 At 03.15.32, CRO Darby recorded a message in the incident log repeating the request made a few minutes earlier at 03.12.52 for a DSE to attend the incident ground as a matter of "urgency and priority".[238]

17.137 At 03.20.31, Hesham Rahman spoke to CRO Adams. He told her that the flat was now full of black smoke and that he could not see anything. The fire was coming into his flat. CRO Adams told Hesham Rahman that he needed to make his way out. He told her what he had told CRO Russell: that he could not see anything and he could not walk properly because he was disabled. CRO Adams told Hesham Rahman that they would try to get to him. He confirmed that he was alone and could not hear anything from any of the other flats. CRO Adams urged Hesham Rahman to try to leave. She repeated that she would give the information to the fire crews and that they would try to reach him.[239]

17.138 At 03.22.35, CRO Russell received a call from Christos Fairbairn in Flat 124 on floor 15.[240] He told her that there was too much smoke; he could not breathe and he could not manage to get down the stairs. She gave him the following advice:

> "So, so your two options at the moment is to stay where you are and wait for the crews, they're trying to get to everyone as quickly as they can, there's a lot of people in the building, OK? The other option, like I said, you try to leave the building, that's your only other option,OK?"[241]

He told her that he could not leave, so she told him to stay away from the smoke and said that she would pass the information to the fire crews. However, she could not tell him when the firefighters would get to him because they were also making their way to other people. She told him to wait away from the front door. At that point the call ended.[242]

17.139 At 03.25.45, CRO Fox took a call from Marcio Gomes who was trapped in Flat 183 on floor 21 with his pregnant wife and two children together with Helen Gebremeskel and her daughter.[243] That was his fifth 999 call. Marcio Gomes explained that they had tried to leave the flat three times and CRO Fox told him that she would tell the command unit that he was a priority because he had tried to get out three times and because there were children with

234 [LFB00000409].
235 [LFB00000329].
236 [LFB00000416].
237 Radio message [LFB00002592].
238 SIL p. 24 and radio messages [LFB00002528]; [LFB00001977]; [LFB00002222].
239 [LFB00000420].
240 [LFB00000421].
241 [LFB00000421] p. 6.
242 [LFB00000421] pp. 6-7.
243 [LFB00055501].

him. He then reported that fire had entered the flat and she told him that he had to leave. She then stayed on the phone with him while they all escaped from the flat. The call lasted for 33 minutes and 53 seconds.

17.140 Substantial parts of the recording of that call were played at the hearing while Marcio Gomes was giving evidence. This is not the place to discuss what it tells us about conditions in the stairs at that time. It is appropriate, however, to pay tribute to his courage and willingness to assist the work of the Inquiry by reliving publicly what was clearly a terrifying experience.

5 Actions of the MPS, the LAS, RBKC and the TMO

17.141 During this period, police officers at the scene continued to generate messages about individuals trapped in the building. For example, at 03.15.06 (a woman in Flat 153 on floor 18 trapped with children), and at 03.21.32 (three children in Flat 193 on floor 22).[244]

17.142 Just after 03.00 it became clear that it was becoming difficult to control the crowd at the cordon near Barandon Walk and more police officers were needed, as shown by the entry in CAD 482 at 03.04.09.[245] At about the same time, police officers began using riot shields to protect firefighters from falling debris as they entered and left the building and to protect casualties as they came out.[246] It was about this time that a mortuary was set up at the Kensington Leisure Centre.[247]

17.143 Just after 03.00 three more senior LAS officers arrived, Tom Gleeson (IR71), Maria Conyers (IR51) and Graham Barwick (IR41), who would assist in the new sectors. Tom Gleeson was assigned as Bronze triage in sector 2 (the new casualty area on the west side of the building) with Maria Conyers assisting him, and Graham Barwick as the equivalent in sector 1 (the original casualty area on the east side of the building). The decision to create two casualty sectors had been made by Laurence Ioannou just after 02.45 [248]

17.144 At 03.08.27 a message was placed on CAD 482 stating that the LFB was now instructing those still in the building to escape by any means necessary.[249] It is possible that that message was broadcast by MetCC on the general MPS radio channel, although Inspector Thatcher had no recollection of hearing it and his body-worn video did not record any such message on his radio. He thought that it had been a message from the LFB control room to the MetCC control room,[250] which is supported by Chief Inspector Graham Winch's evidence.[251] It remains uncertain, therefore, whether the message was actually broadcast to officers at the scene at this time.

17.145 However, at 03.10.56, a further message in almost identical terms was sent by MetCC. It was clearly audible on Inspector Thatcher's radio,[252] although he had no recollection of hearing it.[253] Accordingly, whether or not the first message was broadcast by MetCC to all police officers at the scene, there is no doubt that the second message was.

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244 CAD 482 pp. 18-19.
245 Warnett witness statement [MET000080605] p. 11.
246 CAD 482 at 03.05.17; Thatcher second witness statement [MET00023284] pp. 8-9.
247 CAD 482 at 03.06.49 p. 17.
248 Ioannou witness statement [MET00010862] p. 8.
249 CAD 482 at 03.08.27 p. 17. The times recorded for this and other events in the Debrief of the Emergency Response Policing Team (ERPT) [MET00023576] are not reliable for the reasons explained by Inspector Thatcher at Day 71(Mon)/135/2-137/19.
250 Thatcher second witness statement [MET00023284] p. 10 and Day 71(Mon)/121/2-19.
251 Winch witness statement [METS00020664] p. 8.
252 CAD 482 p. 21 and Inspector Thatcher's body-worn video [INQ00000517].
253 Although as he said (Thatcher second witness statement [MET00023284] p. 10) he felt no surprise when he attended the first TCG meeting at 03.20 and was told about the change in advice. Thatcher Day 71(Mon)/126/12-127/1.

17.146 At 03.10 Michael Rumble, an RBKC Parks Police Inspector, arrived at the scene as a second LALO, following a call from David Kerry at 02.45.

17.147 At 03.17.21 the LFB made the first call to RBKC using the control room admin line[254] to ask whether it was aware of the fire. The RBKC operator (Ashley) said that it was. The LFB caller asked for a DSE and a LALO. Ashley said that the LALO had already been requested, but that she would make the request for a DSE. Details were provided about the location. Ashley provided a reference number and said that the information would be passed to the building control officer, but she was not able to say when the DSE might arrive. It remains unclear why the LFB was still calling for a LALO when by that time Nickolas Layton had been at the incident for about half an hour.

17.148 At 03.20 both Inspector Thatcher and Detective Superintendent Warnett attended the first TCG meeting on CU8.[255] By that time people were pushing against the police cordons trying to enter the building to find their loved ones. Crowd control and maintaining secure cordons to allow the LAS and MPS unimpeded access to the incident ground to carry out their respective operations was therefore a priority.[256] Geoff Long and Laurence Ioannou attended the TCM for the LAS.[257] They reported that the casualty handling area was in the Kensington Leisure Centre, that there were three known deceased and that there were up to 29 casualties (i.e. injured people). The LALO, Nickolas Layton, said that there were two buses at Clarendon Road to ferry residents to a rest centre. AC Roe pointed out that there was a risk that the building might collapse and that there was falling debris. He had already asked for a DSE to attend, but it was "blatantly obvious" that there was a danger that the building was going to collapse.[258] The Roe Log clearly records that: "FSG has been deviated and persons are self-evacuating".[259] AC Roe's recollection was that he had asked Nickolas Layton for plans of the tower at that meeting.

17.149 At 03.23.36 the special operations room sent a message that two portable downlinks or receivers were on the way for use by the LFB and the MPS to enable them to view heli-tele pictures.[260] It is not clear when they arrived. According to the evidence of Daniel Arnold, an NPAS Sergeant and the Base Manager at Lippitts Hill, the portable downlinks had had the same encryption keys as the helicopter, enabling the video to be encrypted and viewed.[261] However, all the LFB officers who were asked about it said that they had not been able to view the NPAS helicopter video at any stage of the incident. Inspector Thatcher did not know that the LFB could not view the heli-tele pictures and so he did not direct the portable downlink to be taken to them when it reached the incident ground.[262] Although his timings were "very hazy", SM Peter Johnson said that the LFB officers in the command unit could only access the heli-tele downlink at around 10.00 or 10.30am on 14 June 2017. They said they had been told by a police officer that the feed had been "scrambled" up to that point, but that it was now working.[263] Commander Neil Jerome was not familiar with portable downlinks and received no briefing at any stage about the problems with viewing the helicopter video.[264]

254 Control admin line [INQ00000211].
255 Laurence Ioannou says that the TCG meetings took place on CU2 ([MET00010862] pp. 9-11) but this is incorrect.
256 Roe Log [MET00005404] p. 1.
257 Ioannou witness statement [MET00010862] p. 9.
258 Thatcher body-worn video clip [INQ00000530].
259 [MET00005404] p. 2.
260 CAD 482 p. 19.
261 [MET00039527] p. 2.
262 Thatcher Day 71(Mon)/89/8-18.
263 Johnson Day 37/21/6-25/1.
264 Jerome Day 72/22/12-24/13.

Chapter 18
Period 9: 03.30-04.00

1 External fire spread

18.1 At 03.34 the furthest extent of the horizontal flame spread on the west face was still at the base of the crown.[1] Between 03.34 and 03.42 there were flames at the top of column C1 (the internal column on the south side of the west face). The fire front was also moving diagonally across the face of the building from north to south,[2] as is shown very clearly in these two images, the first taken at 03.34 and the second between 03.34 and 03.42:[3]

Figure 18.1

[1] Professor Bisby supplemental report [LBYS0000001] p. 221 section 1047.
[2] Professor Bisby supplemental report [LBYS0000001] p. 221 sections 1047-1050.
[3] Professor Bisby supplemental report [LBYS0000001] pp. 225-226 Figs. 143-144.

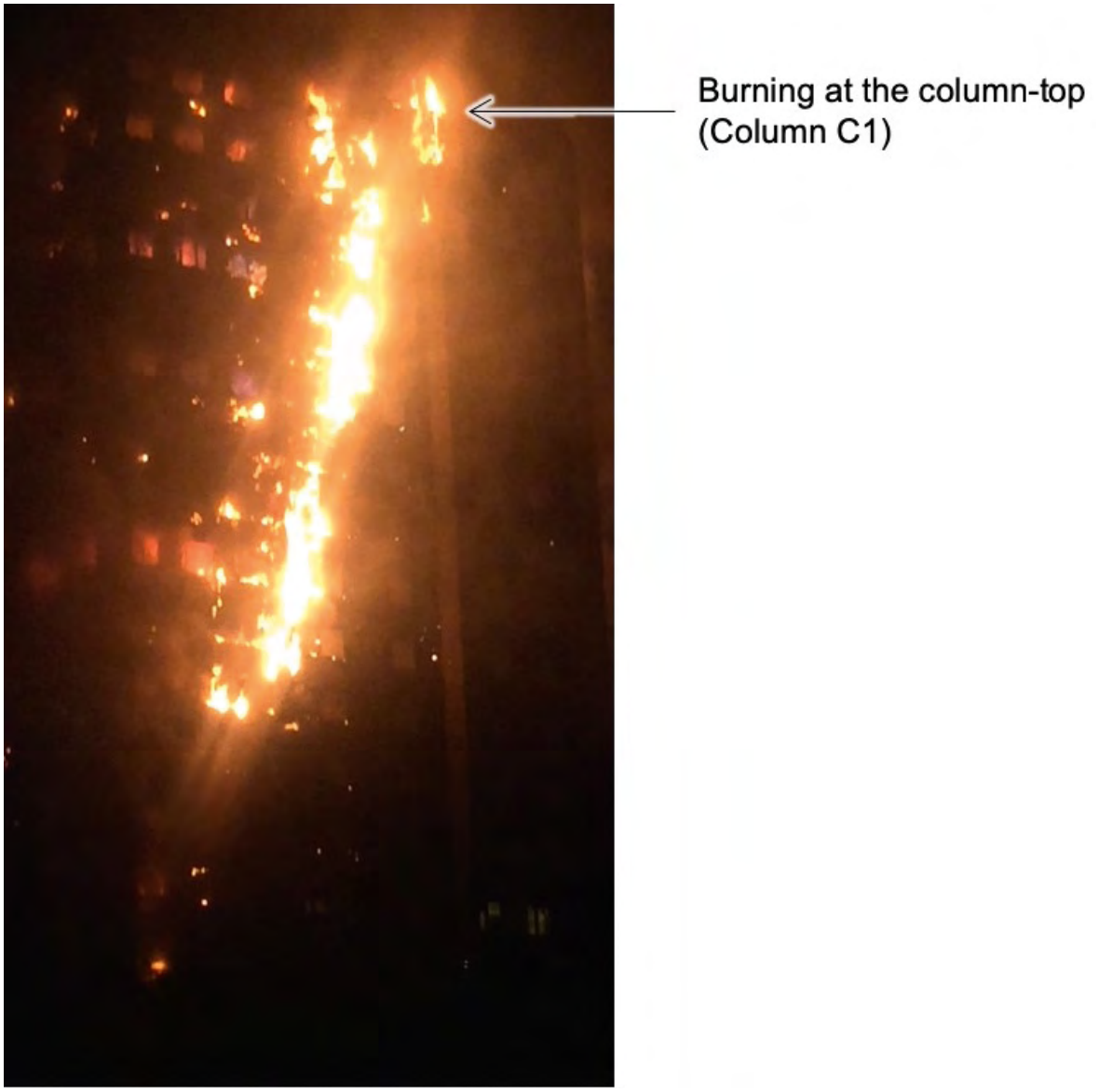

Figure 18.2

18.2 By 03.52 the furthest extent of the horizontal flame spread on the west face was still at the level of the crown. The fire front was moving horizontally across the face of the building from north to south,[4] as can be seen in this image, which also captures the fire moving from the south face:

[4] Professor Bisby supplemental report [LBYS0000001] p. 222 sections1051-1053; p. 226 Fig. 145.

Figure 18.3

18.3 By 03.30 the fire had reached the top of column D2 on the south face (the internal column to the far west of that face) and the flame front continued to move diagonally.[5] This thermal image taken by the NPAS helicopter at that time shows that pattern very clearly; it also shows the flame front on the west face wrapping around the building and moving towards the southern flame front:[6]

Figure 18.4

[5] Professor Bisby supplemental report [LBYS0000001] p. 230 section 1080.
[6] Professor Bisby supplemental report [LBYS0000001] p. 234 Fig. 156.

18.4 By 03.58 the fire on the south face had reached column D1 at the south-west corner and there was burning below and behind the architectural crown on the eastern side of the flame front, as can be seen in this photograph:[7]

Figure 18.5

18.5 By 03.43 Flats 124, 134, 144, 154, 164 and 174 on floors 15 to 20 in the centre of the west face had become affected by fire. In addition, the fire front had by that time also reached Flats 83, 93, 103, 113, 123, 133, 143, 153, 163, 173, 183, 193 and 203 located at the south-west corner of the south face.[8]

2 Events on the incident ground

GM Matthew Cook and DAC Andrew O'Loughlin briefed AC Andrew Roe (c. 03.39)

18.6 At around 03.39 GM Cook and DAC O'Loughlin briefed AC Roe on what the latter described as "intermittent" radio communications, but the discussion ranged more widely and covered the adequacy of EDBA resources and access to the route into and out of the tower.[9] They told AC Roe that GM Patrick Goulbourne had moved the bridgehead to the ground floor because its previous position had been compromised by fire.[10] They told him that while that had been going on they had continued to send EDBA crews to floor 4 but that further resources would be needed. In response AC Roe asked them to obtain from the control room the latest information about the extent to which EDBA wearers were available in Greater London and, if necessary, to order all available EDBA equipment to the incident. If necessary, it was to be brought by minibus.[11]

7 Professor Bisby supplemental report [LBYS0000001] p. 230 sections 1081-1083; p. 235 Fig. 157.
8 Dr Lane supplemental report [BLAS0000012] p. 11 Fig. 12.4.
9 AC Roe record of actions [MET00005405] p. 4.
10 AC Roe record of actions [MET00005405] p. 4.
11 AC Roe record of actions [MET00005405] p. 4.

18.7 GM Dave O'Neill (then Sector Commander with responsibility for safety) reported that the route into and out of the tower had become extremely hazardous due to the amount of falling debris, some of it alight.[12] The officers reported that, although police riot shields provided some protection to crews, they would not guard firefighters from the larger, heavier debris.[13]

18.8 Having considered these reports, AC Roe formed the view that it was necessary to go into the tower and decide whether he could justify continuing the rescue effort in the face of such significant internal fire spread and the risk of partial collapse with the attendant creation of significant debris.[14]

18.9 At about that time (03.39), Commissioner Dany Cotton arrived on CU8.[15] AC Roe told her that BA crews were being deployed, but that he was on his way to the tower to decide whether that could safely continue. They agreed that the Commissioner would not assume command of the incident but would handle "the wider political and media environment and pan-London picture". She was satisfied that AC Roe had put appropriate structures in place to manage the incident and she was satisfied with his performance in command.[16] To preserve continuity of command while AC Roe inspected the situation in the tower, the Commissioner remained on CU8.[17]

18.10 As he made his way to the tower, AC Roe noted that the MPS had effectively secured the cordon. Members of the public were no longer close to the tower and the police presence in the surrounding area was greater.[18] AC Roe also noted what he described as the "visible worsening" of the fire which had, as he recalled it, reached all four sides of the building. It was clear that it had penetrated many of the flats.[19] Figures 18.6 and 18.7 from Professor Bisby's supplemental report show the extent of the fire on the west side of the tower at about the time that AC Roe went from CU8 to the tower:

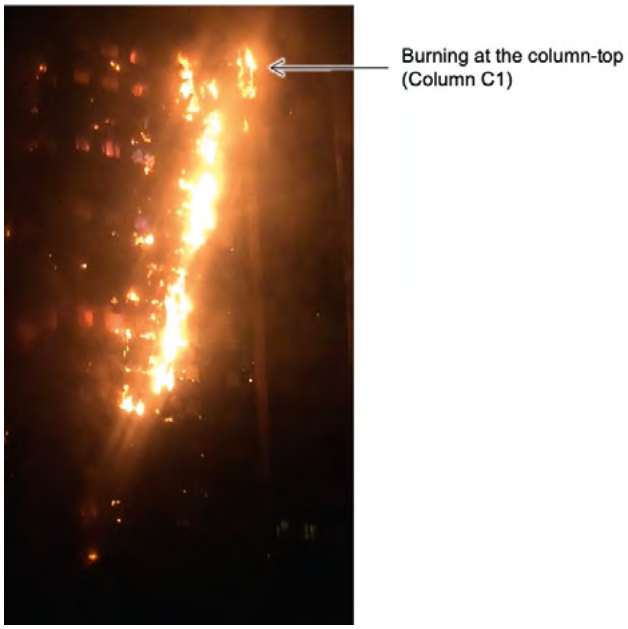

Figure 18.6

12 AC Roe record of actions [MET00005405] p. 4.
13 AC Roe record of actions [MET00005405] p. 4.
14 AC Roe record of actions [MET00005405] p. 5; Roe witness statement [MET00007520] p. 6.
15 AC Roe record of actions [MET00005405] p. 6; Cotton witness statement [MET00012492] p. 22.
16 AC Roe record of actions [MET00005405 p.6]; Roe witness statement [MET00007520] p. 7.
17 Cotton witness statement [MET00012492] p. 20.
18 AC Roe record of actions [MET00005405] p. 7.
19 AC Roe record of actions [MET00005405] p.5.

Figure 18.7

18.11 As he made his way to the tower, AC Roe stopped at CU7, where he asked GM Thomas Goodall for the latest information on FSG calls.[20] GM Goodall told him that more than 100 occupants were the subject of FSG calls and, although the system for relaying information to the operational sectors was working, he was unable to provide definite information regarding the number of deployments that had led to rescues because the position was changing by the minute.[21] Having listened to GM Goodall's brief and having seen for himself the calm and orderly way in which information was being recorded on the whiteboards, AC Roe concluded that GM Goodall had a good working system, despite the pressure of the incident.[22]

18.12 AC Roe also inspected the BA main control area, which was under the command of SM Daniel Kipling. His view, again, was that despite the rate at which calls were being received the area was calm and well ordered. He was satisfied that he was on top of things and able to ensure that enough BA wearers could be provided to meet the requirements of the main operational sectors.[23]

18.13 It may be useful at this point to describe the situation that presented itself to AC Roe when he entered the tower. Not only does it illustrate conditions in the building at around 03.45, but it also provides the context in which his subsequent decisions were made.

a. In relation to the route into and out of the tower, GM O'Neill had set up a system under which a firefighter would look out for falling debris. When he judged that it was safe, crews would run into or out of the tower under a riot shield held by either a police officer or another firefighter. Both AC Roe and GM O'Neill considered that to be an extremely risky practice, but they recognised that it was the only way to maintain rescue operations as there was no entry point other than the main door on the south side of

[20] AC Roe record of actions [MET00005405] p. 5.
[21] AC Roe record of actions [MET00005405] p. 5.
[22] AC Roe record of actions [MET00005405] p. 5.
[23] AC Roe record of actions [MET00005405] p. 5.

the building.[24] While AC Roe was assessing the position, a man jumped from the tower, striking a firefighter and narrowly missing DAC O'Loughlin and GM Cook.[25]

b. AC Roe's view was that the bridgehead was operating calmly. He noted that the use of FIBs[26] had been abandoned in favour of recording information on walls using a chinagraph.[27]

c. He also received a quick brief from GM Goulbourne and GM Richard Welch. In essence, they reported that crews had cleared the building as far as they could up to floor 8, but were having a hard job getting beyond that. Their aim was to fight through to floor 12, despite intermittent problems with water supply, which were thought at the time to have been caused by hoses being severed by falling debris or destroyed by fire.[28] GM Goulbourne confirmed AC Roe's view that more EDBA resources were required. Accordingly, AC Roe ordered a message to be sent seeking them.[29]

d. Neither GM Goulbourne nor GM Welch had received any reports of concerns about the stability of either the concrete superstructure, the columns or the floors. In the circumstances, they both thought that it was safe to continue to deploy crews, despite conditions within the building.[30]

e. AC Roe told GM Goulbourne and GM Welch that there were problems with communications.[31]

f. AC Roe agreed that firefighters could wear BA more often than permitted by existing policy, but directed that officers should keep a close eye on the physical condition of the firefighters they were deploying into the building.[32] Before leaving the tower, AC Roe told them that, if there were any doubt about the structural integrity of the building, they must withdraw all crews and assess the position before deploying firefighters into the tower again, if it was safe to do so.[33] He gave similar instructions to GM O'Neill and DAC O'Loughlin.[34]

18.14 At about that time AC Roe gave two briefings to the BA crews waiting to be deployed from the bridgehead. The thrust of those briefings was twofold: first, that despite the dangers they faced, they had a moral duty to those trapped in the tower to try to rescue them; secondly, that as they were working outside the normal limits of procedures in relation to the number of times they would be deployed in BA equipment, they had a personal responsibility to take care of themselves and their BA partners.[35]

Firefighter activity in the tower (c. 03.30 – c. 03.45)

18.15 The following are examples of what firefighters were doing in the tower between around 03.30 and 03.45.

24 AC Roe record of actions [MET00005405] p. 4.
25 AC Roe record of actions [MET00005405] p. 5.
26 AC Roe record of actions [MET00005405] p. 5.
27 AC Roe record of actions [MET00005405] p. 5; Roe second witness statement [MET00010065] p. 2.
28 AC Roe record of actions [MET00005405] p. 5.
29 AC Roe record of actions [MET00005405] p. 6.
30 AC Roe record of actions [MET00005405] p. 6.
31 AC Roe record of actions [MET00005405] p. 6.
32 AC Roe record of actions [MET00005405] p. 6.
33 AC Roe record of actions [MET00005405] p. 6.
34 AC Roe record of actions [MET00005405] p. 6.
35 AC Roe record of actions [MET00005405] pp. 7-8.

a. FFs Alan Sime and Ernest Okoh tallied out at 03.27.35 and 03.29.26 with instructions to fight the fire on floor 5.[36] When they got there, a hose was already in place wedging open the door from the stairs into the lobby.[37] They entered the lobby to carry out a right-hand search. The first flat they found was alight so they began to spray the fire with water within the lobby. FF Sime described the fire as "relentless" and their efforts failed to extinguish the flames.[38] By that time, they were fighting the fire lying on their stomachs.[39] Visibility was down to one foot and they could not see their hands.[40]

b. FFs Matthew Harold, David Friend and Richard Peacock tallied out at 03.31.09, 03.31.21 and 03.32.51 with instructions to carry out search and rescue operations from the ground floor upwards having originally been briefed to go to Flat 203 on floor 23. The firefighters were informed that their briefing had been changed just before they went under air.[41] Having searched floor 4 (where they found no casualties), they went to floor 5, where they broke into each of the flats. Again, no casualties were found.[42]

c. FFs James Cuthbert, Dean Lawrence, Methusael Sonson and Michael Wood were also deployed to carry out search and rescue on those floors. They tallied out between 03.46 and 03.47.[43]

d. During that time, BA crews were helping casualties down the stairs and out of the tower.

18.16 Although it is not possible to be more precise, it was at about that time that DAC O'Loughlin informed GM Welch that AC Roe was the incident commander and DAC O'Loughlin the operations commander. In addition, GM Welch was told that AC Roe had ordered all remaining FRU and EDBA resources to the scene in order to ensure a ready supply.[44] DAC O'Loughlin was satisfied as a result of his discussion with GM Welch that firefighters were being deployed on search and rescue operations to those people or flats about which they had specific information.[45] GM Welch's considered view was that by that time they were pushing safety to the limits; crews were deployed to floors above the fire but without water, which was not available. Crews were also working until the alarm sounded on their BA sets.

Informative message sent to the control room (03.45)

18.17 At 03.45.31 the following informative message was sent from CU8 to the control room:[46]

> " … From AC Roe. A residential block of 24 floors. 25 by 25, two-five by two-five metres. fire from the second to the 24th floor. Approximately one hundred, one zero-zero individuals involved. F-S-G major incident declared. High-rise procedure implemented. TL, ALP, EDBA, main control. Ground monitors, five jets. Safety cordon in place. Tactical Mode Oscar."

18.18 At 03.52.58 CU8 sent a message to the control room seeking the estimated time of arrival of EDBA. The response, at 03.53.15, was that the last information they had was that EDBA would be arriving in an hour.[47]

36 Sime witness statement [MET00010896] p. 6.
37 Sime witness statement [MET00010896] p. 7.
38 Sime witness statement [MET00010896] p. 7.
39 Sime witness statement [MET00010896] p. 7.
40 Sime witness statement [MET00010896] p. 7.
41 Harold witness statement [MET00010073] p. 3.
42 Harold witness statement [MET00010073] p. 4; Rice witness statement [MET00008038] pp. 9-10.
43 [LFB00023326].
44 AC Roe record of actions [MET00005405] p. 8.
45 O'Loughlin witness statement [MET00012563] p. 21.
46 ORR v 0.7 pp. 317-318; SIL at 03.48.14, p. 25.
47 ORR v 0.7 pp. 326-327.

18.19 At 03.58 the Commissioner confirmed that EDBA sets could be worn more than once, although that involved a departure from established practice.[48] All EDBA sets were ordered to the incident. That order reflected AC Roe's own assessment of the need for BA, having visited the tower and considered the reports of GM Goulbourne and Welch. At the same time, DAC Lee Drawbridge was appointed Sector Commander, Command Support.

Firefighter activity inside the tower (c. 03.45 – c. 04.00)

18.20 The following are examples of what firefighters were doing in the tower between around 03.45 and 04.00.

a. According to the LFB's telemetry data, nine firefighters tallied out from the bridgehead during this period.[49] One example of the deployments made during this period of 15 minutes is the instruction given to CM Paul Gray and FFs Daniel Pegram, Gary Hiscock, Benjamin Holehouse and Alan Hudson to carry out search and rescue operations on floor 9. They tallied out between 03.58 and 03.59.[50] Although they did not carry water, they were allocated an SDBA crew to protect their means of escape, if the need should arise.

b. CM Aldo Diana and FF Dean Nelson tallied back in at the bridgehead at 03.53.[51] They informed the entry control officer that they had been unable to reach Flat 133 (floor 16) as they had helped a number of casualties out and down the stairs.[52]

c. As the crew ascended from floor 4 to floor 5, the heat and smoke had been intense. The smoke logging worsened: on floor 4, the smoke was said to have been wispy to thick, but on floor 5 it was so dense that firefighters could not see in front of them.[53] FFs Cuthbert, Sonson, Lawrence and Wood searched floor 5, but the evidence of which flats they searched and whom, if anyone, they found is inconclusive. The crew's "end of wear times" were between 04.02 and 04.12.[54]

3 Conditions in the tower and the movement of occupants

Floor 23

Flat 204

18.21 The last call from Hesham Rahman received by any of the emergency services began at 03.20.31[55] and lasted 2 minutes and 38 seconds.[56] There followed two 999 calls from a caller who identified herself as Hesham Rahman's daughter. In the first of those calls, timed at 03.38.26, the caller told CRO Angie Gotts that Hesham Rahman had not been able to leave his flat and was now struggling to breathe.[57] In the second call, timed at 04.01.02, the caller told CRO Sarah Russell that Hesham Rahman was not responding at all any more. When the caller had last spoken to him, she could hear that he was struggling to breathe.[58] The caller is likely to

48 Cotton witness statement [MET00012492] pp. 20-21.
49 [LFB00023326].
50 [LFB00023326].
51 [LFB00023326].
52 Diana witness statement [MET00018800] p. 12.
53 Cuthbert witness statement [MET00012878] p. 5.
54 [LFB00023326].
55 [LFB00000420].
56 Mobbs Exhibit AM/1 [LFB00004695].
57 [LFB00000584].
58 [LFB00000596].

have been Anna Krivsoun who said she called 999 on Hesham Rahman's behalf. Anna Krivsoun last spoke to Hesham Rahman at 03.43. On this occasion, she could hear him coughing and struggling to breathe. She kept trying to call Hesham Rahman after this call but the phone was ringing without answer until around 06.00. At this point it stopped connecting.[59]

Flat 203

18.22 I have described the circumstances in which the last known contact was made with those in Flat 203. Rania Ibrahim and her two daughters, together with Isra Ibrahim and her mother, Fathia Ahmed Elsanousi, died in Flat 203.[60] The body of Abufras Ibrahim, the son of Fathia Ahmed Elsanousi and brother of Isra Ibrahim, was found outside the tower.[61] He had sheltered with his mother and sister in Flat 203. Based on AC Roe's contemporaneous note, it was at some time between 03.39 and 04.06 that Abufras Ibrahim fell from the tower. His body landed on the south side of the tower close to the walkway connecting it to Grenfell Walk. The body was subsequently moved by firefighters.[62]

Floor 22

Flat 193

18.23 The final call from Flat 193 was made at 03.24.02.[63] It lasted 14 minutes and 40 seconds and was taken by CRO Peter Duddy. By this time, Naomi Li and Lydia Liao had left the tower.[64] CRO Duddy asked how many people were left in the flat. The caller told him that there were 12 adults and seven children, but in fact there were five adults and six children.[65] They were all members of two families: Nadia Choucair and Bassem Choukair, their three children, Mierna, Fatima and Zainab Choucair and Nadia Choucair's mother, Sirria Choucair, and Nura Jemal and Hashim Kedir and their three children, Yaqub, Firdaws and Yahya Hashim.

18.24 It is likely that the caller was Hashim Kedir.[66] The call began with him telling CRO Duddy that they were trapped in Flat 193.[67] As it continued, CRO Duddy repeatedly advised that their only chance of survival was to cover their faces with wet cloths and make for the stairs. The option of a helicopter was not possible.[68] The caller said that those in Flat 193 had tried to leave, but had been unable to do so because of the smoke. With the fire approaching the flat, it was difficult to breathe or see anything. He said that they could not reach the door, let alone the staircase.[69]

18.25 Towards the end of the call, CRO Duddy again tried to persuade the caller to leave and was again told that it was not possible. The caller then called out "I love you" to others in the room, probably his children.[70]

59 Krivsoun witness statement [MET00039926] pp. 1-2.
60 MPS DVI report [MET00012528] p. 2
61 MPS DVI report [MET00012528] p. 53.
62 AC Roe record of actions [MET00005405] p. 5; O'Loughlin witness statement [MET00012563] p. 20; Murphy witness statement [MET000080587] p. 3; Cook witness statement [MET00007948] p. 9; Reynolds witness statement [MET00010894] pp.7-8; Stern witness statement [MET00012483] pp. 22-24.
63 [LFB00000422].
64 Annex A.
65 [LFB00000422] p. 4.
66 Duddy Day 42/239/4-10.
67 [LFB00000422] p. 2.
68 [LFB00000422] pp. 2, 3, 5-9.
69 [LFB00000422] p. 2, 3, 5, 6, 8, 9.
70 [LFB00000422] p. 8.

18.26 The call ended at 03.37.42. It is the last known contact with the occupants of Flat 193. All the eventual 11 occupants of Flat 193 were found and identified there.[71]

Flat 194

18.27 At 03.31.23, a CRO from Kent FRS spoke to Anthony Disson, who said that he was now on the stairs.[72] That appears to have been the last contact anyone had with him. He did not make any further 999 calls. Cordelia Disson, in a 999 call timed at 03.46.42, said that she had not heard any further from him.[73] Alfie Disson's partner, Chanade Prentice, told an MPS operator in a call at 03.54.00 that they had not had contact with him for the past half an hour.[74]

18.28 Anthony Disson was later found in the stairwell on floor 18.[75]

Floor 21

18.29 As I have said, Marcio Gomes's last 999 call had begun at 03.25.45.[76] It was taken by CRO Heidi Fox. By that time conditions in Flat 183 had worsened. It was no longer possible to stand comfortably because of the smoke, which was still coming in around the front door.[77] While the call was in progress the two families sheltering in Flat 183 left and made their way down the stairs.

18.30 At the start of the call Marcio Gomes told CRO Fox that it was not possible to leave and that they had already tried three times. She told him that she would try to make them a priority.[78] At about this point he told her that the fire had reached his home. His bedroom was opposite the front door. When he gave evidence Marcio Gomes said that, standing in front of his bedroom door, he had seen flames around the frame of the closed bedroom window, the glass of which had still been intact. Flames had begun to burn the curtain and other items in the bedroom. They had spread quickly along the ceiling of the bedroom.[79]

18.31 Everyone in Flat 183 covered themselves with wet towels. They opened the front door and made their way to the stairwell. It did not take long to cross the lobby to the stairwell door. Helen Gebremeskel went first followed by Andreia Perestrelo, then the three children and finally Marcio Gomes.[80] Helen Gebremeskel recalled that the lobby had been so dark that she could not see the light. She was familiar with the location of the stairs because she regularly used them. She pushed open the stairwell door and immediately became aware of the heat in the stairwell. It got hotter as she made her way down, although she could still use the handrail.[81] Andreia Perestrelo compared the conditions in Flat 183 before they left to a dry sauna. It was not possible to see anything in the lobby which was also as hot as a sauna. She could smell smoke and plastic and chemicals burning.[82]

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71 MPS DVI report [MET00012528] p. 5. These were Sirria Choucair, Bassem Choukair, Nadia Choucair, Mierna Choucair, Fatima Choucair, Zainab Choucair, Hashim Kedir, Nura Jemal, Yahya Hashim, Firdaws Hashim and Yaqub Hashim.
72 [LFB00000660].
73 [LFB00000661].
74 [INQ00000293].
75 DVI report [MET00012528] p. 6.
76 [LFB00055501].
77 Gomes Day 71(Fri)/87/6-24.
78 Gomes Day 71(Fri)/92/3-93/24.
79 Gomes Day 71(Fri)/32/17-33/1; Day 71(Fri)/94/15-96/21.
80 Gomes Day 71(Fri)/97/4-102/23.
81 Gebremeskel Day 68/181/3-184/5.
82 Perestrelo first witness statement [IWS00000349] p. 11.

18.32 Marcio Gomes thought that there was little difference between the conditions in the stairs and those in the lobby. He too compared the heat to a sauna. It was a dry and intense heat. He could not see anything and was shouting encouragement to the group who he assumed were ahead of him. Breathing became more difficult and his eyes were stinging. He used the handrail when making his way down and kept as low as possible. The handrail was hot to the touch but not hot enough to burn. The density of the smoke did not change as he went down.[83]

18.33 Helen Gebremeskel recalled that, from the start, she could feel water on the floor of the stairs. There was thick black smoke in the stairwell. The smoke made her feel dizzy and she thought she would lose consciousness. Helen Gebremeskel could not remember a moment when it had been easier to breathe. Although she was struggling, she did call out to her daughter. She also heard Marcio Gomes shouting, but at some point she ceased to hear him. It was only when she reached about floor 1 or 2 that she found fresh air.[84]

18.34 CRO Fox continually encouraged Marcio Gomes to go on, noting at times to a colleague that he was struggling for breath. He kept urging his daughters to continue making their way down.[85] Although he shouted out to his daughters, it was difficult for him to get enough air to do so.[86] There came a point when he thought that his wife and daughters were behind him. He could see little or nothing, but thought they were a floor above him. By that stage he was not listening to what CRO Fox was saying. He called out to them, stopped and then began making his way back up. He went up about one flight. To encourage his daughters, he shouted out to them that there was better air further down, but he did so just to keep them moving down. There had in truth been no improvement in the breathability of the air on the stairs at that point.[87]

18.35 CRO Fox told Marcio Gomes that he was a priority.[88] At about that time he noticed a light on the stairs and ran down. He met a firefighter whom he told about his daughters. He believed that had been at about floor 8. It was at that level or the one above that the smoke became thinner. A firefighter told Marcio Gomes that they would get his daughters. He therefore began to descend again. He then stood and waited and had a conversation with another firefighter who asked him which flat and floor his family had started from.[89] He thought he had reached floor 4 or below when he saw firefighters carry his oldest daughter and Helen Gebremeskel's daughter out. The air was breathable at that level.[90]

18.36 When he reached the mezzanine Marcio Gomes decided that he had to go back up the stairs to find his wife and his other daughter. He recalled that he had been panicking, which made his breathing more laboured. He did not go very far up the stairs before a firefighter took him out of the tower.[91] Outside, with the assistance of police officers, Marcio Gomes was able to find his wife and daughters.[92]

83 Gomes Day 71(Fri)/102/24-115/13; Gomes first witness statement [IWS00001078] p. 31.
84 Gebremeskel Day 68/182/11-187/15.
85 [LFB00055501] pp. 9, 10, 11, 12.
86 Gomes Day 71(Fri)/116/3-7.
87 Gomes Day 71(Fri)/116/18-126/25; Gomes first witness statement [IWS00001078] p. 32.
88 [LFB00055501] p. 19.
89 Gomes Day 71(Fri)/127/7-131-136/15.
90 Gomes Day 71(Fri)/136/6-139/12.
91 Gomes Day 71(Fri)/139/13-148/19.
92 Gomes first witness statement [IWS00001078] pp. 34-35; Perestrelo first witness statement [IWS00000349] p. 13.

18.37 The group came out of the tower at different times between 03.37 and 03.55, Marcio Gomes being the last of his family to leave at 03.55.01.[93] Although he did not know it, his family was probably ahead of him throughout their descent.

18.38 For her part, Helen Gebremeskel became separated from her daughter during their escape from the tower. When she reached the outside, she looked for her daughter and eventually learnt that she had been taken to hospital.[94]

Floor 16

18.39 At 03.33.46, having returned to Flat 133 after what had been his third attempt to leave, Sener Macit made another 999 call,[95] which was answered by CRO Gotts. Sener Macit told her that he and his wife had tried to leave three times. CRO Gotts advised him again to leave, to which he responded that they had nearly died when they had tried before. At that time, there was no fire in the flat, but it was all around and smoke was coming into the flat.[96] The conditions in Flat 133 were almost the same as those in the lobby; it was still just about bearable in the living room.[97]

18.40 Sener Macit believed that he had made another 999 call, in which he had again been advised to leave and in which he had said that he and his wife would not survive in the smoke. He recalled that the operator had told him that if he did not try then he would not survive in his flat.[98] However, there is no record of any such call having been made to any of the emergency services.

18.41 Sener Macit then heard cracking sounds and saw the windows on the south side of his living room shatter. Flames entered the living room. Hanife Macit saw the fire had reached one of the bedrooms. When Sener Macit looked into the other bedroom he saw that the curtains, bed and wardrobe were on fire. Paint was melting and dripping from the bedroom ceiling. He told his wife that they would have to leave and could not come back. They then doused themselves with buckets of water and left their home.[99]

18.42 The conditions in the lobby that the Macits encountered on this final attempt to leave were as before. It was very hot; they could not see for thick black smoke and had to feel their way to the stairwell.[100] When Sener Macit pushed opened the stairwell door, he and his wife found that conditions were the same as in the lobby. The handrail felt hot to the touch. They struggled to breathe, although both had wet cloths over their faces. The smoke made them cough constantly. They came across the bodies of other people on the stairs. As he descended, Senet Macit counted the floors. At floor 10 he encountered two firefighters, one of whom looked as though he were about to faint. They did not acknowledge his shouts for help. Sener Macit thought that the smoke lessened below floor 10 and by floor 8 visibility became better. As they reached the ground floor, firefighters assisted them out of the building.[101] Sener and Hanife Macit left the tower at 03.47.15 and 03.47.16.[102]

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93 Annex A.
94 Gebremeskel first witness statement [IWS00000933] pp. 10-11.
95 [LFB00000423].
96 Sener Macit second witness statement [IWS00001156] p. 5 and first witness statement [IWS00000069] p. 17.
97 Sener Macit Day 65/175/9-25.
98 Sener Macit Day 65/175/17.
99 Sener Macit first witness statement [IWS00000069] pp. 17-18 and second witness statement [IWS00001156] p. 5; Sener Macit Day 65/179/9-18; Hanife Macit [IWS00000904] p. 12.
100 Sener Macit first witness statement [IWS00000069] p. 18; Sener Macit Day 65/176/13-179/5; Day 65/181/9-13; Hanife Macit [IWS00000904] p. 12.
101 Sener Macit first witness statement [IWS00000069] pp. 19-21; Sener Macit Day 65/179/22-182/16; Hanife Macit [IWS00000904] pp. 12-13.
102 Annex A.

Floor 15

18.43 At 03.31.47 Christos Fairbairn in Flat 124 called 999.[103] The call, which was taken by CRO Pam Jones, lasted 21 minutes and 34 seconds.[104] Christos Fairbairn was alone in the kitchen.[105] He reported that the lights had gone out, but later said that they had come back on.[106] He thought that the fire was above him.[107] The fire had not reached his flat, but it was full of thick smoke.[108] During the call he repeatedly told CRO Jones that he was experiencing difficulty breathing.[109] He told her that the stairs were full of smoke.[110]

18.44 CRO Jones tried repeatedly to persuade Christos Fairbairn to leave and told him that he had to do so.[111] He was hesitant to leave because the smoke was too thick.[112] He had tried before, but had nearly fainted because of the smoke and thought that if he tried again he would die.[113] He told CRO Jones of a previous attempt to leave, in which he had managed to reach the stairs but had then been forced to retreat because there had been too much smoke.[114] At the end of the call, he told CRO Jones that he would try again to leave. She remained on the line until the connection was cut.[115]

18.45 In preparing to give his evidence to the Inquiry, Christos Fairbairn did not feel able to read the transcripts of the calls he had made to the emergency services or listen to recordings of those calls.[116] In his witness statement he described what can only have been his last call and his leaving the flat. He remembered the flat filling up with smoke and deciding that he had no choice but to make a run for it.[117]

18.46 He found the lobby on floor 15 full of smoke. With a wet t-shirt over his face, Christos Fairbairn then felt his way across the lobby and pushed the stairwell door open.[118] There was even more smoke in the stairwell than in the lobby. He ran down the stairs and described the conditions as "going through fog". He could not see through the smoke but could smell and taste it. He was not aware of anyone else, except on one occasion when he tripped and fell to the floor. He saw the body of a man with long hair, of large build and of Middle Eastern appearance.[119]

18.47 Christos Fairbairn thought that he had first seen light at about floor 3. There had been less smoke at that stage. He was feeling faint and calling for help. Two firefighters carried him down to the ground floor.[120] Christos Fairbairn left the tower at 03.54.26.[121]

103 [LFB00000424].
104 Mobbs Exhibit AM/1 [LFB00004695].
105 [LFB00000424] pp. 11, 12, 23.
106 [LFB00000424] pp. 14, 16.
107 [LFB00000424] pp. 6, 10.
108 [LFB00000424] p. 14.
109 [LFB00000424] pp. 4, 7, 21, 27.
110 [LFB00000424] p. 2.
111 [LFB00000424] pp. 2-6, 8, 11, 15, 17-19, 21-22, 24, 26.
112 [LFB00000424] pp. 10-11, 13, 15, 16.
113 [LFB00000424] pp. 6, 8, 9, 12, 13, 21, 22.
114 [LFB00000424] pp. 24-25.
115 [LFB00000424] pp. 28-30.
116 Fairbairn first witness statement [IWS00001025] p. 8.
117 Fairbairn first witness statement [IWS00001025] pp. 4-5.
118 Fairbairn first witness statement [IWS00001025] p. 6.
119 Fairbairn first witness statement [IWS00001025] pp. 6-7.
120 Fairbairn first witness statement [IWS00001025] p. 7.
121 Annex A.

Floor 11

18.48 At 03.33.46 Natasha Elcock in Flat 82 rang 999 again. She spoke to AOM Debbie Real.[122] She told her that her flat was now full of smoke and that the fire had reached her daughter's bedroom and the living room.[123] When AOM Real told her to leave, she replied that she had tried, but had been unable to do so. She did not know if the stairs were safe and the "front door" (meaning the lobby) was full of smoke and "baking hot".[124] The bath had been left running and firefighters were using hoses on the building. The floor of the flat was now wet.[125] Natasha Elcock asked for firefighters to be sent to the flat.[126] AOM Real told Natasha Elcock that she should remain in the flat until firefighters arrived, but that if the fire began to affect those in the flat, they would need to leave.[127] Asked by Natasha Elcock if firefighters had stopped evacuating people, AOM Real said that they were in the building and trying to get to all the floors.[128]

18.49 Flat 82 had two bedrooms, both facing south. Natasha Elcock's daughter had the bedroom closest to the living room; her own bedroom was opposite the front door.[129] At the time she made this call, Natasha Elcock was lying on the floor of her bedroom with her daughter. She was still receiving information from outside about the spread of the fire. She could see pieces of cladding falling past the bedroom window. The fire was in the panelling adjacent to the window. Natasha Elcock knew that the fire had reached her daughter's bedroom because her partner had put a fire out in that room. It was getting warmer and smokier in the flat.[130]

18.50 Asked about the advice to leave, Natasha Elcock said that she had resigned herself to the fact that she was going to die. She had expected firefighters to reach her flat by now. She had given up but she knew she had to get out for the sake of her children.[131]

Floor 10

Flat 73

18.51 I referred earlier in this Narrative (Periods 7 and 8) to a 999 call between Ann Chance and CRO Mitch Samson from Kent FRS which started at 02.57.32. The call was still continuing at 03.31,[132] at which time Ann Chance was still in Flat 73 with her cousin, mother and aunt. Later they moved to the living room.[133] Adam Supareogsanond (identified by Ann Chance during the call as her brother) was shouting from the window to attract attention.[134] Ann Chance told the CRO that she could see flames and debris outside the window. Smoke was coming through the front door into the flat. They were still unable to close the front door properly and the smoke had reached the living room.[135] The smoke in the lobby was still thick and hot.[136] Ann Chance reported that it was becoming cloudy in the living room. They were sitting

122 [LFB00000425].
123 [LFB00000425] pp. 2-3, 5.
124 [LFB00000425] pp. 3-5.
125 [LFB00000425] pp. 5-6, 10-11.
126 [LFB00000425] pp. 7, 8, 9.
127 [LFB00000425] pp. 5-8.
128 [LFB00000425] p. 11.
129 Elcock Day 70/5/13-6/2; Elcock Exhibit NE1 [IWS00000306] p. 1.
130 Elcock Day 70/94/23-97/11.
131 Elcock Day 70/97/12-98/10.
132 [LFB00055505].
133 [LFB00055505] p. 39.
134 [LFB00055505] pp. 33-35, 37.
135 [LFB00055505] pp. 42, 45-47, 50; Ann Chance first witness statement [IWS00000783] p. 7.
136 [LFB00055505] p. 52.

on the floor with the smoke at ceiling height. Later in the call she reported that the whole flat was cloudy.[137] Ann Chance was aware that the firefighters were spraying the tower with water and said that she could feel the jets of water.[138]

18.52 Throughout the second part of this call, the advice from CRO Samson concentrated on measures such as blocking doors and windows and using wet towels.[139] He told Ann Chance that Kent FRS had made the LFB aware of the situation.[140]

18.53 While Ann Chance was speaking to Kent FRS, other members of her family called 999. CRO Duddy took a call at 03.51.19 from Adam Supareogsanond. CRO Duddy made it clear from the start that the only option for the family was to leave the flat and make for the stairs.[141] Adam Supareogsanond told CRO Duddy that they had been told to stay and were now being told to get out,[142] how they had tried to get out several times,[143] and how, when they had opened the front door, the heat in the lobby was "very powerful".[144] He said that when they opened the front door smoke would come in,[145] that they could not see the stairs[146] and that one member of the family was disabled.[147] CRO Duddy repeated his advice to leave.

18.54 At around 04.00, Ann Chance, who was still talking to CRO Samson in the Kent FRS control room, told him "I've got the Fire Brigade saying I have to go down, I don't have a choice … they're telling me I have to go now".[148] That reflected the advice that other members of her family had been given by CRO Duddy in the LFB control room. He had told them that they had to get out and that it was their only choice.[149]

18.55 I return to the culmination of these two calls in Period 10 of this Narrative.

Floor 7

18.56 The CCTV footage from the camera on floor 7 shows that the lobby became completely smoke-logged at around 03.35.[150]

4 Events in the control room

18.57 Between 03.30 and 04.00, the control room received 20 emergency calls. Half of them were from members of the public, many of whom reported that they could see people trapped in the tower signalling for help by waving, shouting or flashing lights. The rest of the calls were from residents trapped in the tower or family members and friends of residents who were passing on information about their location. CRO Sharon Darby did not send any radio messages to CU7 with FSG call information during this period.

137 [LFB00055505] pp. 54-55, 62-63.
138 [LFB00055505] pp. 59, 61, 67.
139 [LFB00055505] pp. 40, 42-45, 50-51, 65, 71-73.
140 [LFB00055505] pp. 48, 56, 70.
141 [LFB00000426].
142 [LFB00000426] pp. 5-6.
143 [LFB00000426] pp. 2, 3, 6.
144 [LFB00000426] pp. 2, 3.
145 [LFB00000426] pp. 5, 10.
146 [LFB00000426] p. 11.
147 [LFB00000426] p. 7.
148 [LFB00055505] p. 4.
149 [LFB00055502].
150 03.01.00 [INQ00010923]; 03.35.39 [INQ00010925]; 03.36.45 [INQ00010924].

Requests for DSE

18.58 At 03.31.04, CRO Gotts completed the service request for the attendance of a DSE, representatives of the gas and electricity suppliers and a LALO. The service request had been created over an hour and 13 minutes earlier at 02.17.26 as a result of a request from CU8.[151] CRO Gotts had already made a call to RBKC at 03.17.21 asking for a DSE and a LALO to attend the incident.[152]

18.59 At 03.36.21, someone on CU8 sent a radio message to control asking for the estimated time of arrival of a DSE. He asked for a contact number so that they could get in touch with the DSE directly and offered "blue light" assistance because his attendance was a matter of priority.[153] CRO Darby added a message to the incident log at 03.37.32 containing the same information.

18.60 At 03.40.43, CRO Gotts called RBKC again and spoke to the same operator (Ashley). CRO Gotts emphasised the urgency of the matter and asked for an estimated time of arrival for the DSE.[154] However, the RBKC operator could not provide one or a direct contact number. CRO Gotts offered "blue light" assistance and explained to Ashley that it was "a real emergency", but she could not offer anything further.[155]

18.61 At 03.48.20, CU8 sent another radio message to the control room seeking further information about the attendance of a DSE.[156] At 03.48.56, CRO Darby responded, saying that they had been in touch with RBKC several times but that it had not been possible to obtain a contact number.[157] CU8 asked the control room to tell RBKC that it was vital that a DSE be obtained.[158]

18.62 As a result, at 03.48.57 CRO Gotts called RBKC again using the admin line. She spoke to an operator named Errin and asked once more for a DSE to attend and for an estimated time of arrival. CRO Gotts told Errin that they had a Major Incident at Grenfell Tower and really needed a DSE. In response, Errin told her that they had been making every effort to get hold of a DSE and were still doing so, and that she would "escalate" the matter.[159] CRO Gotts responded by saying that they would ask the London Resilience Group for help.[160]

18.63 At 03.49.25 and again at 03.50.46, CRO Darby sent radio messages to CU8 explaining that they were going to contact the London Resilience Group to ask for a DSE.[161] OM Alexandra Norman instructed CRO Gotts to page the London Resilience Group asking them to make contact with the Officer of the Watch.[162]

18.64 At 03.57.44, SOM Joanne Smith spoke to Matthew Hogan at the London Resilience Group and asked him to arrange for a DSE to attend the incident as they were having problems with the local council.[163] She offered blue light assistance. She told him that the building might collapse

151 SIL p. 22.
152 SIL p. 24; Admin line call [INQ00000211].
153 ORR v 0.7 p. 311.
154 [INQ00000210] p. 2.
155 [INQ00000210].
156 Radio message [LFB00002843].
157 Radio message [LFB00002880].
158 [LFB00002735].
159 [INQ00000212].
160 Control admin line [INQ00000212].
161 Radio messages [LFB00002605]; [LFB00002019].
162 Norman witness statement [MET000080589] p. 8.
163 ORR v 0.7 p. 331.

at any moment.[164] Matthew Hogan said he would give them a call.[165] At 04.01.27, AOM Real noted in the incident log that the London Resilience Group had responded by telling them to contact RBKC.[166]

18.65 At 04.52.18, Matthew Hogan spoke to SOM Smith in the control room and confirmed that an engineer was now on site and had been given the details of AC Richard Mills.[167] He could not give the engineer's name. SOM Smith thanked him and told him that they would pass the message on to the command unit.[168]

Continuation of events in the control room

18.66 At 03.31.47, CRO Jones took a call from Christos Fairbairn in Flat 124 on floor 15 that lasted 21 minutes and 34 seconds.[169] By that point Christos Fairbairn had already spoken to the LAS twice and North West FRS once, and he had also made two calls to the LFB control room.[170] He explained that he could not breathe and that the stairs were "full up with smoke". CRO Jones repeatedly told him to get wet towels to cover his mouth and nose and to feel his way down the stairs and out of the building.[171] At the end of the call she said:

> "Right, Christos. Please, I really need, I really need you to go. I really need you to try. If you're saying it's that bad, I really need you try. You've got to go out there and try."[172]

18.67 At 03.33.46, CRO Gotts spoke to Sener Macit in Flat 133 on floor 16, who reported that he and his wife had tried three times to get out but that they had run back inside as there was "so much smoke, we couldn't come out".[173] He had been advised at 02.41.31 by CRO Fox to leave the flat, but he had called back three times since that call saying that he and his wife could not leave.[174] Their daughter had also called the control room to report that her parents were on floor 16 and could not breathe.[175] CRO Gotts told him that he should try to get out, but, when Sener Macit said they could not get out she told him to block out the smoke and said that she would let the firefighters know that they were in the flat.[176]

18.68 At exactly the same moment, AOM Real took a call from Natasha Elcock in Flat 82 on floor 11.[177] That was Natasha Elcock's thirteenth 999 call, having previously spoken to the Essex FRS control room and the LFB control room. Natasha Elcock said that her flat was full of smoke and that there was a fire in the bedroom and the front room.[178] AOM Real told her to leave, but Natasha Elcock said that she had already tried and could not. Natasha Elcock asked her to take the flat and floor number. AOM Real did so and then advised her that if she could not get out, she should stay in the flat as long as she possibly could with all the gaps blocked

164 ORR v 0.7 p. 331.
165 ORR v 0.7 p. 331.
166 SIL p. 26.
167 ORR v 0.7 p. 382.
168 ORR v 0.7 p. 382.
169 [LFB00000424].
170 [INQ00000384]; [LFB00000648]; [MET00018759]; [LFB00000690]; [LFB00000415]; [INQ00000385]; [LFB00000421].
171 [LFB00000424].
172 [LFB00000424] p. 29.
173 [LFB00000423] p. 3.
174 [LFB00000372]; [LFB00000382]; [LFB00000398]; [LFB00000416].
175 [LFB00000560].
176 [LFB00000423] pp. 5-6.
177 [LFB00000425].
178 [LFB00000425] pp. 2-3.

up and lie on the floor with something over her mouth.[179] AOM Real then assured Natasha Elcock that she would tell the firefighters where they were and that the firefighters were trying to get to all of the floors.[180]

18.69 At 03.42.49, CU8 contacted CRO Darby to ask for the urgent attendance of a radio engineer to assist with channel 2, one of the channels on the fireground radios, which AC Roe wanted to set up as the command channel.[181] The radio engineer, Robert Donovan, had been monitoring the incident since 01.43.31, when he had been contacted by AOM Real. At 03.44.37, CRO Darby created a service request in the incident log which was revised at 03.55.04, and at 03.55.27 Robert Donovan was assigned to attend the incident.[182] He confirmed that he was on his way at 04.03.52.[183]

18.70 At 03.45.31, CU8 sent an informative message to the control room on behalf of AC Roe.[184] It was the first informative message AC Roe had sent since he had taken over as incident commander at 02.44.18, and it was only the third informative message providing the control room with details of the incident.[185] It was recorded in the SIL at 03.48.17.[186]

18.71 At 03.51.19, CRO Duddy received a call from members of the Supareogsanond family (Adam and Waewta) in Flat 73 on floor 10.[187] CRO Duddy told them that they needed to cover themselves with wet towels and clothes and leave the flat. When the caller explained that his mother and aunt were in the flat and were scared he said:

> "I know they're scared, OK, but you have to tell them this is their only choice".

He continued to repeat the same advice in the same direct language, explaining that they had to leave immediately, until the call ended.[188]

18.72 At 03.53.10, CRO Yvonne Adams received a call from Saba Araya who was outside the tower. She had called about her sister, Meron Woldeselassie Araya, who was trapped in Flat 74 on floor 10 with Lina Hamide.[189] CRO Adams advised that they needed to leave the flat. Meron Woldeselassie Araya told CRO Adams that she had spoken to the police earlier on who had told them that they should not leave the flat. CRO Adams explained that the advice had changed and they needed to get out of the building.[190] Meron Woldeselassie Araya told her that the door of the flat was jammed. CRO Adams told her that she would pass that information on to the crews and they needed to block out the smoke.[191] The entry for Flat 74 on the right-hand whiteboard in the control room has the phrase "door jammed" next to it, indicating that CRO Adams had given the information to SM Jason Oliff to relay to the incident ground.[192]

179 [LFB00000425] p. 8.
180 [LFB00000425] p. 11.
181 ORR v 0.7 p. 315; Johnson witness statement [MET00013235] p. 10; AC Roe record of actions [MET00005405] p. 3.
182 SIL pp. 25, 14.
183 SIL p. 14.
184 The informative message came by way of a series of radio messages which were then repeated back in two radio messages by CRO Darby: [LFB00003044] and [LFB00002750].
185 SIL pp. 23-25.
186 SIL p. 25.
187 Control Report pp. 139-140; [LFB00000426].
188 [LFB00000426] pp. 4-13.
189 [LFB00000592].
190 [LFB00000592] p. 5.
191 [LFB00000592] p. 6.
192 Whiteboard Oliff Exhibit JAO/5 [MET00016906].

18.73 At 03.57.28, Donna Bonifacio, the daughter-in-law of Elpidio Bonifacio, who was trapped in Flat 83 on floor 11 called the control room and spoke to CRO Russell.[193] That was her second 999 call. She told CRO Russell that she had spoken to her father-in-law and had passed on to him the advice to get out and go down the stairs that she had been given during her previous call, but, she said, he needed help and could not get out on his own.[194] CRO Russell confirmed that the message had been passed to the crews, but said that she would remind them.[195] However, the information on the whiteboard relating to Flat 83 was not altered as a result of that call.[196]

5 Actions of the MPS, the LAS, RBKC and the TMO

18.74 During this period, police officers at the scene continued to generate messages about individuals trapped in the building. For example, at 03.47.36 an officer sent a message to MetCC informing it that two adults were trapped in Flat 113 on floor 13.[197]

18.75 At 03.37 Nickolas Layton called David Kerry shortly after the first TCG meeting had finished. He gave him the latest information on the situation and told him that one corner of the building was in danger of collapse.[198] In his evidence, he accepted that that had not alerted him to the urgent need for the attendance of a DSE, but conceded that it should have done so.[199] He accepted that he had not responded to AC Roe's request for a DSE at that stage, despite the fact that at the first TCG meeting AC Roe had asked for a DSE to attend. It is possible, however, that he had not heard AC Roe's request on that occasion.[200]

18.76 At 03.38.06 the NPAS helicopter reported that the roof of the tower was "becoming very hot" and sought confirmation from the LFB that those flats had been evacuated.

18.77 As I have said, at 03.40.43 and again at 03.48.57 CRO Gotts spoke to RBKC and urged them to hasten the attendance of a DSE, emphasising the urgency, but at that stage RBKC had not been able to obtain anyone.

18.78 At 03.58.03 Detective Superintendent Paul Warnett relayed the following message from Commissioner Cotton, which was sent by general radio broadcast from the police incident control room at Lambeth:[201]

> "THE ADVICE FROM THE LFB IS TO TRY AND SELF-EVACUATE, THERE IS NO GUARANTEE THAT THE LFB WILL BE ABLE TO GO IN AND EVACUATE PEOPLE DUE TO THE SAFETY OF THE BUILDING AND POSSIBLE COLLAPSE."[202]

18.79 That message was prompted by a discussion that Detective Superintendent Warnett had had with Inspector Nicholas Thatcher a little earlier as a result of the latter's concern that not all officers at the scene had heard or understood the message broadcast at 03.10.56 informing them about the change in the LFB's advice. His concern arose from having heard a series of radio messages about the locations of trapped residents.[203] The message had not been heard by Commander Neil Jerome, because he had still been on his way to Lambeth when it had

193 [LFB00000593].
194 [LFB00000593] p. 3.
195 [LFB00000593] p. 5.
196 Whiteboard [MET00016906].
197 CAD 482 p. 23.
198 David Kerry's Emergency Event Log, entry 10 [RBK00028849].
199 Layton Day 74/50/1-4.
200 Layton Day 74/49/5-50/4.
201 Jerome witness statement [MET00023286] pp. 11, 12 paragraph 39; Warnett witness statement [MET000080605] p. 11.
202 CAD 482 p. 28; Acting Inspector Thatcher's body-worn video [INQ00000527].
203 Thatcher second witness statement [MET00023284] p. 10; Thatcher Day 71(Mon)/131/1-132/11.

been broadcast. Indeed, he had not received any messages about the change in advice to residents during the entire period between the end of his calls with Chief Inspector Duane Barrett at 02.40 or 02.45 and his arrival at Lambeth at 04.10.[204]

18.80 During this period, the only TMO employee previously at the incident, Hash Chamchoun, was joined by a number of senior TMO managers. Robert Black was unable to say with certainty at what time he had arrived, believing that it had been at around 02.30, but he sent an email at 03.26.45[205] (corrected time) to colleagues informing them of the fire and saying "I am going in". He sent that email from his handheld device while on his way to the incident.[206] That broadly accords with the evidence given by other witnesses. Hash Chamchoun placed Robert Black's arrival at around 03:30 and recalled having received a call from him asking to be collected from the police cordon.[207] On arrival at the incident, Robert Black spoke to Hash Chamchoun who introduced him to Nickolas Layton.[208] Nickolas Layton said he believed Robert Black had arrived between 03.30 and 03.45.[209]

18.81 Teresa Brown, Director of Housing for the TMO, put the time of her arrival at the incident at 03.50 on the basis of her cab receipt.[210]

204 Jerome Day 71(Mon)/202/19-204/2.
205 Email included as part of chain [TMO10036956].
206 Black Day 74/160/15-16; 161/20.
207 Chamchoun Day 75/155/13-21.
208 Black Day 74/169/11-21.
209 Layton Day 74/36/14.
210 Brown Day 75/61/8-12.

Chapter 19
Period 10: 04.00-05.00

1 External fire spread

19.1 At 04.02 the fire on the south and west faces began converging at the top of the southern corner of the west face between columns C1 and D1, although at that time a small gap could still be seen between the two flame fronts, as shown in the following image:[1]

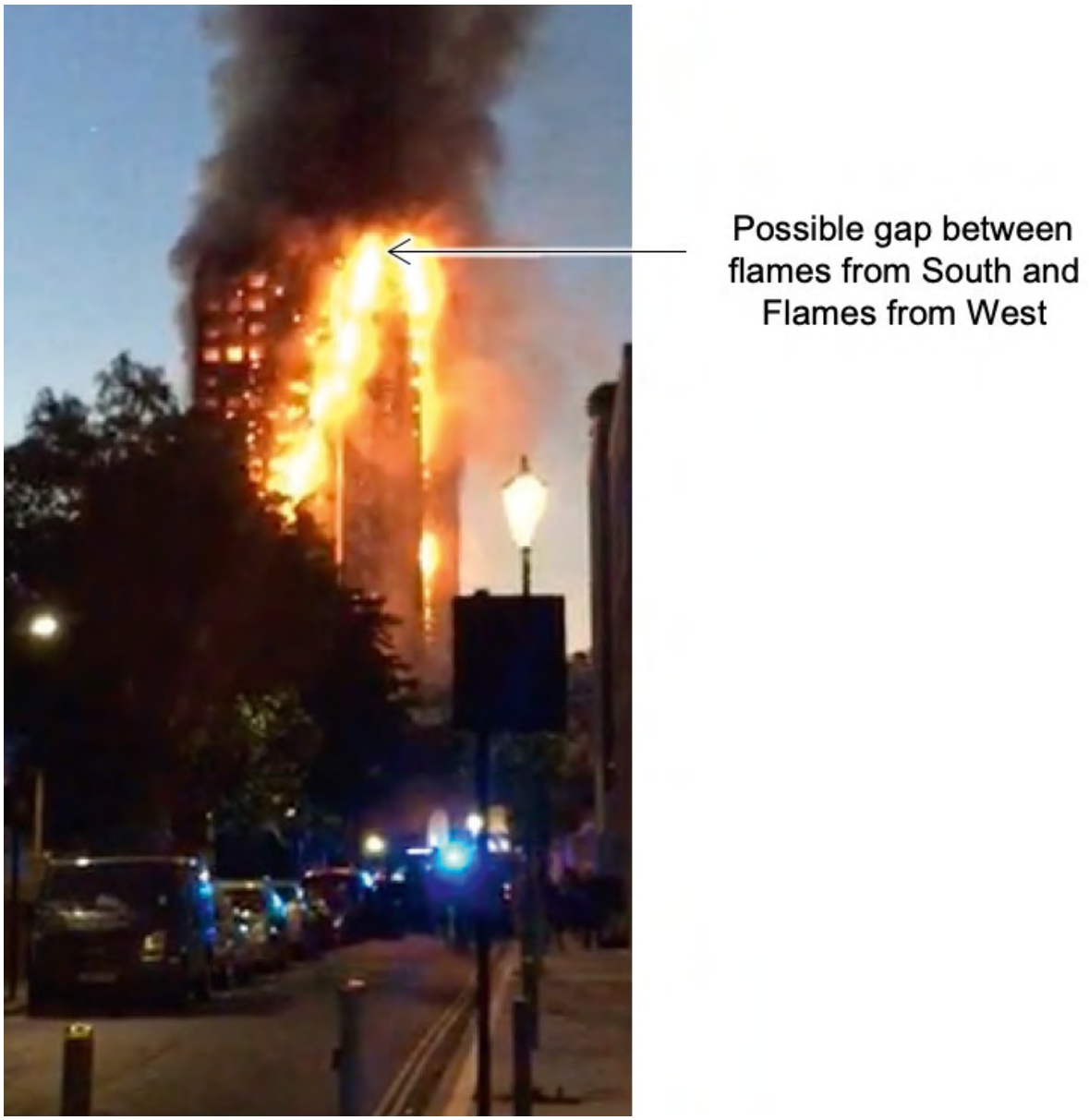

Figure 19.1

[1] Professor Bisby supplemental report [LBYS0000001] p. 222 sections 1054-1056; Fig. 146 p. 227.

19.2 By 04.03 Flats 64, 74, 84, 94, 104 and 114 lower down on the west face had been affected by the diagonal movement of the fire between floors 9 and 14.[2]

19.3 By 04.08 the flames had converged at the top of the west face, between columns C1 and D1, as can be seen from this image taken from the footage captured at that time by the NPAS helicopter:[3]

Figure 19.2

19.4 At about the same time, the flames spread down columns C1 and D1 on the west face and on the south-west corner column, as can be seen from this image taken after 04.08:[4]

[2] Dr Lane supplemental report [BLAS0000012] p. 12.
[3] Professor Bisby supplemental report [LBYS0000001] p. 222 section 1057, Fig. 147 p. 227.
[4] Professor Bisby supplemental report [LBYS0000001] p. 188 Fig. 109.

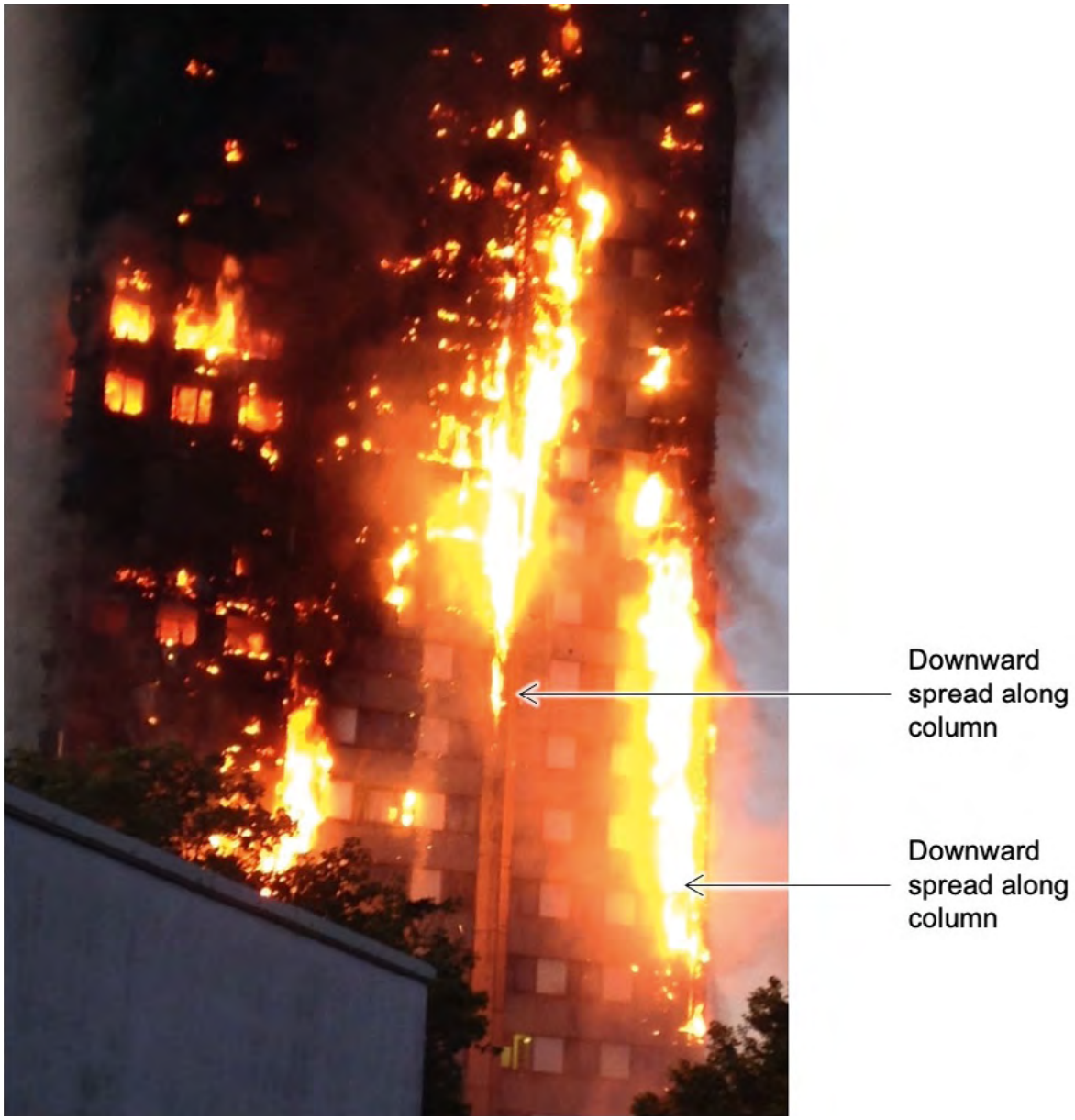

Figure 19.3

19.5 By 04.31 Flat 73 on floor 10 and Flats 24, 34, 44 and 54 on floors 5 to 8 on the west and south-west faces of the tower respectively had become involved.[5]

19.6 By 04.44 Flats 43, 53 and 63 on floors 7 to 9 at the south-west corner of the building had been engulfed by the flames.

[5] Dr Lane supplemental report [BLAS0000012] p. 12.

2 Events on the incident ground

SM Peter Wolfenden's FSG role in the ground floor lobby

19.7 As noted in Period 8, by around 04.00 SM Wolfenden was in the ground floor lobby, overseeing or assisting WM Glynn Williams and WM Paul Watson in the management of FSG information. WM Williams recalled that at around 04.00 the system had changed: instead of using runners to carry slips of paper, radio communication was established between SM Wolfenden and CU7 for the transfer of FSG information.[6]

19.8 At some point after SM Wolfenden had begun dealing with FSG information (although it is not possible to say precisely when) there was a discussion between the officers in the lobby managing that information and those at the bridgehead on the other side of the glass doors on the ground floor to whom it had to be conveyed. The discussion appears to have resulted from a concern that some BA crews were being briefed by WM Watson as they waited in the lobby but were being given a second, contradictory, briefing when they reached the bridgehead and were about to be deployed. The evidence relating to that discussion is patchy and does not enable me to make any more detailed findings about who was involved in it or when exactly it took place. The fact that concerns were voiced about such matters is significant, however, because there is evidence that at about that time BA crews who had initially been briefed to carry out rescue operations were given different instructions shortly before they left the bridgehead. Examples can be found in the deployments of CM Jamie Mayne and FF Marcus Lundquist and FFs Matthew Harold, Richard Peacock and David Friend.

Deployment of SM Gareth Cook to floors 16 and 18

19.9 At 04.04.27 SM Cook tallied out from the bridgehead accompanied by CM Ben Gallagher.[7] Following an earlier conversation between GM Patrick Goulbourne and GM Richard Welch, it had been decided that an experienced officer should be sent to investigate reports of 10 people trapped in one flat on floor 16 and 11 people trapped in another on floor 18. At some point between floors 6 and 12, SM Cook's alarm sounded and CM Gallagher's air level was also low.[8] They decided to return to the bridgehead. Their "end of wear" times were 04.28.56 and 04.29.26.[9] SM Cook was, therefore, unable to provide GM Goulbourne and GM Welch with any information about the occupants of the flats on floors 16 and 18, their physical condition or smoke conditions on those floors. It is worth noting, however, that the FSG information does not support the suggestion that so many people remained trapped on those floors at that time.

AC Andrew Roe's return to CU8

19.10 At 04.06 or thereabouts AC Roe returned to CU8 from his inspection of the tower.[10] The Commissioner told him of her decision to allow firefighters to wear BA equipment more than once and of her order to call all those trained to wear EDBA to the incident.[11] AC Roe, in turn, briefed her on his assessment of conditions inside the tower. He reported that the cladding and filler panels were burning and that there had been some spalling of concrete on what were described as the building's "outer edges", but his conclusion was that the tower's

6 Williams Day 31/152/23-153/8.
7 [LFB00023326] p. 3.
8 G. Cook witness statement [MET00007882] pp. 14-15; Goulbourne witness statement [MET00010759] p. 7.
9 [LFB00023326].
10 Roe witness statement [MET00007520] p. 8.
11 Cotton witness statement [MET00012492] pp. 20-21; Roe Log [MET00005404].

structure, and in particular its core, remained sound.[12] On the basis of what he had seen, AC Roe's considered view was that, despite those conditions, and having regard to the 2004 Act[13] and the Human Rights Act 1998, he was justified in continuing to commit crews into the building.[14]

Arrival of EDBA cylinders and sets

19.11 At 04.08.40 the control room sent CU8 a message to confirm that 78 EDBA cylinders with 48 sets had arrived at the fire ground (but not necessarily at the pre-ordained rendezvous point at Ladbroke Grove).[15]

AC Roe's instructions to DAC Lee Drawbridge

19.12 DAC Drawbridge had earlier arrived at the scene and, in his role as Sector Commander for Safety, had reported to CU1, which was parked on Latimer Road. Unable to make radio contact with CU1, AC Roe went to CU1 at around 04.11 to brief DAC Drawbridge directly. The Commissioner remained on CU8.[16]

19.13 DAC Drawbridge's instructions from AC Roe were, essentially, twofold. As an immediate priority he was to identify the available resources on the fire ground and find out how they were being deployed. In particular, he was to liaise directly with DAC Andrew O'Loughlin to find out how quickly BA resources were being used up.[17] On the basis of the information he had obtained, he was to decide the nature and scale of the immediate requirement for relief crews and to report to AC Roe, who would make the necessary order and send the message to the control room.[18]

19.14 AC Roe returned to CU8 by way of the tower and BA main control.[19] In the tower, at 04.22 he received a briefing from DAC O'Loughlin, the gist of which was recorded in his log.[20] In short, AC Roe was told that there were no "active" FSG calls, but that the most recent had been on floors 7-9. The Roe Log also recorded a briefing from GM Michael Mulholland, who reported that EDBA crews had reached floor 10 and SDBA crews had been committed to floors 4 and 5 and 7 to 9.[21]

19.15 GMs Goulbourne and Welch also told AC Roe that BA crews were being deployed to floors 12 and 13.[22] He instructed them to deploy SDBA crews as much as possible to follow behind EDBA crews, in order to make the best use of resources.[23] He reiterated his view that the structure was sound and that they could therefore continue to commit crews.

19.16 Having visited BA main control, AC Roe was satisfied that this was "working well", although he did not recall whether he had asked the officers in charge about the turnover of EDBA specifically. Firefighters were resting and cylinders were being stockpiled at a supply dump. He estimated there were 100 or so firefighters congregated in the holding area, so he gave

12 AC Roe record of actions [MET00005405].
13 This has been defined in the Overview Chapter.
14 Roe witness statement [MET00007520] p. 9.
15 ORR v 0.7 p. 339.
16 Roe witness statement [MET00007520] p. 9.
17 Roe witness statement [MET00007520] p. 9.
18 Roe witness statement [MET00007520] p. 9.
19 Roe witness statement [MET00007520] p. 9.
20 Roe Log [MET00005404].
21 Roe Log [MET00005404] p. 3.
22 Roe witness statement [MET00007520] p. 9.
23 Roe witness statement [MET00007520] p. 9.

them the latest information. He repeated his assessment that the building was sound and that, despite the difficult conditions, it was appropriate to continue to commit firefighters into the building in order to try to rescue those still trapped inside the tower.[24]

Arrival of UK Power Networks

19.17 At 04.11.40 the control room sent a message to CU8 to confirm that UK Power Networks had arrived on site.[25]

Firefighter activity inside the tower (c. 04.00-04.15)

19.18 The following are examples of what firefighters were doing inside the tower during the period between around 04.00 and 04.15:

a. According to the LFB's telemetry data, 5 (or perhaps 6[26]) firefighters tallied out under air during this period.[27] Between 04.12 and 04.14, or thereabouts, FFs Steven Page and Michael Worman together with FFs Oliver Desforges and Richard Mitchell, were deployed, first to fight the fire on floor 4 and then to find a working hose and proceed to floor 5 to fight the fire there.[28] They were also directed to protect access routes for crews coming in and out of the tower.[29]

b. CM Paul Gray's crew entered the lobby on floor 9, where visibility was said to be "about two feet".[30] Three flats on floor 9 were found to be empty.[31] As they were searching a fourth flat, the crew received a priority radio message which was difficult to hear but which CM Gray interpreted as a direction to go up to floor 11.[32] He did not hear why they were being sent to floor 11, but when they got there and entered the lobby, CM Gray encountered what he described as "extreme heat" and knew that "almost every flat on that floor was on fire".[33] CM Gray recalled that when he had stood up to speak to the crew he had instantly felt the heat on the back of his neck through his flash hood.[34] As he had no firefighting equipment, CM Gray decided that the conditions were too dangerous to go further, so he instructed his crew to leave the lobby.

c. At around 04.02, on his return to the bridgehead, FF Michael Wood told the bridgehead that floor 5 had been searched and was clear.[35]

d. FFs James Cuthbert and Methusael Sonson were instructed by radio to go to Flat 84 on floor 8, but soon after receiving the message their radio no longer worked. FF Sonson described that as "quite daunting", as they could not make contact with entry control or anyone else and had no firefighting media.[36] At around floor 10 (the precise location is not clear), they both heard cries for help. On entering the lobby on floor 10 they found the flats on the left-hand side of the lobby alight. The crew found two women in the

24 Roe witness statement [MET00007520] p. 9; AC Roe record of actions.
25 ORR v 0.7 p. 342.
26 The lack of clarity is due to corrupted data in the telemetry sheet.
27 [LFB00023326].
28 [LFB00023326].
29 E.g., Worman witness statement [MET00012575] p. 10.
30 Gray witness statement [MET00010806] p. 9.
31 These are thought to be Flats 61, 62 and 63.
32 Gray witness statement [MET00010806] p. 10.
33 Gray witness statement [MET00010806] p. 10.
34 Gray witness statement [MET00010806] p. 11.
35 Wood witness statement [MET00010928] p. 15.
36 Sonson witness statement [MET00010824] p. 8.

lobby and brought them down the stairs.[37] They were probably Lina Hamide and Meron Woldeselassie Araya, judging by the descriptions given by FF Cuthbert.

Firefighter activity inside the tower (c. 04.15-04.30)

19.19 The following are examples of what firefighters were doing inside the tower during the period between around 04.15 and 04.30:

a. FFs Page and Worman tallied out at 04.12.02 and 04.12.08 and reached floor 4 where they found a firefighting branch and hose. They conducted a right-hand search of the floor and found a flat, believed to be Flat 16, fully alight. Due to low water pressure, the crew were unable to extinguish even small pockets of fire. Using a thermal imaging camera they searched for casualties, but did not find any. Once they had completed their search of floor 4, FFs Page and Worman went to floor 5, where they searched the flats to which they were able to gain entry.[38]

b. FFs Desforges and Mitchell tallied out at 04.14.12[39] having been told to break in doors and fight fire.[40] They also reached floor 4, where they also found a hose and carried out a right-hand search of the floor. Both firefighters said that low water pressure had prevented them from effectively containing or extinguishing fires in the flats, all of which were completely alight. The pair left floor 4 and made their way to floor 5. As before, they carried out a right-hand search, but found no casualties. They then went up to floor 6 where, again, they carried out a right-hand search and found no casualties. FF Desforges' alarm sounded, so they returned to the bridgehead.[41]

c. CM Melchizedek Anderson, FFs Dean Abbess, Robert Chart and Paul Harris were deployed to Flats 81, 82, 83 and 84 on floor 11. They tallied out at times between 04.19.01 and 04.22.52.[42] On their way up the stairs, the crew found a female casualty, now known to be Khadija Saye.[43] As they were unable to contact the bridgehead by radio, FFs Chart and Harris returned to the bridgehead to inform them of the casualty and to seek assistance.[44]

d. Soon after, a second crew of four firefighters (FFs Parvinder Singh, Paul Howard, Craig Edwards and Anthony Welden) were also deployed to search Flats 81 to 84 on floor 11. GM Goulbourne specifically briefed the crew that a mother and child were in Flat 82 in need of rescue.[45] The crew tallied out from the bridgehead between 04.27.24 and 04.30.52.[46]

e. CM Gray's crew had "end of wear times" between 04.22.25 and 04.23.28. CM Gray briefed GM Goulbourne about the deployment.

f. CM Anderson and FF Abbess continued to floor 11. When they reached the level of the lobby, the heat was so intense that they could not enter it. They decided to go up to floor 12 and, once there, they conducted a right-hand search. They tried, but failed, to

37 Cuthbert witness statement [MET00012878] p. 10; Sonson witness statement [MET00010824] p. 9.
38 Worman witness statement [MET00012575] p. 11.
39 The LFB telemetry data has no entry for FF Richard Mitchell's tally out time.
40 FF Richard Mitchell's telemetry data is corrupted and his precise tally out time is unknown. As to instructions, refer to Richard Mitchell witness statement [MET000086063] p. 6.
41 Richard Mitchell witness statement [MET000086063] p. 6; Desforges witness statement [MET00008013] p. 6.
42 [LFB00023326] p. 3.
43 FF Harris believes that it might have been about floor 9, witness statement [MET000083298] p. 9, which is consistent with her being recovered from the lobby on floor 9: MPS DVI report [MET00012528] p. 11.
44 Paul Harris witness statement [MET000083298] p. 10.
45 Welden witness statement [MET00012574] p. 7.
46 [LFB00023326] p. 3.

break down the door of Flat 96, but by chance they met another crew who took over the attempt while they moved on to Flat 95. They gained entry to Flat 95 and carried out a search, but found no casualties. By that time FF Abbess was exhausted, so they decided to return to the bridgehead.[47]

g. Another crew consisting of four firefighters (CM Ian Barritt, FFs Robbie Gentry, Donovan Reid and David De Costa), were deployed to search floor 9.[48] The crew tallied out from the bridgehead at times between 04.35.02 and 04.38.30.[49]

The second TCG meeting (04.34)

19.20 The Commissioner chaired the second TCG meeting while AC Roe was making his way back from CU1 by way of the tower and BA main control.[50] The meeting started at 04.34; AC Roe arrived shortly after at 04.35 or thereabouts.[51] The Commissioner reported that the DSE was on his way "under blue lights". AC Roe provided the meeting with his assessment of the situation. He told those present that BA crews were reaching floors 12 and 13 and that there were many casualties. A 20-pump relief had been ordered and it was important to maintain discipline because falling debris was a danger. RBKC reported that rest centres had been set up on Shepherd's Bush Green. The MPS said that 30 police officers were at the scene. The meeting concluded at 04.50.[52]

Request for fuel for pumping appliances

19.21 At 04.35.58 CU8 sent a message to the control room asking for an OSU to be sent with diesel to re-fuel the appliances. As all OSUs were at the incident, the control room suggested that one should be released to collect the necessary fuel.[53]

Firefighter activity in and around the tower (c. 04.30-04.45)

19.22 The following are examples of what firefighters were doing in and around the tower during the period between around 04.30 and 04.45:

a. GM Goulbourne instructed FFs Alan Hanlon and Richard Benaicha to fight the fire on floor 5 and protect access and egress for those firefighters carrying out rescues.[54] They tallied out at 04.40.17 and 04.40.18.[55] They reached floor 4, which, although smoky, showed no signs of continuing fire.[56] FF Benaicha recalled that, as he had gone up the tower, visibility had not been a problem until he reached floor 5.[57]

b. GM Goulbourne briefed FFs Ian Moore and Russell Hall to go to floor 11 in response to an FSG call.[58]

47 Anderson note [MET00005480].
48 Barritt witness statement [MET000083284] p. 4.
49 [LFB00023326] p. 3.
50 Roe Log [MET00005404] and AC Roe record of actions [MET00005405].
51 Roe witness statement [MET00007520] p. 10.
52 Roe witness statement [MET00007520] p. 10.
53 ORR v 0.7 pp. 361-362.
54 Benaicha witness statement [MET00012774] p. 10.
55 [LFB00023326].
56 Alan Hanlon witness statement [MET00012549] p. 5.
57 Benaicha witness statement [MET00012774] p. 10.
58 Ian Moore witness statement [MET00010081] p. 6.

c. Although deployed to floor 9, CM Barritt and FFs Reid, Gentry and Da Costa went to floor 11.[59] They entered the lobby and started to carry out a left-hand search of the flats on that floor. As they entered the lobby, they saw Natasha Elcock, her daughter and her partner, Anthony Smith, leaving the first flat on the left. They escorted them to the stairs and took them down.[60]

d. Outside the tower, the crew of A245 were helping a casualty who could be seen from a window.

19.23 It is also clear that, around this time, decisions were being made not to deploy BA crews beyond certain upper floors in the tower. A photograph of one of the whiteboards on CU7 records the following:

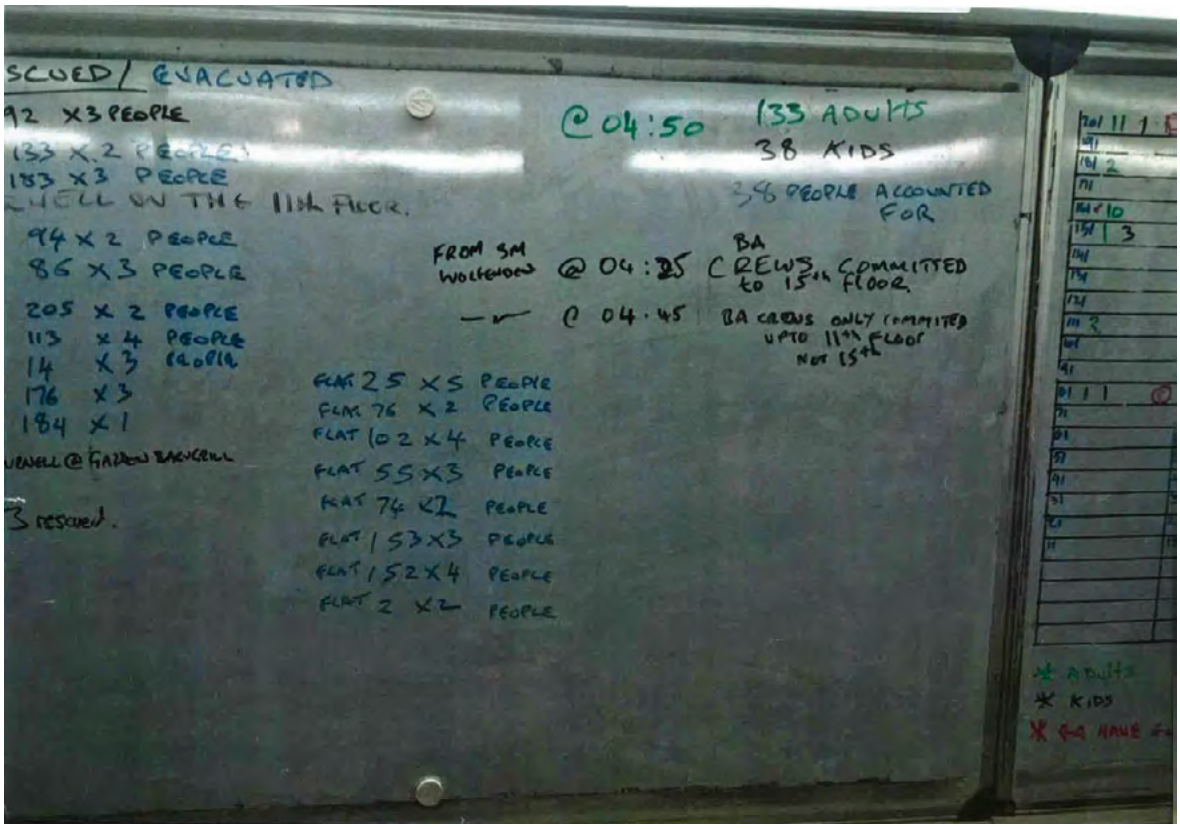

Figure 19.4

19.24 SM Wolfenden recalled that the officers in the ground floor lobby had discussed the second note regarding floor 11. SM Wolfenden also remembered that he, SM Daniel Egan and WM Williams only became aware of this decision about an hour after it had been made by the officers at the bridgehead. SM Wolfenden asked for the decision to be recorded.

Arrival of the DSE

19.25 The Roe Log records that the DSE arrived at the leisure centre at 04.51 in preparation for providing advice about the structural integrity of the tower.[61]

[59] Although CM Barritt and FF Gentry said they went to floor 12, FF Da Costa said in his CN [MET00005452] that they went to floor 11 which is the more likely, given whom they rescued.

[60] Barritt witness statement [MET000083284] p. 4.

[61] Roe Log [MET00005404]; Roe witness statement [MET00007520] p. 10.

UK Power Networks

19.26 At around 04.53, a representative of UK Power Networks arrived at CU8. In response to a question from AC Roe as to whether there was any particular hazard associated with the building, he said that there was a sub-station in the tower's basement which supplied three other tower blocks. AC Roe concluded that, as the basement was not involved in the fire, the sub-station should remain in operation in order to provide lighting for operational crews and in the ground floor lobby.[62]

Information about resources

19.27 At around 04.53 SM Mulholland informed AC Roe about the current use of resources.[63] AC Roe's contemporaneous log recorded that 20 EDBA and 15 SDBA sets were in use every hour. EDBA crews were deployed up to floor 12 and SDBA crews were deployed up to floor 7.

19.28 At about that time AC Roe again asked for a PPV fan to clear smoke from the lobby and he asked the crew on the command unit why they still did not have plans of the building.[64] A response was recorded in the Roe Log at 04.53 that "CU staff report building plans should be in fire box in the lobby". As to this request, as noted in Period 8, AC Roe recalled having asked for plans at the 03.20 meeting, but the note of the 04.53 meeting was the first mention of plans to be recorded in the Roe Log. He also asked whether there was sufficient space to deploy an ALP.[65] GM Mulholland said that he would pass the question about the deployment of an ALP to DAC O'Loughlin for an answer. The crew of the command unit confirmed that no plans were recorded on the ORD, but that a set should be in a premises information box in the lobby on the ground floor. AC Roe ordered that information to be sent to the fire sector and made a note to repeat his request for plans to RBKC's LALO at the next TCG meeting.[66]

Firefighter activity inside and outside the tower (c. 04.45-05.00)

19.29 The following are examples of what firefighters were doing inside the tower during the period between around 04.45 and 05.00:

a. FFs Hanlon and Benaicha, who had tallied out at 04.40.17 and 04.40.18, reached floor 5 where they found a discarded fire hose in the stairwell. They entered the lobby and carried out a right-hand search. The entrance door of the first flat which they found (probably Flat 26) was locked, so they moved to the next flat (probably Flat 25). They were able to enter it and found a fire, on which they sprayed water. By that stage FF Benaicha's air was running low, so they left. As they did so, they banged on the front doors of the other flats on floor 11 and shouted through the letterboxes. There were no answers. As their alarms had sounded, they returned to the bridgehead. Their "end of wear time" is recorded as 04.59.30 and 04.59.51.[67]

b. FFs Moore and Hall reached floor 11. As they entered the lobby, the conditions were very hot. FF Hall checked the temperature on the TIC he was carrying, which showed a reading of 1,000°C.[68] They went down low so that they could search the floor. They were unable to identify the numbers of the flats. In each case they made a noise to attract

62 Roe witness statement [MET00007520] p. 10; AC Roe record of actions [MET00005404].
63 Roe witness statement [MET00007520] p. 10; [MET00005404]; AC Roe record of actions.
64 Roe witness statement [MET00007520] p. 10.
65 Roe witness statement [MET00007520] p. 10; AC Roe record of actions.
66 Roe witness statement [MET00007520] pp. 10-11.
67 [LFB00023326] p. 3.
68 Russell Hall witness statement [MET00012548] p. 7.

attention, but there was no reaction from inside any of the flats. They left and made their way to floor 12.[69]

c. CM Paul Charity and FFs Nicky Sanders and Leslie Tucker were briefed to search Flats 81 to 84 on floor 11 and Flats 92, 94 and 95 on floor 12.[70] The crew tallied out between 04.47.18 and 04.50.02.[71] They searched floor 11 first, then floor 12, before returning to floor 11.[72] FF Sanders recalled that the thermal imaging camera indicated that the temperature in the lobby on floor 11 was 1,000°C.[73] FF Sanders tried to call the bridgehead by radio to ask for hose and water but the radio was not working.[74] When they reached floor 12, they found the lobby door wedged open by an enforcer, but conditions were not as severe as those they had encountered on floor 11.[75] The crew searched the flats to which they had been deployed, but found no casualties.

d. Sometime during this period, FFs Singh, Howard, Edwards and Welden, who had been sent to floor 11, realised that they had gone to floor 12 by mistake and went back down to floor 11. FF Welden tried to enter the lobby on floor 11 but found the conditions too intense for him to go any further. As a result, the crew withdrew and went back down the stairs.[76]

e. FFs Kylei Holmes-Lewis and Richard Knight were briefed to go to floors 4 to 6 in order to fight the fire and search for any remaining occupants. They tallied out between 04.49.30 and 04.50.17. They searched floor 4, but found no casualties. FF Holmes-Lewis thought that floor 5 was smokier than floor 4. He noticed that on the left-hand side there was relatively little damage, whereas on the right-hand side all the flats were on fire. The crew searched all the flats but found no casualties. They then went to floor 6.[77]

f. FFs William Boulton, Dillesh Devani, Lawrence Pitt and Mark Beer were instructed to go to floor 12 to search for and rescue occupants. They were directed that, if they met another crew on floor 12, they were to move up to floor 13, which in due course they did. When they reached floor 13, they entered the lobby and carried out a right-hand search. The front door of the first flat they found was locked. Using a sledge-hammer and an enforcer, FF Boulton made a hole in it, reached through the hole, found the handle and opened it. As he went into the flat, he was confronted with extreme heat; his thermal imaging camera recorded a temperature of 1,000°C. However, FF Pitt was able to check the rooms in the flat.[78]

3 Conditions in the tower and the movement of occupants

19.30 At 04.00, occupants from floors 10, 11 and 14 were still in contact with the control room or with friends and family outside the tower, but there was no further contact with occupants above floor 14.

69 Ian Moore witness statement [MET00010081] p. 7.
70 Charity witness statement [MET00010790] p. 4.
71 [LFB00023326] p. 3.
72 Nicky Sanders witness statement [MET00010067] pp. 8-10.
73 Nicky Sanders witness statement [MET00010067] p. 10.
74 Nicky Sanders witness statement [MET00010067] p. 10.
75 Nicky Sanders witness statement [MET00010067] p. 9.
76 Welden witness statement [MET00012574] p. 9.
77 Holmes-Lewis witness statement [MET00015005] pp. 11-14.
78 William Boulton witness statement [MET00013222] pp. 6-8.

Contact with occupants on floor 14

19.31 Zainab Deen had remained in Flat 113 with her son, Jeremiah, and her neighbours Mohammad Alhajali and Denis Murphy. I have already referred in Period 8 above to Zainab Deen's last call to Francis Dean (during which CM Christopher Batcheldor spoke to her), which began at some time after 03.19 and lasted for more than an hour and a quarter.[79] Francis Dean tried to call Zainab Deen again sometime after 05.00 after CM Batcheldor had returned the phone to him, but he was not able to speak to her.[80] His phone call logs show that he tried to call her again at 05.13, but again unsuccessfully.[81] CM Batcheldor's conversation with Zainab Deen was therefore the last recorded contact she had with a person outside the tower.

19.32 Mohammad Alhajali's last contact with his friends and family took place over the same time. As set out above, Omar Alhaj Ali called his brother after he had left the tower. He said he had made many calls to Mohammad Alhajali. He did not say at what time he had called his brother, but it had been before he was taken to hospital. When Omar Alhaj Ali was with paramedics outside the tower he tried to call Mohammad Alhajali, but he did not answer.[82] He was not able to call Mohammad Alhajali from the hospital.[83] The LAS Patient Report Form (LAS4), completed by the paramedics treating Omar Alhaj Ali, records that he was taken to hospital at 04.26 and arrived at King's College Hospital at 04.45.[84] Omar Alhaj Ali is likely to have spoken to his brother Mohammad Alhajali for the last time before 04.26 at the latest. The paramedic who had been called formally to declare that Mohammad Alhajali had died did so at 04.56.[85]

19.33 Omar Alhaj Ali said that friends and family had still been in contact with Mohammad Alhajali after he had been taken to hospital. He believed that was at around 05.00. He was told that his brother Hashem had been the last person to speak to Mohammad Alhajali. Hashem told Omar Alhaj Ali that during his last conversation with Mohammad Alhajali he had said that he had watched the others in the flat stop breathing.[86] There was no further contact with Mohammad Alhajali after that conversation.

19.34 Mahmoud Al-Karad, who lived with Omar Alhaj Ali and Mohammad Alhajali, also called Mohammad. The last time he spoke to Mohammad Alhajali was at 03.19. After that, he found Omar Alhaj Ali and was with him when he spoke to Mohammad Alhajali. Mahmoud Al-Karad tried to call Mohammad Alhajali eight times between 04.26 and 05.05, but the calls went to voicemail.[87]

19.35 Ammar Alkabib,[88] who was a friend of both Omar Alhaj Ali and Mohammad Alhajali, was in contact with Mohammad Alhajali during the night. He spoke with him two or three times and after he had seen Omar Alhaj Ali outside the tower. Ammar Alkabib said he had tried to persuade Mohammad Alhajali to leave the flat, but he was too frightened to do so. Ammar Alkabib's last call with Mohammad Alhajali was at around 04.30. Mohammad Alhajali said that he was in the corner of the building where the water was being sprayed. They had stopped spraying the water and he asked the firefighters to continue doing so.[89]

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79 Batcheldor first witness statement [MET00007511] p. 7; Batcheldor Day 34/164/21-34/172/4.
80 Dean first witness statement [IWS00001048] p. 7.
81 Dean Exhibit FD/1 [IWS00001048] p. 16.
82 Alhaj Ali first witness statement [IWS00000781] pp. 15-16.
83 Alhaj Ali first witness statement [IWS00000781] pp. 15-16.
84 Alhaj Ali LAS Report Form (LA4) [LAS00000113].
85 Sibthorpe witness statement [MET00015658] p. 5; Sibthorpe Exhibit IPS/1 [MET00023228].
86 Alhaj Ali first witness statement [IWS00000781] pp. 15-16.
87 Al-Karad first witness statement [IWS00000821] pp. 8-9.
88 He appears to have signed his witness statement in the name of "A Alkhtihatib" but the statement purports to be that of Ammar Alkabib.
89 Alkabib first witness statement [MET00021446] p. 2.

19.36 Ammar Alkabib approached a firefighter who took him to the command unit to tell the crew about Mohammad Alhajali. He told a firefighter where Mohammad Alhajali was and that the firefighters had stopped spraying water on that part of the building. The firefighter told him that it was not his job and asked him to leave.[90]

19.37 Ammar Alkabib recalled receiving a call from the MPS after having tried to call 999. He said that he had told the CRO which floor Mohammad Alhajali was on and that he was still alive. The MPS called Ammar Alkabib at 05.08.43 and during the call Ammar Alkabib said that he had last spoken to Mohammad Alhajali an hour earlier. He gave them Mohammad Alhajali's name, floor number and flat number. The MPS operator confirmed that the message had been passed on to the police in the area.[91]

19.38 At 05.05.57, an unidentified caller spoke to CRO Heidi Fox and reported that a member of his family was in Flat 113 with three children.[92] He told CRO Fox that the person who had called him had said that the firefighters had stopped spraying his flat with water and that they needed help. CRO Fox confirmed that she would pass the information on.

19.39 Mohammad Alhajali was later found by WM Steven Collins and CM Jamal Stern by the gate leading to Grenfell Tower from Grenfell Walk.[93] They moved him into a protected area inside the lobby of one of the walkways. They found no signs of life and called a paramedic.[94]

19.40 Denis Murphy was with Mohammad Alhajali and Zainab Deen in Flat 113 throughout that time. Timothy Murphy and his wife spoke to Denis Murphy several times during the night. He was unable to recall the precise times of the calls or what they spoke about.[95] Denis Murphy's sister Anne Murphy, and his son, Peter Murphy, had last spoken to Denis Murphy at 02.30. Anne Murphy continued to try to call Denis Murphy's telephone until 06.00, but received no answer.[96] It is not possible to tell with any confidence exactly when Denis Murphy died, other than that it must have been after around 02.45 when he was left behind in Flat 113 with Zainab and Jeremiah Deen and Mohammad Alhajali.

Floor 11

Evacuation of Flat 82

19.41 After her penultimate 999 call at 03.33.46 Natasha Elcock had remained in her bedroom with her partner and daughter. At around 04.15, Natasha Elcock's partner told them to move to her daughter's bedroom as there was no smoke in there. There was grey smoke in her bedroom by that time, but she could still see clearly. She stayed in her daughter's room briefly before moving to the front room where she called her sister, Denise Daly, who was outside the tower.[97]

19.42 At 04.33.41, Natasha Elcock called 999 for the last time.[98] CRO Peter Duddy took the call and he advised her to leave. Natasha Elcock said that there was fire on the stairs and her husband had gone out there. She asked CRO Duddy: "Please, just – can someone just find out what's

90 Alkabib first witness statement [MET00021446] p. 3.
91 [INQ00010915].
92 [LFB00000611].
93 Collins first witness statement [MET00010086] p. 10; Exhibit SMC/5 of WM Collins [MET00015914] pp. 20-29; CM Stern first witness statement [MET00012483].
94 Collins first witness statement [MET00010086] pp. 10-11; CM Stern first witness statement [MET00012483] p. 25.
95 Timothy Murphy first witness statement [IWS00001049] p. 3.
96 Anne Murphy first witness statement [IWS00001126] pp. 2-4.
97 Elcock first witness statement [IWS00000310] pp. 6-7.
98 Transcript [LFB00000429]; Elcock Day 70/100/18-70/101/24.

going on, please?".[99] CRO Duddy told her that her only choice was to wrap wet clothes and towels around herself and to make her way to the stairwell. Natasha Elcock asked him to send someone to come and help them. She then said:

> "Just find – can you just [find] out if they're coming? I'm safe in my house at the minute. Honestly, I'm safe in my house at the minute, but I need to know if someone's coming to get me, if you could just find that out."[100]

CRO Duddy repeated that her only choice was to make her own way out.[101]

19.43 Both before and after her call to CRO Duddy, Natasha Elcock spoke to her sister Denise Daly. Denise Daly said that she was with firefighter crews and they were on their way up to her. Natasha Elcock prepared to leave with her family. Her partner stood by the door shouting "Hello". Her sister remained with the firefighters on the ground helping to guide them to the right flat.

19.44 When they left the flat the front room was full of grey smoke and was really warm,[102] but it was still possible to see through the smoke. On leaving the flat the smoke in the lobby was thick and black.[103] Natasha Elcock could not see anything through it. CM Barritt and FFs Gentry and De Costa were on floor 11 and they asked them to walk towards the torch.[104] Natasha Elcock was not able to see the torch, but her partner could see it. She followed him to the stairwell.[105] She described the stairs as being "pitch black" until she reached floor 7 or 6 where the lights were on and there was less smoke. The conditions in the stairwell were the same as in the lobby for the first three floors until it suddenly began to get brighter.[106] Natasha Elcock left the tower at 04.47.22, her daughter and her partner being a few seconds ahead of her at 04.47.16 and 04.47.17.

Flat 83

19.45 In the neighbouring flat, Elpidio Bonifacio waited to be rescued from Flat 83. His son Gordon had told him at around 02.00 that firefighters at the scene had said they would come and rescue him.[107] His daughter-in-law Donna Bonifacio had also passed on advice from the control room to stay put.[108] Elpidio Bonifacio felt that he had no choice but to wait for rescue because he had very impaired vision and was elderly.[109]

19.46 Elpidio Bonifacio could feel the heat in Flat 83 before the fire alarm sounded. He could also see flames going past the window. He saw the colour of the fire and heard burning, which started to spread into the sitting room. He was then forced to retreat to his bedroom. It was at that point, he said, that he had no longer been able to call his wife and son, because the telephone was in the sitting room.[110]

99 [LFB00000429] p. 4.
100 [LFB00000429] p. 5.
101 [LFB00000429] p. 4.
102 Elcock first witness statement [IWS00000310] p. 6; Elcock Day 70/103/3-70/105/3.
103 Elcock first witness statement [IWS00000310] p. 7.
104 Elcock first witness statement [IWS00000310] p. 7.
105 Elcock Day 70/105/2-70/106/22.
106 Elcock Day 70/106/4-22.
107 Bonifacio first witness statement [IWS00001085] p. 5.
108 Bonifacio first witness statement [IWS00001085] p. 5.
109 Bonifacio first witness statement [IWS00001085] p. 5.
110 Bonifacio first witness statement [IWS00001085] pp.5-6.

19.47 Elpidio Bonifacio recalled that the last time he had spoken to his wife was at 01.30. However, his daughter-in-law called 999 at 04.41.00 and spoke to CRO Duddy. She told him that she had been speaking to Elpidio Bonifacio until 2 minutes earlier.[111] That is more likely to be the time at which Elpidio Bonifacio lost telephone contact with his family by phone, and as such it is likely that he was forced to retreat to the bedroom at around 04.40.

19.48 Elpidio Bonifacio said in his statement that he had signalled for help from his bedroom window by waving a white towel. He had done so for about an hour. He had been able to feel the water from a firefighter's hose at the window. The water had been cold, so he had moved away from the window for warmth but would have returned for fresh air.[112] He remained in his flat throughout this period.

Floor 10

Evacuation from Flat 74

19.49 Meanwhile the occupants of Flat 74, Lina Hamide and Meron Woldeselassie Araya, were in contact with friends, including Ililta and her partner Musie, another friend Tsehay and Meron Woldeselassie Araya's sisters Saba, Feven and Ghenet, all of whom were by now outside the tower.[113] Lina Hamide's friends had consistently tried to encourage her to leave the tower. While on a call to Musie (Ililta's partner who was using Ililta's phone) at 03.55, Lina Hamide heard a man tell her that they could not guarantee to get Lina Hamide and Meron Woldeselassie Araya out. The man told her that Meron Woldeselassie Araya and Lina Hamide needed to leave themselves. Ililta told Lina Hamide after the fire that the man had been a police officer.[114]

19.50 Lina Hamide said that, until she had heard that, she had believed that firefighters would rescue them. After having heard that, however, she persuaded Meron Woldeselassie Araya that they must try to leave. Meron Woldeselassie Araya also spoke to her sister Saba Araya, who told her that she had to get out and that no one was coming to save them. Lina Hamide then told her friends that they were going to try to leave and asked them to tell the firefighters in the hope that they would come up and help them.[115] Meron Woldeselassie Araya remained on the phone to her sister Saba Araya (who was using Ililta's phone) from 04.03.48.[116]

19.51 Lina Hamide and Meron Woldeselassie Araya wrapped themselves in wet towels and duvets and went to leave.[117] It took some time to open the front door, since they had to move the wet mattress and duvet that they had used to stop smoke coming in. When they opened the front door, the lobby was "pitch black" with thick smoke. Lina Hamide tried to use the torch on her phone but it made no difference.[118] Lina Hamide and Meron Woldeselassie Araya made three attempts to leave the flat, but returned each time. The smoke in the lobby was too thick and the heat caused them to retreat.[119]

111 [LFB00000605].
112 Bonifacio first witness statement [IWS00001085] pp. 5-6.
113 Hamide first witness statement [IWS00001175] p. 6.
114 Hamide first witness statement [IWS00001175] pp. 6-7.
115 Hamide first witness statement [IWS00001175] p. 7.
116 Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 7-8.
117 Meron Woldeselassie Araya first witness statement [IWS00001193] p. 8; Hamide first witness statement [IWS00001175] p. 7.
118 Hamide first witness statement [IWS00001175] pp. 7-8.
119 Hamide first witness statement [IWS00001175] pp. 7-8; Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 7-8.

19.52 Lina Hamide then spoke to Musie again at 04.03. He persuaded her to try again to leave.[120] For the fourth time she left the flat with Meron Woldeselassie Araya.[121] Meron Woldeselassie Araya recalled that they had left the front door open and that it did not close automatically.[122] Lina Hamide said that she had not been able to touch the walls as they were burning hot. Meron Woldeselassie Araya recalled that she had been able to touch the walls, which were warm.[123]

19.53 Lina Hamide found the stairwell door after walking around the cupboard in the hallway. Meron Woldeselassie Araya followed her to the stairwell door after first having found the door to the rubbish chute room by mistake.[124]

19.54 When they reached the stairwell, there was less smoke than there had been in the lobby.[125] Lina Hamide said that it was still difficult to breathe or see the stairs, although Meron Woldeselassie Araya recalled being able to breathe and see in the stairwell.[126] On the stairs they met two firefighters who were coming down from a higher floor.[127] Lina Hamide was able to walk down the stairs for about two floors before she collapsed. The firefighters carried her the rest of the way down.[128] Meron Woldeselassie Araya said that one of the firefighters shut the stairwell door to the landing behind her. She then followed them down the stairs.[129]

19.55 Meron Woldeselassie Araya left the tower at 04.12.34 shortly before Lina Hamide, who left at 04.13.32.[130]

Flat 72

19.56 At some time between around 04.00 and 04.30, Antonio Roncolato made a second attempt to leave his flat.[131] He put on a rucksack and used a wet towel to cover his nose and mouth. When he opened the front door there was a lot of black, thick, hot smoke. He immediately shut the door again. He could hear screaming and banging from the stairwell.[132] It is possible that what he heard was Lina Hamide and Meron Woldeselassie Araya trying to find the stairwell. The conditions in the lobby on that occasion were the same as when he first opened the front door.[133] He decided not to leave because he thought that he would not be able to breathe if he did.[134]

19.57 At about that time, he went to check his son Christopher Roncolato's bedroom. Antonio Roncolato said that despite the window being closed, smoke was pouring into the room from the window. Flames were also crawling down the side of the window.[135] He then took a photograph which he exhibited to his witness statement.

120 Hamide first witness statement [IWS00001175] pp. 7-8.
121 Hamide first witness statement [IWS00001175] pp. 7-8; Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 7-8.
122 Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 7-8.
123 Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 8-9.
124 Meron Woldeselassie Araya first witness statement [IWS00001193] pp. 8-9.
125 Hamide first witness statement [IWS00001175] pp. 7-9; Meron Woldeselassie Araya first witness statement [IWS00001193] p. 9.
126 Hamide first witness statement [IWS00001175] pp. 7-9; Meron Woldeselassie Araya first witness statement [IWS00001193] p. 9.
127 FFs Cuthbert and Sonson. Cuthbert first witness statement [MET00012878] p. 10; Sonson first witness statement [MET00010824] p. 9.
128 Hamide first witness statement [IWS00001175] pp. 7-9.
129 Meron Woldeselassie Araya first witness statement [IWS00001193] p. 9.
130 Annex A.
131 Roncolato Day 52/52/14-52/53/22; Day 52/60/19-25.
132 Roncolato first witness statement [IWS00000894] p. 14.
133 Roncolato Day 52/60/25-52/62/10.
134 Roncolato Day 52/60/25-52/62/10.
135 Roncolato third witness statement [IWS00001109] p. 2.

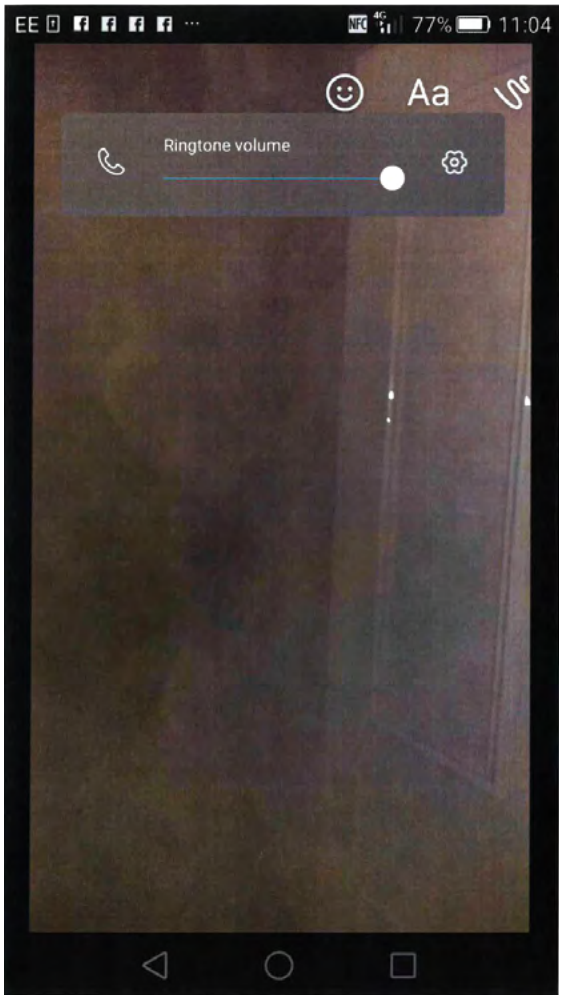

Figure 19.5

19.58 Soon after seeing the fire approaching his son's bedroom window, water from outside the tower poured into his and Christopher Roncolato's bedrooms, extinguishing the fire there.[136] The water entered through a small vent at the top of the bedroom windows. Antonio Roncolato noticed that the fire went out immediately and the smoke slowly disappeared. He took a second photograph showing the water coming into his bedroom from outside the tower.

[136] Roncolato first witness statement [IWS00000894] p. 14; 52/57/3-21.

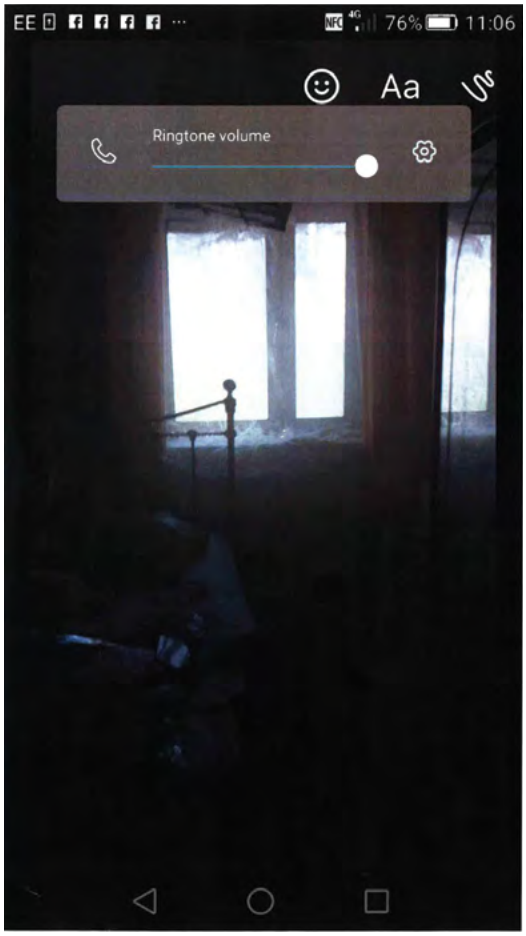

Figure 19.6

19.59 Antonio Roncolato's sister-in-law called 999 at 04.46.42.[137] She spoke to CRO Pam Jones and told her that he was trapped in his flat. She said that he could not come out and that he wanted to wait until someone came to rescue him.[138] She gave Antonio Roncolato's phone number to CRO Jones, who said she would call him back.

19.60 At 04.49.59, CRO Jones called Antonio Roncolato back.[139] He told her that he had tried to leave but that he could not do so because it was pitch black. He said that it was very smoky and that if he went out and descended 10 floors he was likely to die.[140] He told CRO Jones that he was safe in his flat.[141] He considered that he was safe because he had a little air coming into the flat through the window, although there was already a lot of smoke inside the flat.[142] He also told CRO Jones that there had been fire around his floor but that it had now been put out. CRO Jones confirmed she would let the firefighters know where he was and that he could call her back.

19.61 The front door continued to stop smoke entering the flat.[143] Antonio Roncolato said in evidence that the fact that no smoke was coming in through the front door and that the fire outside Christopher Roncolato's bedroom had been put out by firefighters outside the tower helped to make him feel safe. Antonio Roncolato was not advised at the time to try and get

137 [LFB00000608].
138 [LFB00000608]; [INQ00000374].
139 [INQ00000372].
140 [INQ00000372].
141 [INQ00000372] p. 3.
142 [INQ00000372] p. 3.
143 Roncolato Day 52/61/13-52/61/15.

out. He said that if he had been advised to do so, he would have assessed the conditions again. He also said that the CRO did not know how bad the conditions were at the time.[144] Antonio Roncolato remained in the flat throughout this period.

Flat 73

19.62 At this time, the occupants of Flat 73 were speaking to CROs from different fire and rescue services. Ann Chance was still speaking to CRO Mitch Samson at the Kent FRS; Adam Supareogsanond was speaking to CRO Duddy in the LFB control room. His call had begun at 03.51.19 and ended at 04.00.26.[145] When it ended Ann Chance, while still on the telephone to Kent FRS, also spoke to CRO Duddy. He repeated his advice to the family that they had to get to the staircase. Ann Chance acknowledged that advice.[146]

19.63 Ann Chance then returned to her call with CRO Samson. She told him that the family had been advised to leave. CRO Samson said they should follow that advice. He agreed to stay on the line.[147] The family then tried to leave. After what Ann Chance estimated as 3 to 4 minutes, she returned to the call with CRO Samson. She told him that the family had been unable to leave as there had been too much smoke and it had been too hot.[148] CRO Samson then said that if the family could not leave they needed to go through the safety procedures they had been following.[149] Ann Chance reported that the smoke in the flat was getting worse.[150] In her witness statement she described thick, dark-grey smoke in the hallway of the flat.[151]

19.64 As the call continued, firefighters arrived at Flat 73.[152] Ann Chance described a "wall of firemen" between the front door of Flat 73 and the stairwell door. The lobby was hot and dark, the only light coming from firefighters' torches. They were accompanied by firefighters as they made their way down the stairs. The line to Kent FRS remained open throughout and once outside, Ann Chance confirmed to CRO Samson that she was safe.[153]

19.65 A video-recording made by the family during their descent of the stairs shows that there was smoke which cleared lower down.[154]

4 Events in the control room

19.66 After 04.00, the number of calls to the control room started to decrease. There were 18 emergency calls.[155] Most of the calls came from relatives of persons trapped in the building and members of the public who reported that they could still see persons trapped in the tower signalling for help. There were only two calls with residents, one from Natasha Elcock in Flat 82 on floor 11 and a call back to Antonio Roncolato in Flat 72 on floor 10, each of whom reported that they were still trapped. There was one long FSG call still in progress between Ann Chance and CRO Samson in the Kent FRS control room.[156]

144 Roncolato 52/67/9-52/68/10.
145 [LFB00055502]; Andrew Mobbs Exhibit AM/1 [LFB00004695].
146 [LFB00055505] p. 16; Ann Chance first witness statement [IWS00000783] p. 7.
147 [LFB00055505] pp. 19-22.
148 [LFB00055505] pp. 22-25; Ann Chance first witness statement [IWS00000783] p. 7.
149 [LFB00055505] pp. 10-11, 13.
150 [LFB00055505LFB00055502] p. 14.
151 Ann Chance first witness statement [IWS00000783] p. 7.
152 [LFB00055502] pp. 19-20.
153 Ann Chance first witness statement [IWS00000783] pp. 8-9; [LFB00055502] pp. 20-24.
154 [INQ00010921]; [INQ00010922].
155 Control Report pp. 143-149. This does not include call-backs.
156 Control Report pp. 143-149.

19.67 Just after 04.01, Ann Chance and Adam, Waewta and Chalalai Supareogsanond tried to leave Flat 73 on floor 10.[157] CRO Samson in Kent FRS remained on the phone with her. After they had tried to leave, Anne Chance told CRO Samson that they had returned to the flat because it had been "too hot" and her brother had heard people screaming.[158] CRO Samson advised that if it was too hot and she could not get out then they would have to return to the room they had been in and go through the same safety procedures that he had discussed with her earlier.[159] He remained on the phone with her until they were rescued.[160]

19.68 At 04.10.57, CRO Sarah Russell took a second call from Saba Araya about her sister Meron Woldeselassie Araya and Lina Hamide in Flat 74 on floor 10, to report that they had managed to open the front door and that they was making their way down the stairs.[161] CRO Russell said she would pass the information to the crews and the entry for the flat on SM Jason Oliff's right-hand whiteboard was changed in faint marker pen to read "making their way out down stairwell".[162]

19.69 During this period, off-duty control room supervisors started to arrive in the control room, having been called in by SOM Adam Crinion.[163] At around 04.15, AOM Kate Ranson arrived.[164] At around 04.28, with the approval of DAC Adrian Fenton, she implemented the "restricted attendance" procedure, by which the number of appliances and crews sent to other incidents were restricted so that the LFB could maintain fire cover across London.[165] AOM Ranson then took charge of running the control room while OM Alexandra Norman took a break.[166] She took internal calls and dealt with ensuring that there were enough EDBA and other resources at the incident; she also spoke to senior officers about equipment and relief.[167]

19.70 At 04.23.31, Surrey FRS control, on behalf of Assistant Group Commander Ian Ray, contacted the LFB control room to ask the LFB's NILO to contact their NILO.[168] They also offered their 42-metre aerial ladder platform. CRO Duddy, who took the call, spoke to someone in the control room and then responded to the caller by telling her that the officer in charge had decided that they did not need assistance at the moment, but that if they did, they would call back.[169] It is not entirely clear who made that decision or the reason for it. There is no evidence that Surrey's offer of an aerial ladder platform was communicated to the incident ground at that time. However, nearly two and a half hours later, at around 06.40.09, that offer was conveyed to the incident ground by the Brigade Coordination Centre and was accepted by AC Roe. SOM Joanne Smith then asked Surrey FRS to mobilise it.[170] N245 Leatherhead ALP eventually reached the incident ground at 08.21.26.[171]

157 [LFB00055502] pp. 4-6.
158 [LFB00055502] p. 9.
159 [LFB00055502] pp. 9-10.
160 [LFB00055502] pp. 23-24.
161 [LFB00000600].
162 Whiteboard [MET00016906].
163 Norman witness statement [MET000080589] p. 8.
164 Ranson witness statement [MET00007864] p. 3; Norman witness statement [MET000080589] p. 8.
165 Norman witness statement [MET000080589] p. 8; Fenton witness statement [MET000080569] p. 8; Control Report pp. 144-145. PN412; pp. 2-3.
166 Ranson witness statement [MET00007864] p. 4.
167 Ranson witness statement [MET00007864] p. 4.
168 Control Report p. 145; Ray witness statement [MET00013100].
169 Control Report p. 145.
170 Control Report p. 155; AC Roe record of actions [MET00005405] p. 10.
171 SIL p. 37.

19.71 At 04.33.41, Natasha Elcock in Flat 82 on floor 11 made her fourteenth and final 999 call.[172] She spoke to CRO Duddy and explained that they had tried to go down the stairs, but that it was still too hot and she wanted to know whether someone was coming to rescue them.[173] CRO Duddy tried to advise her to leave the building and explained that it was her only choice. He told her she and her family should wrap themselves in wet clothes and towels and make their way to the staircase. She asked him whether he was saying that the fire and rescue services was not coming, to which he replied that they were trying to reach her, but that they needed to make their way down the stairs.[174] She explained that she could not get out and that she had been told an hour earlier that firefighters were on their way up, but CRO Duddy continued to repeat the advice to get out and she ended the call.[175]

19.72 At 04.39.33, CRO Jones took a call from Abdeslam Sebbar's grandson who had called to find out if there was any information about Abdeslam Sebbar, who was trapped in Flat 81 on floor 11.[176] He wanted to know if somebody had checked his flat, but CRO Jones did not have that information. He also asked where casualties were being taken, but she did not have that information either.[177]

19.73 At 04.41.00, DAC Fenton asked for a dedicated contact point for the press to be set up as well as a Next of Kin line for family members of LFB staff, as they were calling in to ask about their welfare.[178]

19.74 At 04.41, the daughter-in-law of Elpidio Bonifacio rang the control room again to tell them that her father-in-law was still trapped in Flat 83 on floor 11.[179] CRO Duddy took the call. Donna Bonifacio explained that she had been talking with him on his landline, but that the phone had just gone dead.[180] She explained that he had told her that the front door and conditions generally were very hot and that she had told him to wet blankets, to shut the windows and to stay low. CRO Duddy told her that firefighters were working their way to everyone they could and that they were aware of him. It is likely that following that call the remark "Line gone dead" was added next to the flat number on the right-hand whiteboard in the control room.[181]

19.75 At 04.46.42, CRO Jones took a call from Gloria Wilson, the sister-in-law of Antonio Roncolato who was trapped in Flat 72 on floor 10.[182] (That was the second call the LFB had received about Antonio Roncolato, his son having previously called at 02.59.10.)[183] She explained that he could not get out because there was too much smoke. CRO Jones told her that she had let senior officers know and that they would pass the information on to the firefighters. She hoped they would get to him.[184] Gloria Wilson gave CRO Jones her brother-in-law's phone number and as she did so she said:

> "He doesn't bear to come out. He says he's going to wait until somebody rescues him and he's very afraid and he won't come out by himself".[185]

172 [LFB00000429].
173 [LFB00000429] p. 3.
174 [LFB00000429] p. 3-4.
175 [LFB00000429] p. 5.
176 [LFB00000604].
177 [LFB00000604] p. 5.
178 Fenton witness statement [MET000080569] p. 9.
179 [LFB00000605].
180 [LFB00000605] p. 3.
181 Whiteboard [MET00016906].
182 [LFB00000608]; [INQ00000374].
183 [LFB00000554].
184 [LFB00000608] p. 2.
185 [INQ00000374] p. 3.

CRO Jones did not tell her that she must urge him to leave, but she did make a call to Antonio Roncolato at 04.49.59 to tell him that she had let the firefighters know he was there and that she hoped they would come to him.[186] Antonio Roncolato explained that there was no fire in his flat but "plenty of smoke" and that there was no fire around him. He explained that he had tried to leave but that the stairwell was "totally pitch black and smoky".[187] He said he thought he was safe and said:

> "I don't want anybody to come – you know, I don't want any – to put anybody life at risk to come to the tenth floor…".[188]

She told him to call back any time.[189] After that call, Antonio Roncolato's former wife, Maria, made a further 12 calls to the LFB control room before he was rescued at 06.20.

19.76 At around 04.50, DAC Fenton, in conjunction with AC Richard Mills, started to make arrangements to ensure that relief was provided to firefighters who had been attending the incident.

19.77 At 04.51.23, Gloria Wilson called again and spoke to CRO Duddy.[190] She explained that she had recently called about her brother-in-law and that he would not leave his flat. CRO Duddy told her that if she spoke to him again, she needed to tell him to make his way outside and that it was "the only option at this stage".[191]

19.78 At around 05.00, AOM Pauline Warner arrived at the control room, having also been contacted by AOM Crinion. She took over monitoring the radio channel while CRO Sharon Darby took a short break and then she began contacting those members of the control room staff who were due to start their shifts at 08.00 to ask them if they could come in earlier to relieve the night shift staff.[192]

5 Actions of the MPS, the LAS, RBKC and the TMO

19.79 At 04.10 Commander Neil Jerome arrived at the special operations room (GT) at Lambeth and at 04.20 he was briefed again by Chief Inspector Duane Barrett.[193] He was told, among other things, that there were at least four deceased and that the fire was not going to be extinguished. He was also told that MetCC were taking 999 calls from the tower as a priority, although he did not know when Chief Inspector Barrett had arranged for that to be done.[194] He could not recall whether he had been told that the "stay put" advice had been changed.[195] It was following this briefing that Commander Jerome took over MPS Gold Command, and Detective Superintendent Paul Warnett became Silver Command, supported by Inspector Nicholas Thatcher.[196]

19.80 At 04.15 the LFB asked Nickolas Layton to arrange the attendance of a DSE.[197] At 04.18 he informed David Kerry that the LFB urgently required a DSE. At 04.31 David Kerry called him back,

186 [INQ00000372] p. 2.
187 [INQ00000372] pp. 2, 4.
188 [INQ00000372] p. 5.
189 [INQ00000372] p. 5.
190 [LFB00000609].
191 [LFB00000609] pp. 2-3.
192 Warner witness statement [MET00008043] pp. 4-5.
193 Commander Jerome's incident management log [MET00023289] p. 8, which is his record of this briefing; Day 72/25/12.
194 Jerome Day 72/5/13-15; 10/16-21.
195 Jerome Day 72/7/7-12.
196 Jerome witness statement [MET00023286] paragraph 50; Day 72/25/20-27/14.
197 Layton Day 74/51/4-12.

having spoken to Amir Fardouee, the Building Control Surveyor for Dangerous Structures[198] on call, at 04.30. David Kerry told Nickolas Layton that the DSE was at the cordon.[199] Nickolas Layton said that at around 04.30 he had seen John Allen and Amir Fardouee near CU8 talking to the LFB[200] and he thought that it likely that the DSE had arrived just after the second TCG meeting had ended at 04.34.[201] However, his recollection of those matters was not very clear (in his oral evidence he could not recall the names of the two people he saw), and in light of John Allen's own evidence[202] and other matters it is doubtful whether Nickolas Layton was correct in saying that John Allen was at the cordon at 04.30. John Allen's recollection was that he was first notified of the incident at around 05.00 by Amir Fardouee. He put his time of arrival at between 06.00 and 06.30, when he had a conversation with Amir Fardouee (who was already there), took over from him and went into the building. That is consistent with the entries in the Roe Log for 05.32[203] and 06.13, and other matters set out below, and I think John Allen's evidence is more reliable than that of Nickolas Layton on that particular point. The reference in the Roe Log to "structural surveyor in attendance" at 04.51 is probably a reference to the attendance of Amir Fardouee. He was indeed there for that purpose but, according to John Allen, had been too distressed to enter the building, making it necessary for John Allen to attend.

19.81 At 04.34 the second TCG meeting began on CU8. There were 30 police officers at the scene and Barandon Walk was in the course of being evacuated, but there was still difficulty controlling the crowd.[204] The LAS noted that the route by which LAS officers were going into and out of the building was being protected by police riot shields. They noted four fatalities, eight to 10 people taken to hospital and 25 people being treated at the scene. Laurence Ioannou (LAS) asked if the building was still structurally safe. He was told that it was, but that the DSE was still on his way.[205] Nickolas Layton reported that rest centres had been set up on Shepherd's Bush Green and that a DSE was being "blue lighted in" (which would not be the case if John Allen had already been at the incident and could in any event have been a reference to Amir Fardouee, who had not been long at the cordon). At the second TCG meeting, the Commissioner said that she had been asking for the attendance of a DSE for two hours. In evidence Nickolas Layton said that he had not been aware of this before.[206]

19.82 The second TCG meeting ended at 04.50, with the third meeting scheduled for 05.50.

19.83 It is likely that shortly after the second TCG meeting and before the third at 05.50 that Nickolas Layton was asked by the LFB for a list of residents of Grenfell Tower. He said that had happened at the meeting itself, but, as he conceded in his oral evidence, there was no record of any such request in the notes he had made.[207] However, he was clear that the request had been made before the next such meeting which took place at 05.50.[208] Robert Black had no recollection of these requests, but did not go so far as to deny that they had been made.[209] In

198 This is how John Allen describes Amir Fardouee in his second witness statement [RBK00035691] p. 1.
199 David Kerry Emergency Event Log, entry 18 [RBK00028849].
200 Layton Day 74/53/15-55/7.
201 Layton Day 74/57/14-25.
202 [RBK00035691] signed on 21 February 2019 after the Phase 1 evidence hearings.
203 The reference to "inbound John Allen structural engineer" here at [MET00005404] p. 4 is much less likely to signify his being inbound into the building, as Nickolas Layton suggested (Day 74/55/25-56/15), as opposed to inbound to the scene. John Allen's recollection in his second witness statement [RBK00035691] p. 2 is that he went into the building between 06.00 and 06.30, which is consistent with the Roe Log entry at 06.13 at [MET00005404] p. 5.
204 Roe Log [MET00005404] p. 3.
205 Ioannou witness statement [MET00010862] p. 10.
206 Layton Day 74/57/6-9.
207 Layton Day 74/62/10-16; 74/62/17-63/8; his notes are at [RBK00029036].
208 Layton Day 74/63-64.
209 Black Day 74/185/2-25.

his evidence Nickolas Layton had a clear recollection that he had asked Robert Black, whom he believed to have access to this information, to provide it to him immediately after he had been asked by the LFB for it, and that Robert Black had then made a telephone call. Nickolas Layton said that he had been "chasing" Robert Black for it. He said he had asked for the information three times over the course of the night, both before the TCG meeting at 05.50 and after it and again before he left the scene at 07.00, but that he had received nothing.[210] His account was consistent with the other evidence and was in my view reliable.

19.84 At 04.51 the Roe Log records "structural surveyor in attendance at leisure centre and is to make decision on integrity of building".[211] As already noted, that is probably a reference to Amir Fardouee, not John Allen.

[210] Layton Day 74/64/14-69/13.
[211] Roe Log [MET00005404] p. 4.

Chapter 20
Period 11: 05.00-08.10

1 External fire spread

20.1 The following images taken from Dr Lane's report show the north and west elevations of the building at 05.16, 06.07 and 07.55 respectively:[1]

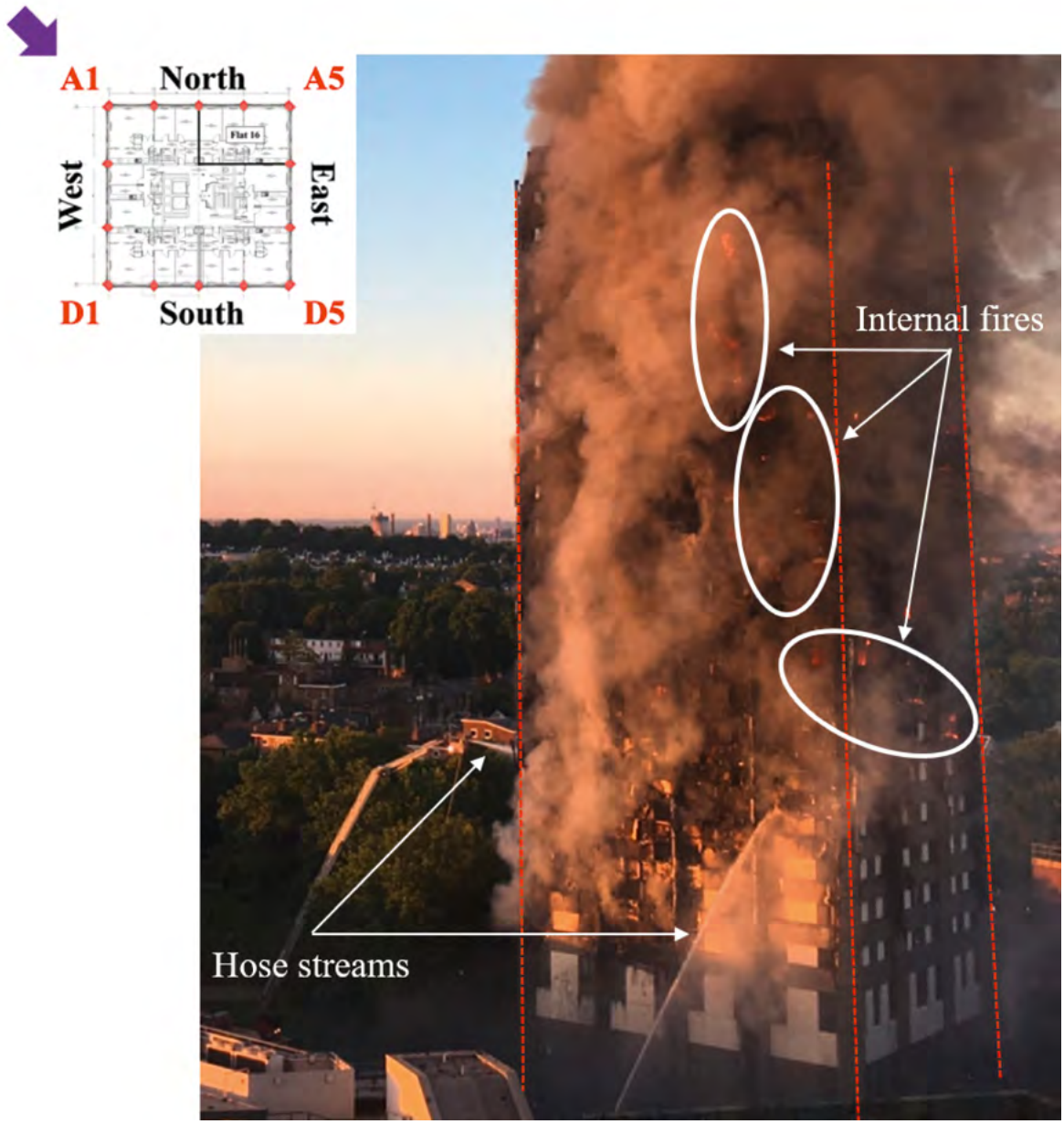

Figure 20.1

[1] Dr Lane supplemental report [BLAS0000005] pp. 50, 52, 53 Figs. 5.52, 5.54, 5.55.

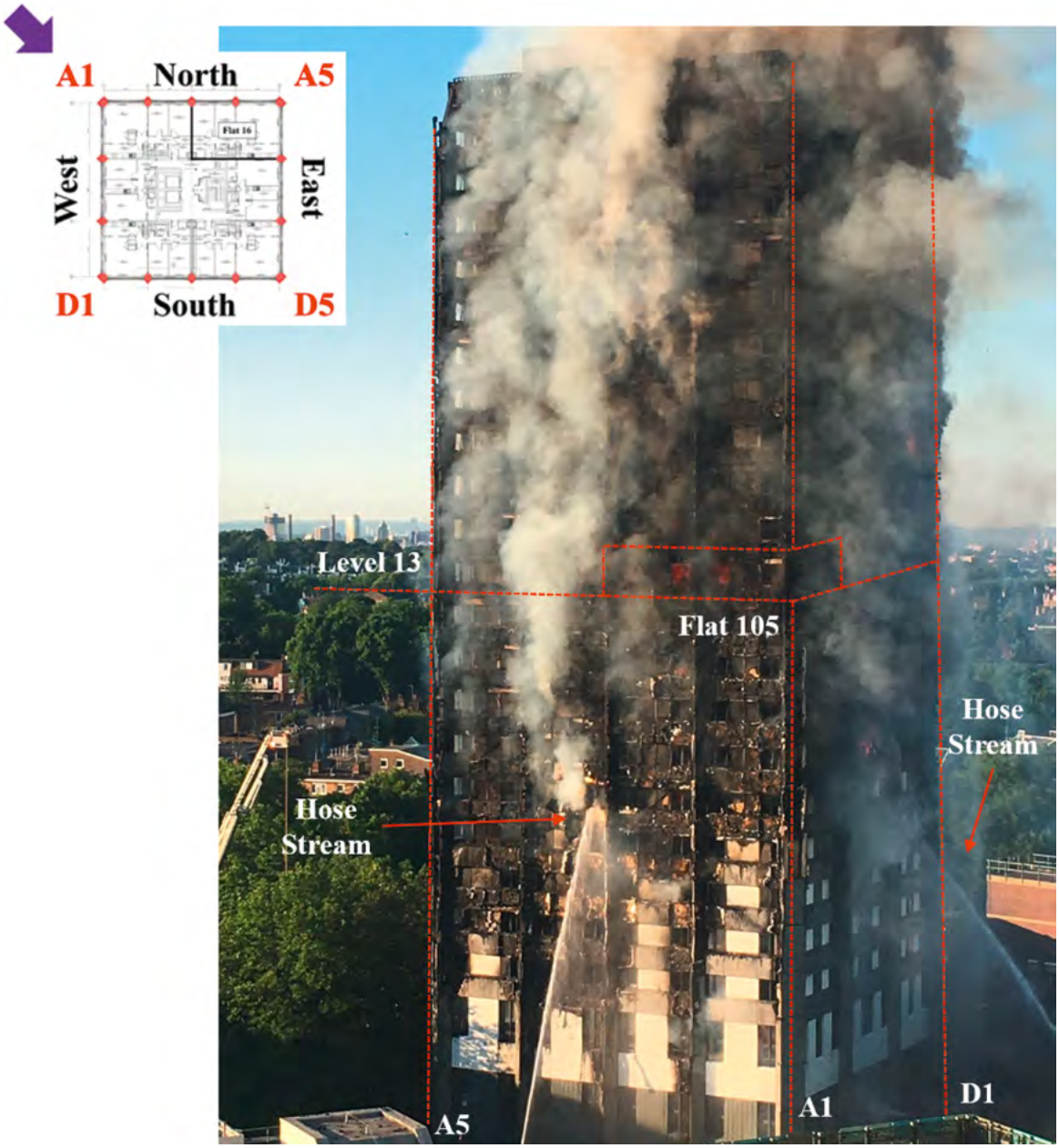
A1
North
A5
West
East
D1
South
D5
Level 13
Flat 105
Hose
Stream
Hose
Stream
A5
A1
D1

Figure 20.2

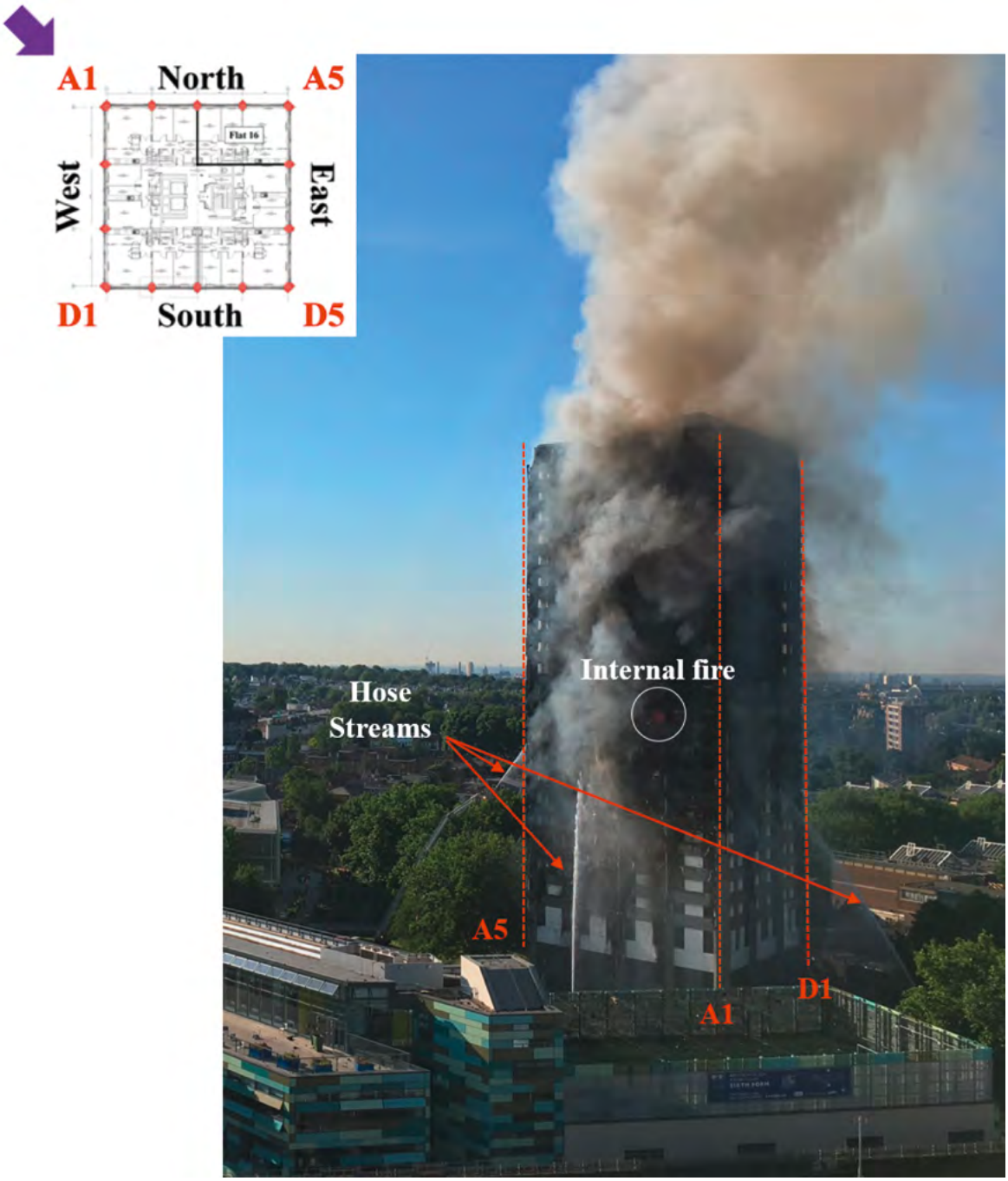

Figure 20.3

20.2 By 08.10 the flames on the outside of the tower had largely subsided, although a number of internal fires were still burning and continued to burn for much of the rest of the day.

2 Events on the incident ground

Informative message

20.3 Between 05.14 and 05.16 CU8 sent an informative message to the control room saying that fire was affecting floors 2 to 24 of a 24-floor tower block and that 100 individuals were involved. The message also stated that two ground monitors and five jets were in use and the tactical mode remained "Oscar", that is to say, "offensive".[2]

Briefing from DAC Andrew O'Loughlin

20.4 At 05.20 DAC O'Loughlin briefed AC Andrew Roe.[3] He reported that there were still considerable numbers of casualties coming out and people visible at windows. He also reported that one deceased person was obstructing the stairs, which had presented difficulties for firefighters. AC Roe suggested that the removal of the deceased person from the stairs was a priority to enable progress to be made. DAC O'Loughlin also reported that all floors below floor 5 were clear, but that there was thick smoke on floor 5 and above. Even the central core was smoke-logged.[4] AC Roe asked whether the "wet riser"[5] was operational, but DAC O'Loughlin confirmed that, although it was working, the pressure was insufficient for the crews' needs.[6]

20.5 At about that time AC Roe asked that all senior officers should be relieved at 08.00. He gave the latest information about the progress of operations to DAC Lee Drawbridge, who was concentrating on the consolidation of existing resources and the integration of the 20-pump relief, whose arrival was imminent.[7]

Discussion between AC Roe and the Commissioner regarding crew deployment

20.6 AC Roe's contemporaneous log recorded that at 05.27 the Commissioner was considering requesting the attendance of firefighters from outside Greater London including, in particular, firefighters from Hertfordshire, who were all EDBA-trained.[8] AC Roe and the Commissioner discussed whether it was justifiable to continue deploying crews into the tower. His assessment, with which the Commissioner agreed, was that while the structure remained stable, crews should be deployed.[9]

Firefighter activity inside the tower (c. 05.00-05.30)

20.7 The following are examples of what firefighters were doing in the tower in the period between around 05.00 and 05.30:

a. As they made their way down from floor 11, FFs Parvinder Singh, Paul Howard, Craig Edwards and Anthony Welden realised that they had enough air to take the fire hose further up the tower. The crew spread out between floors 5 and 11 and hauled the hose up the middle of the stairwell to a point between floors 10 and 11.

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2 ORR v 0.7 pp. 395-398.
3 Roe witness statement [MET00007520] p. 11.
4 AC Roe record of actions [MET00005405] p. 7; Roe witness statement [MET00007520] p. 11.
5 There was no wet riser at Grenfell Tower but AC Roe clearly thought that there was. He was of the view that there would never have been enough water [MET00010065] p. 4.
6 Roe witness statement [MET00007520] p. 11.
7 Roe witness statement [MET00007520] p. 11.
8 AC Roe record of actions [MET00005405] p. 4; Cotton witness statement [MET00012492] p. 28.
9 AC Roe record of actions [MET00005405] p. 8.

b. CM Paul Charity and FFs Leslie Tucker and Harvey Sanders reached floor 12. FF Tucker protected their escape route while CM Charity and FF Sanders searched what was probably Flat 96. CM Charity remembered going into the flat and seeing that the window and what he described as parts of the "brickwork" had gone. As CM Charity was concerned about the risk of falling 11 floors, they left the flat. They returned to floor 11 but, again found that the temperature registered on the thermal imaging camera was 1,000°C. They withdrew and returned to the bridgehead.[10]

c. FFs Ian Moore and Russell Hall reached floor 12.[11] They entered the lobby and carried out a left-hand search. They thought that Flat 92 was the first one they had come to. They found no casualties, so they left and tried to enter Flat 93 using an enforcer. FF Hall recalled that inside one of the flats there was a ruptured gas main which prevented a full search.[12]

d. As they went up the tower, FF William Boulton noticed that conditions had deteriorated from floor 7 onwards.[13] The stairs were dark but not noticeably hot. He also remembered water pouring down the stairs. He thought the smoke had become thicker by the time the crew reached floor 9.[14]

e. FF Mark Beer recalled having reached a point between floors 8 and 9 where the smoke-logging became heavier, thicker and lower. Although he said that many people had been coming down the stairs, there were only two more live evacuations during this period, and so the people on the stairs must have been firefighters. He said that a great amount of water had been pouring down the stairs. By the time he reached floor 11 FF Beer could not see anything.[15]

f. FFs Nicholas Kalirai and Nicholas Whiting were deployed to floor 5 to carry out search and rescue operations.[16] They tallied out at 05.01.53 and 05.02.20 respectively and made their way up the tower. FF Whiting recalled water flowing down the stairs at a rapid rate and through the ceiling[17]. The water was hot and he could feel that heat through his uniform. When they reached floor 5, he observed that "the conditions are very hot and the water feels like boiling water on the back of my neck".[18] In each of the flats they found small pockets of fire, which they fought using a discarded firefighting branch they had found. Water pressure was weak.[19]

g. FFs William Boulton, Dillesh Devani, Laurence Pitt and Beer reached floor 13, entered the lobby and carried out a right-hand search. The front door of the first flat they found was locked. Using a sledge-hammer and an enforcer, FF William Boulton was able to break it open. FF Devani remembered that the intensity of the heat coming from the flat had been two to three times greater than the heat in the lobby.[20] As FFs William Boulton and Pitt were suffering from the effects of heat, the crew decided to return to the bridgehead.[21]

10 Charity witness statement [MET00010790] pp. 6-8.
11 Ian Moore witness statement [MET00010081] pp. 7-8.
12 Russell Hall witness statement [MET00012548] p. 7.
13 William Boulton witness statement [MET00013222] p. 7.
14 William Boulton witness statement [MET00013222] p. 7.
15 Beer witness statement [MET000086031] p. 8.
16 Nicholas Whiting witness statement [MET00013957] p. 5.
17 Nicholas Whiting witness statement [MET00013957] p. 5.
18 Nicholas Whiting witness statement [MET00013957] p. 5.
19 Nicholas Whiting witness statement [MET00013957] pp. 5-6.
20 Devani witness statement [MET00007951] p. 11.
21 Devani witness statement [MET00007951] pp. 11-12.

h. CM Paul Marks and FFs Christopher Lang, Daniel Knapman and Steven Duncan were instructed to find a casualty (now known to be Khadija Saye) on the stairs near floor 10.[22] They tallied out at 05.05 and found her but could detect no signs of life. Their evidence was that they had moved her body from the stairs to the lobby on floor 10, but since her body was recovered from the lobby on floor 9, I think it more likely that they moved her there. CM Marks said that in the area of floor 10 there had been smoke in the stairwell with visibility at no more than six feet. The lobby door had been wedged open by something which he had thought was a sheet or some bedding. Having moved Khadija Saye's body out of the stairs, the crew returned to the bridgehead to tell entry control what they had done. They were then redeployed to floor 12 to carry out search and rescue activities. On that floor, the crew entered Flat 96, which was wholly alight. As they had no firefighting media, the crew withdrew and returned to the bridgehead.[23] Their "end of wear times" were between 05.39.01 and 05.39.25.

i. WM Wilson and an unidentified firefighter carried a Positive Pressure Ventilator (PPV) to the entrance to the building and placed it under Grenfell Walk facing the tower.[24] Whether it had been brought in response to AC Roe's request to SM Michael Mulholland at or around 04.53 or an order from the Commissioner is not clear.[25]

Briefing from GM David O'Neill

20.8 At 05.32 GM O'Neill, as Sector Commander for Safety, gave AC Roe a safety briefing.[26] Three points are relevant for present purposes. First, GM O'Neill advised that the tower had up to four hours' protection but that that might have been reduced by the scale and ferocity of the fire. He had no concerns about the risk of a total collapse but agreed that individual columns might fail, thereby causing an isolated, partial collapse.[27] Secondly, he had instructed safety crews to look out for misplaced columns. If any were identified, the risk of collapse would be re-assessed. Thirdly, on the basis of the advice he had received about the state of the building, AC Roe approved the continued deployment of crews into the tower.[28]

20.9 AC Roe remembered at about that time having heard radio traffic relating to a problem with the supply of water and having committed firefighters without a supply of water in order to rescue a trapped casualty.[29]

Reports of a person on the roof of the tower

20.10 At 05.40 or thereabouts, AC Roe received two briefings.[30] The first was from SM Mulholland. During the course of that briefing he asked SM Mulholland to find out whether crews were advancing with sufficient water supplies to known locations for rescue. He also asked him to emphasise to DAC O'Loughlin, GM Patrick Goulbourne and GM Richard Welch that, wherever possible, crews had to have water supplies ahead of them.[31]

22 Marks witness statement [MET00017068] p. 10.
23 Marks witness statement [MET00017068] pp. 11-16.
24 ORR v 0.7 p. 388.
25 Cotton witness statement [MET00012492] pp. 23-4.
26 Roe witness statement [MET00007520] p. 11; Roe Log [MET00005404] p. 4.
27 Cotton witness statement [MET00012492] p. 28.
28 AC Roe record of actions [MET00005405] p. 8; Roe witness statement [MET00007520] p. 11; Cotton witness statement [MET00012492] p. 28.
29 Roe witness statement [MET00007520] p. 11.
30 Roe witness statement [MET00007520] p. 12.
31 AC Roe record of actions [MET00005405] p. 8; Roe witness statement [MET00007520] p. 12.

20.11 The second briefing was from GM Thomas Goodall. He told AC Roe that there was a report of a person on the roof of the building. AC Roe considered whether that person could be winched off using the coastguard helicopter as the LFB did not have the necessary capability.[32] It is clear that AC Roe had reservations about the use of a helicopter: it would take at least 45 minutes to reach the tower and the downdraught might have an adverse effect on the fire at a time when many people, including firefighters, were still in the building. Despite his reservations, however, AC Roe asked AC Dan Daly to put the Maritime and Coastguard Agency on alert for a possible rescue, but directed that a helicopter was not to be deployed unless and until GM Goodall had verified the report.[33]

20.12 At around 05.50 GM Goodall returned to CU8 and reported that the request for a helicopter should be cancelled, as it had not been established that there was a person on the roof.[34] At the same time GM Goodall briefed AC Roe regarding problems affecting water supplies. According to the log, GM Goodall reported that what he described as the wet riser was poor and that the water supply had been augmented by use of a lightweight portable pump from floor 6. The log also contained the following entry: "Crews committed with limited weight of attack and crews above fire close to life risk."[35]

Third TCG meeting (05.50)

20.13 At 05.50 AC Roe convened the third TCG meeting,[36] which was the first that GM Goodall had attended. The minutes record that there had been no change in the overall situation. Crews had reached floor 14 but that presented dangers as they had no access to water. AC Roe raised the prospect of not committing firefighters above floor 14 due to the risks. Further information about FSG calls was provided. At that stage 171 people were the subject of FSG calls, comprising 38 children and 133 adults from 45 flats. It was thought that 115 people were unaccounted for, although it was said to be difficult to confirm the precise number. AC Roe emphasised that the figures were based on information from the control room and members of the public reporting to CU7, so the true number of people trapped in the tower might be higher.

20.14 A rest centre had been set up on Freston Road to treat casualties and three further centres managed by the Red Cross were also available. AC Roe did not think that RBKC had adequate control of the rest centres or sufficiently accurate information about the number of casualties.

20.15 The meeting concluded at 06.08.[37]

The decision not to commit crews beyond floor 12

20.16 During the course of the TCG meeting, AC Roe had received information from the incident ground about problems with water supplies. At 06.10 he decided not to commit crews beyond floor 12. His reasoning was based on what he was being told by firefighters about the limitations of the water supply and pressure and was subject to re-assessment following an improvement in water supplies.[38]

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32 AC Roe record of actions [MET00005405] p. 8; Roe witness statement [MET00007520] p. 12.
33 Roe witness statement [MET00007520] p. 12.
34 Roe witness statement [MET00007520] p. 12.
35 AC Roe record of actions [MET00005405] p. 9; Roe witness statement [MET00007520] p. 12.
36 Roe witness statement [MET00007520] p. 12; Roe Log [MET00005404] p. 5; AC Roe record of actions [MET00005405] p. 9.
37 [LFB00002081].
38 Roe witness statement [MET00007520] p. 13; Roe Log [MET00005404] p. 5; AC Roe record of actions [MET00005405] p. 9.

Firefighter activity inside the tower (c. 05.30-06.00)

20.17 The following are examples of what firefighters were doing inside the tower during the period between around 05.30 and 06.00:

a. FFs Joe Dean and Christopher Perez, who had tallied out at 05.26.38 and 05.26.42,[39] were deployed to fight the fire on floor 5.[40] FF Dean recalled that as they had ascended the tower water had been running down the stairs. He noticed that the smoke had become denser the higher they went.[41] By the time they reached floor 5, their radios were not working.[42] They carried out a systematic search of that floor, moving from flat to flat extinguishing small fires. Water pressure was good.[43] When they had completed that task, they found they had insufficient air to continue, so they returned to the bridgehead. They left their hose and firefighting branch in the stairwell near the door to the lobby on floor 5.[44]

b. A crew consisting of CM Timothy Cutbill and FFs Steven Boulton, Andrew Wright and Andrew Vango were instructed by GM Welch to go to floor 11 to search for casualties and, if possible, to go higher up the tower.[45] The crew tallied out at or around 05.29.[46] CM Cutbill remembered that as they climbed the stairs there had been water on the floor and that visibility had been "not great".[47] FF Vango said that there were no communications at all throughout the course of the incident.[48] The lobby was "pitch black".[49] When they reached floor 11, the crew searched only two flats as they had no firefighting equipment with them.[50] They found no casualties. They then went to floor 12. They did not search the flats on floor 12 because of the density of the smoke in the lobby and CM Cutbill's assessment that, in such conditions, the prospects of survival were minimal.[51] FF Steven Boulton recalled that the lobbies on floors 11 and 12 had been hot.[52] As they were going up to floor 13, FF Andrew Wright's BA set started to leak air and his alarm sounded. The crew then went far enough down the tower to ensure that he returned safely to the bridgehead. The rest of the crew then went back up the tower but, having gone up five or six floors, their own air levels ran low, so they too returned to the bridgehead.[53] The crew's "end of wear times" were between 05.58.03 and 05.59.34.[54]

c. FFs John Wright, Scott Bell, Neil Saunders and Zade Alassad were deployed to floor 4 and tallied out at between 05.45.56 and 05.47.45. It was the crew's second time under air.[55] When they got there they found the fire hose, but the water pressure was low.[56] They

39 [LFB00023326] p. 4.
40 Dean witness statement [MET00008012] p. 4; Perez witness statement [MET00017426] p. 10.
41 Dean witness statement [MET00008012] p. 4.
42 Dean witness statement [MET00008012] p. 4.
43 Dean witness statement [MET00008012] p. 4.
44 Dean witness statement [MET00008012] p. 5.
45 Cutbill witness statement [MET00010872] p. 3; Steven Boulton witness statement [MET000080564] p. 7.
46 With the exception of FF Andrew Wright who had tallied out earlier (05.15) and joined CM Cutbill's crew.
47 Cutbill witness statement [MET00010872] p. 4.
48 Vango witness statement [MET00012688] p. 4.
49 Cutbill witness statement [MET00010872] p. 4.
50 Cutbill witness statement [MET00010872] p. 5.
51 Cutbill witness statement [MET00010872] p. 5.
52 Steven Boulton witness statement [MET000080564] p. 8.
53 Vango witness statement [MET00012688] pp. 5-6.
54 [LFB00023326] p. 4.
55 [LFB00023326] p. 4.
56 John Wright witness statement [MET000083339] p. 5.

did not find any casualties and, despite the low water pressure, they tried to extinguish the small fires they found there.[57]

d. FFs Albert Folivi and Luke Goddard were instructed to fight the fire on floors 5 and 6.[58] They tallied out at 05.53.32 and 05.53.55.[59] On floor 5 they met a crew who were not wearing BA and who assured them that floor 5 had been searched. FFs Folivi and Goddard then went to floor 6. FF Folivi recalled that it had not been very smoky and that the visibility had been good. FF Goddard, on the other hand, recalled that there had been thick, white smoke and that visibility had been almost non-existent.[60] As they carried out their search, they noticed that the flats on the right-hand side were burnt out. Some doors were open and some were closed but unlocked. They found no casualties. In one flat (either Flat 30 or 31),[61] having opened the front door they paused as conditions were smoky. They pulse-sprayed the flat several times, closed the door, left the hose and withdrew to the stairwell.[62] FF Goddard recalled that conditions in the stairwell had deteriorated in the short time they had been fighting the fire, as the heat was oppressive and the smoke made it difficult to see.[63] It struck him as strange that some of the flats on floor 6 were intact while others had been completely burnt out or were still ablaze.[64]

e. WMs Amanda Morrison, Mark Niblett and Richard Vanstone and FF Paul Harris had tallied out between 05.51.20 and 05.52.27 to go to Flat 72 on floor 10 and to run a 45mm hose up to floor 11.[65] As there were various pieces of firefighting equipment on the stairs, the crew were able to pick up a 45mm hose to complete that aspect of their task.[66] In WM Morrison's words: "We extended our line to the 11th floor, but we had no water and we had no comms."[67] WM Niblett said that conditions in the staircase had been smoky and had got worse as they went up.[68] Visibility was down to about two metres, but he had noticed that a few floors above them some firefighters were not wearing BA.[69] As the crew entered floor 11 they found that the fire had done extensive damage to two of the flats along the left-hand side, although they were no longer alight.[70] On the right-hand side, one of the flats was fully alight and flames were leaping out of the door.[71] Despite the conditions, they found the flat on floor 10 to which they had been sent and rescued the occupant, Antonio Roncolato.[72] WM Vanstone led him down the stairs while WMs Morrison and Niblett and FF Harris went to floor 11.

57 John Wright witness statement [MET000083339] p. 5.
58 Goddard witness statement [MET00010804] p. 2.
59 [LFB00023326] p. 4.
60 Goddard witness statement [MET00010804] p. 3.
61 Goddard witness statement [MET00010804] p. 3.
62 Goddard witness statement [MET00010804] pp. 3-4.
63 Goddard witness statement [MET00010804] p. 4.
64 Goddard witness statement [MET00010804] p. 4.
65 Morrison witness statement [MET000086066] p. 4.
66 Morrison witness statement [MET000086066] p. 5.
67 Morrison witness statement [MET000086066] p. 5.
68 Niblett witness statement [MET00010888] p. 10.
69 Niblett witness statement [MET00010888] p. 9.
70 Morrison witness statement [MET000086066] p. 6.
71 Morrison witness statement [MET000086066] p. 6.
72 Morrison witness statement [MET000086066] pp. 4-5.

The DSE's advice

20.18 At 06.13 the DSE, John Allen, reported to AC Roe that he could not reach high enough to form a considered view of the state of the building.[73] He was able to report that there was no indication that it was likely to collapse. In the light of his advice, AC Roe decided to continue committing crews. He repeated his order that no crews were to be committed beyond floor 12 and told DAC O'Loughlin to review the position as the incident developed.[74]

20.19 At 06.28 GM Goulbourne sent a message to the operational sectors at the request of AC Roe that when conditions changed they were to push beyond floor 12.[75] AC Roe asked for this message to be sent because he wanted crews to be deployed above floor 12 as soon as possible.[76] Operational sectors were directed to inform AC Roe when they considered they were able to extend operations above floor 12.[77]

Firefighter activity inside the tower (06.00-06.30)

20.20 The following are examples of what firefighters were doing inside the tower during the period between around 06.00 and 06.30:

a. WMs Vanstone and Niblett had tried to find a rising main outlet to assist their crew's firefighting efforts, but had been unable to do so because of the "punishing" heat and poor visibility.[78] WM Vanstone did not recall hearing any radio transmissions while in the tower.[79]

b. FFs John Wright, Bell, Alassad and Saunders reached floor 4. They entered Flat 16 but found no casualties. They then entered Flat 15 and extinguished one small area of fire. They then made their way to floor 5. FF Bell said that the crew had been told to leave the building by firefighters who were not wearing BA but whom they did not recognise.[80]

c. Having withdrawn from floor 6, FFs Folivi and Goddard went to floor 7. FF Folivi described conditions as "very smoky". As their levels of air were by then low, they decided to return to the bridgehead.[81] The crew's "end of wear times" were 06.13.43 and 06.13.48.[82]

d. WM Morrison and FF Harris reached floor 11. They searched the flats for casualties, calling out as they went to each flat. As she went down the stairs, WM Morrison handed her firefighting branch to a crew on their way up and told them that they would need a water supply as floor 11 was alight.[83]

e. As WM Morrison and FF Harris were carrying out their search of floor 11 a member of another crew, FF Colin Dowdall, entered the lobby.[84] FF Dowdall turned left and left again and saw a flat door glowing with embers. He pushed the top of the door which collapsed inside like a pile of ashes.[85] The flat was wholly alight so FF Dowdall returned to the stairwell on floor 11. FF Dowdall was later rejoined by FFs Simon Grant and Joe Worley,

73 Roe witness statement [MET00007520] p. 13; [MET00005404] p. 5; AC Roe record of actions [MET00005405] p. 9.
74 Roe Log [MET00005404] p. 5; Roe witness statement [MET00007520] p. 13.
75 Roe Log [MET00005404] p. 5.
76 AC Roe record of actions [MET00005405]; Roe witness statement [MET00007520] p. 13.
77 AC Roe record of actions [MET00005405]; Roe witness statement [MET00007520] p. 14.
78 Vanstone witness statement [MET00010827] p. 6.
79 Vanstone witness statement [MET00010827] p. 6.
80 ORR v 0.7 p. 433 suggests that the unidentified firefighters may have been FFs Aldridge, Cachia and Desmond.
81 Goddard witness statement [MET00010804] p. 4.
82 [LFB00023326].
83 Morrison witness statement [MET000086066] p. 6.
84 Dowdall witness statement [MET00013231] p. 13.
85 Dowdall witness statement [MET00013231] p. 13.

the other members of his crew. They had gone to find a rising main outlet on floor 10 to supply water to floor 11, but had failed to do so. As their air levels were running low, the three firefighters returned to the bridgehead.[86]

f. CM Carl Ramsay, FFs Andrew McArthur, Neil Franklin and Kenneth Le Marrec had tallied out between 06.04.58 and 06.08.41. They had been deployed to floor 11 to fight the fire and to carry out search and rescue operations.[87] As they went up the stairs, the smoke gradually worsened as they went from floor 2 to floor 7. The walls of the stairwell were so blackened by smoke that firefighters did not know which floors they were passing. The heat became very intense on floors 10 to 12 and a stream of water flowed down from above.[88] After some confusion about which floor they were on, the crew reached floor 11, where they found a discarded hose and connected it to a firefighting branch. The water pressure was "extremely low" and the effect was compared to that of a garden hose.[89] There were no radio communications at this stage.[90] The intensity of the heat and the absence of water led CM Ramsay to conclude that there was little more he and his crew could do so they returned to the bridgehead.[91] The crew's "end of wear times" were between 06.43.07 and 06.47.08.[92]

g. WMs Helen Christmas and Marc Aston-O'Donovan, CM Guy Tillotson and FFs Carrie Wright and Neil Green tallied out at between 06.18.13 and 06.19.48 with instructions to go to floor 6 to fight the fire. WM Christmas said that conditions had been "not too bad" as they ascended the stairs, but the smoke had gradually got worse as they reached floor 6. She also said that the lack of visible floor numbers on the walls or doors had hampered their efforts to identify where they were. Once the crew had reached floor 6, the lobby was "very hot" and "unbearable" and Flat 31 was on fire. The crew extinguished the fire in Flat 31.

h. CM Dominic Fearnley and FFs Martin Hooper, Ernest Okoh and Alan Sime were instructed to take a length of fire hose and a firefighting branch, connect to the rising main on floor 10 and fight the fire on floor 11. They tallied out between 06.23.41 and 06.24.15.

i. FFs Thomas Bundey, Constantine Nwagwu, Thomas Dotchin and Kyle McClelland were briefed to go to floor 12 to carry out search and rescue operations. GM Goulbourne told the crew to do their best, but to expect little or no water. He also told them that neither the rising main, nor the radios, nor the telemetry were working.

Report from GM Matthew Cook

20.21 At 06.31 GM Cook confirmed that the floors below floor 12 had been cleared with "saveable life achieved". He also reported that the bridgehead was on the ground floor; that entry control was staffed with a complement of three Watch Managers and two Crew Managers; that the water sector had reported that there were good supplies together with safe means of entry and exit and that the sector safety was in place. In light of this information, the tactical plan was "EDBA moving forward", that is to say the deployment of EDBA crews for the purposes of search and rescue.[93]

86 Dowdall witness statement [MET00013231] p. 13.
87 Ramsay witness statement [MET00012569] p. 6.
88 Ramsay witness statement [MET00012569] p. 6.
89 Ramsay witness statement [MET00012569] p. 7.
90 Ramsay witness statement [MET00012569] p. 7.
91 Ramsay witness statement [MET00012569] p. 7.
92 [LFB00023326] p. 4.
93 Roe Log [MET00005404] pp. 5-6.

20.22 The log recorded that, at 06.35, BCC had been stood up and would provide overall resources and relief options. DAC Fenton was instructed to brief DAC Drawbridge. SM Mulholland reported that, as the doors to some flats had been shut, it might be necessary to reconsider whether floors had indeed been fully cleared. GM Cook said that the next phase of operations would be a systematic search of the tower.

20.23 By this time, AC Roe had recorded that he was satisfied that sectors 1 to 4[94] had a sufficient number of officers allocated to them under the overall command and control of DAC O'Loughlin. In addition, an ALP was working in sector 4. At about this time AC Roe asked GM Keeley Foster to help DAC Drawbridge implement the relief.[95]

DAC O'Loughlin's briefing for AC Roe

20.24 At around 06.42 AC Roe, accompanied by the Commissioner, left CU8 to receive a briefing from DAC O'Loughlin and the sector commanders.[96] DAC O'Loughlin assured AC Roe that, notwithstanding major problems caused by burst hoses, water supply had improved. That was supported by SM Christopher Payton, the additional bulk media advisor, who also told them that Thames Water could not provide any additional pressure, as that risked bursting water mains further back in their network.[97]

20.25 AC Roe also received a briefing from GM O'Neill, whose overall assessment was that there had been no substantive change to the structure of the building, although a considerable amount of debris was still falling. GM O'Neill confirmed that he was in constant communication with the DSE and was monitoring the condition of the building.

20.26 Having received a briefing from senior officers outside the tower, AC Roe and the Commissioner ran, under the protection of riot shields, into the ground floor lobby. GM Goulbourne and GM Welch provided what AC Roe described as a very clear brief.[98] Both officers were satisfied that water supply was sufficient to allow them to deploy crews beyond floor 12 with the aim of reaching floor 18, from which they had received the last recorded live FSG call, but they also reported that there were a significant number of deceased persons on the stairs. AC Roe confirmed that he was happy with the decision to push on to floor 18.[99] He was not aware of any physical changes to the building that caused him to revise his assessment of its structural stability. AC Roe briefly discussed these matters with the Commissioner, who endorsed his assessment of the situation. AC Roe's assessment was recorded on his log at 07.08.[100]

Firefighter activity inside the tower (06.30-07.00)

20.27 The following are examples of what firefighters were doing inside the tower during the period between around 06.30 and 07.00:

a. CM Fearnley's crew reached floor 11 where they attached their hose and firefighting branch to the rising main. They tested the branch, but it delivered very low pressure and could not be used for firefighting. During this time, at 06.34, the alarm on FF Sime's BA

94 At this incident, the south side of the tower was designated as sector 1; the west side as sector 2; the north side as sector 3; and the east side as sector 4: O'Neill Day 51/19/11-19.
95 AC Roe record of actions [MET00005405] p. 10.
96 Roe witness statement [MET00007520] p. 15; Roe Log [MET00005404] p. 6.
97 AC Roe record of actions [MET00005405].
98 Roe witness statement [MET00007520] p. 15.
99 Roe witness statement [MET00007520] p. 15.
100 Roe Log [MET00005404] p. 6; AC Roe record of actions [MET00005405] p. 10.

set sounded,[101] so CM Fearnley decided that the crew should return to the bridgehead. The crew members had "end of wear times" between 06.42.39 and 06.48.23.[102]

b. As the rising main on floor 10 was not providing an adequate supply of water, two crews consisting of FFs Denis O'Brian and Steven Ngo and FFs Stephen Dounias and Carl Clarke were instructed to extend a 45mm hose and firefighting branch from floor 6 to floor 12. They were told that the rising main was defective, as a result of which there was no water above floor 6. Once they had arrived on floor 6, they found a tangled fire hose with a firefighting branch attached. They unwound the hose and took it to floor 12.

c. FF Bundey's crew reached floor 12. They carried out a right-hand search and entered Flat 96 (the first flat they found) which was burnt out. The conditions were too hot to allow the crew to search the premises. They withdrew to the stairwell and then re-entered floor 12 to carry out a left-hand search. The first flat they located (which is believed to have been Flat 91) was extremely hot. As they had no firefighting media, they withdrew to the stairwell again. They then went to floor 13. FF Bundey wedged open the lobby door with a halligan bar, but they encountered extreme heat in the lobby and decided to withdraw and return to the bridgehead. As they were descending, they received a radio message that a person had been seen waving from a window on floor 6. They decided to go to floor 6 to investigate. They carried out a left-hand search of floor 6 but no casualties were found.

d. A crew consisting of FFs Benjamin Dotchin and Jonathan Earl searched floor 12 but found no casualties. They then went up to floor 13 where, from the stairwell, they saw black smoke coming from underneath the closed lobby door. They entered the lobby, but after four or five steps were forced to withdraw due to the extreme heat. Given the conditions, FF Benjamin Dotchin decided they should return to the bridgehead. FFs Benjamin Dotchin and Earl had "end of wear times" of 07.09.17 and 07.11.46 respectively.[103]

e. CM Thomas Atkins' crew had been instructed to locate and rescue an individual on floor 9 or 10, who had been seen waving a flag or a shirt from his window. They tallied out at 06.44.04 and 06.44.35.[104] When they reached floor 9, they found that the right-hand side of the floor was completely on fire and that the left-hand side was heavily smoke-logged. The crew carried out a left-hand search but found no casualties.

f. At around 07.00 FFs James Geapin and Stephen Hayward tallied out. They were directed to go to floors 5 and 6 to rescue anyone still alive, since a person had been reported at a window on floor 6.[105]

Fourth TCG meeting (07.13)

20.28 The fourth TCG meeting took place at 07.13.[106] AC Roe gave the meeting the latest information on the situation including, in particular, his decision to commit crews beyond floor 12. He reported that conditions within the tower had improved but that the fire was still burning between floors 22 and 24. As water supplies had improved, crews had been committed beyond floor 12 with the aim of reaching floor 18.

101 ORR v 0.7 p. 444.
102 [LFB00023326] p. 4.
103 [LFB00023326] p. 5.
104 [LFB00023326] p. 5.
105 [LFB00023326] p. 5.
106 Roe witness statement [MET00007520] p. 16; Roe Log [MET00005404] p. 6; AC Roe record of actions [MET00005405] p. 11.

20.29 The minutes record that the DSE had advised that, although parts, corners and slabs would fall, the building would not collapse.[107]

20.30 The MPS confirmed that civil unrest had "dissipated". AC Roe asked the LAS to maintain its current resources at the tower as crews were still encountering many families within the tower. He said that a large number of fatalities were to be expected.

20.31 RBKC's LALO, Nickolas Layton, provided more details about the numbers in rest centres, but AC Roe asked him for lists of addresses so that the LFB could cross-reference that to the information which they held. AC Roe again asked for plans of the tower to be produced. The meeting ended at 07.35.[108]

Strategy for a systematic search of cleared areas

20.32 At about the time the TCG meeting ended, AC Roe asked GM Cook and SM Mulholland to give DAC O'Loughlin some clear instructions to enable him to formulate and implement a strategy for the systematic search of previously cleared areas. He did so, because he felt that the incident had reached a point at which any remaining occupants' prospects of survival were diminishing.[109]

Update on resources from DAC Drawbridge

20.33 At 07.44 DAC Drawbridge briefed AC Roe about resources.[110] He reported difficulties in reducing the number of appliances to 20 pumps in order to accommodate the relieving pumps. They discussed and agreed that resources would be subject to a 3-hour rolling 10-pump relief once the initial relief force of 20 pumps was in place. The practical result would be that 20 pumps would be on the incident ground for the foreseeable future. It was noted in the log that no SDBA was being used at this time.

Update from DAC O'Loughlin

20.34 At around 07.55 DAC O'Loughlin attended CU8 together with GM O'Neill.[111] As GM John Graham, the first relief officer attending the scene, had by then arrived, AC Roe wanted him to replace whichever of GM Goulbourne or GM Welch most needed relief. He directed DAC O'Loughlin and GM Graham to decide. GM O'Neill reported that conditions on floor 11 were "like a furnace". The log also recorded that Andrew Cane, a new ORT officer at the incident, wanted a safety officer allocated to the fire sector due to the number of deceased on the stairs.

Notification of mass fatalities

20.35 At 08.10 it was noted that the MPS had advised HM Coroner of mass fatalities at the tower. Accordingly, it was directed that no bodies were to be moved.[112]

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107 Roe Log [MET00005404] p. 6.
108 Roe Log [MET00005404] p. 7.
109 Roe witness statement [MET00007520]; Roe Log [MET00005404] p. 7; AC Roe record of actions [MET00005405] p. 11.
110 Roe witness statement [MET00007520] p. 16; Roe Log [MET00005404] p. 7; AC Roe record of actions [MET00005405] p. 11.
111 Roe witness statement [MET00007520]; Roe Log [MET00005404] p. 7; AC Roe record of actions [MET00005405] p. 11.
112 Roe witness statement [MET00007520]; Roe Log [MET00005404] p. 7; AC Roe record of actions [MET00005405] p. 11.

Firefighter activity in the tower

20.36 Between 07.00 and 08.10, the LFB's telemetry data shows that crews were being committed to fight the fire and search for the deceased. Evidence from the firefighters committed during this time suggests that they could not get beyond floor 13 and that floors 11 and 12 remained alight. At one stage, CMs Philip Wigley, Clarke and Mark Stevenson met on floor 11 to discuss conditions. As firefighters were being soaked by hot water, the decision was made to withdraw existing crews to the bridgehead.

20.37 At around 07.47 a crew under the command of WM Andrew McKay searching floor 11 found Elpidio Bonifacio, who lived in Flat 83 on floor 11. He was helped down the stairs and, at 08.07, was taken to the community room at the base of the tower. He was the last surviving resident to leave the tower.

3 Conditions in the tower and movement of occupants

20.38 By 05.00, only two residents were still in contact with people outside the tower: Antonio Roncolato in Flat 72 on floor 10 and Elpidio Bonifacio in Flat 83 on floor 11.

Evacuation of Antonio Roncolato from Flat 72, floor 10

20.39 At 05.05.45 Antonio Roncolato called 999 and spoke to CRO Angie Gotts.[113] He told CRO Gotts that he was not in any danger.[114] She asked him whether he could leave. He said:

> "No I cannot go out. If I go out, believe me I'm going to be on somebody else's conscious. [sic] It's totally – you know, my eyes started crying . . . and it's impossible to breathe."[115]

CRO Gotts told him that, if it was impossible to leave, he should stay in the flat and block everything up. She confirmed that she would let the firefighters know where he was.

20.40 Antonio Roncolato said in evidence that he wanted to speak to someone in charge who knew what was happening at the ground and could tell him what to do. At 05.46.35 he called his son Christopher, who was outside the tower. He asked him to find someone in charge. Christopher passed the phone to a firefighter whom he believed was a "fire marshal". That was the second occasion on which Antonio Roncolato had such a conversation. He was told by the "fire marshal" that the firefighters were coming to get him. Christopher then told him that there was a pair of swimming goggles in his room that he could use to protect his eyes.

20.41 At 06.00, Antonio Roncolato was speaking by telephone to a friend when he heard a knock at the front door. Two firefighters came into the flat, closing the door behind them. They confirmed that he was the only person there and gave him instructions on how they should leave together, with one firefighter in front and another behind. Antonio Roncolato put on his son's swimming goggles and a rucksack and a firefighter placed a wet towel over his head and gave him a smaller wet towel to cover his mouth and nose. They then left together.[116]

113 [LFB00000430].
114 [LFB00000430] p. 2.
115 [LFB00000430] p. 3.
116 Antonio Roncolato first witness statement [IWS00000894] pp. 14-15.

20.42 Antonio Roncolato noticed that the temperature became very hot in the lobby. It then cooled down a little in the stairwell where there was a lot of water.[117] He could not see if there was smoke through the goggles and the wet towel. The stairs were wet with water and debris as he came down.[118] Antonio Roncolato left the tower at 06.05.15.[119]

Evacuation of Elpidio Bonifacio from Flat 83, floor 11

20.43 Elpidio Bonifacio had sheltered in his bedroom from where he continued to try to attract attention by waving a white towel.[120] He had remained at the bedroom window for some hours and had begun to feel hopeless. He could feel the flat was becoming hotter. While he was in the bedroom, he heard the mirror in the sitting room shatter from what he assumed was the heat of the fire. He could also hear the crackling flames in the sitting room.[121]

20.44 He suddenly heard the sound of running water in the flat from the firemen's hose. He opened the bedroom door and found four or five firefighters with a hose. They carried him out of the flat.[122] Elpidio Bonifacio left the tower at 08.07.20.[123]

4 Events in the control room

20.45 After 05.00, the number of calls diminished and there was a lull in the control room.[124] To many, the lack of calls made it seem "eerie"; CRO Christine Howson said that it was so quiet that you could hear a pin drop.[125] The atmosphere among the control room officers was one of "stunned silence".[126] The CROs mostly received calls from family members of those in the tower. When it became quiet, some of the CROs searched for news about the fire on their phones and computers; for the first time they saw the image of the tower and realised that the whole building was on fire.[127]

20.46 Over the next three hours, the LFB control room received 24 emergency calls; only one was from a resident, Antonio Roncolato, still in the tower.[128] They did not receive any calls from any of the other fire and rescue services or from any other agencies. At some point during this period, CRO Sarah Russell stopped taking calls and returned to her radio position on channel 2, where she had started at the beginning of the shift. She monitored the radio until around 07.20 or 7.30.[129]

20.47 At 05.05.45, CRO Gotts received a call from Antonio Roncolato in Flat 72 on floor 10.[130] He told her that he was "not in any sort of danger" although there was a lot of smoke around.[131] He said that he had been told to try to go downstairs but that it was "impossible" because there was so much smoke and so he wanted some advice.[132] She asked if he could put a wet

117 Roncolato Day 52/71/2-52/72/25.
118 Antonio Roncolato first witness statement [IWS00000894] p. 15.
119 Annex A.
120 Bonifacio first witness statement [IWS00001085] p. 6.
121 Bonifacio first witness statement [IWS00001085] pp. 6-7.
122 Bonifacio first witness statement [IWS00001085] pp. 6-7.
123 Annex A. 08.07.13 (corrected from 08.07.49) [INQ00010899] and 08.07.20 (corrected from 08.07.56) [INQ00010906].
124 Gotts witness statement [MET00007694] p. 7.
125 Gotts witness statement [MET00007694] p. 7; Howson witness statement [MET00007763] p. 7.
126 Gotts witness statement [MET00007694] p. 8.
127 Gotts witness statement [MET00007694] p. 7; Howson witness statement [MET00007763] p. 7; Fox witness statement [MET00007764] p. 5.
128 Control Report pp. 149-158.
129 Russell witness statement [MET00007698] p. 8.
130 [LFB00000430].
131 [LFB00000430] p. 2.
132 [LFB00000430] pp. 2-3.

towel over his head and get out, but he said he could not. She told him that he was "doing the best thing" because he had everything blocked up and a window open to get some fresh air. She told him that she would let the crews know. After his call, Antonio Roncolato's family members called the control room a further 10 times to find out if crews had got to him. At 06.37.17, CRO Howson spoke to Maria, Antonio Roncolato's former wife. She told her that the crews were doing a sweep search of all the flats on floors 8, 9, 10 and 11 and Maria told her that Antonio Roncolato had got out of the tower.[133]

20.48 At 05.18.11, CRO Sharon Darby logged an informative message in the incident log that had been sent by CU8 on behalf of AC Roe describing the current position.[134]

20.49 At 05.31.00, the control room received one further call from the daughter-in-law of Elpidio Bonifacio who was still trapped in Flat 83 on floor 11.[135] CRO Gotts took the call. The caller, Donna, asked her to check if the crews had got to the flat. CRO Gotts told her that they had passed the flat number to the incident ground, but could not give her any more news. Donna asked her how she would find out eventually, but CRO Gotts was not able to tell her how the information would be made available.[136]

20.50 Between 05.32.38 and 05.38.14, the control room received a number of calls from members of the public about a person who was said to be on the roof of the tower waving for help. These messages were passed over to CU7. However, at 05.38.18, CRO Pam Jones received a further call from one of those who had reported the sighting. She confirmed that it was a piece of cladding, not a person, she had seen.[137] At 05.46.15, WM Daniel Meyrick in CU7 asked for further information about the person said to be on the roof, but SM Jason Oliff confirmed that it had been a piece of cladding.[138]

20.51 At 05.55.11, AOM Kate Ranson received an admin line call from CU7 to ask whether there was only one current FSG call from Flat 72 (Antonio Roncolato).[139] AOM Ranson told him that there were no current FSG calls.[140] SM Oliff also recalled that he relayed this information to CU7 at around 06.00.00.[141]

20.52 At 06.01.21, CRO Darby received a request from CU8 for the attendance of a bulk media advisor, to provide tactical advice on how best to use the water supply. SM Payton was assigned to attend the incident at 06.02.53; he mobilised at 06.04.47.[142] He had been following the incident since around 04.00 on the mobilising system, having been contacted by GM Welch at 01.30 and asked by the Officer of the Watch to return to duty.[143]

20.53 During this period, CU8 continued to order reliefs and resources to the incident and told the control room when the TCG meetings took place. There was also a request to contact the alarm company for further information.[144] The Brigade Coordination Centre assisted in responding to the requests.[145]

133 [INQ00000191].
134 SIL p. 32.
135 [LFB00000616].
136 [LFB00000616] p. 4.
137 Control Report pp. 151-152.
138 Control Report p. 152.
139 Control Report p. 152.
140 Control Report p. 152.
141 Oliff witness statement [MET00012791] p. 8.
142 Radio message [LFB00002447]; SIL p. 14.
143 Payton witness statement [MET00010821] pp. 7-8.
144 SIL pp. 31-37.
145 Fenton witness statement [MET000080569] pp. 10-12.

20.54 At 06.41.46, SM Oliff ended his telephone contact with CU7.[146]

20.55 At 06.46.56, CRO Fox received a call from a relative of someone in the tower who asked for a number to obtain information about them. CRO Fox told her that the LFB did not have any numbers and that it would be for the MPS to make the necessary arrangements.[147]

20.56 At 06.48.43, CRO Darby entered a further informative message received from CU8 in the incident log.[148]

20.57 At 06.50.09, SOM Joanne Smith called Surrey FRS to take up the offer of a 42-metre aerial ladder platform. AC Roe had accepted the offer after he had been told of it by someone in the Brigade Coordination Centre.[149] At 07.04.15, Surrey FRS contacted the control room and told them that the aerial appliance had been mobilised and that it would be at the incident in approximately 40 minutes.[150]

20.58 Between 07.00 and 08.00, control room staff, who had been due to start on the day shift at 08.00, came in early to start relieving the CROs who had been on the night shift. They were briefed on what had happened, but no formal handover took place.[151] Before the CROs from the night shift went home they were given an opportunity to speak to a counsellor who had been brought in for the purpose by SOM Smith.[152]

20.59 At around, or shortly before, 07.43, AOM Peter May spoke to the NPAS helicopter by radio a number of times about reported sightings of persons still trapped in the building and about changing the angle of the hoses on the building to prevent the smoke from reaching the flat of Elpidio Bonifacio who was still waiting to be rescued.[153] Radio messages were then sent to CU8 between 07.43.07 and 07.50.41 telling them that he was one floor below the window where the hose on the building was directed.[154] CU8 said that they would pass the message to CU7.[155]

20.60 At 07.50.51, CRO Darby sent a radio message to CU8 to say that the police had seen Elpidio Bonifacio at the window on floor 11. She asked what the crews were doing to try to rescue him.[156] At 07.51.02, CU8 told her that CU7 could provide her with the latest information.[157]

20.61 As a result, at 07.51.36, CRO Darby spoke directly to CU7 for the first time since she had sent an FSG message by radio at 02.58.01. She sent a string of radio messages to CU7 to ask for information about the rescue of the man in the window on floor 11.[158] At 07.51.58, CU7 sent a radio message telling her that they were committing crews to floor 11 but that access was difficult.[159]

20.62 At 08.00.00, the control room's day shift took over.

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146 Oliff Exhibit [MET00016910] p. 3.
147 Control Report p. 156.
148 SIL p. 33.
149 Control Report p. 156.
150 Control Report p. 156.
151 Gotts witness statement [MET00007694] p. 8; Howson witness statement [MET00007763] pp. 7-8.
152 Howson witness statement [MET00007763] p. 8; Fox witness statement [MET00007764] p. 5; Smith witness statement [MET00007766] p. 5.
153 AOM May witness statement p. 5; contemporaneous note p. 4. AOM May stated in his witness statement that this conversation took place at around 06.30. Given the time of the radio messages to CU8, I think it is more likely that he spoke with the NPAS helicopter just before the radio messages to CU8 were sent.
154 Radio messages [LFB00002122]; [LFB00002685]; [LFB00003003]; [LFB00002399].
155 Radio message [LFB00002000].
156 Radio message [LFB00003069].
157 Radio message [LFB00002727].
158 Radio messages [LFB00003072]; [LFB00002204]; [LFB00002045]; [LFB00002945]; [LFB00002339].
159 Radio message [LFB00002091].

5 Actions of the MPS, the LAS, RBKC and the TMO

20.63 At 05.00 Commander Jerome attended the first strategic co-ordinating group meeting at which the agencies shared their understanding of the situation and put in place an initial "multi-agency" strategy. That was the first occasion on which all the elements of the London Resilience Forum, which involves bodies in addition to the first responders, were brought together.[160] The meeting was chaired by AC Richard Mills of the LFB. Among others present were Stuart Priestly, David Kerry and Mark Sawyer of RBKC. Stuart Price represented the LAS. It was noted that there were difficulties getting access above floor 15 of the tower, that a DSE had been called and was now in attendance and that there were still people inside the building, but the LFB was waiting for a report from the incident ground. There was no discussion about whether the LFB had asked for plans of the building at any stage.[161] It was noted that two rest centres were already open and that three more premises were to open to provide shelter for those evacuated from the tower and adjacent buildings.

20.64 In this period, a number of emails were sent between TMO staff about lists of residents and plans of Grenfell Tower. Teresa Brown's recollection was that requests had been made early on for a list of residents together with floor numbers.[162] She could not remember when the general list of residents had been asked for, but she did remember that she had been speaking to the LFB at frequent intervals about lists of those safe and missing. She did not know who in particular at the TMO had been asked for a general list of residents, but whoever had been at the cordon was the person responsible for dealing with such requests.[163]

20.65 At 05.24 (or possibly at 06.24)[164] David Noble, a policy officer helping with the customer relations team, sent an email to TMO staff, including Robert Black and Teresa Brown, with the subject "Grenfell occupants". A file with the name "Grenfell Tower.xlsx" was attached.[165] The body of the email said:

> "All occupants of Grenfell as at 30 May 2017. Still trying to get live data to run. Looking for plans."

20.66 At 06.38 David Noble sent a further email to TMO staff, including Robert Black and Teresa Brown, with the subject line "Grenfell residents". Two files named "Grenfell tower short list. docx" and "Grenfell tower updated.xlsx" were attached.[166] The body of the email said:

> "This is Up to date data. Use this one. Word version is name address and contact numbers only. Excel version has disability etc info on."

20.67 Robert Black did not send the email at 05.24 (or possibly 06.24) to the LALO or the LFB because "they did not ask for it" and because he did not realise that they wanted it.[167] He forwarded the email of 06.38 to the LFB only at 07.56,[168] and then only, he assumed, because he had been asked for it.[169] He did not forward that email to the LALO or the LFB at the time he received it because, as he told the Inquiry, he assumed that the email was for Teresa

160 Jerome witness statement [MET00023286] paragraph 54; London Resilience Forum Major Incident minutes of this meeting [MET00023287]; Jerome Day 72/29/2-25.
161 Jerome Day 72/34/21-23.
162 Brown Day 75/73/18-24, 75/4-76/2; Brown witness statement [TMO10048960] paragraph 12.
163 Brown Day 75/77/10-81/12.
164 It is not possible to tell conclusively whether this email was sent at 05.24 or an hour later at 06.24, unlike the email sent at 06.38 but bearing the time 05.38 for technical reasons.
165 An email contained in the string of emails [TMO10031176].
166 An email contained in the string of emails [TMO10031176].
167 Black Day 74/187/18-188/10, 189/5-13.
168 [TMO10031176].
169 Black Day 74/193/6-194/25.

Brown to enable her to manage her role at the rest centres.[170] However, he had been told by Nickolas Layton some time before 06.38 that the LFB wished to identify those residents who were missing,[171] and he should therefore have realised at that stage that it would be of use to the LFB.

20.68 Teresa Brown did not send either of the emails from David Noble to the LALO and assumed instead that Robert Black had sent it on.[172] She later handed Michael Rumble a hard-copy list of residents, which included information such as disabilities, but that was not until later in the morning, some time before 11.00.[173]

20.69 While these exchanges between the TMO staff were taking place, the Roe Log records, at 05.32, "… entry and inbound John Allen structural engineer".[174] Nickolas Layton said in his oral evidence that that referred to John Allen's entering the building rather than arriving at the incident,[175] but as I have noted above, I doubt that he was right about that.

20.70 At 05.50 the third TCG meeting took place on CU8. The MPS confirmed that the casualty bureau was open, that about 30 people had been evacuated from the surrounding area and that the crowd was now under control. The LAS reported that 50 people had been taken to hospital and that there were five fatalities. Nickolas Layton reported that there were rest centres on Freston Road and that there were three further rest centres being managed by the Red Cross.[176] He said that at that meeting he had reported that a list of residents was still not available and that the LFB had been unhappy with that.[177] He did not record that discussion in his log, but simply wrote "numbers all rest centres", which might indicate no more than that he was to find out how many Grenfell Tower residents were at the rest centres. However, by that stage (but unknown to him) the full list of Grenfell Tower residents had been sent by David Noble at 05.24 to (among others) Robert Black. It could therefore be used to check off those at the rest centres and identify who was missing and from which flats. According to Nickolas Layton's MPS witness statement,[178] at that TCG meeting he was asked to gather the names and flat numbers of the survivors at the rest centres. He then asked Robert Black to find out from his staff at the rest centres which residents were there so that the emergency services could establish who was missing. It is clear from that evidence that the LFB wanted a full list of Grenfell Tower residents, and not only a list of those present in the rest centres, since without a full list they could not identify who was missing. It follows that Nickolas Layton had good reason to ask the TMO for a full list of residents as well as a list of those in the rest centres so that he could provide them to the LFB.

20.71 Nickolas Layton said that after that TCG meeting (which had ended at just before 06.08.09)[179] he had gone straight to Robert Black to obtain the information about the residents, as the TMO was managing the property and he did not think that RBKC would have it. In his MPS witness statement[180] he said that he had asked Robert Black "for details of residents in the centres" (meaning names and flat numbers) so that the emergency services could try to

170 Black Day 74/191/14-16.
171 Layton MPS witness statement [MET00007967] p. 5.
172 Brown Day 75/89/25-91/22.
173 Brown Day 75/98.
174 Roe Log [MET00005404] p. 4.
175 Layton Day 74/55/8-56/9.
176 Roe Log [MET00005404] p. 5.
177 Layton Day 74/67/12-68/3.
178 Layton MPS witness statement [MET00007967] p. 4.
179 The time of the radio message from CU8 to the control room to that effect [LFB00002081].
180 Layton MPS witness statement [MET00007967] p. 5.

establish how many persons were missing.[181] Robert Black had told him that he had not yet received the information, but he made another call and said that he would get it. It is possible that at this point Robert Black understood that he had been asked only to obtain a list of those residents who were in the rest centres. However, given that he had received the full list of residents by email at 05.24 and that Nickolas Layton had told him what the LFB was attempting to do, it is unlikely that he misunderstood what he had been asked for. Neither his written nor his oral evidence positively suggested that he had thought that Nickolas Layton had asked him only for a list of residents who were at the rest centres.

20.72 At 06.00[182] Robert Black emailed TMO colleagues Peter Maddison, Barbara Matthews, Janice Wray, and Yvonne Birch, copying in Teresa Brown and Hash Chamchoun. The body of the email is worth setting out in full. It said:[183]

> "To update
>
> Teressa and Hash are mangling resources at the respite centres
>
> RFM and NPB are here.and making statements saying very little.
>
> Question S about the cladding and spec.
>
> Questions about how it spread.
>
> We need to pull some of this together pretty fast in terms of Health and Safety compliance (Barbara and Janice)
>
> We need all the information about the refurbishment as this will be a primary focus (Peter. And his team)
>
> RBKC will put out a holding state but already asking these questions
>
> Robert"

20.73 At 06.03 David Noble sent an email to Teresa Brown, Janice Wray and Nicola Bartholomew.[184] The subject was "Grenfell Emergency Plan Section" and it contained information from the TMO's Emergency Plan (TMOEP). The TMOEP[185] was split into two sections. The first dealt with emergency planning and the second contained specific information relating to each of the properties managed by the TMO, including information useful for the emergency services and information about vulnerable occupants. The TMOEP had been revised most recently in February 2016, but the information relating to Grenfell Tower was dated 25 February 2002 and was over 15 years old. Unsurprisingly, therefore, it was significantly out of date in a number of critical respects, not least in relation to the number of flats, the number of residents, the number of those with disabilities[186] and the means of escape.[187] The text of David Noble's email at 06.03 merely repeated the outdated information about Grenfell Tower contained in the TMOEP. As Robert Black confirmed when he gave evidence, the TMOEP had not been amended in relation to Grenfell Tower (or indeed many other RBKC-owned properties under the management of the TMO) since 2002.

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181 Refer also to the note of his interview by RBKC on 1 March 2018 [RBK00029015] at p. 4, where he explained that the purpose of obtaining the list of residents at the rest centres was to work out how many occupants had not come out of the tower.
182 [TMO10031176].
183 Reproduced here as the original citation, including errors.
184 [TMO10031176].
185 [TMO10013898].
186 Although these may have been kept up to date on a different TMO data system: Black Day 74/201/24-202/2.
187 [TMO10013898] pp. 139-140.

20.74 Robert Black said that he was "very disappointed"[188] to see that the information about Grenfell Tower in the TMOEP[189] was 15 years out of date and did not take account of the refurbishment. He did not have information that night about the number of vulnerable residents, nor had he given any specific instructions to his staff about that. He said that Teresa Brown was trying to get current information on vulnerable residents from the housing files.[190]

20.75 Meanwhile, at some time after around 06.00, but before 06.13, John Allen entered the building with a team of five or six, comprising an LFB Urban Search and Rescue team and a Health and Safety team from the LFB and the MPS, to ascertain the condition of the concrete floors and reinforced concrete columns. They got as far as floor 8.[191] At 06.13 the Roe Log recorded John Allen's advice about the building ("not saying will collapse"). It then recorded that he would try find the plans, followed by a note of John Allen's mobile phone number.[192]

20.76 At 06.16.23 Robert Black forwarded an email to John Allen which he had received at 06.14 from David Noble. The subject was "Fwd: Fire access plans from the refurb" with two files attached named "fire access" and "fire strategy".[193]

20.77 Robert Black said that he could not remember why he had sent plans to John Allen and that he must have been asked to do so.[194] He did not know whether anyone from the TMO had sent them to the LFB or whether he had been asked to do so. He said that he had no recollection of having been asked for plans by Michael Rumble.[195] For his part, John Allen could not remember having seen or having received the email at 06.15.23 from Robert Black, and so had not forwarded the attachments to the LFB. John Allen estimated that he had left the incident at around 07.00 (although it is likely to have been a little earlier) to go to the RBKC Town Hall to search for plans of the tower. He then spent 30 minutes or so looking for plans, found them and printed them off. He left the Town Hall at around 07.30 and, again by his own estimate, returned to the incident between around 07.45 and 08.00.[196]

20.78 At around 06.30 Graham Webb, the Managing Director of Repairs Direct Ltd (a subsidiary of the TMO) arrived at the scene.[197] He was briefed by Teresa Brown, who told him that Robert Black was acting as support for the LALO to deal with any requests.[198] There was no discussion about outstanding requests for information, although he was aware that such requests had been made before his arrival, including a request for a list of safe and missing residents.[199] At around 09.00 he later took over from Robert Black as the TMO point of contact for the LALO and the emergency services.

20.79 At 06.30 the second strategic co-ordinating group meeting took place with, for the most part, the same people attending as had been at the earlier meeting.[200] At the meeting AC Mills described developments since the previous meeting and assured everyone that the structural integrity of the building had been assessed and that at that moment there was no reason to assume that a catastrophic collapse would occur. He also reported that the casualty bureau

188 Black Day 74/201/12.
189 [TMO10013898] pp. 139-140.
190 Black Day 74/201/22-203/3.
191 Allen second witness statement [RBK00035691] p. 4.
192 Roe Log [MET00005404] p. 5.
193 [RBK00001468].
194 Black Day 74/213/4-7.
195 Black Day 74//214/18-21.
196 Allen second witness statement [RBK00035691] pp. 8-10.
197 Webb witness statement [TMO10048963] p. 1.
198 Webb Day 75/13/16-14/25.
199 Webb Day 75/17/4-9.
200 London Resilience Forum Major Incident minutes of this meeting at [MET00023292].

was in operation, that the LAS had 44 ambulances at the scene and the MPS had 100 officers present, that six persons had been declared dead, that RBKC was consolidating the rest centres into a single location, and that the RBKC BECC was now open.

20.80 At 07.00 Nickolas Layton left the scene and Michael Rumble took over as LALO. At that point no list of residents of any kind had been provided.[201] Nickolas Layton said that he had made it clear to Michael Rumble that the absence of that information about the residents was a matter of concern and that Michael Rumble had understood the importance and urgency of obtaining it.[202] However, Michael Rumble said that he had not been aware that Nickolas Layton had been asking Robert Black for information about the residents and he could not recall whether he had been specifically told about requests for details of the residents who were at the rest centres or about the request for a list of residents generally.[203] He did not recall having been aware that the request for a list of residents had been outstanding at the time of the TCG meeting at 05.50.[204] I am sure that both witnesses were doing their best to remember exactly what passed between them at that time. Nickolas Layton was well aware that a response to the request for information about the residents had been outstanding for some time (and why the LFB wanted it) and I have little doubt that the importance of obtaining it as soon as possible had been very present to his mind. It would be natural, therefore, for him to have sought to impress on his replacement the need to obtain that information as soon as possible. His recollection of these events was generally much clearer than that of Michael Rumble and, although he may not have succeeded to the extent he thought he had, I accept that he did do all that he reasonably could to impress upon Michael Rumble the need to obtain the information as a matter of urgency.

20.81 It is possible, as his MPS statement shows, that towards the end of his role in the incident Nickolas Layton was framing his request in terms of information only about residents at the rest centres. His MPS statement records that at 06.45 he had spoken to Robert Black and told him that he had not received any information "about residents in the rest centres and that the information was needed by 07.00 hours".[205] It also records that when he handed over to Mike Rumble at 07.00 he had "received no information about residents in the rest centres". Accordingly, it is possible that Mike Rumble understood only that he was to seek a list of residents at the rest centres and not a full list. However, as I have already said, I doubt very much that Robert Black laboured under any such misunderstanding, not least because he knew that the full list of Grenfell Tower residents had been asked for, that he had received such a list and that the LFB wanted to find out who was missing from the rest centres.

20.82 I am conscious that over time Nickolas Layton's evidence on what he said to Robert Black and Mike Rumble has changed and that there are inconsistencies between his accounts, but when he gave evidence he was challenged directly on his recollection about this issue and was unwavering.[206] I accept his evidence on this issue because it is consistent with the purpose for which the information had been requested by the LFB. A list of residents at the rest centres was of little use without a full list of residents in the tower.

201 Layton witness statement [RBK00029034] p. 8 paragraph 29; Layton Day 74/71/6-18.
202 Layton Day 74/75/21-76/17.
203 Rumble Day 74/111/1-24.
204 Rumble Day 74/111/14-18.
205 Layton MPS witness statement [MET00007967] p. 5.
206 Layton Day 74/67/16-68/24.

20.83 The fourth TCG meeting began at 07.13 on CU8. Inspector Nicholas Thatcher and Detective Superintendent Paul Warnett attended for the MPS and Laurence Ioannou and another officer represented the LAS,[207] and Michael Rumble was there as LALO.[208] At that meeting John Allen's advice that the building would not collapse but that there was a very real possibility that some parts might fall was summarised by AC Roe. By that time John Allen had left the incident to find the plans of the building in the RBKC Town Hall.[209] Detective Superintendent Warnett reported that the civil unrest was "moving away", that the cordons were being organised and that there were 65 "casualties" at the rest centres at Freston Road. The LAS reported 56 injured and six fatalities, and that they were "anticipating large numbers of deceased". According to Michael Rumble, there were now six rest centres, the largest being at St Mark's Church. Either Inspector Thatcher or Detective Superintendent Warnett asked Michael Rumble for an electoral roll for the tower and AC Roe demanded a set of plans, which he noted he had been asking for "for a very long time". He expressed the view (though he did not want it to be formally recorded) that the absence of plans was a "major deficiency".[210] The fourth TCG meeting ended at 07.35; the next was scheduled for 08.40.[211]

20.84 Nickolas Layton was not aware that AC Roe had asked John Allen for plans of the building at 06.13[212] and Michael Rumble could not say with certainty whether there had been a request for a floor plan from RBKC by the fourth TCG meeting.[213] Neither LALOs were aware that Robert Black had sent an electronic version to John Allen at 06.16 by email.[214] However, Michael Rumble said that it had been obvious at the fourth TCG meeting that plans were urgently required by the LFB,[215] although he said that that was the first time he had been asked for them.[216] He thought it was possible that he had become aware before the meeting that Robert Black had a copy of a plan of a typical floor of the tower on his phone and he accepted that it was possible that he might himself have spoken to TMO staff about plans sometime earlier.[217]

20.85 Following the fourth TCG meeting, Michael Rumble passed the request for plans to the TMO as he believed it was more likely to have access to plans of the tower than RBKC.[218] He made a request through the BECC for a copy of the electoral roll, but did not know what came of the request.[219] He saw Robert Black speaking to an LFB officer and believed that he had forwarded the floor plan by email. However, he did not see any plans himself.[220] The floor plan and a copy of the electoral roll, both of which had been requested at the meeting at 07.13, were provided to the LFB "FSG sector" (i.e. CU7) at 07.57.[221]

207 Although Laurence Ioannou says that Colin Passey of LAS attended ([MET00010862] p. 11), that is not borne out by either the Roe Log [MET00005404] or Colin Passey's witness statement [MET00013950].
208 Layton witness statement [RBK00029034] paragraph 35.
209 Roe Log [MET0005404] p. 6; Roe Day 49/196/10-198/20.
210 An analysis of the evidence about when AC Roe and other LFB officers first started asking for plans of the building from RBKC is in Period 8 and Period 10.
211 Roe Log [MET00005404] p. 7.
212 Layton Day 74/74/20-25-75/1-12
213 Rumble Day 74/116/6-12
214 Rumble Day 74/120/17-19; Layton Day 74/75/13-15; [RBK00001468].
215 Rumble Day 74/117/7-21.
216 Rumble Day 74/115/17-116/16; Rumble witness statement [RBK00029037] paragraph 11.1.
217 Rumble Day 74/119/1-16.
218 Rumble Day 74/119/17-120/5.
219 Rumble Day 74/114/7-17, 74/124/12-125/13.
220 Rumble Day 74/120/6-11
221 Roe Log [MET00005404] p. 7; [LFB00024370].

20.86 Meanwhile, John Allen had been at RBKC Town Hall locating and printing off the plans of Grenfell Tower, which he had found in the "Means of Escape" files.[222] He left the Town Hall at around 07.30[223] and returned to the incident between 07.45 and 08.00.[224] He took the plans to CU8, but the LFB had already obtained copies from the TMO and had them up on one of the screens in CU8.[225] Exactly where the TMO had found the plans remains unclear, but it is possible that they were the ones of which Robert Black had earlier received copies on his phone. Whatever their source, it is likely that they were the plans that were provided to the LFB by email at 07.57. John Allen arrived back as CU8 between 07.45 and 08.00.

20.87 At 07.56 Robert Black forwarded the email sent to him by David Noble at 05.24 containing details of the occupants of the tower to GM Goodall, copying in Teresa Brown. The message read:

> "Hi from Teressa [sic] and getting a hard copy" [226]

20.88 Robert Black said that there had been a delay in sending the information to the LFB because he had been asked for the information only at that point. He did not question why it had not been sent to the LFB by Teresa Brown earlier.[227] Later she gave Michael Rumble a printed list of residents.[228] He asked her to send it by email to the LFB and gave her a specific email address to which to send it. He believed that had happened just before the TCG meeting at 11.00.[229]

20.89 Colin Passey took over from Laurence Ioannou as the senior LAS officer (Bronze Medic) at 07.38, following a rolling handover that began at around 07.10.[230] Colin Passey visited sector 1 and sector 2 and did not see any patients being treated, but at around 08.10 he saw one patient being treated at sector 2, whom he understood to be the last person to leave the tower, Elpidio Bonifacio.[231]

222 Allen second witness statement [RBK00035691] pp. 8-9.
223 He timed that by reference to his email to Graham Stallwood of 07.31 [RBK00035693].
224 Allen second witness statement [RBK00035691] p. 10.
225 Allen second witness statement [RBK00035691] pp. 9, 10. These were like the plans at [LFB00001968] pp. 49, 51.
226 [TMO10031176].
227 Black Day 74/193/23-194/12, 195/5-197/8.
228 Michael Rumble referred to a number of documents ([RBK00014629]) which had his signature on it (Rumble Day 74/127/24-25-128/1-5). He believed he also received the documents at [LFB00024371] and [LFB00024372] (Rumble Day 74/128/11-19, 74/128/23-129/8).
229 Rumble Day 74/127/11-130/22.
230 Passey witness statement [MET00013950] p. 3.
231 Passey witness statement [MET00013950] p. 4.

Annex A

Table listing those who were in Grenfell Tower as at 00.54 on 14 June 2017

Annex A lists all those present inside the tower as at 00:54 on 14 June 2017 together with their locations by flat and floor. The Annex gives the times, between 00:54 and 08:07, when survivors of the fire left the building or when the bodies of some of those who died were carried out. Some individuals listed were not in their flats on the night but elsewhere in the tower. In these cases, the flat where they were ordinarily resident is shown in brackets.

There were a number of CCTV cameras located on the ground floor of the tower. The MPS has prepared a schedule of CCTV exit times from those cameras which contains a record of the times at which people left the tower.[1] These times were not adjusted to reflect real time. The CCTV cameras on the ground floor of the tower were fast by 36 seconds. The exit times recorded in Annex A are therefore the last time a person is recorded on the MPS schedule, adjusted to take account of the 36-second discrepancy. In very few cases, survivors did not leave by the ground floor. Their exit times have been derived from other sources as explained in the Narrative.

[1] [MET00016072].

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
1	EGAL	Mahad Mahamed	15	4	Survivor	M	Adult	0:59:12
2	MURRAY	Jamie Lucy	15	4	Survivor	F	Adult	0:59:12
3	-	Child	15	4	Survivor	M	Child	0:59:12
4	-	Child	15	4	Survivor	F	Child	0:59:12
5	AFEWORKI	Elsa Mebrahut	16	4	Survivor	F	Adult	0:59:22
6	ADAM	Maryam Yusuf	14	4	Survivor	F	Adult	0:59:31
7	MOHAMMED	Amna	14	4	Survivor	F	Adult	0:59:31
8	ABDULHAMID	Abdulwahab Hassan	14	4	Survivor	M	Adult	0:59:31
9	BOAITEY	Ishmael	13	4	Survivor	M	Adult	0:59:33
10	CHENTITE	Jalal	NK	NK	Survivor	M	Adult	0:59:33
11	YUSUF	Saleh	21	5	Survivor	M	Unknown	1:01:29
12	HARIRI	Mohamed	21	5	Survivor	M	Adult	1:02:24
13	KEBEDE	Behailu	16	4	Survivor	M	Adult	1:03:01
14	ALVES	Maria de Fatima (Fatima)	105	13	Survivor	F	Adult	1:04:19
15	ALVES	Ines Tavares	105	13	Survivor	F	Child	1:04:21
16	ALVES	Tiago	105	13	Survivor	M	Adult	1:04:25
17	KAFICHERAGHI	Farshid	91	12	Survivor	M	Adult	1:06:23
18	MOSES	Alison	11	4	Survivor	F	Adult	1:07:09
19	ALVES	Manuel Miguel Ferreira (Miguel)	105	13	Survivor	M	Adult	1:08:34
20	KINFU	Almaz	16	4	Survivor	F	Adult	1:10:13
21	SEDRATI	Hafida	55	8	Survivor	F	Adult	1:10:14
22	-	Child	55	8	Survivor	M	Child	1:10:14
23	SEDRATI	Sarah	55	8	Survivor	F	Adult	1:10:16
24	ZADA	Eamon	53	8	Survivor	M	Adult	1:11:53
25	HIRSI	Abdirahman Salah	7	3	Survivor	M	Adult	1:12:54

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
26	HIRSI	Suhayb Salah	7	3	Survivor	M	Adult	1:12:55
27	BENJAMIN	David Andrew	12	4	Survivor	M	Adult	1:12:58
28	DAINTON	Zoe	12	4	Survivor	F	Adult	1:13:01
29	GRIFFIN	Daniel	31	6	Survivor	M	Adult	1:16:04
30	SUAREZ-CHANS	Dorinda Encarnacion	103	13	Survivor	F	Adult	1:16:41
31	COSTA COTELO	Jose	103	13	Survivor	M	Adult	1:16:42
32	HAXHISEFA	Alk	106	13	Survivor	M	Child	1:17:12
33	-	Child	106	13	Survivor	M	Child	1:17:12
34	ZYMBERAJ	Adriana	106	13	Survivor	F	Adult	1:17:13
35	HAXHISEFA	Avni	106	13	Survivor	M	Adult	1:17:15
36	CHEBIOUNI	Zakariya	66	9	Survivor	M	Child	1:19:20
37	-	Child	66	9	Survivor	F	Child	1:19:20
38	DAGNACHEW	Hiwot	26	5	Survivor	F	Adult	1:20:07
39	-	Child	26	5	Survivor	F	Child	1:20:07
40	-	Child	26	5	Survivor	M	Child	1:20:08
41	TEMESGEN	Wintom	26	5	Survivor	M	Adult	1:20:13
42	MONTES	Claudia Marina Cedeno	36	6	Survivor	F	Adult	1:20:34
43	TOWNER	Luke	171	20	Survivor	M	Adult	1:20:37
44	O'CONNOR	Emma	171	20	Survivor	F	Adult	1:20:38
45	URBANO	Ramiro	36 (176)	6 (20)	Survivor	M	Adult	1:20:50
46	MILLAN GONZALEZ	Oscar	36	6	Survivor	M	Adult	1:20:52
47	WAHABI	Hanan	66	9	Survivor	F	Adult	1:21:00
48	CHEBIOUNI	Salah Eddine	66	9	Survivor	M	Adult	1:21:40
49	-	Child	102	13	Survivor	F	Child	1:21:41
50	RAIHANI	Aziza El-Ouahabi	126	15	Survivor	F	Adult	1:21:42

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
51	-	Child	125	15	Survivor	F	Child	1:21:59
52	JAFARI	Fatima	86	11	Survivor	F	Adult	1:22:25
53	-	Child	102	13	Survivor	F	Child	1:22:27
54	MICHAEL	Aida	102	13	Survivor	F	Adult	1:22:27
55	ALI	Rashida Abdalla	125	15	Survivor	F	Adult	1:23:20
56	-	Child	54	8	Survivor	M	Child	1:23:42
57	HARZI	Makrem	54	8	Survivor	M	Adult	1:23:42
58	KASOTE	Betty	41	7	Survivor	F	Adult	1:23:51
59	SAID	Rawda	54	8	Survivor	F	Adult	1:23:51
60	VIEIRO	Jose	46	7	Survivor	M	Adult	1:23:56
61	VIEIRO	Carmen	46	7	Survivor	F	Adult	1:23:56
62	WEST	Hannah	45	7	Survivor	F	Adult	1:23:58
63	-	Child	45	7	Survivor	F	Child	1:24:00
64	PARAMASAVIAN	Michael Thomas Phillip	45	7	Survivor	M	Adult	1:24:00
65	HANLEY	Catherine	52	8	Survivor	F	Adult	1:24:01
66	HANLEY	Mary	52	8	Survivor	F	Adult	1:24:03
67	JAMALVATAN	Mahboubeh	10	3	Survivor	F	Adult	1:24:20
68	PATEL	Shantilal Naranbhai	56	8	Survivor	M	Adult	1:24:22
69	THOMPSON	William	52	8	Survivor	M	Adult	1:24:36
70	PATEL	Chiraag Shantilal	56	8	Survivor	M	Adult	1:24:38
71	PATEL	Kiran	56	8	Survivor	F	Adult	1:24:49
72	MOHAMED	Amina	51	8	Survivor	F	Adult	1:24:50
73	AHMED	Khalid	51	8	Survivor	M	Adult	1:24:54
74	AHMED	Mohamed	102	13	Survivor	M	Adult	1:25:03
75	NAQSHBANDI	Reshad	8	3	Survivor	M	Adult	1:25:18

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
76	LOKKO	Monica	3	1	Survivor	F	Adult	1:25:28
77	KASSEMDJIAN	Mesrob	141	17	Survivor	M	Adult	1:25:51
78	HARRIS	Hermine	42	7	Survivor	F	Adult	1:26:03
79	JAFARI	Maria	86	11	Survivor	F	Adult	1:26:07
80	AL-ARASI	Randa	102	13	Survivor	F	Adult	1:26:09
81	-	Ahalam	102	13	Survivor	F	Adult	1:26:09
82	PAHLAVANI	Gitiara	22	5	Survivor	F	Adult	1:26:11
83	SOBIESZCZAK	Elizabeth	43	7	Survivor	F	Adult	1:26:24
84	SOBIESZCZAK	Florentyna	43	7	Survivor	F	Adult	1:26:24
85	ROJO	Rhea Iligan	91	12	Survivor	F	Adult	1:26:33
86	LAVINE	Jean	42	7	Survivor	M	Adult	1:26:38
87	JAFARI	Nadia	86	11	Survivor	F	Adult	1:26:39
88	TANKARIAN	Rita	141	17	Survivor	F	Adult	1:26:48
89	HEE-CHEUNG	Fung	141	17	Survivor	F	Adult	1:26:48
90	HO	Van Quang	76	10	Survivor	M	Adult	1:26:58
91	QUANG	Hoang Khanh	76	10	Survivor	F	Adult	1:27:24
92	SOBIESZCZAK	Michael	43	7	Survivor	M	Adult	1:27:29
93	MAHMUD	Munira	25	5	Survivor	F	Adult	1:27:32
94	-	Child	25	5	Survivor	F	Child	1:27:32
95	-	Child	25	5	Survivor	M	Child	1:27:32
96	BAYAM	Sied	121	15	Survivor	M	Adult	1:27:35
97	YOUSEF	Nadia	121	15	Survivor	F	Adult	1:27:36
98	-	Child	85	11	Survivor	F	Child	1:27:38
99	ABDULLAH	Sabah	143	17	Survivor	M	Adult	1:27:38
100	EL-OGBANI	Mouna	85	11	Survivor	F	Adult	1:27:39

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
101	-	Child	85	11	Survivor	M	Child	1:27:39
102	KHALLOUD	Youssef	85	11	Survivor	M	Adult	1:27:40
103	-	Child	85	11	Survivor	F	Child	1:27:40
104	LOUIS	Damiana	96	12	Survivor	F	Adult	1:28:03
105	ABDU	Mustafa Siraag	184	21	Survivor	M	Adult	1:28:21
106	DIAS	Joao	104	13	Survivor	M	Adult	1:28:24
107	MANGOBA	Marlon Snr	116	14	Survivor	M	Adult	1:29:45
108	MANGOBA	Marlon Jnr	116	14	Survivor	M	Child	1:29:45
109	MINAEI MOGHADDAM	Sepideh	4	1	Survivor	F	Adult	1:29:46
110	-	Child	4	1	Survivor	F	Child	1:29:47
111	MANGOBA	Nida	116	14	Survivor	F	Adult	1:29:56
112	-	Child	145	17	Survivor	M	Child	1:29:56
113	JONES	Corinne Simone	145	17	Survivor	F	Adult	1:30:00
114	-	Child	145	17	Survivor	M	Child	1:30:00
115	BATOAN	Genaro	146	17	Survivor	M	Adult	1:30:11
116	RABAYA	Elisa	146	17	Survivor	F	Adult	1:30:15
117	CASTRO	Virgilio (Larry)	146	17	Survivor	M	Adult	1:30:37
118	LEWIS	Rose	5	1	Survivor	F	Adult	1:31:25
119	LEWIS	Octinia	5	1	Survivor	F	Adult	1:31:25
120	CHARLES	Theodore	5	1	Survivor	M	Adult	1:31:27
121	GASHAW	Hime Haymanot	131	16	Survivor	F	Adult	1:31:29
122	AHMED	Sayeda	156	18	Survivor	F	Adult	1:31:29
123	AHMED	Shahid (Shah)	156	18	Survivor	M	Adult	1:31:30
124	FLETCHER	Richard	131	16	Survivor	M	Adult	1:31:31
125	-	Child	131	16	Survivor	F	Child	1:31:31

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
126	MEKONNEN	Meron	163	19	Survivor	F	Adult	1:32:25
127	-	Child	163	19	Survivor	F	Child	1:32:25
128	-	Child	163	19	Survivor	F	Child	1:32:25
129	KHDEIR	Walaa	64	9	Survivor	F	Adult	1:33:35
130	KHDEIR	Lujain	64	9	Survivor	F	Child	1:33:37
131	DEDRICH	Reem	123	15	Survivor	F	Adult	1:33:35
132	IGNACIO	Wesley	62	9	Survivor	M	Adult	1:33:57
133	-	Child	62	9	Survivor	F	Child	1:33:57
134	IGNACIO	Madylyn	62	9	Survivor	F	Adult	1:33:59
135	IGNACIO	Erlinda	62	9	Survivor	F	Adult	1:34:00
136	DAFFARN	Edward	134	16	Survivor	M	Adult	1:34:51
137	NALUKWAGO	Nagawa (Prossy)	71	10	Survivor	F	Adult	1:35:03
138	KHDEIR	Rawan	64	9	Survivor	F	Adult	1:35:36
139	ALKUEDI	Iman	64	9	Survivor	F	Adult	1:35:36
140	RASOUL	Mohammed	25	5	Survivor	M	Adult	1:35:58
141	ABD EL RASOUL	Ahmed	25	5	Survivor	M	Adult	1:35:58
142	ATMANI	Sid-Ali	125	15	Survivor	M	Adult	1:35:58
143	KHOUDAIR	Maher	64	9	Survivor	M	Adult	1:36:38
144	DANIELS	Samuel	135	16	Survivor	M	Adult	1:38:04
145	WAHBI	Hamid	136	16	Survivor	M	Adult	1:38:13
146	MAMUDU	Rukeyatu	2	1	Survivor	F	Adult	1:40:26
147	-	Child	2	1	Survivor	M	Child	1:40:26
148	AUGUSTUS	Leroy	174	20	Survivor	M	Adult	1:41:25
149	DOULOVA	Petra	174	20	Survivor	F	Adult	1:41:26
150	MENACER	Paul	33	6	Survivor	M	Adult	1:43:55

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
151	HALEY	Sharon	24 (13)	5 (4)	Survivor	F	Adult	1:44:12
152	SMITH	Kenny	13	4	Survivor	M	Adult	1:44:14
153	O'HARA	Kerry	34	6	Survivor	F	Adult	1:44:44
154	BEADLE	John	13	4	Survivor	M	Adult	1:46:21
155	MAWIA	Aimen	NK	NK	Survivor	F	Adult	1:46:35
156	SHAH	Josephine	32	6	Survivor	F	Adult	1:47:17
157	SHAH	Avelina	32	6	Survivor	F	Adult	1:47:17
158	GIRMA	Turufat Yilma	44	7	Survivor	F	Adult	1:48:00
159	ABEBE	Abraham	44	7	Survivor	M	Adult	1:48:04
160	-	Child	44	7	Survivor	M	Child	1:48:04
161	ALLCORN	Tania Jean	35	6	Survivor	F	Adult	1:48:22
162	NANA	Suriya	35	6	Survivor	F	Adult	1:48:22
163	GHAVIMI	Clarita	75	10	Survivor	F	Adult	1:49:09
164	LOVSIN	Miran	84	11	Survivor	M	Adult	1:49:09
165	LUKIC	Branislav	84	11	Survivor	M	Adult	1:49:09
166	LEWIS	David	9	3	Survivor	M	Adult	2:07:15
167	-	Child	9	3	Survivor	M	Child	2:07:15
168	-	Child	9	3	Survivor	F	Child	2:07:15
169	-	Child	9	3	Survivor	M	Child	2:07:15
170	TOYOSHIMA-LEWIS	Mariko	9	3	Survivor	F	Adult	2:10:14
171	-	Child	65	9	Survivor	F	Child	2:18:03
172	LACI	Sharon	65	9	Survivor	F	Adult	2:19:08
173	KAREEM	Milad	23	5	Survivor	M	Adult	2:19:00
174	SABIR	Rebin Sartib	23	5	Survivor	M	Adult	2:21:00
175	AHMED	Fadumo	164	19	Survivor	F	Adult	2:25:55

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
176	-	Child	175	20	Survivor	F	Child	2:25:55
177	TUCCU	Mohamednur	166	19	Deceased	M	Adult	2:28:41
178	KHALLOUFI	Khadija	143	17	Deceased	F	Adult	2:28:53
179	DEL PILAR BURTON	Maria (Pily)	165	19	Survivor	F	Adult	2:32:35
180	BURTON	Nicholas Trevanion	165	19	Survivor	M	Adult	2:32:47
181	-	Child	95	12	Survivor	F	Child	2:39:35
182	DABROWSKA	Katarzyna	95	12	Survivor	F	Adult	2:40:48
183	-	Child	95	12	Survivor	F	Child	2:41:17
184	SMITH	Roy	95	12	Survivor	M	Adult	2:41:41
185	NEDA	Shekeb (Farhad)	205	23	Survivor	M	Adult	2:42:10
186	NEDA	Flora (Shakila)	205	23	Survivor	F	Adult	2:43:32
187	ALHAJ ALI	Omar	112	14	Survivor	M	Adult	2:45:02
188	-	Child	113	14	Survivor	F	Child	2:45:15
189	OYEWOLE	Rosemary Olabisi	113	14	Survivor	F	Adult	2:46:03
190	TALABI	Oluwaseun	113	14	Survivor	M	Adult	2:46:03
191	ROSS	Rebecca	122	15	Survivor	F	Adult	2:53:57
192	BELKADI	Malak	175	20	Deceased	F	Child	03.07.15
193	ASSEFA	Ethiopia	94	12	Survivor	F	Adult	3:07:26
194	DEMISSIE	Alemishet	94	12	Survivor	F	Adult	3:10:47
195	-	Child	153	18	Survivor	M	Child	3:12:55
196	SHAWO	Genet Grebremaiam	153	18	Survivor	F	Adult	3:12:57
197	TEKLE	Paulos Woldesilassie	153	18	Survivor	M	Adult	3:12:59
198	ENYEW	Yehualashet	155	18	Survivor	M	Adult	3:13:50
199	-	Child	152	18	Survivor	F	Child	3:15:19
200	-	Child	152	18	Survivor	M	Child	3:17:25

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
201	-	Child	152	18	Survivor	F	Child	3:18:22
202	YAHYA	Rabia	152	18	Survivor	F	Adult	3:18:41
203	-	Child	92	12	Survivor	M	Child	3:20:06
204	ABOUD	Karen	92	12	Survivor	F	Adult	3:20:10
205	-	Child	92	12	Survivor	M	Child	3:21:28
206	LI	Chia-Yuan (Naomi)	195	22	Survivor	F	Adult	3:21:28
207	LIAO	Chin-Hsuan (Lydia)	195	22	Survivor	F	Adult	3:21:38
208	JAFARI	Ali Yawar	86	11	Deceased	M	Adult	3:33:47
209	-	Child	183	21	Survivor	F	Child	3:37:06
210	PERESTRELO	Andreia	183	21	Survivor	F	Adult	3:37:24
211	GEBREMESKEL	Helen	186	21	Survivor	F	Adult	3:37:30
212	MACIT	Sener	133	16	Survivor	M	Adult	3:47:15
213	MACIT	Hanife	133	16	Survivor	F	Adult	3:47:16
214	-	Child	183	21	Survivor	F	Child	3:51:06
215	-	Child	186	21	Survivor	F	Child	3:52:42
216	FAIRBAIRN	Christos	124	15	Survivor	M	Adult	3:54:26
217	GOMES	Marcio Paulo Da Silva	183	21	Survivor	M	Adult	3:55:01
218	HAMIDE	Lina	74	10	Survivor	F	Adult	4:13:32
219	WOLDESELASSIE ARAYA	Meron	74	10	Survivor	F	Adult	4:12:34
220	SUPAREOGSANOND	Adam	73	10	Survivor	M	Adult	4:18:43
221	SUPAREOGSANOND	Waewta	73	10	Survivor	F	Adult	4:20:18
222	CHANCE	Ann	73	10	Survivor	F	Adult	4:20:18
223	SUPAREOGSANOND	Chalalai	73	10	Survivor	F	Adult	4:20:18
224	-	Child	82	11	Survivor	F	Child	4:47:16
225	SMITH	Anthony	82	11	Survivor	M	Adult	4:47:17

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
226	ELCOCK	Natasha	82	11	Survivor	F	Adult	4:47:22
227	RONCOLATO	Antonio	72	10	Survivor	M	Adult	6:05:15
228	BONIFACIO	Elpidio	83	11	Survivor	M	Adult	8:07:20
229	JACKSON LE-BLANC	Leanne Mya	6	2	Survivor	F	Adult	NK
230	-	Child	6	2	Survivor	M	Child	NK
231	JOHN	Joseph	6	2	Survivor	M	Adult	NK
232	SEBBAR	Abdeslam	81	11	Deceased	M	Adult	-
233	MURPHY	Denis	111	14	Deceased	M	Adult	-
234	ALHAJALI	Mohammad	112	14	Deceased	M	Adult	-
235	DEEN	Zainab	115	14	Deceased	F	Adult	-
236	DEEN	Jeremiah	115	14	Deceased	M	Child	-
237	POWER	Steven	122	15	Deceased	M	Adult	-
238	-	Sheila	132	16	Deceased	F	Adult	-
239	DANIELS	Joseph	135	16	Deceased	M	Adult	-
240	BEGUM	Rabeya	142	17	Deceased	F	Adult	-
241	MIAH	Kamru	142	17	Deceased	M	Adult	-
242	HANIF	Mohammed	142	17	Deceased	M	Adult	-
243	HAMID	Mohammed	142	17	Deceased	M	Adult	-
244	BEGUM	Husna	142	17	Deceased	F	Adult	-
245	CHIEJINA	Vincent	144	17	Deceased	M	Adult	-
246	AFRASEHABI	Sakina	151	18	Deceased	F	Adult	-
247	AFRASIABI	Fatemeh	151	18	Deceased	F	Adult	-
248	PAULOS	Isaac	153	18	Deceased	M	Child	-
249	KANI	Hamid	154	18	Deceased	M	Adult	-
250	HAFTOM	Biruk	155	18	Deceased	M	Child	-

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
251	HAFTOM	Berkti	155	18	Deceased	F	Adult	-
252	LAMPRELL	Deborah (Debbie)	161	19	Deceased	F	Adult	-
253	MAUNDERS	Gary	161	19	Deceased	M	Adult	-
254	VITAL	Majorie	162	19	Deceased	F	Adult	-
255	VITAL	Ernie	162	19	Deceased	M	Adult	-
256	AHMEDIN	Amal	166	19	Deceased	F	Adult	-
257	TUCCU AHMEDIN	Amaya	166	19	Deceased	F	Child	-
258	IDRIS	Amna Mahmud	166	19	Deceased	F	Adult	-
259	KING	Victoria (Vicky)	172	20	Deceased	F	Adult	-
260	ATALA	Alexandra Catherine	172	20	Deceased	F	Adult	-
261	MENDY	Mary	173	20	Deceased	F	Adult	-
262	SAYE	Khadija	173	20	Deceased	F	Adult	-
263	HAMDAN	Farah	175	20	Deceased	F	Adult	-
264	BELKADI	Omar	175	20	Deceased	M	Adult	-
265	BELKADI	Leena	175	20	Deceased	F	Child	-
266	URBANO RAMIREZ	Jessica	176	20	Deceased	F	Child	-
267	MOORE	Ligaya	181	21	Deceased	F	Adult	-
268	EL WAHABI	Abdulaziz	182	21	Deceased	M	Adult	-
269	EL WAHABI	Faouzia	182	21	Deceased	F	Adult	-
270	EL WAHABI	Yasin	182	21	Deceased	M	Adult	-
271	EL WAHABI	Nur Huda	182	21	Deceased	F	Child	-
272	EL WAHABI	Mehdi	182	21	Deceased	M	Child	-
273	CHOUCAIR	Sirria	191	22	Deceased	F	Adult	-
274	KEDIR	Hashim	192	22	Deceased	M	Adult	-
275	JEMAL	Nura	192	22	Deceased	F	Adult	-

	Second Name	First Name	Flat	Floor	Survivor/ Deceased	Male (M)/ Female (F)	Adult/Child on 14.06.17	Adjusted Exit Time on CCTV (British Standard Time) (Source: MET00016072)
276	HASHIM	Yaqub	192	22	Deceased	M	Child	-
277	HASHIM	Firdaws	192	22	Deceased	F	Child	-
278	HASHIM	Yahya	192	22	Deceased	M	Child	-
279	CHOUCAIR	Nadia	193	22	Deceased	F	Adult	-
280	CHOUKAIR	Bassem	193	22	Deceased	M	Adult	-
281	CHOUCAIR	Mierna	193	22	Deceased	F	Child	-
282	CHOUCAIR	Fatima	193	22	Deceased	F	Child	-
283	CHOUCAIR	Zainab	193	22	Deceased	F	Child	-
284	DISSON	Anthony	194	22	Deceased	M	Adult	-
285	ELGWAHRY	Mariem	196	22	Deceased	F	Adult	-
286	ELGWAHRY	Eslah	196	22	Deceased	F	Adult	-
287	BERNARD	Raymond (Moses)	201	23	Deceased	M	Adult	-
288	GOTTARDI	Marco	202	23	Deceased	M	Adult	-
289	TREVISAN	Gloria	202	23	Deceased	F	Adult	-
290	IBRAHIM	Rania	203	23	Deceased	F	Adult	-
291	HASSAN	Fethia	203	23	Deceased	F	Child	-
292	HASSAN	Hania	203	23	Deceased	F	Child	-
293	RAHMAN	Hesham	204	23	Deceased	M	Adult	-
294	NEDA	Mohammed Amied (Saber)	205	23	Deceased	M	Adult	-
295	IBRAHIM	Isra	206	23	Deceased	F	Adult	-
296	IBRAHIM	Abufras Mohamed	206	23	Deceased	M	Adult	-
297	AHMED ELSANOUSI	Fathia	206	23	Deceased	F	Adult	-

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Grenfell Tower
Inquiry

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Chairman: The Rt Hon Sir Martin Moore-Bick

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HC 49–IV

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Part III
Conclusions

Chapter 21
The Cause and Origin of the Fire

21.1 The two principal matters to be determined are how the fire started and what caused it. In answering these questions I was assisted by expert evidence from Professor Niamh Nic Daéid (in relation to the origin, cause and initial internal spread of the fire) and Dr Duncan Glover (in relation to the electrical installations and certain appliances in Flat 16). Neither expert was involved in the investigations conducted by, or under the authority of, the MPS in the immediate aftermath of the fire. Therefore, although both experts were able to visit the tower to inspect and photograph Flat 16 and to carry out such tests as they considered necessary and appropriate, they were obliged to rely to a significant extent on the evidence gathered by others. The manner and means by which evidence was recovered from Flat 16 was, in certain respects, not ideal, but both experts considered that the available evidence was sufficient to allow them to reach their conclusions with confidence.

1 Where did the fire start?

21.2 It is quite clear, and indeed no one has suggested otherwise, that the fire started in the kitchen of Flat 16. That was the evidence of Mr Kebede, Ms Afeworki and Ms Kinfu, as well as the two fire crews who entered the flat and there is no evidence to suggest that it started anywhere else. It was the unchallenged view of Professor Nic Daéid that the fire started in the kitchen of Flat 16 and that was the equally clear conclusion of Bureau Veritas and Key Forensic Services, investigators retained by the MPS to examine the cause and origin of the fire.[1]

21.3 A slightly more contentious question is whether it is possible to determine exactly where in the kitchen the fire started. In this regard, there are four principal sources of evidence: (i) the evidence of the occupants of Flat 16, Mr Kebede, Ms Afeworki and Ms Kinfu and the evidence of the firefighters who first entered the kitchen, CM Charles Batterbee and FF Daniel Brown; (ii) the images captured by the thermal imaging camera used by CM Batterbee and FF Brown; (iii) the burn patterns on the kitchen floor and skirting board, the large fridge-freezer and other appliances; and (iv) the evidence of Dr Glover based on his examination of the relevant electrical installations and materials recovered from Flat 16.

The evidence of the occupants of Flat 16 and the firefighters

21.4 The first source is that of the witnesses, Mr Kebede, Ms Afeworki, Ms Kinfu, CM Batterbee and FF Brown. In his call to the fire brigade and when urging Ms Kinfu to leave the flat, Mr Kebede stated unambiguously that the fridge was on fire. (He later made it clear that he was referring to the large fridge-freezer at the south-east end of the kitchen.) This evidence is consistent with WM Michael Dowden's evidence about the information he had received from Mr Kebede very soon after arriving at the tower, namely, that the fire was in the kitchen and involved "the fridge".

[1] Bureau Veritas report (dated 7 November 2017) [MET00007996] paragraph 15.1 p. 37.

21.5 CM Batterbee, who had entered the kitchen soon after 01.14, recalled that the fire was in the area of the large fridge-freezer[2] and, having put the fire out, he remembered telling FF Brown that: "I could see what I thought was the fridge and cupboards alight",[3] that is to say, the large fridge-freezer. It was this fridge-freezer that FF Brown inspected, noting heavy damage around the top 25%.[4]

The thermal imaging camera footage

21.6 The second source of evidence is the thermal imaging camera footage. CM Batterbee and FF Brown captured images, timed at 01.14, which showed an elevated temperature at the south-east end of the kitchen in the area of the window and the space between the window and the large fridge-freezer.[5] Footage, captured at 01.15, showed the large fridge-freezer involved in the fire.[6] No other area of the kitchen was shown to be involved in the fire at that stage.

Burn patterns

21.7 The third source of evidence is the burn patterns in the kitchen, particularly those on the floor where the large fridge-freezer stood, which were the subject of evidence from Professor Nic Daéid.

21.8 The following photographs show the extent of the burn marks on the large fridge-freezer itself.

21.9 Figure 21.1 is a photograph of the side of the large fridge-freezer facing the kitchen window. There are no burn marks on the laminate floor to the left of the appliance. The burn marks illustrated in figure 21.1 are, as Professor Nic Daéid noted, mirrored on the opposite side of the appliance, as illustrated in figure 21.2.

21.10 Figure 21.3 shows the appliance's door. In Professor Nic Daéid's view, the fire pattern on the door suggests that combustible materials to the left of the large fridge-freezer (that is to say, between the large fridge-freezer and the south-east wall) were burning during the early stages of the fire. This fire pattern could also have been influenced by ventilation effects from the nearby open window.

2 Batterbee Day 12/73/11-21.
3 [MET00012871] p. 7.
4 [MET00005251] p. 3.
5 Professor Nic Daéid supplemental report [NNDS00000001] p. 32 Fig. 19(a) and (b).
6 Professor Nic Daéid supplemental report [NNDS00000001] p. 32 Fig. 19(c).

Figure 21.1

Figure 21.2

Figure 21.3

21.11 The following photographs show the burn pattern on the floor below the large fridge-freezer.

Figure 21.4

Figure 21.5

21.12 The burn pattern shows that the laminate floor beneath the large fridge-freezer was exposed to heat or flame to a greater extent than that on either side of the appliance. It is significant that the floor on either side of the place where the large fridge-freezer had been standing is undamaged. It is also of significance that the skirting board immediately behind the large fridge-freezer had been burnt away. In her oral evidence, Professor Nic Daéid carefully reviewed the burn patterns on the floor and on the large fridge-freezer, as well as the burnt-away skirting board behind the large fridge-freezer. She concluded as follows:

> "Looking at these burn patterns in particular, the burn pattern to the skirting board and also the damage to the sides in particular of the outside of the tall fridge freezer, where the damage runs from the bottom to the top, it would be my view that the fire was originally orientated in the base of the fridge freezer."[7]

Dr Glover's evidence

21.13 Professor Nic Daéid's opinion is supported by the fourth principal source of evidence, namely, Dr Glover's analysis of the electrical installations within, and certain artefacts recovered by the fire investigators from, Flat 16.

21.14 It should be noted that Dr Glover's analysis was confined to the area of origin of the fire provisionally identified by Professor Nic Daéid and Professor Bisby in their first reports, that is to say, the south-east end of the kitchen of Flat 16. That was an appropriate basis upon which to proceed for three main reasons: first, because no one had identified any other potential area of origin; secondly, because Bureau Veritas had also identified the south-east end of the kitchen as the area of origin; and, thirdly, because neither Professor Nic Daéid nor Bureau Veritas had found any evidence to implicate any of the electrical appliances elsewhere in the kitchen (namely, the washing machine, sandwich maker, kettle, toaster, microwave and smoke detector) in the start of the fire.

21.15 The starting point of Dr Glover's analysis is the consumer unit in Flat 16 containing the circuit breakers, which is illustrated in figure 21.6 below.

[7] Professor Nic Daéid oral evidence Day 83/67/13-18.

Figure 21.6

21.16 As can be seen, the following are in the "off" position:

a. the main switch;

b. the circuit breaker for Circuit No. 7, which operated on the electricity supply to the kitchen sockets; and

c. the circuit breaker for the residual current detector (RCCB). This circuit breaker protects Circuit No. 7 (the kitchen) and Circuit No. 8 (power sockets elsewhere in the flat).

The other circuit breakers are in the "on" position.

21.17 As described above, Mr Kebede said that, before leaving Flat 16, he had turned off the electricity supply using the main switch. No evidence has been adduced that casts doubt on Mr Kebede's recollection and there is no evidence that any firefighter, fire investigator or any other person turned off the main switch in the consumer unit. In the circumstances, I am quite satisfied that Mr Kebede did turn the main switch off before he left the flat.

21.18 This evidence is important in identifying the area of origin of the initial fire. If Mr Kebede did turn off the main switch, all the electrical circuits in Flat 16 would then have been disconnected from the electricity supply and would no longer have been capable of being energised. No circuit breaker could therefore have been tripped after the main switch had been turned off. Ms Afeworki had made herself a cup of tea (presumably using the kettle) earlier in the evening and had taken some bread out of the fridge-freezer.[8] She confirmed that the fridge-freezer had been working at that time.[9] Ms Kinfu had also used the kettle to make herself a cup of tea[10] before going to bed at around 22.00 and when questioned by the police after the fire said that the fridge had been working normally.[11] I can therefore confidently find that Circuit No. 7 had been energised until shortly before the fire. The circuit breaker protecting Circuit No. 7 must therefore have been tripped before the main switch was turned off and before or during the early development of the fire.[12]

21.19 Dr Glover identified two possible sequences by which the circuit breaker protecting Circuit No. 7 and the RCCB had both been tripped:

a. the first was that the two circuit breakers had been tripped simultaneously by a single event, a short circuit or overcurrent in Circuit No. 7 (or an appliance connected to it) that also involved a live wire shorting or arcing to ground or a metallic connection to ground; and

b. the second was that the circuit breaker for Circuit No. 7 had been tripped by a short circuit or overcurrent in that circuit without any shorting to ground and that the RCCB had been tripped by a second, separate event.

21.20 Dr Glover pointed out that the RCCB could not have been tripped before the circuit breaker protecting Circuit No. 7, because in that event that circuit would no longer have been energised and the circuit breaker protecting it could not have been tripped. The second sequence therefore involved an event which tripped circuit breaker No. 7 followed by a second event which tripped the RCCB. In his report Dr Glover expressed no preference between these two possible sequences,[13] but in his oral evidence he said that in the light of other evidence he had since looked at he considered it more likely that there had been two separate events.[14] For present purposes, however, nothing turns on this, because, whichever sequence is correct, the circuit breaker protecting Circuit No. 7 must have been tripped while the circuit was still energised.

8 Afeworki witness statement 18 June 2017 [MET00006341] p. 2.
9 Afeworki witness statement 21 May 2018 [IWS00000280] paragraph 10 pp. 3-4.
10 Kinfu witness statement 24 May 2018 [IWS00000457] paragraph 9 p. 1.
11 Kinfu witness statement 16 June 2017 [MET00006350] pp. 2-3.
12 This is a summary of the Glover report [JDGR0000001] pp. 10-11.
13 Glover report [JDGR0000001] p. 11.
14 Dr Glover oral evidence Day 82/3/18-34/3.

21.21 To narrow down the area of origin Dr Glover examined the electrical appliances in the south-east end of the kitchen including those that were connected to Circuit No. 7. His main conclusions can be summarised as follows:

a. The small fridge can be excluded from consideration as there is no evidence that it had been plugged into any socket on the night of the fire.[15]

b. The old freezer can also be excluded. Mr Kebede and Ms Afeworki said that this appliance was not in use and their evidence is corroborated by the absence of any indication that it had been plugged into any socket on the night of the fire.[16]

c. The extension lead was not implicated in the fire. No plug was found in any of the four sockets of the extension lead and no arc damage to the internal current-carrying components was found. In any event, the extension lead would have been supplied by a socket on Circuit No. 8 and, if at the time of the fire it had been plugged into a socket in the living room, it would have had nothing to do with whatever tripped the circuit breaker for Circuit No. 7. Moreover, Dr Glover considered it implausible that a fire could have begun in the living room (where Mr Kebede was sleeping) and progress through the sliding doors separating the living room from the kitchen without waking him before the smoke alarm in the kitchen sounded.[17]

d. The mitad did not cause the fire as there was no evidence that it had been plugged into any socket on the night of the fire and there is no evidence of any arc damage to it.[18]

e. The weight of the evidence indicated that the extractor fan (fixed in the kitchen window) was not involved in starting the initial fire. The short circuit or overcurrent that caused Circuit No. 7 to trip did not occur in the extractor fan or in any related component. If it had, the three-amp fuse in the isolator switch would have blown more quickly than the circuit breaker, which had not happened. Furthermore, no arc damage or any other signs of abnormal electrical activity were found in the components related to the extractor fan.[19]

f. The kitchen lighting did not cause the fire. The lighting was supplied by Circuit Nos. 2 and 3, both of which were found in the "on" position, thereby confirming that there was no short circuit or overcurrent sufficient to trip either of the six-amp circuit breakers protecting them.[20]

g. Similarly, the cooker can also be excluded from consideration.[21] The cooker was supplied by Circuit No. 1 which was in the "on" position. This confirms that there was no short circuit or overcurrent sufficient to trip the 32-amp circuit breaker for Circuit No. 1. The evidence indicates that the four hob switches were "off" and that the heating plates were therefore not energised. The fact that the cooker only sustained superficial heat and fire damage is inconsistent with its having played any causative role.

h. Finally, Dr Glover excluded the large fridge-freezer's power supply cord as no arc damage was observed.[22]

15 Glover report [JDGR0000001] paragraph 7.3 p. 30.
16 Glover report [JDGR0000001] paragraph 8.3 pp. 33-34.
17 Glover report [JDGR0000001] paragraph 6.5 p. 27.
18 Glover report [JDGR0000001] paragraph 10.3 p. 39.
19 Glover report [JDGR0000001] paragraph 11.7 p. 49.
20 Glover report [JDGR0000001] paragraph 13.5 p. 64.
21 Glover report [JDGR0000001] paragraph 5.5 p. 23.
22 Glover report [JDGR0000001] paragraph 16.2(2) p. 77.

21.22 Dr Glover's analysis (with which Professor Nic Daéid agreed[23]) therefore eliminated all the electrical appliances in the south-east end of the kitchen as possible sources of an electrical fire, apart from the large fridge-freezer. For this reason (as well as others) Dr Glover concluded (and Professor Nic Daéid agreed) that the most probable area of origin was the large fridge-freezer.[24]

21.23 Dr Glover drew additional support for his conclusion from two exhibits, MJS/1, a section of electrical conductor taken from a collection of wiring recovered from bedroom 2 of Flat 16,[25] and JDG/1, a small section of wire found in a plastic bag in the old freezer which had stood beneath the kitchen window. Analysis revealed that both showed arc damage. In Dr Glover's view, it was improbable that the arc damage to MJS/1 had been sustained in the bedroom as circuit breaker No. 8, which protected all the sockets other than those in the kitchen, had not been tripped. It was also improbable that JDG/1 had suffered arc damage in the old freezer as there was evidence that the old freezer had not been plugged in on the night of the fire.[26] Given that both exhibits consist of 24 strands of wire each approximately 0.16-0.18mm in diameter, both are consistent with a wire from either the run capacitor or an internal jumper wire within the relay compartment of the large fridge-freezer.[27] Both exhibits are also consistent with a segment from the wiring of the large fridge-freezer. In the circumstances, the combination of evidence of arc damage and the similarity of the exhibits to wiring found in the large fridge-freezer point to the latter as the area of origin.

21.24 In its closing submissions Whirlpool Corporation (Whirlpool), the manufacturer of the large fridge-freezer, challenged Dr Glover's conclusions in a number of respects, but since it had not asked me to consider evidence from any expert witness whose opinions differed from those of Dr Glover, it could do no more than argue that his reasoning was inherently unreliable. For example, it said that his preferred explanation of the tripping of circuit breaker No. 7 and the RCCB was implausible, because it was not reasonably possible in the time available for smoke to have entered one of the sockets served by Circuit No. 8 so as to trip the RCCB. However, that is a proposition that calls for the support of expert opinion evidence of a kind that was conspicuously lacking, and in any event takes the matter no further. Whirlpool also took issue with Dr Glover's evidence about the significance of MJS/1 and JDG/1, but again without the support of any expert evidence, other than opinions expressed by Key Forensics and Bureau Veritas, neither of whose investigators I was asked to hear.

21.25 In general, I found Dr Glover a persuasive witness, but neither of these questions is ultimately of any significance in the light of the evidence relating to the tripping of circuit breaker No. 7. No explanation for that was put forward which did not involve the large fridge-freezer and as such it points strongly to an electrical fault having occurred within that appliance.

Conclusion – the fire started in the fridge-freezer

21.26 Although some questions remain unanswered, the evidence, viewed as a whole, leaves me in no doubt that the fire originated in the large fridge-freezer. Although Whirlpool argued that no single piece of evidence pointed "irresistibly" or "uniquely" to that conclusion and that therefore it was not possible to determine the cause of the fire, in my view the combined force of the evidence as a whole points inexorably to that conclusion. It is true that the investigation of the fire scene was not carried out with the degree of rigour that Professor Nic Daéid would

[23] Professor Nic Daéid oral evidence Day 83/76/1-4.
[24] Glover report [JDGR0000001] paragraph 16.2(1) p. 77.
[25] Summary of how the artefact was recovered in Glover's report [JDGR0000001] paragraph 4.2 p. 17 and paragraph 4.4 p. 19.
[26] In relation to both exhibits: Glover report paragraph 4.4 pp. 19-20.
[27] Glover report [JDGR0000001] paragraph 12.9 p. 57.

have wished and that her preliminary report was couched in cautious terms, but in her final report and her oral evidence she was able to express a firm conclusion based on the whole of the evidence. Dr Glover's forensic electrical analysis persuasively identifies the area of origin as the large fridge-freezer. His conclusions are consistent not only with the evidence of Mr Kebede and the crew who first fought the fire but also with the physical evidence of the burn patterns both to the large fridge-freezer itself and to the floor where it had been standing and with the damage to the skirting board behind it. Whirlpool's suggestion that the fire could have originated from a burning cigarette end thrown from a window higher up the building falling into the kitchen of Flat 16 and igniting unknown materials on the floor next to the large fridge-freezer is fanciful. Such an explanation is not consistent with Mr Kebede's evidence or with the burn pattern on the floor and does not provide a convincing explanation for the tripping of circuit breaker protecting circuit No. 7.

2 How did the fire start?

21.27 Two important points need to be made at the outset. First, none of those who examined the large fridge-freezer, or the kitchen of Flat 16 more generally, found any evidence to suggest that the fire had been started deliberately or that it had been caused by an improvised or inexpert attempt to repair a defect in the appliance.[28] Whatever the origin of the initial fire, the evidence indicates that it was accidental. Mr Kebede in particular bears no blame for what occurred in his flat, much less for the catastrophic events that followed. On the contrary, he did exactly what a responsible person might be expected to do in the circumstances and his presence of mind in switching off the electricity as he left the flat enabled important evidence to be gathered about the origin of the fire.

21.28 The second point arises from longstanding concerns raised by residents about electrical "surges" affecting appliances within the tower. RINA Consulting (RINA) were retained by the MPS to assess the electrical supply and distribution infrastructure.[29] In short, RINA found no damage or significant degradation (other than that caused by the fire) nor any major defects in the electrical supply system. RINA found no evidence to suggest that the electrical infrastructure of the tower was in any way responsible for the fire.[30]

21.29 Identifying the precise point of ignition within the large fridge-freezer poses a significant challenge. In the light of Dr Glover's evidence, and in the absence of any evidence suggesting some other cause, Professor Nic Daéid was satisfied that the cause of the fire was probably electrical. Beyond that she did not think that there was enough evidence to enable her to reach a more definite conclusion.[31]

21.30 In an addendum to his report Dr Glover put forward the hypothesis that the origin of the fire was the overheating of a defective crimp connection within a wire connector in the large fridge-freezer.[32] Whirlpool strongly challenged that part of Dr Glover's evidence, but again without the support of any expert evidence. Having considered the addendum to Dr Glover's report as well as his oral evidence, I have come to the conclusion that further investigations would be required before any reliable conclusion could be reached on that question. That could involve considerable time and expense, which might, or might not, enable a firm

28 Professor Nic Daéid supplemental report, [NNDS00000001] paragraph 8.8.32 p. 79.
29 Report (dated November 2017) [MET00007807] paragraph 1 p. 4.
30 It is noted that a neutral cable feeding one of the main risers to the flats had been replaced sometime after 2002. This is broadly relevant to the surges reported in 2013 as a loss of continuity in the main neutral conductors may lead to voltage fluctuations which are revealed by events similar to those experienced in 2013. They are not, however, relevant to the cause of the fire.
31 Professor Nic Daéid supplemental report [NNDS00000001] paragraph 9.4 p. 97, and her oral evidence Day 83/76/1, 83/82/1-12.
32 Glover Addendum [JDGR0000019] section 2.

conclusion to be reached. Whatever the outcome, however, it could not detract from the overwhelming weight of the evidence that the fire started somewhere in the large fridge-freezer. A fire originating in an electrical domestic appliance is not an uncommon event; the important question for this Inquiry is how an ordinary domestic fire could have had such catastrophic consequences for the whole building and its occupants. Further examination of parts from the large fridge-freezer will not provide the answer to that question. In my view it is better to accept that it is not possible within the scope of this Inquiry to identify with confidence the precise nature of the defect in the large fridge-freezer which caused the fire.

Chapter 22
The Escape of the Fire from Flat 16

22.1 A key phase in the development of the fire was its escape from the kitchen of Flat 16 into the exterior cladding system. There is little or no direct evidence of how the fire developed between the time Behailu Kebede left the flat and the appearance of flame outside the kitchen window, but there is evidence from which it is possible to draw certain inferences about what occurred. It is important to understand as far as possible the process by which the fire escaped, not least because at that point it developed from a relatively minor domestic kitchen fire to a major fire within the external cladding system.

22.2 A number of the Inquiry's experts addressed this in their written and oral evidence. Although they approached that task using different methods of analysis, those analyses were complementary and demonstrated that there was considerable agreement about the routes by which the fire is likely to have escaped.

1 Professor José Luis Torero

22.3 Professor Torero considered it unlikely that it would ever be possible to establish with precision how the fire developed in the first few minutes and he therefore based his analysis primarily on the potential range of fire dynamics within the compartment of origin. Using the available information about the dimensions of the kitchen, the probable size of the fire and the materials present in the windows and external cladding, he was able to draw conclusions about the likely sequence of events.[1]

22.4 In order to ignite the components of the windows and cladding it was necessary for them to be heated to ignition temperature by direct flame impingement or by some other means, such as heat radiated from the accumulated smoke produced by burning materials, generally known as the "smoke layer". Buoyed up by hot gases, the smoke layer forms at ceiling level and increases in depth as the fire continues to produce smoke. If there is insufficient ventilation and the smoke cannot escape, the smoke layer will continue to descend, eventually extinguishing the fire due to lack of oxygen. However, if there is sufficient ventilation to allow the escape of some of the smoke, the smoke layer as it descends increases in temperature, with the result that heat is transferred to other combustible materials by radiation. If sufficient heat is transferred to the contents of the room, all the combustible materials in the room ignite.[2] This is the phenomenon known as "flashover", which occurs when the smoke layer heats the room to such an extent that all the combustible materials in the room ignite as a result of radiated heat.[3] Professor Torero explained that by establishing the range of magnitude within which the size of the fire in Flat 16 must have fallen and calculating the resulting thermal conditions, it was possible to determine whether the various materials surrounding the windows and forming the cladding system could have been brought to ignition. The information required to carry out that calculation included the size and configuration of the kitchen, the likely sources of ventilation and the extent of the damage caused by the fire as shown in photographs taken after the event.

1 Professor Torero oral evidence Day 77/17/5-13, and his supplemental report [JTOS0000001] pp. 2/2-7.
2 Professor Torero supplemental report [JTOS0000001] p. 37 lines 1109-1122 and p. 38 Fig. 6.
3 Professor Torero oral evidence Day 77/18/1-2/13-15.

22.5 The kitchen is relatively small in size (4.8 metres long, 1.9 metres wide and 2.35 metres high[4]), with three principal ventilation sources: the door, the window and the sliding door to the living room. It is clear from photographs taken after the fire that it did not reach "flashover".[5] Had flashover occurred, the damage to the kitchen would have been much more extensive and would, for example, have included burning of the paintwork on some of the kitchen appliances which remained relatively unscathed.[6]

22.6 Based on that information and using basic computer modelling (referred to as a "simple zone model") Professor Torero calculated that at one extreme the fire in the kitchen of Flat 16 was unlikely to have achieved a peak heat release rate (HRR) of more than 300kW (if an ultra-fast fire) and at the other extreme was unlikely to have achieved an HRR of less than 60kW (if a slow fire).[7] In his view that indicated that the fire in Flat 16 was "relatively minor"[8] and typical of a common kitchen pan fire.[9] In layman's terms an HRR of 60kW is "no bigger than a waste paper basket" and an HRR of 300kW "half a chair"[10] Those fire sizes correspond to a hot smoke layer temperature of between 220°C and 110°C.[11]

22.7 These conclusions were verified by using more sophisticated tools, including computation zone modelling (CFAST) and computational fluid dynamics modelling (CFD).[12] Those tools enable more complex scenarios to be considered,[13] including the impact of opening and closing the doors and windows to the kitchen.[14] That further modelling indicates that the kitchen door to Flat 16 could not have been open during the fire, since that would have brought the compartment to flashover.[15] It also indicates that his conclusions are not significantly affected by whether the smaller window was open or closed.[16]

22.8 Professor Torero's conclusions are further supported by the results of tests carried out by the MPS to establish the peak HRR of fridge-freezers comparable with the one that was present in the kitchen of Flat 16.[17] Although he accepted in oral evidence that the temperatures in the kitchen could have been slightly higher than those indicated by the basic model (for example, if the window had been open), he was clear that any increase was not sufficient to make a material difference to his conclusions, given the range of temperatures involved.[18]

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4 Professor Torero supplemental report [JTOS0000001] p. 32 line 1011.
5 Professor Torero supplemental report [JTOS0000001] p. 32 lines 1004-1007.
6 Professor Torero oral evidence Day 77/18/18-19/2.
7 Professor Torero supplemental report [JTOS0000001] p. 38/1155-1160 and p. 39 Table 2 and his oral evidence Day 77/22/23-23/12. For this zone model all openings (doors and windows) are assumed to be closed – supplemental report [JTOS0000001] p. 37/1133-1134.
8 Professor Torero supplemental report [JTOS0000001] p. 131 line 3067.
9 Professor Torero supplemental report [JTOS0000001] p. 3 lines 35-36.
10 Professor Torero oral evidence Day 77/23/14-21.
11 Professor Torero supplemental report [JTOS0000001] p. 38 lines 1155-1160.
12 Professor Torero supplemental report [JTOS0000001] pp. 137-155 at Appendix B.
13 For an explanation of the three models: Professor Torero oral evidence Day 77/26-27.
14 A window identical to that in the kitchen of Flat 16 can be seen at Fig. 8.23 of Dr Lane's supplemental report [BLAS0000008] pp. 8-21. This consisted of a larger window to the left (which could be tilted inwards or opened inwards), a smaller window to the right which could be opened inwards and an extractor fan unit to the top right. The evidence of Behailu Kebede indicates that the larger window was tilted inwards by a couple of inches (40-50mm) and the smaller window was open by approximately 10 inches: Professor Bisby oral evidence Day 78/118/4-10 and [MET00006339] p. 2.
15 Professor Torero supplemental report [JTOS0000001] p. 152/3439-3451. With the open door, temperatures would have been in the order of 400°C-500°C hotter near the compartment ceiling. The HRR necessary to deliver flashover would have been around 1000kW: Professor Torero oral evidence Day 77/24/17-19.
16 Professor Torero supplemental report [JTOS0000001] p. 152 lines 3435-3438.
17 After 7 minutes those tests showed a peak HRR of 400kW (which then diminished to approx. 300kW by 10 mins); results which were consistent with the 60-600kW range, given the different conditions in which those tests were carried out (i.e. under a hood rather than in a small space comparable to Flat 16): Professor Torero supplemental report [JTOS0000001] pp. 143-147 and his oral evidence at Day 77/32-34.
18 Professor Torero oral evidence Day 77/41/11-21.

22.9 The central points which follow from Professor Torero's analysis are:

a. that a smoke layer with a temperature in the range of approximately 220°C to 110°C (based on fires with peak HRRs of 300kW to 60kW), is not hot enough to ignite any of the window or cladding components (i.e. the uPVC window surrounds, the PIR insulation or the polyethylene core of the ACM panels), given their ignition temperatures, which range from approximately 306°C to 415°C.[19] (Professor Torero explained that a spill plume of hot smoke coming out of the compartment and mixing with cold air would be able to ignite the external ACP cladding only if there was a large fire with ventilation to support it and thus under post-flashover conditions.);[20]

b. that smoke temperatures in the range of approximately 220°C to 110°C are likely to have resulted in significant changes to the uPVC window surrounds, causing them to lose their stiffness[21] and become in the words of Professor Torero "like gum…very, very viscous".[22] The fact that the uPVC window jambs were held in place by adhesive, with no mechanical fixings, made them all the more vulnerable to deformation in rising temperatures;[23] and

c. that once the uPVC melts, deforms and mechanically fails, "it opens a direct path for any flame to actually impinge on any of the combustible materials on the inside".[24] Photographs of the interior of the building taken after the fire show many examples of this type of failure:

Figure 22.1[25]

19 Professor Torero [JTOS0000001] p. 37 Table 1.
20 Professor Torero oral evidence Day 77/47/25-48/21 and his supplemental report [JTOS0000001] p. 154/3468-155/3483.
21 uPVC begins to lose stiffness at around 60°C, losing 80% by 80°C and 100% by 90°C. A total loss of mechanical strength will occur within 5-11 minutes: Professor Torero supplemental report [JTOS0000001] p. 44 lines 1261-1272 and oral evidence Day 77/52-56.
22 Professor Torero oral evidence Day 77/52/9-10.
23 Professor Torero oral evidence Day 77/56/17-57/12.
24 Professor Torero oral evidence Day 77/57/20-24.
25 Professor Torero supplemental report [JTOS0000001] p. 43-44.

Figure 22.2

Figure 22.3

22.10 Professor Torero was of the opinion that, since the smoke layer itself was not hot enough to ignite any of the window or external cladding materials, ignition must have occurred as a result of direct impingement of flame. The impingement of flame may be direct (as when a fire which is unobstructed directly impinges on a material) or indirect (as when a fire which is obstructed by an obstacle impinges indirectly by migrating along a ceiling[26] or wall).[27] Based on the ignition temperatures of the materials present around the windows and in the cladding system, it is possible to determine whether any of them could have been ignited by direct or indirect flame impingement. Having carried out that exercise Professor Torero concluded that:

a. An unobstructed fire of 300kW at floor level could not have ignited the ACM panels directly above the window, since to achieve that would have required a fire in the order of 830kW. A fire of that size would, in his view, have brought the compartment to flashover, which is not consistent with its condition after the fire.[28]

b. A fire of 300kW would have to be no farther than 3 metres from the window in order to ignite any of the combustible materials adjacent to the window (including the uPVC and the PIR insulation surrounding the windows).[29]

c. A fire as small as 20kW directly below the window would, in theory, be capable of igniting the combustible materials at windowsill level (including the uPVC and PIR insulation).[30]

d. If a fire that had started at floor level at the base of the fridge-freezer had found combustible materials enabling it to spread vertically it could eventually have produced temperatures high enough to ignite the Purlboard around the top of the windows. That remains a possible mechanism by which the fire spread to the window.[31]

22.11 Professor Torero accepted[32] that hypotheses B1 and B2 put forward by Professor Bisby[33] represented the most likely ways in which the cladding had been ignited. They were:

a. the impingement on the ACM panels immediately above the kitchen window of flaming and hot gases, either through an open window or through the extractor fan or the extractor fan panel, and subsequent ignition of the external ACM panels – in layman's terms "out through a hole in the window"[34] (Hypothesis B1); or

b. the failure of the uPVC window jamb and attached insulation board allowing fire to penetrate into the back of the cladding cavity where it could ignite combustible materials – in layman's terms "out through the materials in the side of the window"[35] (Hypothesis B2).

22.12 In Professor Torero's opinion the latter was the more probable cause. He emphasised that in a compartment fire the compartment itself is always going to be hotter than the plume outside and that ignition from the inside was therefore more probable.[36] The moment a fire

[26] As explained in Professor Torero's supplemental report [JTOS0000001] p. 51, lines 1425-1429, it is possible for fires to start behind an obstacle and migrate to the ceiling before travelling horizontally as a ceiling jet before reaching a combustible component.
[27] Professor Torero oral evidence Day 77/66/18-67/1.
[28] Professor Torero supplemental report [JTOS0000001] pp. 48-51, in particular at lines 1417-1423 and oral evidence Day 77/65/9-68/12.
[29] Professor Torero supplemental report [JTOS0000001] p. 50 Table 3 and Day 54/1537-1540.
[30] Professor Torero supplemental report [JTOS0000001] p. 49 lines 1399-1400.
[31] Professor Torero supplemental report [JTOS0000001] p. 51 lines 1449-1452 and oral evidence Day 77/77/15-78/13.
[32] Professor Torero oral evidence Day 77/61/5-62/2.
[33] Professor Bisby supplemental report [LBYS0000001] pp. 144-148.
[34] Professor Bisby oral evidence Day 78/111/11-16.
[35] Professor Bisby oral evidence Day 78/111/11-16.
[36] Professor Torero oral evidence Day 77/63/2-64/14.

breaks out of a compartment, the fresh air will cool the temperature of the flame making ignition by that method less likely. He also considered that the ACM panels directly above the window would be quite difficult to ignite, since aluminium has a high thermal conductivity, which would carry heat away from the polyethylene.[37] In his view, given the fire dynamics of the compartment, the path of flame spread had probably involved the melting and deforming of the uPVC around the windows, possibly as a result of temperatures imposed by the smoke layer itself, followed by the ignition of one of the combustible materials behind the uPVC, including the layer of PIR insulation around the windows and the EPDM membrane. The flame was then in the cladding cavity in the area of the column where it had been able to impinge on the insulation and the ACM panels.[38]

22.13 Professor Torero emphasised that a "sequence of ignitions" may have occurred whereby a flame had ignited different materials, eventually igniting the ACM panels on the outside.[39] However, given the complexity and intricacy of the cladding system and the absence of any contemporaneous visual evidence, he thought that it would be impossible to know precisely which materials ignited first.[40] Beyond recognising that the deformation of the uPVC is likely to have occurred first, Professor Torero did not consider it realistic or helpful to seek to analyse the precise sequence in which the materials had burned.[41] The properties of the materials did not indicate which had ignited first; while those with a low thermal inertia will have ignited more quickly, the order of ignition would have depended where each material was in relation to the flame.[42] Although the presence of exposed polyethylene edges in some parts of the ACM panels could have affected the outcome, given the proximity of all of the materials, the complexity of the cavity and the nature of the fire, it was extremely difficult to identify its significance.[43]

22.14 Finally, Professor Torero was clear that the extractor fan itself could be discounted as the ignition source for the ACM cladding panels. The temperature of any fire at the base of the extractor fan would have been insufficient to ignite the ACM panels present in the cladding system.[44]

2 Professor Luke Bisby

22.15 Professor Bisby based his opinion primarily on the available photographic and video evidence from the night of the fire combined with a detailed understanding of how the materials used in the refurbishment react to fire.[45] In terms of the former he included in his written report a number of still images which show significant moments in the early development of the fire.[46] He also prepared a compilation video which combined the available footage, both for the east face of the building where the fire began,[47] and for each of the other faces, north, west and south.[48]

37 Professor Torero oral evidence Day 77/70/15-71/9.
38 Professor Torero supplemental report [JTOS0000001] p. 46 lines 1333-47 and line 1349.
39 Professor Torero oral evidence Day 77/64/10-14, 68/16-69/9.
40 Professor Torero oral evidence Day 77/74/22-24, 76/6-7.
41 Professor Torero oral evidence Day 77/78/3-13, 79/9-25, 81/5-15.
42 Professor Torero oral evidence Day 77/78/25-79/25.
43 Professor Torero oral evidence Day 77/82/20-83/13.
44 Professor Torero supplemental report [JTOS0000001] p. 52 lines 1466-0053 and line 1482.
45 Professor Bisby oral evidence Day 78/106/21-25.
46 Professor Bisby supplemental report [LBYS0000001] pp. 113-123.
47 [LBYS0000002].
48 [LBYS0000004]; [LBYS0000005]; [LBYS0000006].

The video evidence[49]

22.16 At 01.05.40 the first known video evidence of the fire was captured. This shows flames at the far-left side of the window of Flat 16 when looking from the outside and smoke is visible outside the compartment. This is a still timed at 01.05.49:[50]

Figure 22.4

22.17 At 01.06 the fire appears to be located towards the lower left-hand corner of the window. During this video, smoke is visible drifting below the window; the smoke is moving from south to north and a voice can be heard saying: "Look at that [inaudible] stinks", suggesting that the individual standing on the ground could smell the fire.[51]

22.18 By 01.07 the window infill panel and mounting of the fan unit (or possibly the fan unit itself) appears to be burning; the fan unit appears to be absent, with flames passing through or around the extractor fan mounting board and out of the window below. Smoke is visible outside the compartment and the window pane below the fan unit appears to be absent, or the window fully open, swinging inward. These are stills taken at 01.07.51:[52]

[49] [LBYS0000002].
[50] Professor Bisby supplemental report [LBYS0000001] p. 117 Fig. 58.
[51] Professor Bisby supplemental report [LBYS0000001] p. 114 sections 548-550.
[52] Professor Bisby supplemental report [LBYS0000001] p. 118 Fig. 59 and p. 114 sections 551-555.

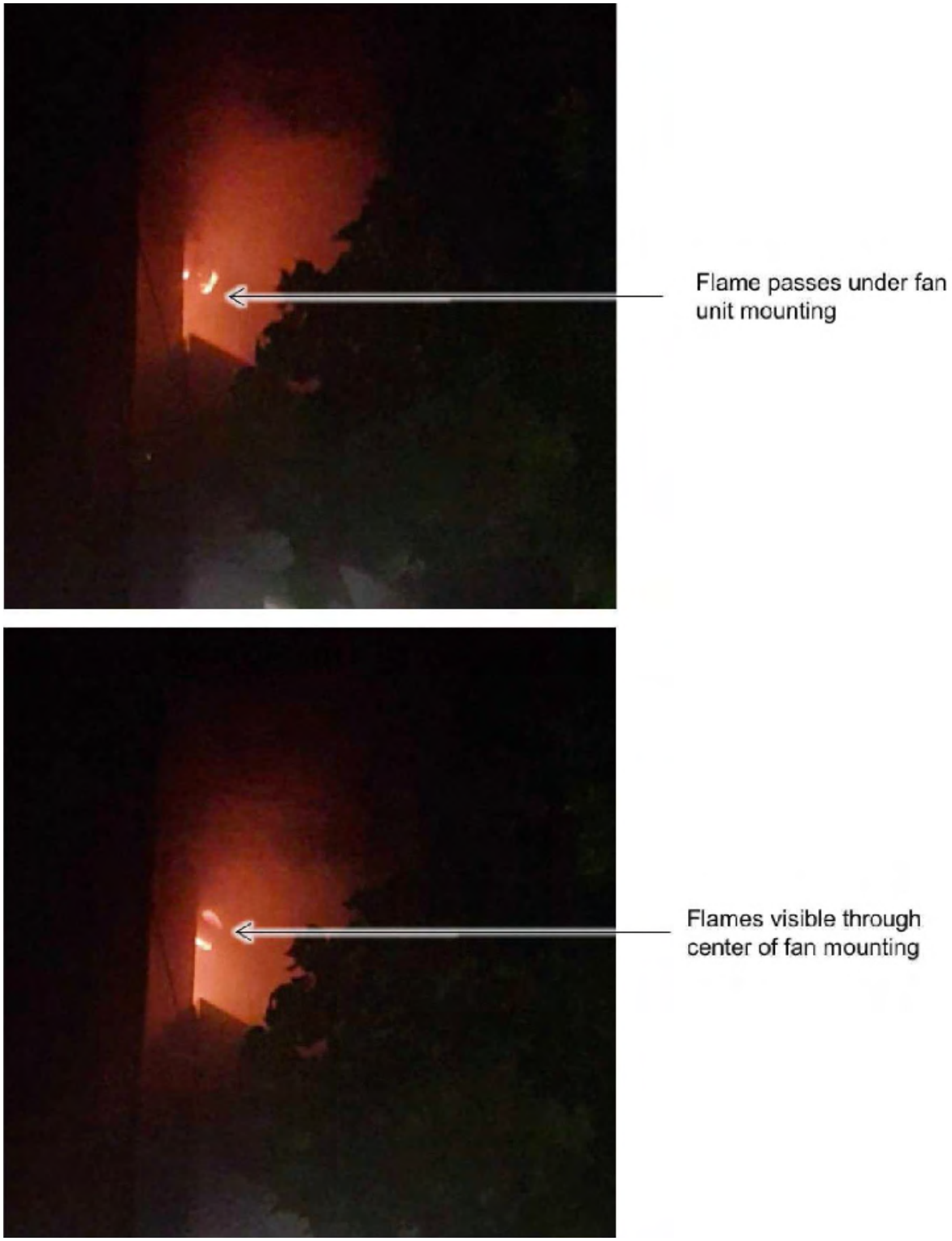

Figure 22.5

22.19 By 01.08 there is more smoke, and the flames appear longer. The longer flames appear to extend farther out of the window, adjacent to the cladding and particularly to the left of the window. Burning material can be seen to fall from the region around the window opening, particularly on the left-hand side near the column. These are stills captured between 01.08.06 and 01.08.21:[53]

[53] Professor Bisby supplemental report [LBYS0000001] p. 119 Fig. 60 and p. 114 sections 556-559.


Flame passes under fan unit mounting
Flame appears to be outside window, adjacent to cladding
Falling burning material

Figure 22.6

22.20 Between 01.09.30 and 01.09.40 the flames appear longer again and extend farther out of the window. A regular flow of burning material can be seen falling from the window opening, in particular from the bottom left-hand corner where the window meets the column. At around 01.09.36 flames appear to project out of the top of the extractor fan panel. These are stills captured between 01.09.30 and 01.09.40:[54]

Figure 22.7

Figure 22.8

[54] Professor Bisby supplemental report [LBYS0000001] pp. 114/560-115/565 and p. 120 Figs. 61, 62.

22.21 At 01.09.57, in this still burning material can be seen on the ground below the kitchen window:[55]

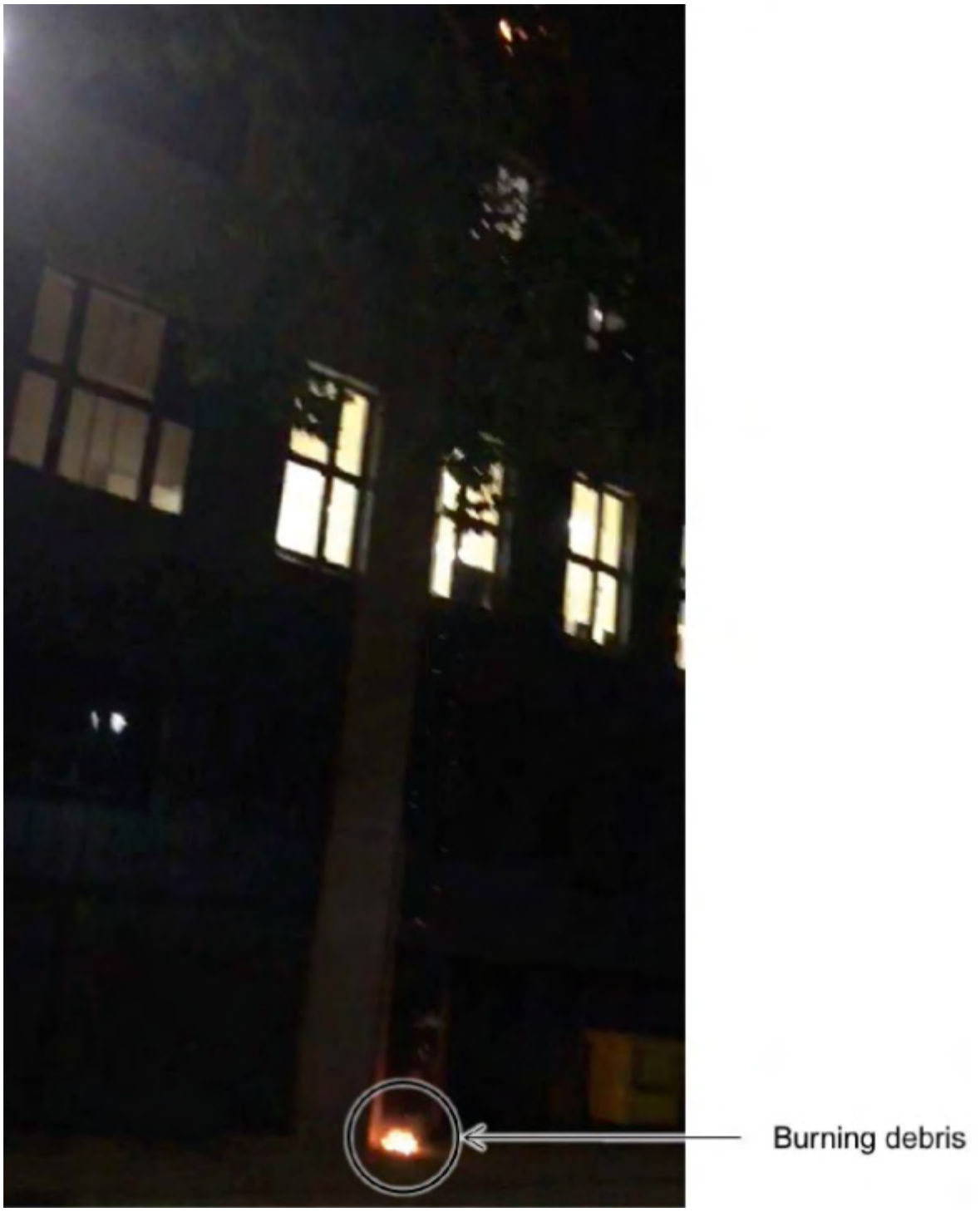

Figure 22.9

22.22 At 01.11 visible flames fill most of the observable window opening and smoke is escaping from the window. There is no external flaming on the cladding. At the top left of the window opening there is a darkened area with flame in the centre which corresponds to the location

[55] Professor Bisby supplemental report [LBYS0000001] p. 121 Fig. 63 and p. 115 section 566.

of the extractor fan and mounting panel. Burning material continues to fall from the window opening, some of which continues to burn on contact with the ground. These are stills taken from that time:[56]

Figure 22.10

22.23 At 01.12.00 the flames appear to be longer than in previous images, but due to the over-exposure of the image it is not possible to determine to what extent they originate from the cladding or from the compartment. Immediately below the window opening, to the left, there appears to be burning material on the ACM spandrel cassettes. Burning material can be seen falling from the window opening and some is present on the ground. This is a still taken at that time:[57]

[56] Professor Bisby supplemental report [LBYS0000001] p. 122 Fig. 64 and p. 115 sections 567-572.
[57] Professor Bisby supplemental report [LBYS0000001] p. 122 Fig. 65 and p. 115 sections 573-577.

Figure 22.11

22.24 At 01.13.29 intermittent flames can be seen extending up from the top left corner of the window at the re-entrant corner between the column and the spandrel panel above the window. In addition, intermittent flames can also be seen in the gap between adjacent spandrel panel ACM cassettes directly above the window. By 01.14.16 continuous flaming is established at the joint between the column and the spandrel panel. Burning material continues to fall from the window opening and some burning material is present on the ground. These stills are both taken from 01.13:[58]

[58] Professor Bisby supplemental report [LBYS0000001] pp. 115/578-116/583 and p. 123 Fig. 66.

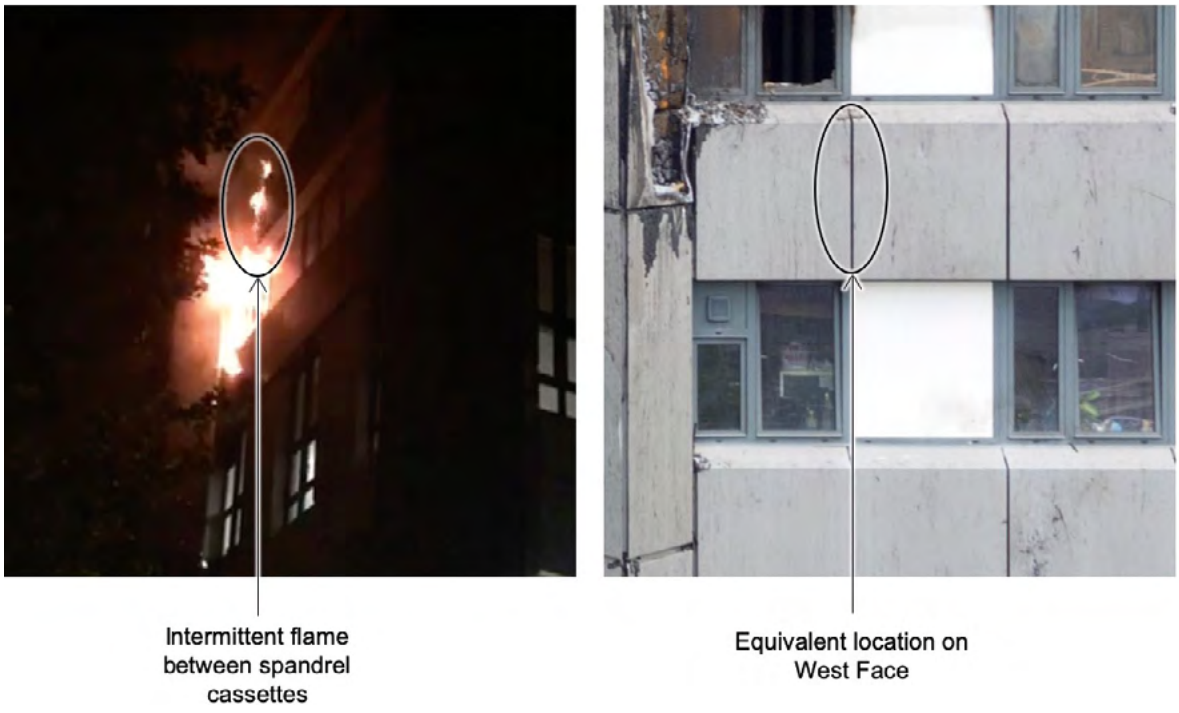

Figure 22.12a

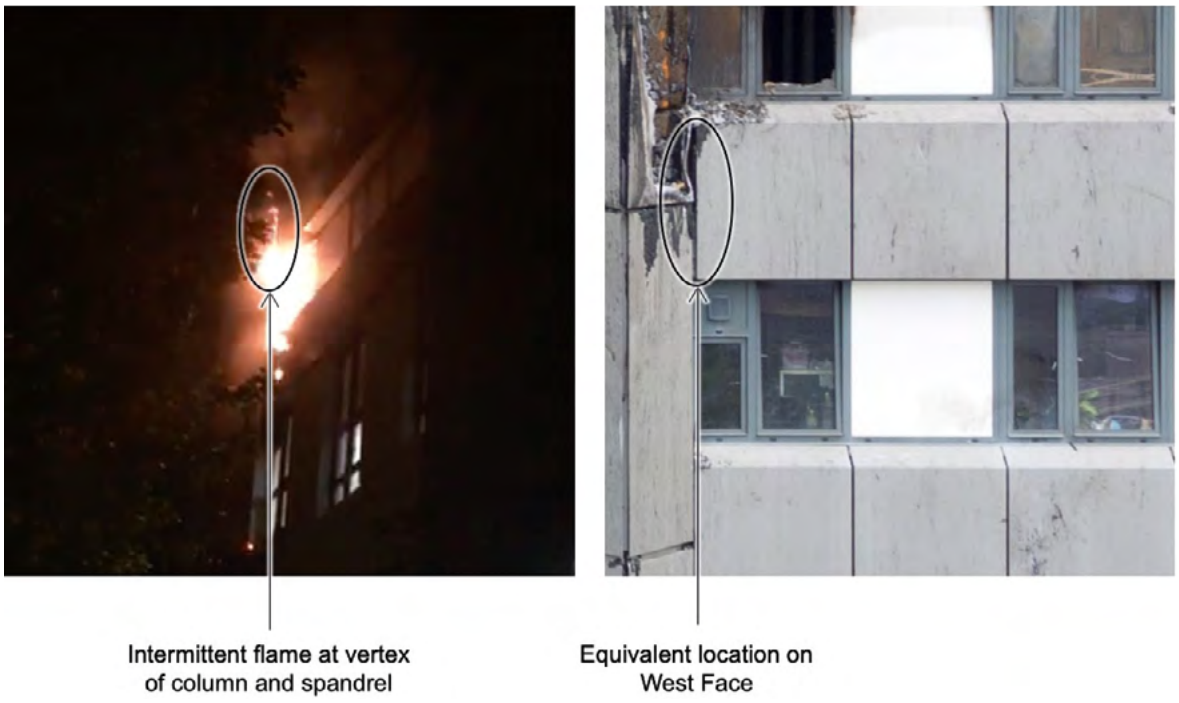

Figure 22.12b

22.25 From 01.14.16 the flames can be seen to grow longer in the re-entrant corner between the column and the spandrel sections of the building above the window. Continuous flaming also occurs at the joint between the column and the spandrel panel below the window opening.[59]

22.26 At 01.14.53, there is melting and burning material on the surface of the ACM cassette panels immediately below the kitchen window. By this time the fire has also spread downwards at the joint between the column and the spandrel panels below the window and gas (or smoke)

[59] Professor Bisby supplemental report [LBYS0000001] pp. 129/605-606.

can be seen rising from this area. The flames extend significantly above the window, but it is not possible to determine whether they are extending from within the compartment or the cladding materials have become involved in the fire.[60] These are images taken from this time:[61]

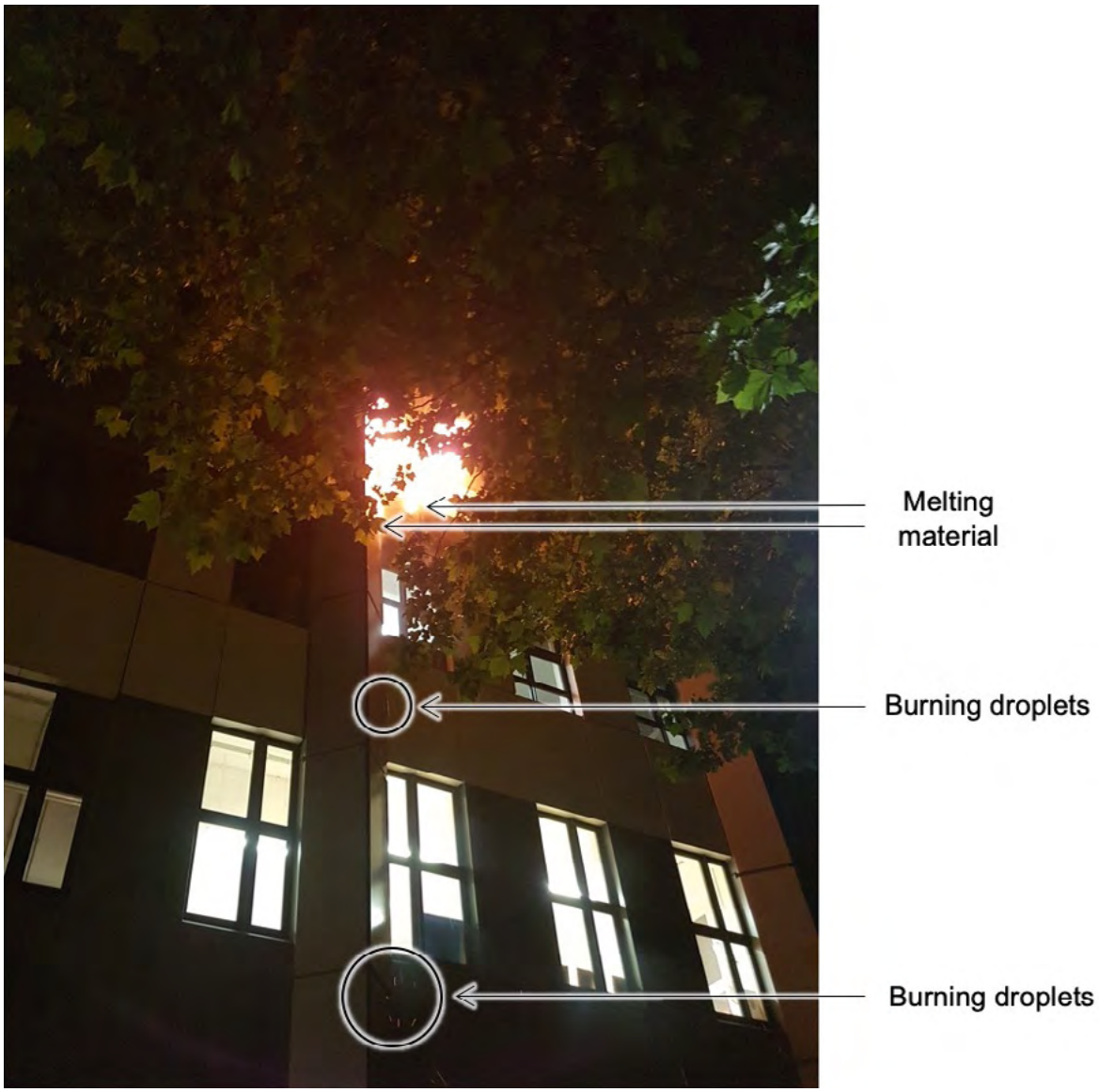

Figure 22.13

[60] Professor Bisby supplemental report [LBYS0000001] pp. 127/601-604.
[61] Professor Bisby supplemental report [LBYS0000001] p. 128 Figs. 70, 71.

Figure 22.14

22.27 At 01.15.06 there is a noise which is likely to be the breaking of at least one pane of glazing within the kitchen window (this is also remarked upon by a voice in the video saying: "the glass is cracking").[62] This is immediately followed by an increase in flame length, which is also remarked upon by witnesses in the video, saying: "its [sic] getting bigger now".[63] By 01.15.36 the cladding can be seen to be burning with some intensity and external flames are extending approximately two floors above Flat 16. These are stills taken from that time:[64]

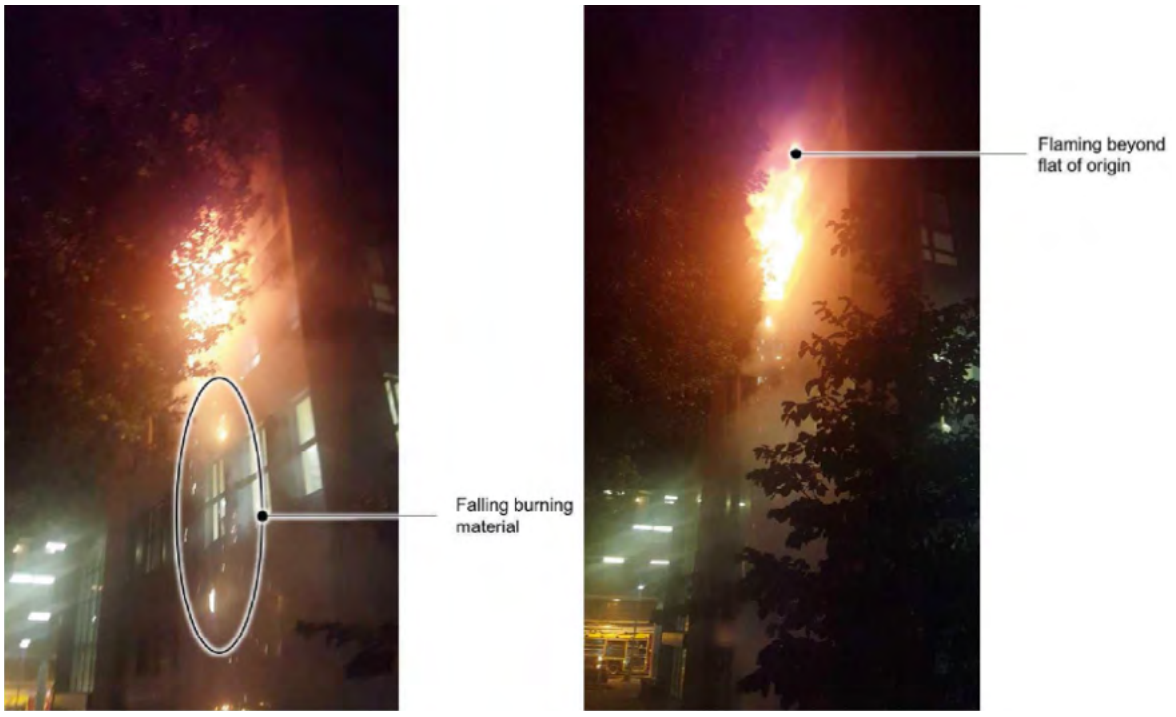

Figure 22.15

62 Professor Bisby supplemental report [LBYS0000001] pp. 129/608.
63 Professor Bisby supplemental report [LBYS0000001] p. 129 section 609.
64 Professor Bisby supplemental report [LBYS0000001] p. 131 Fig. 73.

22.28 Professor Bisby drew attention to a number of events which provide some indication of the route by which the fire spread from the kitchen into the internal cladding. By 01.09.36 dripping, burning polyethylene can be seen originating from the window at its bottom left corner.[65] He was of the opinion that, if the external cladding had ignited due to heat from flames venting directly through the open window, rather than down the side of the window, one would have expected to see the earliest evidence of dripping, burning, polyethylene originating from the ACM panels located directly above the window and not from the bottom left-hand corner of the window opening.[66] That visual evidence was, in his view, more consistent with the conclusion that the ACM column cassettes along the sides of the window had become involved in the fire first.[67]

22.29 On that basis, Professor Bisby concluded that the most likely route of flame spread "by a nose"[68] had been through the side of the window and into the column cavity following the deforming of the uPVC window surrounds.[69] In reaching that conclusion he highlighted the particular configuration of materials at the sides of the windows,[70] as shown in this diagram reproduced from his report:[71]

65 Professor Bisby supplemental report [LBYS0000001] p. 145/691 and oral evidence Day 78/122/21-23, 128/16-22.
66 Professor Bisby supplemental report [LBYS0000001] p. 145 section 693.
67 Professor Bisby oral evidence Day 78/135/17-136/7. Professor Torero's supplemental report [JTOS0000001] p. 54 lines 1556-1557.
68 Professor Bisby oral evidence Day 78/135/8-11.
69 Professor Bisby supplemental report [LBYS0000001] pp. 146-147 sections 696-712.
70 Professor Bisby oral evidence Day 78/135/24-136/7.
71 Professor Bisby supplemental report [LBYS0000001] p. 144 Fig. 84.

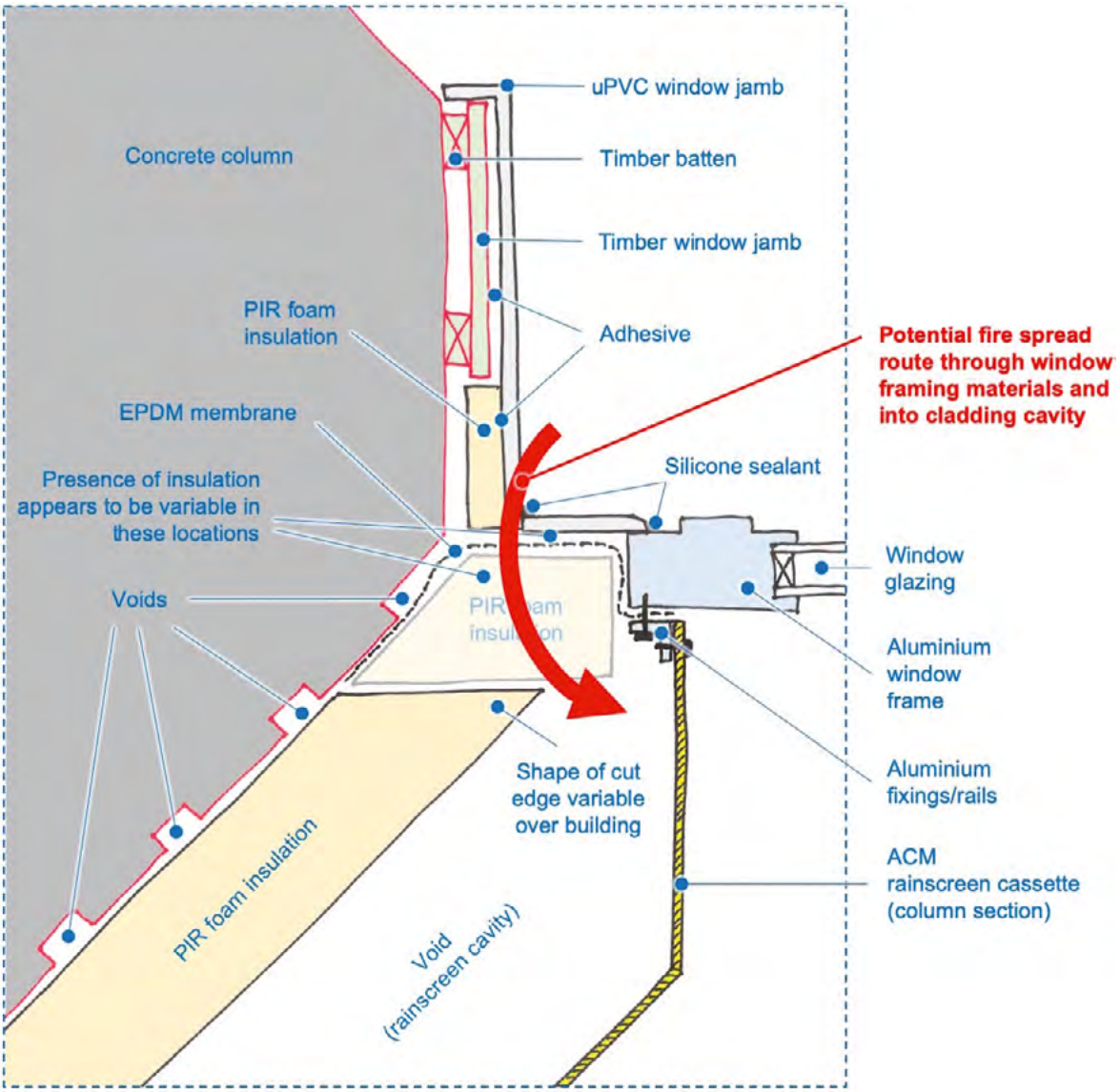

Figure 22.16

22.30 As he explained, if the uPVC had deformed as a result of the smoke layer temperatures in the kitchen, it would have exposed a sequence of combustible materials, including the 25mm thick PIR insulation board which was glued to the back of the uPVC and the EPDM weatherproof membrane. That membrane would, in his words, have provided negligible resistance to flame impingement and would have burned through quite rapidly. Once that had happened, the flame would have been able to enter the back of the cladding cavity around the column.[72] In his written report Professor Bisby noted that the PIR insulation in the columns presented as a cut edge, unprotected by any foil facing.[73] In addition, the ACM panels on the columns at the side of the window had cut edges with directly exposed polyethylene, as shown in figure 22.16 above.[74] At this location, an extensive vertical cavity was also present running the full height of the building.[75]

[72] Professor Bisby oral evidence Day 78/133/7-18 and his supplemental report [LBYS0000001] pp. 146/702-147/712.
[73] Professor Bisby supplemental report [LBYS0000001] pp. 147/708.
[74] Professor Bisby supplemental report [LBYS0000001] pp. 147/709. Dr Lane report [BLAS0000008] p. 59 Fig. 8.65.
[75] Professor Bisby supplemental report [LBYS0000001] p. 147 section 710.

22.31 However, Professor Bisby was at pains to emphasise that, in his view, flame also spread almost simultaneously through the open window to impinge on the ACM cassette immediately above and that a combination of the two routes was most likely to have led to the ignition of the cladding and the escalation of the fire up the building.[76] That is consistent with the video evidence showing flames coming out of the building in the vicinity of the small left-hand window and extractor fan panel, together with melting and dripping polyethylene, which at around 01.11.45 can be seen burning to the left on the top of the ACM cassettes immediately below the window.[77] Professor Bisby was of the view that this burning polyethylene, "a bright spot on the spandrel panel below", as shown in the images at 01.11, indicated a significant exposure to flame of the ACM spandrel cassettes above the window and explained why polyethylene was burning in that way at that particular location.[78]

3 Dr Barbara Lane

22.32 Dr Lane also addressed this topic in her oral evidence to the Inquiry. She was also of the view that the most likely route of flame spread out of Flat 16 and into the cladding was through the side of the window following the deformation of the uPVC window surrounds and into the column cavity. She emphasised, by reference to the diagram reproduced below and the thermal images taken by the firefighters inside the kitchen, the proximity of the gap[79] between the window surrounds and the column. Given the known propensity of uPVC to lose its stiffness at relatively low temperatures and the absence of mechanical fixings, she was of the view that there must have been a substantial transfer of heat to the top corner of the window adjacent to the column. In her opinion, by the time flames could be seen from the outside, it was likely that there had already been a significant transfer of heat into the cavity around the column.[80]

[76] Professor Bisby oral evidence Day 78/133/1-135/2 and his supplemental report [LBYS0000001] p. 147 section 713.
[77] Professor Bisby supplemental report [LBYS0000001] p. 145 section 692 and p. 122 Fig. 65, and his oral evidence Day 78/112/7-113/5, 130/2-8, 133/19-134/1.
[78] Professor Bisby oral evidence Day 78/129/20-130/8.
[79] As set out in Chapter 6 of this report, that gap varied on site between 30mm and 130mm.
[80] Dr Lane oral evidence Day 79/158/10-161/22.

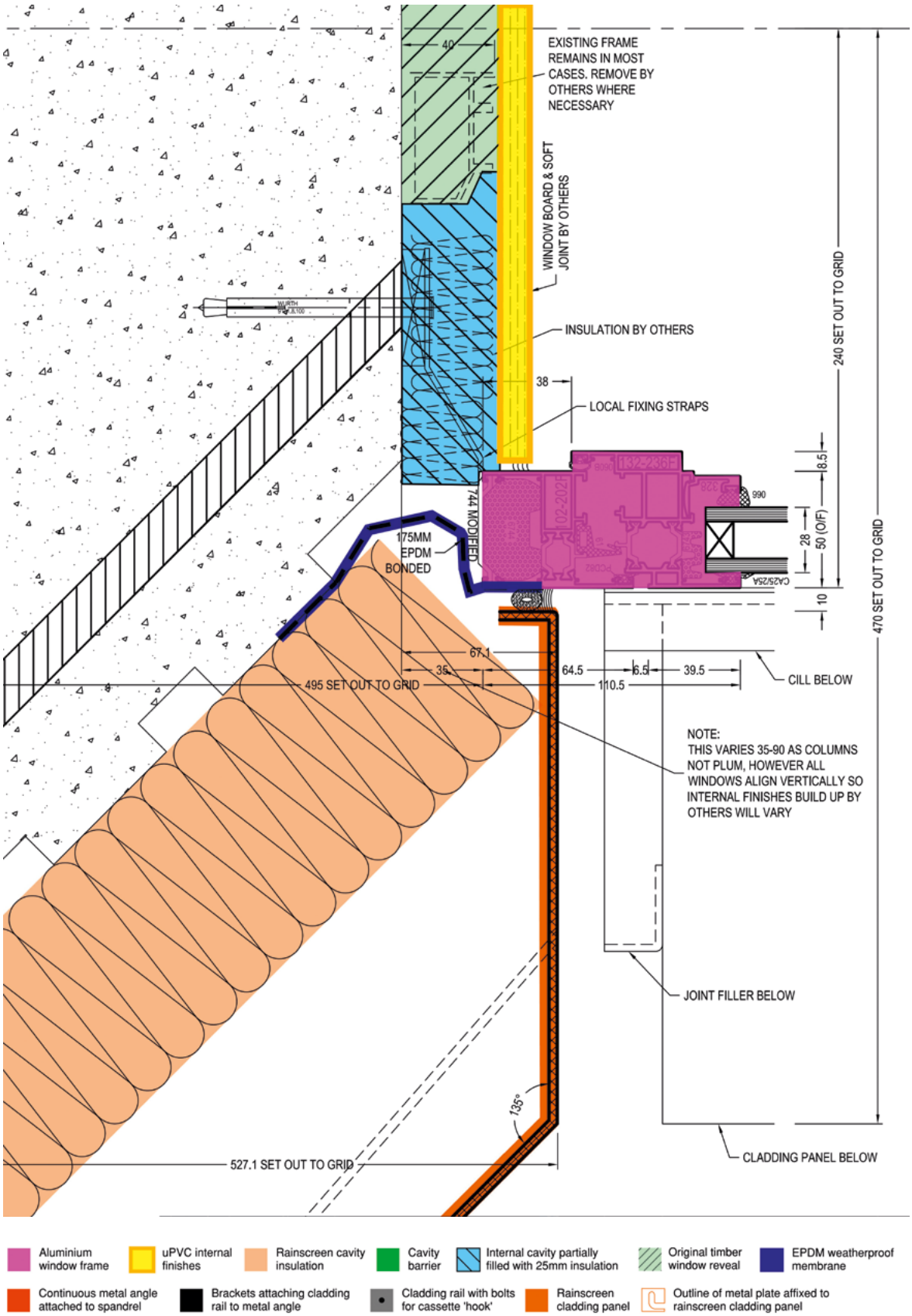
40
EXISTING FRAME REMAINS IN MOST CASES. REMOVE BY OTHERS WHERE NECESSARY
WINDOW BOARD & SOFT JOINT BY OTHERS
INSULATION BY OTHERS
38
LOCAL FIXING STRAPS
240 SET OUT TO GRID
470 SET OUT TO GRID
8.5
28
50 (O/F)
10
990
744 MOD EJ
175MM EPDM BONDED
67.1
35
64.5
6.5
39.5
CILL BELOW
495 SET OUT TO GRID
110.5
NOTE:
THIS VARIES 35-90 AS COLUMNS NOT PLUM, HOWEVER ALL WINDOWS ALIGN VERTICALLY SO INTERNAL FINISHES BUILD UP BY OTHERS WILL VARY
JOINT FILLER BELOW
135°
527.1 SET OUT TO GRID
CLADDING PANEL BELOW
Aluminium window frame
uPVC internal finishes
Rainscreen cavity insulation
Cavity barrier
Internal cavity partially filled with 25mm insulation
Original timber window reveal
EPDM weatherproof membrane
Continuous metal angle attached to spandrel
Brackets attaching cladding rail to metal angle
Cladding rail with bolts for cassette 'hook'
Rainscreen cladding panel
Outline of metal plate affixed to rainscreen cladding panel

Figure 22.17

4 Other evidence

22.33 Tiago Alves, a resident of the tower, who escaped from the building with his parents and his sister at around 01.05, saw the fire as it was breaking out of Flat 16. His evidence is consistent with the video evidence summarised above. In paragraphs 37-38 of his witness statement he said:

> "I was standing on the grass area and could see smoke coming out of the 4th floor flat. There was a fire inside which I could see behind the window. Then the frame fell out and suddenly I could see smoke and the fire burst out… The window frame looked like it was melting and bubbling but didn't look like it was on fire. I could tell it was cheap grade plastic. As I watched the window fall out of the flat, fire was coming out of the open window…
>
> I stood just looking up at Flat 16. The window frame had fallen out so it had created a gap between where the frame used to be and the outside cladding material. What I could clearly see was the fire "rolling under" the cladding. The fire would come out of the flat and kind of roll under or slightly disappear under the grey cladding. As it did this the cladding caught fire. I could see that fire was escaping into the cavity between the insulation and what I thought was aluminium cladding."[81]

22.34 A number of firefighters and other local people also gave evidence about the early development of the fire. However, although their accounts provide helpful background to the mechanisms by which the fire progressed, none are particularly instructive in terms of determining the precise means by which the fire broke out of the kitchen and into the cladding.

22.35 It is clear from the available video evidence taken outside the tower that the fire had entered the cladding some time before 01.14.06 when FF Daniel Brown and CM Charles Batterbee first opened the kitchen door in Flat 16 at 01.14.06, as shown in the available thermal imaging camera (TIC) footage.[82] In those circumstances, Professors Torero and Bisby were both of the view that the evidence from the firefighters about what they saw in the kitchen of Flat 16 (including the TIC images they took) was of little assistance in determining how the fire had escaped from the kitchen.[83]

5 Conclusions

22.36 Despite approaching this question from different perspectives, the experts agreed that the fire probably escaped from the kitchen of Flat 16 into the cladding in one or other of the two ways described by Professor Bisby, and that of those the more likely is that the deformation and collapse of the uPVC window jamb enabled it to bypass the window and enter the cavity around the column. Although they reached their conclusions by different processes of reasoning, it is striking that they have reached the same conclusions. It is also important to bear in mind that no one has sought to place before me evidence from any other expert witness that might contradict their evidence or in any way undermine their conclusions.

22.37 The windows of Flat 16, including the surrounds and insulation board attached to them, were destroyed in the fire, but there is no reason to think that either the materials themselves or the method of fixing the window surrounds in Flat 16 were different in any significant respect from those to be found in other flats. I have no difficulty in accepting that uPVC loses its stiffness entirely at a relatively low temperature, causing it to deform under the influence of gravity unless fixed in place by some means. Examples of this behaviour can be seen in the photographs in paragraph 9 taken inside some less seriously damaged flats.

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81 [IWS00000123].
82 [MET00005814].
83 Professor Torero oral evidence Day 77/71/25-72/21; Professor Bisby oral evidence Day 78/141/10-142/14.

22.38 The evidence indicates that the window jambs were fixed with adhesive to the original timber window jambs over part of their depth and to insulation board over the remainder. No mechanical fixings were used. In those circumstances I think that it is more probable than not that the uPVC window jamb nearer the fridge-freezer deformed at an early stage as the result of the impingement of hot smoke. As it deformed it fell away from the old timber jamb carrying with it the insulation board to which it was still attached by adhesive. The result was to provide a means for the fire to gain access to the cavity between the insulation and the ACM panels, having overcome the insignificant resistance of the EPDM membrane.

22.39 In my view that mechanism is more consistent with the earliest video evidence, which shows polyethylene melting and dripping from the bottom left-hand corner of the window at 01.09. It is also consistent with the sides of the window (including the exposed polyethylene at the point where the column panels meet the window[84]) having become involved in the fire by that stage, although it is not possible to be certain where that polyethylene came from. The video evidence does show flames coming out of the window and impinging on the ACM panels directly above, so it is possible that the mechanism described in Professor Bisby's Hypothesis B2 also played a significant role. Ultimately, however, that is of little significance, because in both cases it was the proximity of combustible materials to the interior of the compartment that allowed the fire to spread. I agree with Professor Torero that it is not realistic or helpful to seek to determine the precise sequence in which the materials ignited or burned. What really matters is that the design of the refurbishment, the choice of materials and the manner of construction allowed an ordinary kitchen fire to escape into the cladding with disastrous consequences.

22.40 How this state of affairs came about is for investigation in Phase 2, but at this stage I accept the evidence of all three experts that, if a fire started near a window, there was a disproportionately high chance of its spreading into the cladding, given the configuration and materials of the windows and of exterior cladding. In the view of Professor Torero it was almost certain, if not inevitable, that a kitchen fire of the magnitude he had postulated would occur in a building of this nature at some point in its lifetime and that such an occurrence was perfectly foreseeable.[85] Dr Lane expressed the view that the construction detailing around the windows, including the materials and their arrangement, increased the risk of a fire within the flat breaking out into the large cavities surrounding the windows.[86] She also emphasised that the windows were not provided with any fire-resisting cavity barriers and instead were surrounded by combustible materials, including the linings above and below the windows made of Purlboard. In her view, if a fire started near a window, there was a disproportionately high probability that it would spread into the cladding regardless of how it had started.[87] Finally, Professor Bisby accepted that the majority of materials around the window had very little capacity to resist a fire and that it was likely that a fire anywhere near a window would break out of the flat and into the cladding.[88]

6 Postscript

22.41 After I had drafted this chapter, I received from the MPS at the end of June a report dated 24 May 2019 prepared by the BRE containing its description and analysis of a large scale reconstruction of the fire in Flat 16, Grenfell Tower and the conclusions it had drawn from

84 As shown in Dr Lane's Fig. 8.65 [BLAS0000008] p. 59.
85 Professor Torero oral evidence Day 77/97/13-98/1 and his supplemental report [JTOS0000001] p. 55 lines 1563-1567.
86 Analysis of the potential fire spread routes through the window openings at Chapter 9 of her report [BLAS0000009] pp. 1-49 and, in particular, her conclusions at 9.6-9.7 pp. 48-49.
87 Dr Lane supplemental report [BLAS0000002] 2.9.10-2.9.14 and [BLAS0000009] p. 48 9.7.1-9.7.7.
88 Professor Bisby oral evidence Day 78/105/15-106/8.

it. The reconstruction sought to reproduce as accurately as possible the configuration and contents of Flat 16 immediately before the fire and two storeys of the facade above, including the cladding. Basing itself solely on the results of that reconstruction, the BRE reached the following conclusion:

> "It appears from the reconstruction most likely that fire spread to the cladding via the extractor fan and infill panel into which it was mounted, and then ignition of the exposed edge of the polyethylene core of the ACM. The second most likely route evidenced by the reconstruction, and one which could have occurred if the polyethylene had not been the cladding component first ignited, is the route via the construction around the window (through the uPVC, insulation and gap between window frame and column)." (p. 3)

22.42 Without access to the whole of the information obtained from the reconstruction it is not possible to determine whether the test itself and the conclusions drawn from it have a bearing on the questions addressed in this Chapter. However, if that information can be made available, I shall ask Professor Torero and Professor Bisby to prepare short reports explaining whether it causes them to alter or refine the evidence they gave at Phase 1. I am also willing to receive submissions from core participants on the relevance of the reconstruction and the conclusions drawn from it at some convenient time during Phase 2. In those circumstances, the findings made in this Chapter remain provisional and I will express a final view in the Phase 2 report.

Chapter 23
The Subsequent Development of the Fire

23.1 Once the fire had escaped from the compartment of origin, it spread rapidly up the east face of the tower. It then spread around the top of the building in opposite directions and down the sides of the building until the advancing flame fronts converged on the west face near the south-west corner. The vertical spread of flame up the east elevation marked the first phase of the fire's development and was generally consistent with the way in which a fire of this kind might be expected to behave. The spread of fire horizontally and downward, however, was unusual, since other fires of this kind, some of which are mentioned below, have tended to burn out after reaching the top of the building.

23.2 Each stage of the fire's development contributed significantly to the ultimate disaster and it is therefore important to understand as clearly as possible the sequence of events by which they occurred and, insofar as is possible at this stage, the mechanisms behind them.

1 Vertical fire spread

23.3 Professor Luke Bisby, Professor José Luis Torero and Dr Barbara Lane all covered the subject of vertical fire spread in their written and oral evidence. They examined the available photographic and video evidence from the night of the fire in order to understand the way in which the external flame front had progressed. Professor Bisby, who took a leading role in analysing that evidence, produced a compilation of video recordings from various sources which highlights, in powerful terms, the rapid spread of flame vertically up the east face of the building in the first few minutes of the fire.[1] Professor Torero and Dr Lane also addressed this topic in some detail in their reports. Again, although the experts approached their task from different perspectives, there was considerable agreement between them, particularly as to the mechanisms by which the flames were able to reach the top of the tower so quickly.

Professor Bisby

23.4 In Professor Bisby's opinion the most important factor by a considerable margin in the rapid spread of fire vertically (and the spread of fire across the exterior of the building more generally) was the presence of ACM panels with a polyethylene core. In his view the evidence strongly supported that conclusion and in reaching it he emphasised the characteristics of polyethylene, including its high calorific value (when compared with other common construction materials, including those used at Grenfell Tower), providing an ideal fuel source for a growing fire.[2] It is a highly flammable synthetic thermoplastic polymer which has a heat of combustion similar to that of petrol or diesel fuel.[3]

23.5 He also identified a number of other factors which in his view had contributed to the vertical flame spread, namely, the presence of combustible PIR and phenolic insulation, the presence of continuous vertical channels and internal cavities in the cladding system and the specific

1 [LBYS0000002]. As explained in Professor Bisby's report [LBYS0000001] pp. 154/774, a total of 40 videos have been considered as part of this analysis.
2 Professor Bisby supplemental report [LBYS0000001] pp. 178/859-860.
3 Professor Bisby expert presentation Day 7/67/15-68/13.

geometry of the tower, including its protruding column "wing walls".[4] Although he emphasised that the precise contributions of these different elements could not be quantified at this stage (and indeed might never be capable of quantification due to the complexity of the relationship between them), he was clear that all of them were likely to have contributed to the rate at which, and the extent to which, the fire spread vertically.[5]

23.6 Professor Bisby drew attention to two particular mechanisms by which the PIR and phenolic insulation behind the ACM panels might have contributed to the scale of the fire. The first was by pyrolysing[6] and releasing combustible products, which ignited and thereby contributed to an increase in the overall local heat release rate.[7] The second was by radiating heat back at the ACM panels, effectively insulating the cladding compartment, thus retaining heat in the system and contributing to the rate of heating of other combustible materials present.[8] The latter was in his view a potential consequence of the low thermal inertia of both PIR and phenolic insulation boards, as a result of which their surface temperature rises very quickly when exposed to heat.

23.7 Professor Bisby drew attention to the number of exposed edges of insulation boards within the cladding system which were not covered with a foil facing, unlike the two main faces. Given the inherent combustibility and low thermal inertia of the materials, he considered that these exposed surfaces could be expected to spread flame in the presence of external heating. Although Professor Bisby noted that no obvious increase in the rate or extent of flaming had been apparent where PIR insulation had been present in tests carried out by the Department for Communities and Local Government during the weeks after the fire, he identified some important differences between the materials used in those tests and the materials that had been used in the work on the tower, including (in the case of the test materials) more extensive use of foil facings and foil tape.[9] In oral evidence he said that in his view those tests had been of no utility other than to demonstrate that ACM panels with a polyethylene core cause the vertical spread of flame to escalate very quickly.[10]

23.8 He also concluded that the presence of continuous vertical channels and extensive internal cavities was "almost certain" to have contributed to the rate and extent of vertical flame spread.[11] He drew attention, in particular, to two key locations at the columns, the column tips[12] and the sides of the columns where vertical channels and extensive vertical cavities were present, and to the well-recognised phenomenon of flames elongating five to 10 times when confined in a vertical channel or cavity.[13] The available video evidence also shows fire spread at 01.13 extending up the cavity behind the vertex between the columns and spandrels and the most rapid fire spread up column B5. He also considered that it was "very

4 Professor Bisby discounted a further hypothesis (C4) that the prevailing wind at the time may have played a role not least given the available Met Office data which shows low velocities of wind on the night when compared with the upward velocity of the buoyant plume: supplemental report [LBYS0000001] pp. 182/898-902.

5 Professor Bisby supplemental report [LBYS000001] pp. 180/880-881, 182/896-897, 183/912 and his oral evidence Day 78/168/25-169/8.

6 As explained at section 2.2 of Professor Bisby's supplemental report, pyrolysis is the process of thermal decomposition of a solid material: [LBYS0000001] pp. 18/110-19/123.

7 Professor Bisby supplemental report [LBYS0000001] pp. 179/869 and his oral evidence Day 78/173/18-176/12.

8 Professor Bisby supplemental report [LBYS0000001] pp. 179/870 and his oral evidence Day 78/173/18-176/12.

9 Professor Bisby supplemental report [LBYS0000001] pp. 180/877-879. He also highlighted that the DCLG tests appeared to have been conducted using riveted ACM panels and not cassette ACM panels as were to be found at Grenfell Tower: Professor Bisby oral evidence Day 78/178/12-179/2 and his supplemental report [LBYS0000001] p. 180, footnote 55.

10 Professor Bisby oral evidence Day 78/177/3-178/11.

11 Professor Bisby oral evidence Day 78/180/16-181/9 and his supplemental report [LBYS0000001] pp. 180/883-182/897.

12 As explained by Professor Bisby in his oral evidence Day 78/87/4-18, the cladding rail at the tip of the columns provided a continuous void running all the way from the base of the building to the roof and the cavity barriers were all cut around that u-shaped rail.

13 Professor Bisby supplemental report [LBYS0000001] pp. 181/885-886, p. 45 Fig. 18, p. 49 Fig. 22, p. 56 Fig. 28, p. 57 Fig. 29.

likely" that the overall geometry of the building had contributed to the rate and extent of vertical flame spread.[14] More specifically, he drew attention to the protruding column wing wall, which was inclined at 135 degrees to the spandrels.[15] In his view it produces two specific effects. First, the fact that the fire is confined in a corner (even if not a right-angle corner) changes the way that fresh air is entrained into the fire. Because less air is available at its base, the flames elongate in the search for more air to continue burning, thereby increasing the vertical spread of flame. Secondly, the fact that the walls stand at an angle to each other allows heat to be radiated between them, thereby causing the temperature to increase locally.[16]

23.9 Professor Bisby thought it unlikely that the Aluglaze window infill panels had made any substantial contribution to the spread of flame, because the XPS inside the panels was of low density and the panels made up only a small proportion of the exterior envelope of the tower overall.[17] He also emphasised that when XPS is exposed to heating it tends to shrink away from the heat source and then burn in situ.[18]

23.10 Professor Bisby agreed with Dr Lane that, if the rainscreen cladding panels could distort when heated, either through heating of the panel itself or as a result of the failure of the supporting fixtures, the space between the cavity barriers and the rainscreen cladding panels would be liable to increase in size, rendering the cavity barriers ineffective.[19] He explained that under a high heat flux, "quite quickly the rainscreen cassettes are deforming or gone or burning and you no longer have a cavity, which defeats the purpose of a cavity barrier".[20] He also agreed with Dr Lane that the cladding rails bypass the cavity barriers and so also provided a route for flame to spread vertically within the system.[21]

Professor Torero

23.11 Professor Torero considered the vertical flame spread as part of his analysis of the development of the fire during the period from its breaching the compartment of origin to the approximate time when the flames reached the top of the east face of the building (his stage 2, 01.05-01.30).[22] He explained that, in general, the rate of vertical flame spread is at least 10 times faster than that of lateral flame spread and that the larger the burning zone, the faster the rate at which flames will spread vertically. In other words, vertical flame spread accelerates as the fire develops,[23] because all forms of heat transfer, convection, conduction and radiation heat the material ahead of the flame. As a result, not only is there an increase in the heat flux applied to the unburnt surface, but the area being heated itself increases in size, thereby increasing the rate of flame spread. In contrast, lateral flame spread is controlled by radiated heat transfer from the flame to the unburnt material to the side of the flame and the area being heated is more limited because convection carries heat away from the material towards the flame, thereby reducing the size of the pre-heated area.[24]

14 Professor Bisby supplemental report [LBYS0000001] pp. 182/903-183/912.
15 The angle as between the spandrel ACM cladding panels and the column cladding panels.
16 Professor Bisby oral evidence Day 78/182/11-183/16.
17 Professor Bisby oral evidence Day 78/29/20-33/6.
18 Professor Bisby oral evidence Day 78/193/2-194/14.
19 Professor Bisby oral evidence Day 78/91/13-92/3.
20 Professor Bisby oral evidence Day 78/89/17-90/5.
21 Professor Bisby oral evidence Day 78/185/13-19.
22 Professor Torero supplemental report [JTOS0000001] pp. 2/14-15 and footnote 1.
23 Professor Torero supplemental report [JTOS0000001] pp. 57/1588-1598.
24 Professor Torero supplemental report [JTOS0000001] pp. 58/1610-1621, p. 60 Fig. 22(a)-(b) and his oral evidence Day 77/102/4-104/18.

23.12 Professor Torero compared the Grenfell Tower fire with similar fires that have occurred in buildings in other countries. They demonstrate that the most common way in which a fire in the exterior of the building develops is by a flame spreading rapidly upwards with relatively limited lateral spread. This form of fire development occurred at The Torch building in Dubai, the Lacrosse building in Melbourne and The Address building in Dubai,[25] as is shown in the following images:[26]

(a) The Torch Building (Dubai) during the fire

(b) The Torch Building (Dubai) after the fire

(c) The Lacrosse Building (Melbourne) during the fire

(d) The Lacrosse Building (Melbourne) after the fire

(e) The Address Building (Dubai) during the fire

(f) The Address building (Dubail) after the fire

Figure 23.1

23.13 Although, in the view of Professor Torero, there is limited reliable data on the characteristics of these fires, he noted that the available video footage clearly shows that once the fire had spread to the top of each of those buildings it began to decay and eventually died out.[27]

[25] Professor Torero supplemental report [JTOS0000001] pp. 58/1599-1609 and his oral evidence Day 77/104/19-107/20.
[26] Professor Torero supplemental report [JTOS0000001] p. 59 Fig. 21 (a)-(f).
[27] Professor Torero supplemental report [JTOS0000001] pp. 58/1599-1609.

Considered in the context of these and other international fires, the rate of vertical fire spread at Grenfell Tower was not unusual and, in fact, was one of the slowest reported,[28] as is illustrated by the following figure taken from Professor Torero's report:[29]

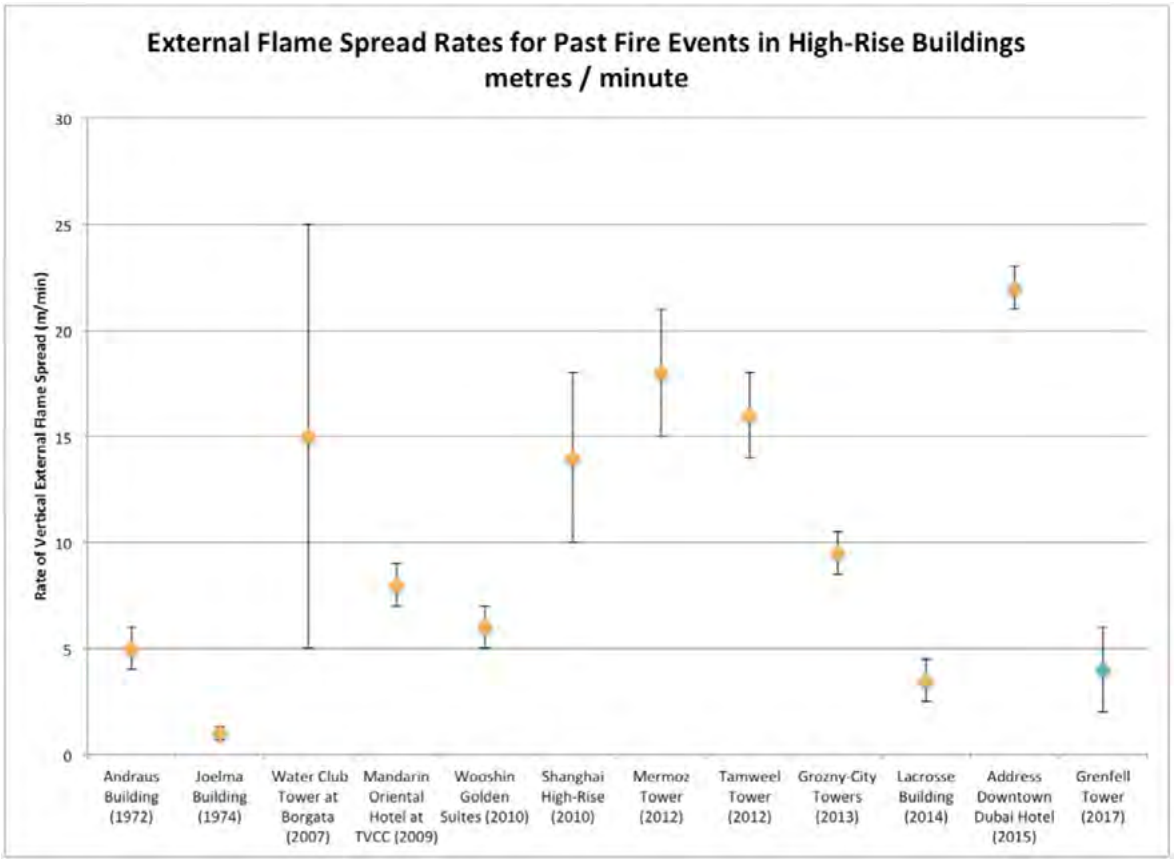

Figure 23.2

23.14 As can be seen from that graph, at Grenfell Tower the rate of vertical flame spread was on average about 4 metres a minute, compared with the extreme case of the fire in The Address building in Dubai, which spread at about 22 metres per minute.[30]

23.15 Professor Torero explained that the presence of combustible materials in the cladding system, including the polyethylene core of the rainscreen panels, the PIR insulation and the EPDM membrane,[31] would have sustained combustion of a kind that promoted vertical flame spread. In the presence of significant flame the aluminium plates forming the outer skin of the ACM cassette panels would melt and would provide no protection to the polyethylene core. The temperature of a flame is typically between 600-800°C, which is higher than the melting point of aluminium (580-650°C). Polyethylene melts at a much lower temperature and will therefore melt and drip both before and after it has been ignited. PIR insulation will char and remain in place. In the absence of significant heating it will generally stop burning, leaving a large proportion of its mass as residue.[32] Having examined photographs of the tower taken

[28] Professor Torero supplemental report [JTOS0000001] pp. 58/1622-1627.
[29] Professor Torero supplemental report [JTOS0000001] p. 61 Fig. 23.
[30] Professor Torero oral evidence Day 77/107/4-108/1.
[31] In terms of the EPDM membrane refer to his oral evidence Day 77/136/19-137/11.
[32] Professor Torero supplemental report [JTOS0000001] pp. 60/1645-61/1658.

after the fire, Professor Torero concluded that different areas had been exposed to different levels of heating: some had been exposed to intense local heating and others to only mild local heating.[33]

23.16 Professor Torero emphasised that the extremely complex characteristics of the cladding system made it difficult to identify the extent to which different parts had contributed to the vertical spread of flame. For example, although he was confident that the width of the cavities and the geometry of the column detailing had played a role, he was unable to say whether they had promoted or restricted the spread of flame.[34] He explained that although extensive studies had been carried out on the spread of flame across flat plates, both vertical and horizontal, less attention has been paid to the width of the cavity, which plays a fundamental role in the rate of flame spread in any system of that kind. In simple terms, if the width of the cavity exceeds a critical size, radiative feedback and buoyantly driven "chimney" effects (the upward movement of hot air in an enclosed vertical space) disappear altogether. If the width of the cavity falls below a critical size, thermal expansion of the gases blocks their flow and the flames cease to spread internally.[35] At Grenfell Tower the accelerated vertical flame spread could be explained by the presence of open vertical channels, which induced chimney effects associated with their width, and also by the fact that polyethylene burns more easily than PIR insulation based on their material properties.[36] However, given the relatively slow rate of vertical flame spread at Grenfell Tower by comparison with other international fires, he concluded that the specific detailing of the cladding system had probably had only a minor effect on the evolution of the fire and that the important factor in the rate and extent of flame spread was the composition of the materials used in it.[37] A simplified illustration of the different processes which may have occurred during the spread of flame over a version of the cladding system used at Grenfell Tower is shown below.[38]

33 Professor Torero supplemental report [JTOS0000001] pp. 61/1668-62/1677.
34 Professor Torero supplemental report [JTOS0000001] pp. 4/91-95 and his oral evidence Day 77/114/15-119/5 and the discussion about cladding rails penetrating cavity barriers at Day 77/142/22-144/1.
35 Professor Torero oral evidence Day 77/113/1-114/13.
36 Professor Torero supplemental report [JTOS0000001] pp. 63/1695-1709.
37 Professor Torero oral evidence Day 77/118/2-119/18.
38 Professor Torero supplemental report [JTOS0000001] p. 63 Fig. 26.

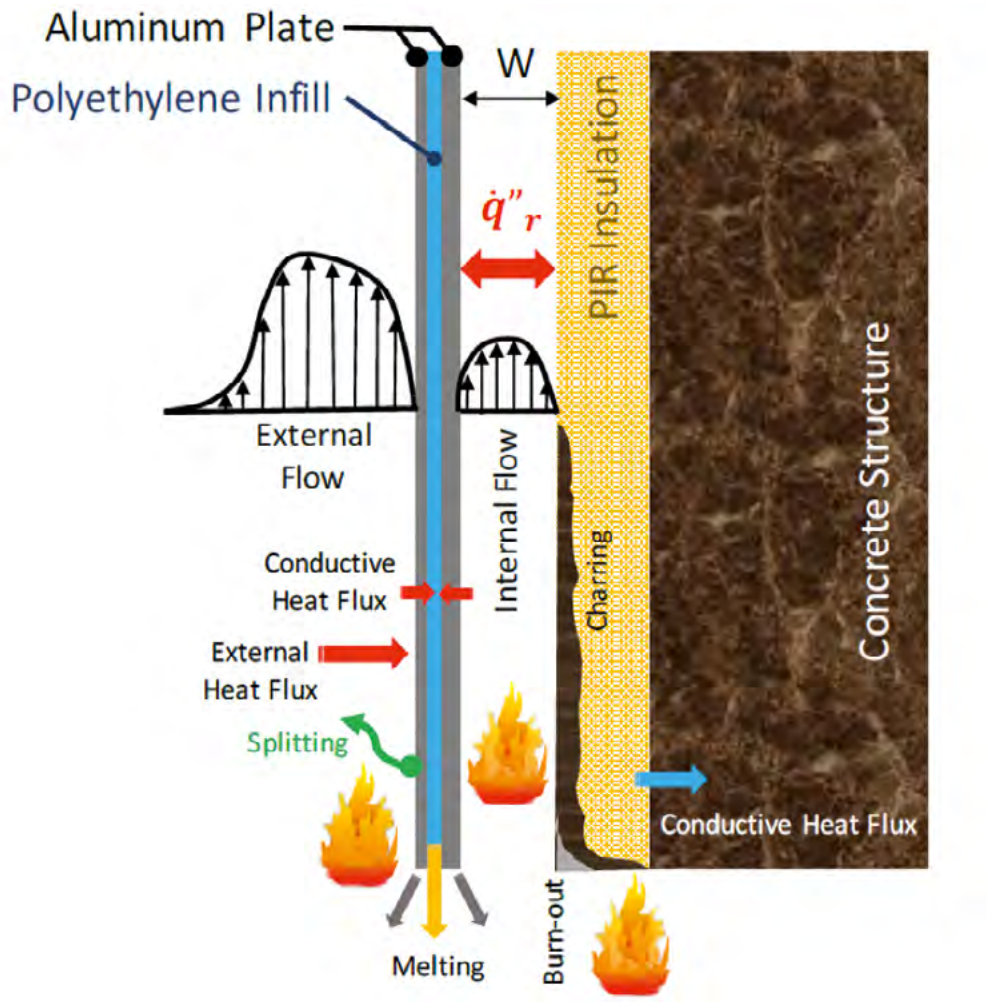

Figure 23.3

23.17 Professor Torero explained that, in a system of this complexity, a large number of different processes come into play in addition to the width of the cavity. For example, the low melting temperature and high thermal conductivity of aluminium results in complex heat transfer from external flames into the polyethylene core. The polyethylene melts as it is heated and the rate of melting is influenced by how fast the heat travels through the aluminium, which itself can be influenced by a variety of different factors.[39] In addition, differential deformation of the aluminium plates can occur, leading to splitting of the plates and exposure of the polyethylene.[40]

23.18 Inside the cavity, the PIR has a low thermal inertia, which favours rapid initial flame spread, but its propensity to char reduces the amount of fuel that is consumed and thus has a retarding effect on flame spread. The outcome of these two competing effects is determined by radiative feedback from the ACM panels to the insulation boards, because if the insulation is exposed to additional heat it will continue to burn. Thus, the way the ACM panels burn has an effect on the way in which the PIR will spread a flame. Conversely, the way in which the PIR burns has an effect on the rate at which the ACM panels degrade, allowing the polyethylene core to melt and burn. Faster degradation induces more rapid melting of the polyethylene, which may reduce the rate at which the flame spreads but will increase the rate at which molten debris falls with the potential to ignite further fires. During his oral evidence Professor

[39] Professor Torero oral evidence Day 77/111/2-25.
[40] Professor Torero supplemental report [JTOS0000001] pp. 64/1716-1721.

Torero made it clear that, although the precise nature of the interaction between the two components was unclear at this stage, he was of the view that the insulation had contributed to the external flame spread. However, he found it difficult to say whether its contribution had been of considerable or only minor significance. As he explained, "clearly there is burning of the PIR and there is evidence that it had been contributing to the energy that is being released", but he was unable to quantify that contribution at this stage.[41]

23.19 Professor Torero was of the view that the Aluglaze window infill panels might have contributed to the total heat release rate during the fire and therefore to the vertical flame spread, but he emphasised that XPS is a low density material, the mass of which present in the cladding system was much smaller than that of the other materials. Any contribution it may have made was therefore likely to have been minor.[42]

23.20 Professor Torero was asked about the effectiveness of cavity barriers in a fire of this kind. He was of the opinion that, in circumstances where the flames could be seen taking hold of the outside of the ACM panels from the very early stages of the fire, the rate of vertical flame spread was unlikely to have been significantly affected by defects in the way they were sited or fitted.[43] He pointed out that the use of a barrier to prevent flame spreading through a cavity would be ineffective if there were combustible materials on either side of the barrier itself which effectively allowed the fire to spread around it. He also pointed out that, if ACM panels deform, delaminate or become detached from the building, cavity barriers will not be effective.[44]

Dr Lane

23.21 Dr Lane agreed with Professor Bisby and Professor Torero that the ACM panels had contributed to the rapid fire spread, given the polyethylene core of those panels and its particular properties.[45] She also agreed with them that the insulation played a role in terms of the speed and extent of flame spread. In particular, she emphasised that the insulation in the cavity behind the ACM rainscreen panels would produce pyrolysing material and gases, thereby creating a highly effective environment for flaming combustion.[46]

23.22 Based on a review of the photographic evidence, she identified a number of separate pathways by which flames were able to spread across the cladding system. Her assessment was that the columns were the principal route for vertical flame spread during the early stages of the fire.[47] In particular, she relied on the fact that the cladding around the columns contained a number of combustible materials, including the core of the ACM panels, the PIR insulation and the EPDM membrane.[48] She also drew attention to the fact that the panels on the columns were ventilated by means of gaps between them which allowed a flow of air into the cavity running the full height of the columns. Those gaps provided a continuous flow of oxygen capable of fuelling the fire.[49]

41 Professor Torero oral evidence Day 77/121/11-127/23.
42 Professor Torero oral evidence Day 77/131/10-136/18.
43 Professor Torero supplemental report [JTOS0000001] pp. 69/1950-70/1953.
44 Professor Torero oral evidence Day 77/138/19-140/15.
45 Dr Lane supplemental report [BLAS0000002] p. 16/2.9.20; [BLAS0000010] p. 11/10.3.9 and her oral evidence Day 79/100/7-11.
46 Dr Lane oral evidence Day 79/97/12-99/12.
47 Dr Lane supplemental report [BLAS0000010] p. 9/10.3.1-24/10.3.44 and her oral evidence Day 79/61/9-62/24.
48 Dr Lane supplemental report [BLAS0000010] p. 11/10.3.9-14/10.3.16.
49 Dr Lane supplemental report [BLAS0000010] p. 14/10.3.16-15/10.3.26.

23.23 Dr Lane drew attention to other features of the cladding system which, in her opinion, also played a role in promoting the vertical spread of flame. In that regard she identified both the vertical cavities created by the cladding rails at the tips and edges of the columns[50] and the Aluglaze window infill panels.[51] However, although she thought they had played some role, in her view they had not been a significant or governing factor.[52] Dr Lane emphasised that the Aluglaze panels had made up only 15-17% of the overall surface area of the tower[53] and therefore were not a dominant feature, but the XPS core was combustible and in her view there was some visual evidence to suggest that they may have been a mechanism by which flame spread during the fire.[54]

23.24 Dr Lane expressed the opinion that the use of cavity barriers in cladding systems was "entirely problematic", in essence because a cavity barrier cannot prevent a flame from propagating in a cavity if the surface of the wall itself is burning.[55] She illustrated that by reference to a number of diagrams showing routes by which cavity barriers can be bypassed in a system of the kind installed at Grenfell Tower. They include flaming through the polyethylene core itself and the widening of the gap between the cavity barrier and the external surface as a result of the distortion of the panels.[56] Her view was that it made no difference where the cavity barriers had been placed in the cladding at Grenfell Tower, because they had been installed in a system which used ACM panels with a polymeric core.[57] Although there were defects in the way in which the cavity barriers had been installed, including examples of poor workmanship and the installation of horizontal cavity barriers in the vertical position, she considered them to be minor defects, which were eclipsed by the more fundamental problem that the barriers became ineffective once the flames had taken hold of the ACM panels themselves.[58]

2 Horizontal and downward fire spread

23.25 After the fire reached the highest point at the top of the east face of Grenfell Tower at approximately 01.29, it advanced north and south and wrapped itself around the building in two advancing flame fronts, before converging on the west face in just over two and a half hours at around 04.08. That rapid horizontal and downwards spread of flame was a unique feature of this particular fire, which sets it apart from many other international fires and is an important factor in making the outcome so devastating in terms of the loss of human life. In this Chapter I examine the expert evidence about the causes of the lateral and downward fire spread, noting again the considerable agreement between the experts about the primary factors which played a central role in enabling that to occur.

Professor Bisby

23.26 In Professor Bisby's opinion the architectural crown of the building played an important role in increasing the rate and extent of horizontal spread of fire around the building.[59] He referred to extensive video evidence from the night of the fire showing that the most rapid fire spread was invariably at the location of the crown, which acted "like a linear fuse moving around the

50 Dr Lane oral evidence Day 79/64/3-22.
51 Dr Lane oral evidence Day 79/83/5-87/10.
52 Dr Lane oral evidence Day 79/64/9-22, 87/4-10.
53 Dr Lane oral evidence Day 79/79/19-22, 87/4-10.
54 Dr Lane supplemental report [BLAS0000010] p. 39/10.7.1-41/10.7.8 and evidence Day 79/85/19-86/23.
55 Dr Lane oral evidence Day 79/142/8-143/15.
56 Dr Lane supplemental report [BLAS0000010] p. 16/10.3.27-23/10.3.44, in particular Figs. 10.18-10.20 and oral evidence Day 79/143/16-144/17.
57 Dr Lane oral evidence Day 79/144/23-145/1.
58 Dr Lane oral evidence Day 79/147/20-152/14 and her supplemental report [BLAS0000002] p. 15/2.9.11.
59 Professor Bisby supplemental report [LBYS0000001 pp. 241/1139-242/1146.

top of the building".[60] In his view the elements of the crown, in particular the tall ACM fins at the top of the building, had been most susceptible to burning, dripping polyethylene onto the aluminium coping directly below[61] and producing localised pool fires, which in turn ignited adjacent elements of the crown, allowing the fire to progress laterally around the building.[62] He also drew attention to certain features of the crown which were likely to have played a role in facilitating the rapid progression of fire, including:

a. the configuration and orientation of the C-shaped fins themselves as a semi-continuous path for fire to spread;

b. the number of exposed ACM edges of polyethylene within the fins; and

c. the fact that the fins themselves formed C-shaped chimneys, supporting flame extension and the spread of fire.[63,64]

23.27 Professor Bisby did not accept that the lateral progression of the fire around the top of the building could be explained simply by the propensity of flames to broaden out as they extended vertically. He believed that the crown was the dominant factor driving that lateral fire spread.[65]

23.28 He also concluded that the ACM cassettes and the presence of polyethylene within the panels was the dominant and decisive factor in facilitating downward fire spread. In his view there was strong evidence that the polyethylene within the cassettes had enabled the fire to spread downwards and across the building as a result of the polyethylene melting and dripping and collecting on lower surfaces, before forming localised fires which then progressed back up the building.[66] That was particularly evident from the thermal images taken by the NPAS helicopter, which showed a "waterfall of molten, burning material falling off the side of the building".[67] He drew particular attention to the columns, where downward fire spread was very evident and where the pools of burning polyethylene could be seen accumulating at intervals down the columns on the cassette returns or the cavity barriers, before developing into localised pool fires which then spread sideways.[68] It was also evident from photographs taken after the fire that debonding of the ACM panels had occurred as the flame front progressed downwards, together with a significant accumulation of polyethylene on horizontal surfaces below the fire front (e.g. below window ledges and window infill panels, on the top of ACM cassettes).[69] The following photographs illustrate that:[70]

60 Professor Bisby oral evidence Day 78/197/17-198/4, 200/7-9.
61 This aluminium coping sat at the top of the building, below the crown: Dr Lane supplemental report [BLAS0000010] p. 48 Fig. 10.47.
62 Professor Bisby oral evidence Day 78/199/8-200/9 and his supplemental report [LBYS0000001] pp. 241/1145.
63 Professor Bisby supplemental report [LBYS0000001] pp. 241/1142-1143.
64 He also drew attention to the lack of any cavity barriers within the ACM cassettes at the tops of the columns: Professor Bisby supplemental report [LBYS0000001] pp. 241/1144.
65 Professor Bisby oral evidence Day 78/200/4-201/24.
66 Professor Bisby supplemental report [LBYS0000001] pp. 189/921-192/925, 198/948-949.
67 Professor Bisby oral evidence Day 78/192/5-8.
68 Professor Bisby oral evidence Day 78/186/14-189/5.
69 Professor Bisby supplemental report [LBYS0000001] pp. 193/933-196/935, 194-196 Figs. 115-119.
70 Professor Bisby supplemental report [LBYS0000001] pp. 194-195 Figs. 116-118.

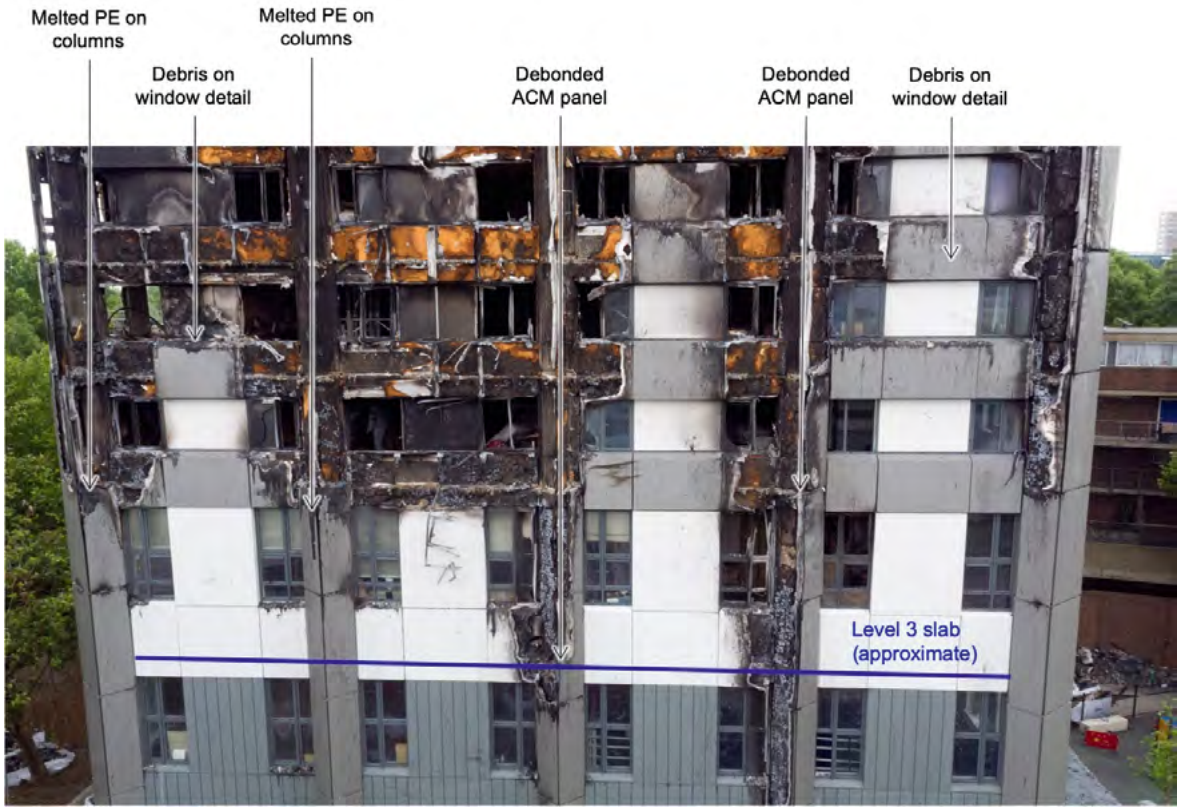

Figure 23.4

Figure 23.5

Figure 23.6

23.29 Professor Bisby considered that photographs taken after the fire, particularly of the lower parts of the building, also supported the conclusion that polyethylene had flowed downwards over the external surfaces of the columns and along the extensive vertical channels within those columns, including at the column tips.[71] That was consistent with a number of photographs taken on the night, in which it is possible to see that downward vertical flame spread had occurred first at the column lines, including the column tips and at the vertices between the columns and the spandrels, i.e. at places where there were extensive vertical cavities inside the cladding.[72] After the fire significant quantities of solidified polyethylene were discovered in these cavities lower down the building, which Professor Bisby thought was compelling evidence that those extensive channels had played a role in facilitating downward flame spread.[73] He concluded that the continuous vertical channels and cavities within the columns had played a role in the downward spread of the fire, which would have been much slower if they had not been present.[74]

23.30 In Professor Bisby's opinion, the advanced fire spread at the crown and the melting and dripping polyethylene from the crown and from the ACM cassettes at the upper levels of the building had been responsible for the diagonal flame effect which could be seen on all the faces of the tower as the fire progressed between 01.29 and 04.08.[75] In his written report he explained that this horizontal line moving across the building was generally steeper over the column sections and shallower over the spandrel sections, possibly due to an acceleration of the downward fire spread at the column lines caused both by the presence of uninterrupted bands of polyethylene present in the columns and by the extensive vertical cavities and channels in those locations.[76]

71 Professor Bisby supplemental report [LBYS0000001] pp. 193/932.
72 Professor Bisby supplemental report [LBYS0000001] pp. 185/920, 189/923-924.
73 Professor Bisby oral evidence Day 78/195/8-23.
74 Professor Bisby supplemental report [LBYS0000001] pp. 200/959-962 and his oral evidence Day 78/195/8-195/23.
75 Professor Bisby supplemental report [LBYS0000001] pp. 235/1084-237/1111 and his oral evidence Day 78/201/1-202/12.
76 Professor Bisby supplemental report [LBYS0000001] pp. 239/1124.

23.31 Although horizontal flame spread was also likely to have occurred as a result of flames progressing sideways across the ACM panels themselves (known as "opposed flow"), Professor Bisby was clear that it was the melting and dripping polyethylene and the resulting progression of the fire diagonally across the building which was the predominant cause of lateral flame spread.[77]

23.32 Professor Bisby thought that the insulation was likely to have played a minor (but as yet unquantified) role in exacerbating the melting and dripping of polyethylene, because it would have insulated the cladding cavity, thereby increasing the interior temperature.[78] Similarly, although the insulation could have contributed to the lateral flame spread, particularly at the exposed edges of the insulation boards, he did not think it was possible to quantify that contribution at this stage. Any such contribution would have to occur by way of opposed flow, which would probably have required significant heating to cause flames to progress horizontally across its surface.[79]

23.33 In his opinion the XPS window infill panels were also likely to have contributed both to the melting and dripping of material downwards[80] and the formation of pool fires promoting horizontal spread,[81] but it was not possible to quantify their contribution, other than to say that is unlikely to have been significant, given the limits of opposed flow spread and the fact that those panels made up a small proportion of the external surface.[82]

23.34 Finally, Professor Bisby was of the view that the vertical cavity barriers (even if installed correctly in the vertical or horizontal position) were unlikely to have been effective in preventing lateral flame spread, because of the combustibility of the ACM cassettes and their tendency to warp, delaminate and de-bond under heating.[83] In fact, there was evidence that melting and dripping polyethylene had formed pool fires locally on top of horizontal cavity barriers, thereby making matters worse.[84]

Professor Torero

23.35 Professor Torero considered the lateral development of the fire as part of Stage 3 of his analysis, when considering the period between 01.30-02.30.[85] In his opinion, the architectural crown was responsible for the most rapid of the observed fire spread and behaved as a preferred path for lateral propagation.[86] In his written report he illustrated this by reference to video evidence from the east face which showed the fire front moving towards the south across the crown, causing burning debris to fall and ignite floors beneath it and causing the flames to advance towards the south-east corner of the tower.[87] He explained that the pooling of burning polyethylene below the crown effectively acted as a "feedback loop" which then served to accelerate the burning around the crown, causing fires to start at other places

77 Professor Bisby oral evidence Day 78/189/13-190/25.
78 Professor Bisby supplemental report [LBYS0000001] pp. 199/957.
79 Professor Bisby oral evidence Day 78/202/23-203/24.
80 Professor Bisby supplemental report [LBYS0000001] pp. 198/949-951
81 Professor Bisby supplemental report [LBYS00000001] pp. 238/1120, 242/1147-1150 and his oral evidence Day 78/204/22-206/17.
82 Professor Bisby oral evidence Day 78/206/1-17.
83 Professor Bisby supplemental report [LBYS0000001] pp. 240/1135.
84 Professor Bisby oral evidence Day 78/188/10-19, 189/23-190/5, 204/9-17.
85 Professor Torero supplemental report [JTOS0000001] p. 2 footnote 1.
86 Professor Torero supplemental report [JTOS0000001] pp. 71/2004-2013 and his oral evidence Day 77/146/7-147/15.
87 Professor Torero supplemental report [JTOS0000001] pp. 71/2014-73/2026.

below it.[88] Once the falling debris had ignited fires at lower levels of the building, those new fires propagated upwards and joined up with other fires, thereby consuming entire sections of the building.

23.36 This pattern of flame development was demonstrated very effectively by two graphs in Professor Torero's written report, one for each of the two advancing lateral flame fronts (i.e. east-north-west and east-south-west). By plotting the time that each sector of the building had become affected by the advancing flame fronts, it was apparent that, after the initial vertical flame spread up the east face between 01.08 and 01.30, the lateral spread was always fastest at the top of the building, the lower levels being affected later. The graphs also showed that the downward flame spread had affected floors in groups: a group of floors would rapidly become involved in the fire as molten, burning debris fell down a particular sector, before the fire would spread up the building again.[89]

23.37 In general, Professor Torero thought that the role of opposed flow flame spread was "very minor to negligible"[90] and that the primary or governing mechanism[91] of downward and lateral flame spread was debris falling down the building and igniting fires below, which then progressed upwards.[92] Given the complexity of the cladding system, he accepted that there were instances where fire had spread laterally through pathways in that system, but in his view that had not been the dominant mechanism.[93]

23.38 Professor Torero's analysis showed that the rate at which the flats at floors 20 and above had been penetrated by the fire was almost the same as that at which the fire had progressed around the crown. That indicted that the flats at the top of the tower had been particularly vulnerable to the effects of the melting, dripping and burning of the polyethylene emanating from the panels forming the crown.[94]

23.39 Professor Torero agreed with Professor Bisby that there were particular characteristics of the crown which had allowed faster lateral propagation than had occurred in other sections of the building, including its configuration, the exposed polyethylene edges and the C-shaped chimneys formed within it.[95] He also agreed that the lateral development of the fire at the top of the building could not be explained by the propensity of a vertical fire plume to widen as it rises. He drew attention to the fact that in some other fires, including the fire at The Torch in Dubai, the fire plume remained very narrow as it climbed vertically up the building. Much depended on the propensity of the system to sustain burning in such a way that the energy from the advancing vertical flame front enhanced the flame spread at the upper levels.[96]

23.40 Although the lateral fire spread seen at Grenfell Tower was unusual when placed in the context of other international fires, there were some examples of previous fires where substantial lateral (and downwards) spread had occurred at the roof level of the building. In particular, the fire at the Monte Carlo Hotel and Casino in Las Vegas in 2008 had significant parallels to the fire at Grenfell Tower. In that incident the fire had spread laterally across the building's parapet and through polystyrene and polyurethane sections of the exterior insulation and

88 Professor Torero oral evidence Day 77/148/7-149/4, 77/154/8-10.
89 Professor Torero supplemental report [JTOS0000001] pp. 77/2094-78/2110 and oral evidence Day 77/154/14-156/19.
90 Professor Torero oral evidence Day 77/157/21-23.
91 Professor Torero supplemental report [JTOS0000001] pp. 74/2038-2042.
92 Professor Torero oral evidence Day 77/157/21-159/7. In common with Professor Bisby, Professor Torero also highlighted the potential for the horizontal cavity barriers to act as a surface for the deposit of melting, dripping material, with the cavity barrier itself becoming a mechanism for flame spread: oral evidence Day 77/139/11-18.
93 Professor Torero oral evidence Day 77/159/8-20.
94 Professor Torero oral evidence Day 77/150/12-23.
95 Professor Torero supplemental report [JTOS0000001] pp. 74/2031-2035 and his oral evidence Day 77/149/6-150/11.
96 Professor Torero oral evidence Day 77/151/4-25.

finishing system (EIFS) panels. Molten, burning material had run down the outside of the building, starting fires in similar panels below and eventually penetrating the interior of the building.[97] That mechanism had also been observed in a fire at the Taksim Ilk Yardim Hospital in Istanbul, Turkey in April 2018, where the fire had started on the roof of the building and spread downwards and laterally to incorporate the external facade of the building.[98]

23.41 Professor Torero thought it possible that the insulation had played a role in promoting lateral flame spread, but again, he did not think that it had been a dominant factor.[99] He did not accept that the rapid fire spread around the top of the building could be explained by the presence of insulation at the upper levels, despite the fact that some had been wrapped over the original concrete roof and placed below the architectural crown protected by a strip of aluminium flashing at the top of level 23.[100] He did not think there was any conclusive evidence that the fire at those levels had emanated from the insulation and, in principle, the pool fire at the base of the crown was capable of producing much more severe heating than burning insulation in that location.[101] His opinion about the role of the crown was not undermined by the fact that some parts of the aluminium flashing beneath it had not melted, by comparison with other places on the face of the building where it had. Professor Torero explained that polyethylene melts at very low temperatures and starts turning to gas at around 300°C, which is significantly below the melting temperature of aluminium.[102] In those circumstances he was not surprised that in some places the flashing had not been affected; the polyethylene acted like a "heat sink" drawing energy away from the aluminium and preventing the flashing from reaching melting temperature.[103]

Dr Lane

23.42 In her written report Dr Lane drew attention to a number of potential pathways in the exterior cladding system and across the windows which could have facilitated lateral and horizontal flame spread. They included downward spread along the columns,[104] horizontal spread across the ACM spandrel panels,[105] horizontal spread along the heads and sills of the windows and of the XPS window infill panels[106] and horizontal spread around the architectural crown.[107]

23.43 Dr Lane agreed with Professor Bisby and Professor Torero that the crown was highly effective in propagating the flame front across the tower and, at least in the early stages of the horizontal development of the fire, provided the primary route of fire spread.[108] In her opinion, that rapid fire progression across the crown was particularly significant in its effect on the flats at level 23 of the tower.[109]

97 Professor Torero supplemental report [JTOS0000001] pp. 74/2045-2052 and his oral evidence Day 77/161/5-162/7.
98 Professor Torero supplemental report [JTOS0000001] pp. 74/2053-2055.
99 Professor Torero oral evidence Day 77/159/21-160/5.
100 Dr Lane supplemental report [BLAS0000010] p. 48 Fig. 10.47.
101 Professor Torero oral evidence Day 77/152/17-153/6.
102 On exposure to heat, aluminium melts at approximately 660°C: Professor Bisby supplemental report [LBYS0000001] pp. 104/461 and Professor Torero supplemental report [JTOS0000001] pp. 60/1648-1649, which puts the melting range for the aluminium plates of the ACM panels at 580-650°C.
103 Professor Torero oral evidence Day 77/153/6-154/4.
104 Pathway A: Dr Lane supplemental report [BLAS0000010] pp. 9-23 section 10.3.
105 Pathway B: Dr Lane supplemental report [BLAS0000010] pp. 24-29 section 10.4.
106 Pathway C: Dr Lane supplemental report [BLAS0000010] pp. 30-33 section 10.5.
107 Pathway F: Dr Lane supplemental report [BLAS0000010] pp. 42-50 section 10.8.
108 Dr Lane oral evidence Day 79/89/4-91/4.
109 Dr Lane oral evidence Day 79/89/12-90/3.

23.44 She also drew attention to other mechanisms for downward and lateral flame spread, particularly at a time when the crown had been consumed by the fire. They included fire spreading down the columns and smaller fires propagating outwards.[110] In her opinion, the presence of polyethylene in the ACM panels on the columns, together with the radiation from the fire within the cavity, which raised the temperature of materials below the fire, were likely to have been responsible for the downward movement of flame along the columns.[111]

23.45 Dr Lane accepted that movement laterally across the ACM cassettes by way of opposed-flow flame spread would have been much slower than any spread of flame vertically.[112] However, she drew attention to the fact that the vertical gaps between the spandrel cassettes may have acted as channels which attracted flame propagation, thereby causing heating behind and across them.[113] In her view, the configuration of the spandrel panels created perfect conditions for flaming combustion, with fuel on the outside, insulation on the inside and ventilation gaps between them.[114]

23.46 Dr Lane also considered that all the materials surrounding the windows and the window infill panels, including the uPVC surrounds, the original timber frames and the insulation were capable of causing horizontal (and vertical) flame spread, particularly after the ACM panels had fallen away during the fire.[115] She drew attention to the role of the XPS window infill panels in promoting horizontal fire spread and to photographs taken after the fire which showed them in a damaged condition. She emphasised, however, that those panels constituted only a relatively small proportion of the external surface of the tower.[116]

23.47 The fact that combustible ACM panels had been the main constituents of the crown led Dr Lane to doubt whether cavity barriers could have been installed within it to prevent the rapid spread of fire effectively,[117] but she noted that no attempt appeared to have been made to prevent the spread of fire horizontally around the crown. The construction drawings she had reviewed contained no requirement for horizontal cavity barriers or fire stopping to be fitted above the windows at level 23.[118]

3 Conclusions

23.48 Although I have seen the video evidence taken on the night of the fire many times, I still find the speed at which the fire took hold of the building and the size of the flames as they accelerated up the east face, causing molten debris to rain down onto the ground below, profoundly shocking. Although the speed at which the fire clawed its way up the building may have been slower than in some similar cases, to any onlooker those first few minutes must have been truly terrifying. It is not surprising that there were desperate shouts from the crowd below as the flames began to take hold with such ferocity.[119]

23.49 In its closing statement Arconic argued that the evidence heard in Phase 1 was too provisional in nature to enable any firm conclusions to be drawn about the development of the fire. I do not agree. There are, of course, some aspects of the matter on which the experts candidly

110 Dr Lane oral evidence Day 79/91/5-91/23.
111 Dr Lane oral evidence Day 79/66/5-69/5 and her supplemental report [BLAS0000010] p. 11 Fig. 10.9 and 14/10.3.23.
112 Dr Lane oral evidence Day 79/72/6-73/3.
113 Dr Lane supplemental report [BLAS0000010] p. 26/10.4.8 and Fig. 10.26, and her oral evidence Day 79/69/6-72/5.
114 Dr Lane oral evidence Day 79/71/3-9.
115 Dr Lane oral evidence Day 79/73/4-77/3, 82/19-83/2.
116 Dr Lane oral evidence Day 79/77/18-82/18.
117 Dr Lane oral evidence Day 79/93/14-94/6.
118 Dr Lane supplemental report [BLAS0000010] p. 50/10.8.24-10.8.25.
119 For example, [LBYS0000002] at 01.19.34, 01.24.44.

admitted that their views were provisional and that greater certainty would have to await the outcome of further investigations, but there are others on which I am satisfied that findings can and should be made at this stage. My conclusions on those matters are set out in the following paragraphs. The bulk of Arconic's submissions, however, were directed to demonstrating that the ACM panels were not the primary cause of the disaster and that other materials used in the refurbishment, such as the PIR and phenolic foam insulation boards and the uPVC window surrounds, were just as much, if not more, to blame for what happened. I consider that submission below.

23.50 Celotex, the manufacturer of the majority of the insulation boards used in the refurbishment, also submitted that the evidence given by the experts was only preliminary in nature and said that it would comment on the issues raised at this stage later on when further evidence had been given. Similarly, Rydon argued that the evidence was insufficient to enable me to reach any firm conclusions on the reasons for the spread of fire on the exterior of the building. My response to both those submissions is the same: despite the preliminary nature of some of the expert evidence, I am satisfied that there are some findings that can, and should, be made at this stage of the Inquiry.

23.51 Kingspan, the manufacturer of the other insulation boards used in the refurbishment, was prepared to acknowledge that, although some of the evidence was of a preliminary nature, some matters had been established with sufficient certainty to justify making findings about them. In particular, it submitted that the evidence demonstrated that the most important contributor to the development of the fire was the presence of the ACM panels. It also submitted that the nature and extent of the fire would not have been different if mineral wool insulation had been used.

23.52 In the light of the video evidence itself and the expert evidence summarised above, none of which was challenged, I am satisfied that, although many different factors played a part, the principal reason why the flames spread so rapidly up the building was the presence of the ACM panels with polyethylene cores, which had high calorific value, melted and acted as a source of fuel for the growing fire. I also think it more likely than not that the presence of PIR and phenolic foam insulation boards behind the ACM panels (and perhaps the EPDM membrane and the Aluglaze window infill panels) contributed to the rate and extent of vertical flame spread, but it is not possible at this stage to quantify the extent of their respective contributions. Further investigation which is to be the subject of evidence in Phase 2 may enable me to come to a more definite conclusion about those matters in due course. I should like to be able to do so, because I think it would be in the public interest to obtain a better understanding of how these materials behave in conjunction with each other when exposed to fire. Further work also needs to be done on the extent to which exposed edges of the ACM panels and insulation boards may have contributed to the spread of flame.

23.53 It seems likely that some aspects of the design of the cladding system and the geometry of the tower also contributed to the speed at which the fire developed vertically, but the evidence currently available does not enable me to reach any firm conclusion at this stage. Although Professor Torero urged caution in determining the role played by the details of the design of the cladding, such as the width and length of the cavities, Professor Bisby was "almost certain" that the extensive vertical channels and cavities within the system had made a contribution. The video evidence tends to support the conclusion that the principal route of flame spread was initially in the area of the columns and given that flames are known to extend significantly when confined in a vertical channel, it seems to me to be very possible that the presence of the vertical channels in the cladding system around the columns was

indeed a contributing factor. The video evidence, which shows flames elongating up the wing wall in the re-entrant corners between the spandrel panels and the columns suggests that the geometry of the building may also have played a part.

23.54 In the light of the available video and photographic evidence, both during and after the fire, and the unchallenged expert evidence summarised above, I am satisfied that the main reason why flames spread so rapidly down and around the tower after reaching the top at around 01.30, was also the presence of ACM panels containing polyethylene cores. In particular, I am satisfied that the principal mechanism for horizontal and downwards flame spread was the melting and dripping of burning polyethylene from the crown and from the spandrel and column panels, which ignited fires lower down the building. Those fires then travelled back up the building, thereby allowing the flame front to progress diagonally across each face of the tower. The propensity of polyethylene to melt and drip and spread flame downwards was very clearly demonstrated in the course of Professor Bisby's oral presentation in June 2018[120] and was particularly evident on the night of the fire in the thermal images, where a "waterfall" of burning, molten material can be seen cascading down the tower, setting fire to lower levels.[121]

23.55 There is also compelling expert evidence, which I accept, that the crown was responsible for the most rapid of the observed lateral fire spread. That is supported by the many videos taken on the night and was a phenomenon observed consistently on each of the four faces as the flame front progressed around the top of the building.[122]

23.56 Arconic suggested in its closing statement that the lateral fire spread at the top of the building might have more to do with the insulation behind the ACM panels, but that is not consistent with the video evidence showing the leading flame front progressing around the crown and was firmly rejected by Professor Torero in the light of the burning properties of the respective materials. He was also clear that the condition of the aluminium flashing beneath the crown did not undermine his conclusions, given the very different melting temperatures of polyethylene and aluminium.

23.57 Rydon, the main building contractor for the refurbishment, submitted that the lateral progression of the fire around the crown was not significantly different from that which took place in other sections of the building and argued that the diagonal flame front could be explained by the normal fire dynamics of upward and lateral spread. Again, those contentions are inconsistent with the video evidence and were not accepted by the experts. Professor Bisby and Professor Torero, whose evidence I accept, were both clear that the diagonal progression of this fire could not be explained simply by the propensity of a flame to widen as it travels upwards.

23.58 I also accept the evidence of Professor Bisby and Dr Lane that the columns were a principal route of downwards fire spread and I think it more likely than not that the extensive vertical cavities in the columns (particularly at the tips and down the sides at the vertices with the spandrel panels) and the longer ACM cassettes within the columns contributed to the rate at which the fire spread downward.

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120 Professor Bisby presentation 20 June 2018 Part 1 at slides 29-30 and Part 1 of his video presentation at 47:42-48:04 and 52:45-55:55.

121 [LBYS0000004] (north face) sequence 1 between 01.28 and 01.43 at 5:45 (time in the video), [LBYS0000005] (west face) sequence 4 between 02.52 and 03.03 at 6:23, sequence 6 between 03.12 and 03.23 at 11:40, sequence 10 between 03.55 and 04.13 at 31:30, [LBYS0000006] (south face) sequence 4 between 02.43 and 02.58 at 5:10, sequence 8 between 03.52 and 04.12 at 14:28 and 16:48.

122 Professor Torero supplemental report [JTOS0000001] pp. 71/2014-72/2026, and [LBYS0000003] (east face) at 10:39 and 12:32 (time in the video), [LBYS0000004] (north face) at 14.10 (time in the video), [LBYS0000005] (west face) at 6:52 and 31:58, and [LBYS000006] (south face) at 11:14.

23.59 Given the complexity of the exterior cladding system, there may well have been other mechanisms at work by which the fire was able to spread downward and horizontally, particularly where localised fires occurred across the facade. They may have included opposed-flow flame spread across the ACM panels and the insulation and the spread of fire, both horizontally and downward, through the XPS window infill panels, but further work will be necessary to ascertain the significance of any contribution that either of those mechanisms may have made. Vertical cavity barriers were unlikely ever to have been effective once the fire was able to progress across the ACM panels and horizontal cavity barriers may have provided surfaces on which melting and dripping polyethylene could lodge, enabling localised pool fires to develop.

23.60 Finally, I accept the evidence of all three experts that there are fundamental problems with the use of intumescent horizontal cavity barriers to limit external flame spread in a cladding system of this kind. That being so, I think it unlikely that defects in the installation of the cavity barriers were of great significance in the rate of vertical flame spread, given the extent to which the flames took hold of the ACM panels from the very early stages of the fire.

23.61 I accept the evidence of Professor Bisby and Professor Torero that the Grenfell Tower fire was unusual in the way that it spread laterally and was able to envelop the entire building in under three hours. With that in mind, I intend in Phase 2 of the Inquiry to examine (among other things) the extent to which the regime for testing materials intended for use in external walls (including thermoplastic polymer materials such as polyethylene) and the regulations governing their use were, and are, adequate to identify and control the potential dangers from downward and horizontal as well as vertical flame spread. I shall also examine what was and should have been known, both by those in the construction industry and by those in central government responsible for setting fire safety standards, about the particular dangers posed by thermoplastic polymers.

23.62 In the context of analysing the behaviour of different parts of the cladding system, both Professor Bisby and Professor Torero were at pains to emphasise its complexity, not so much in terms of its structure, as in terms of the interactions between its various components when exposed to fire.[123] I have asked them to carry out further work on that in the hope that a better understanding can be obtained of how systems of this kind respond under those conditions. That should not only tell us more about the fire at Grenfell Tower itself, but should also provide valuable information for those involved in future projects. In the next phase of the Inquiry I also intend to investigate the extent to which those complexities were recognised and understood by those involved in the design of the refurbishment and the extent to which the current evaluation and testing regime is capable of ensuring that they are properly assessed.

[123] Professor Bisby oral evidence Day 78/163/4-165/11.

Chapter 24
Internal Penetration and the Loss of Compartmentation

1 Introduction

24.1 It is clear from the factual evidence that the fire on the outside of the building quickly entered many flats and that at a very early stage smoke spread widely through the interior of the building, with many lobbies becoming affected as early as around 01.20. It is difficult to draw reliable conclusions about what caused smoke to spread into particular areas of the tower, but a number of key matters have emerged from the evidence which help to explain why the smoke spread so rapidly and how breaches of internal compartmentation were able to occur. The Inquiry's experts were largely in agreement about the circumstances which are likely to have led to that result.

2 Professor José Luis Torero

24.2 Professor Torero considered internal penetration of the fire as part of Stage 3 of his analysis, representing the period from 01.30-02.30.[1] In his opinion, the flames generated by the fire in the cladding system are likely to have resulted in very significant heat fluxes, potentially in the range of 20 to 120kW/m2, which would have exceeded the amount of heat required to ignite the combustible materials present in the cladding, including those around the windows.[2] In those circumstances there were many different routes by which fire could break into the building, given that the external envelopes of buildings of this kind are designed to withstand heat emanating from fires in adjacent buildings, rather than significant fires in their own facades, as occurred in this case.[3]

24.3 Professor Torero identified three principal routes by which the fire is likely to have penetrated the building from the outside:

a. failure of the window glazing;

b. failure of the kitchen extractor fans; and

c. failure of the uPVC window surrounds.

24.4 Professor Torero explained that extensive studies had shown that all forms of glazing fail when exposed to a heat flux of between 5 and 10kW/m2 for between 60 and 300 seconds and that the higher the heat flux, the shorter the failure time. In those circumstances, once the windows became engulfed by the external flame front, the fire could be expected to enter the building.[4] However, the exterior of the tower was particularly vulnerable in certain other important respects, principally the inclusion of extraction fans in the kitchen windows. Professor Torero described by reference to photographs taken after the fire the various mechanisms by which the extraction fans had allowed smoke and flames to enter flats, depending on the level of heating which had occurred at particular locations.[5] The

1 Professor Torero supplemental report [JTOS0000001] p. 2, footnote 1.
2 Professor Torero supplemental report [JTOS0000001] pp. 78-79 lines 2112-2116, 2138-2142 and Table 4 p. 80.
3 Professor Torero supplemental report [JTOS0000001] p. 78 lines 2112-2115.
4 Professor Torero supplemental report [JTOS0000001] p. 79 lines 2145-2148 and evidence Day 77/162/10-24.
5 Professor Torero supplemental report [JTOS00000001] pp. 80-85 lines 2156-2205 and Figs. 36-45.

photographs indicate that the extraction fans were the weakest components in the window arrangement in terms of an ability to withstand heat and were potentially "a significant way for the fire to get back in".[6]

24.5 The existence of uPVC window surrounds, which Professor Torero considered in the context of the means by which the fire had escaped from the compartment of origin, represented another point of vulnerability. The propensity of uPVC to melt and deform at a relatively low temperature meant that the window surrounds provided another route by which the fire could enter flats elsewhere in the tower.[7]

24.6 Professor Torero agreed that all the weaknesses in the window arrangement identified in Dr Barbara Lane's report[8] would have tended to increase the rate at which flames were able to enter the building. He emphasised, however, that, since none of the windows had been designed to withstand the level of heating to be expected from a fire in the cladding, it was not reasonable to expect them to have prevented flames breaking into flats.[9] He accepted that smoke may have been able to enter the building through gaps around the sides of the window framing, even though they were not a significant route for the re-entry of flame.[10] Professor Torero accepted that those characteristics of the window arrangements could have had a "more significant impact" in cases where falling debris had led to the downwards spread of flame. In those circumstances localised fires could have entered the building through the extraction fans or through gaps along the sides of the windows.[11]

24.7 Overall, while there were some components of the window systems, including the extraction fans, which were more vulnerable than others, there was no evidence that they were more likely to have provided a route for fire to enter and ignite the interiors of flats. Given the high levels of heat flux on the facade, a path for re-entry would inevitably have been created in one way or another.[12]

24.8 Professor Torero noted that there was evidence of smoke penetration through the lobbies and into flats located on the west side of the building long before the fire itself had reached the west face. In particular, he drew attention to night vision images taken by the NPAS helicopter which showed smoke coming out of several windows on the west face between 01.57 and 02.40, particularly at floors 12 and 20.[13] In his view that indicated clearly that smoke had spread from one flat, across the lobby and into a second flat on the opposite side of the building. The boundaries of at least two flats had therefore already been breached by that time.[14]

24.9 Despite major damage to many of the flats, a significant number did not reach flashover, even though the fire had potentially resulted in a very hot, thin ceiling layer of smoke and gas capable of igniting other materials in the compartment.[15] In circumstances where the extent of damage to flats in the tower ranged from minor to severe, he was of the opinion that the thermal loading imposed by the external fire was likely to have been a secondary factor in

6 Professor Torero supplemental report [JTOS0000001] p. 80 lines 2165-2166 and oral evidence Day 77/163/2-164/10.
7 Professor Torero supplemental report [JTOS0000001] p. 79 lines 2120-2121 and pp. 43-44 Figs. 11(a)-(c) of his report where a series of photographs show debonding and deformation of the uPVC due to exposure to heat.
8 Section 9 of Dr Lane's supplemental report [BLAS0000009].
9 Professor Torero supplemental report [JTOS0000001] p. 79 lines 2126-2133.
10 Professor Torero oral evidence Day 77/165/2-166/14.
11 Professor Torero oral evidence Day 77/169/20-170/12.
12 Professor Torero supplemental report [JTOS0000001] p. 86 lines 2212-2220.
13 Professor Torero supplemental report [JTOS0000001] pp. 88-89 Figs. 48-52. As is evident from the factual Narrative, the external flame did not reach the top of column A1 on the north-west corner until 02.51: Professor Bisby supplemental report [LBYS0000001] p. 221 lines 1034-1037.
14 Professor Torero supplemental report [JTOS0000001] p. 88 lines 2248-2256.
15 Professor Torero supplemental report [JTOS0000001] p. 91 lines 2328-2333 and pp. 92-97 Figs. 54-63.

determining the severity of the fire in any particular compartment, the primary factor having been the thermal loading imposed when the contents of the flat ignited. In other words, the heat introduced by the external fire was significant only in that it acted as the source of ignition of the contents of the flat. The factor governing the intensity of the fire in any given compartment had been the distribution of fuel and the extent to which the furniture and fittings had been consumed. The first items to ignite typically determined whether a fire would grow to become fully developed.[16]

24.10 In Professor Torero's opinion the early spread of smoke through the tower was most likely to have been a consequence of flat doors having been left open rather than having failed while closed due to exposure to heat or flame. Although deficiencies in the performance of flat doors had been identified during tests conducted by the BRE after the fire, he pointed to the fact that the door being tested had demonstrated approximately 15 minutes' fire resistance before succumbing to flaming.[17] That corresponded to a failure temperature of about 740°C, given the incremental temperature increases which are imposed when conducting those tests.[18] Such a temperature was higher than that at which flashover is likely to have occurred and would correspond to that reached in flats which had sustained major damage.[19] In flats which had sustained only moderate or severe damage, the fire was unlikely to have been hot enough to cause the door to fail.[20]

24.11 When explaining the early spread of smoke across lobbies and into other compartments, Professor Torero identified two possible explanations for flat doors having been open: the absence of working self-closing devices and the intervention of firefighters. He explained that, if self-closing devices had been missing from the doors of flats or had not been working properly, open doors would have provided a means by which large quantities of smoke could have moved through the building at an early stage.[21] In his view that may have had a very significant effect on compromising the lobbies.[22]

24.12 In relation to the intervention of firefighters, Professor Torero referred to the standard practice of fire and rescue services of setting hoses into rising mains on the floor below the fire, with the result that hoses trailing between floors would have kept some of the doors to the stairs open. He also noted that there had been evidence of firefighters having to force entry into flats to carry out search and rescue operations. That would inevitably have left those flats without a fully functioning fire door to contain the smoke.[23] If there were fires on several floors and the occupants were trying to leave the building, there was an obvious risk of a conflict between firefighting operations and the occupants' need to escape.[24]

16 Professor Torero supplemental report [JTOS0000001] p. 93 lines 2364-2377.
17 BRE test report [MET00019996].
18 Professor Torero supplemental report [JTOS0000001] pp. 90-91 lines 2305-2323 and pp. 98-99 lines 2409-2448.
19 Professor Torero supplemental report [JTOS0000001] p. 99 lines 2448-2449. Of 113 flats which were surveyed by Professor Torero where fire and smoke breached the compartmentation, 13 experienced minor damage, nine moderate damage and 91 major damage: [JTOS0000001] p. 92 lines 2342-2363 has a definition of those.
20 Professor Torero supplemental report [JTOS0000001] pp. 99-100 lines 2454-2460. This was evidenced by the fact that for the flat doors where the damage in the flats was of this nature (i.e. no post-flashover fire) the damage to the doors could be explained by firefighter intervention or thermal insult from the communal lobby side following failure of all the doors on that floor.
21 Professor Torero supplemental report [JTOS0000001] p. 100 lines 2493-2494 and p. 102 lines 2517-2524.
22 Professor Torero oral evidence Day 77/186/15-18, 77/176/11-22-185/1-16. Professor Torero Addendum report dated 20 October 2018 [JTOS000002] p. 2, section 1.
23 Professor Torero illustrated this in his report with particular reference to firefighter evidence from floors 4, 5, 9, 11 and 12: [JTOS0000001] pp. 102-104 lines 2525-2592 and Addendum report [JTOS0000002] p. 2, section 2.
24 Professor Torero oral evidence Day 77/189/8-190/9.

24.13 In her report Dr Lane had identified a "hot zone" in the stairwell between floors 13 and 16.[25] Professor Torero thought that it was "perfectly possible" that it might have been due to firefighter activity, including the holding open of several stair doors at or near those floors.[26] In general he was of the view that the activities of firefighters in holding open doors and forcing entry to flats made a potentially very significant contribution to the loss of compartmentation and the spread of smoke within the building during this third phase of his analysis.[27]

24.14 In an Addendum report, Professor Torero also identified the failure of doors caused by the effects of fire as a potential contributing factor to the spread of fire and smoke in the period leading up to 02.30, but he did not think it was likely to have been a significant factor in the earlier stages, given the likely performance of the fire doors.[28] He also thought that the variation in the performance of flat doors was likely to have reflected differences in their construction and maintenance.[29]

24.15 Professor Torero identified other factors which could have contributed to the movement of smoke through the tower. They included the movement of occupants,[30] smoke leakage through flat doors or the doors to the stairwell[31] and smoke spreading through the smoke control system.[32] He did not consider those factors to be as significant as the existence of open doors, however.[33]

24.16 Professor Torero explained that, in previous fires in which there had been a significant number of casualties (including major fires in South and Central America and the United States), breaches of compartmentation had occurred allowing smoke to spread into vital parts of the building, including the stairs and common parts.[34] In contrast, in fires where compartmentation had not been breached and the common parts had remained clear of smoke, there had been no or only a limited number of casualties.[35] For example, in The Address fire in Dubai one of the main structural walls had separated the apartments from the corridor, so there was a very significant compartmentation barrier.[36]

24.17 In his analysis of the fire Professor Torero described Stage 4, between 02.30 and the extinguishing of the fire,[37] as "the untenable stage". He noted that in that phase of the fire a very large number of flats had been affected by the external fire, compartmentation had been breached at many floors and the scale of the fire exceeded the firefighters' capacity to contain

25 At paragraphs 14.4.8-14.4.36 of her report, [BLAS0000014] pp. 21-29, Dr Lane identified evidence of a "hot zone" or "hot spot" in the middle of the stairs around floors 13-16 with temperatures having reached above 150°C given, for example the melting to the stair lights and the damage to the lobbies and stair doors which had occurred in those locations.

26 Professor Torero oral evidence Day 77/196/8-197/13.

27 Professor Torero oral evidence Day 77/190/15-190/24.

28 Professor Torero Addendum report [JTOS000002] p. 2 section 1 and oral evidence Day 77/180/4-181/16.

29 Professor Torero oral evidence Day 77/183/15-184/2.

30 Professor Torero supplemental report [JTOS0000001] p. 102 lines 2510-2516.

31 Professor Torero supplemental report [JTOS0000001] p. 105 lines 2633-2637, with reference to section 19 of Dr Lane's original report [BLAS0000019].

32 Professor Torero supplemental report [JTOS0000001] p. 106 lines 2638-2645. In oral evidence he explained that it was difficult to know, at this stage, whether the evidence of smoke entering some of the lobbies through the dampers in the smoke control system (e.g. the oral evidence of Farhad Neda on floor 23: Day 61/40/25-41/2-21) was due to the fact that the system was designed to deal with a fire on only one floor, or whether there were non-compliances in the system which led to that smoke spread: Day 77/191/8-193/7.

33 Professor Torero oral evidence Day 77/184/3-185/4; Professor Torero supplemental report [JTOS0000001] p. 105 lines 2633-2637 and p. 106 lines 2638-2645. In his supplemental report Professor Torero also considered the possibility that large-scale effects (including the stack effect and the piston effect) may have influenced smoke migration, but did not consider these to be of any significance: [JTOS0000001] pp. 104-105 lines 2593-2632.

34 Professor Torero supplemental report [JTOS0000001] p. 89 lines 2258-2273. Professor Torero illustrated this by reference to a number of fires in other countries between 1972 and 1986.

35 Professor Torero supplemental report [JTOS0000001] p. 89 lines 2275-2284.

36 Professor Torero oral evidence Day 77/178/3-179/1.

37 Professor Torero supplemental report [JTOS0000001] p. 2, footnote 1 and pp. 122-130.

and extinguish it.[38] By "untenable" Professor Torero meant both conditions that were actually life-threatening and conditions that were perceived by occupants to be life-threatening (e.g. as a result of poor visibility).[39] Consequently, although he described conditions as generally "untenable" during this phase, he acknowledged that they were dynamic and variable and that escapes were clearly possible after 03.00 if individuals "got the right window".[40] During that period evacuation remained "the preferred option".[41]

3 Professor Bisby

24.18 In his Supplemental Phase 1 report Professor Bisby drew attention to some important evidence relating to the entry into the building of smoke and flames.[42] He noted that a large number of witnesses had commented on the early ignition or failure of kitchen extraction fan units as a route by which fire and smoke had been able to gain entry during the early stages of the fire when it climbed over the east face of the tower. He referred specifically to evidence from the following floors of the tower:[43]

a. floor 7 (Jose Vieiro, Flat 46);

b. floor 8 (Shantilal Patel, Flat 56);

c. floor 9 (Zakariya Chebiouni, Flat 66);

d. floor 10 (Hoang Khanh Quang, Flat 76);

e. floor 11 (Nadia Jafari, Flat 86);

f. floor 17 (Virgilio (Larry) Castro, Flat 146); and

g. floor 21 (Helen Gebremeskel, Flat 186).

24.19 Floor 14 (Flat 116) can also be added to this list since Nida Mangoba reported that the extractor fan and the glass in her kitchen window smashed into her kitchen with a "loud… pop" when the external flame front reached her flat.[44]

24.20 Professor Bisby also drew attention to the fact that a large number of residents had referred in their evidence to draughts from gaps around the window frames in their flats.[45] One witness, Antonio Roncolato (Flat 72, floor 10), had described smoke coming into his flat through gaps of that kind and referred to a video he had taken showing that happening at around 02.30.[46] Evidence from residents living on floors 6 and 7 of the tower[47] suggested that early failure of the uPVC window surrounds had occurred inside kitchens on the east face as the fire reached those floors. Professor Bisby also drew attention to examples of window panes having failed when exposed to the fire, referring, in particular, to evidence from residents on floors 11 (Flat 86)[48] and 18 (Flat 156),[49] who had witnessed the windows in their kitchens breaking due to

38 Professor Torero supplemental report [JTOS0000001] p. 122 lines 2888-2890.
39 Professor Torero supplemental report [JTOS0000001] p. 2 footnote 2 and oral evidence Day 77/193/20-195/5.
40 Professor Torero oral evidence Day 77/195/6-196/6.
41 Professor Torero supplemental report [JTOS0000001] p. 132 lines 3111-3112.
42 Professor Bisby supplemental report [LBYS0000001] pp.244-260 sections 1160-1223.
43 Professor Bisby supplemental report [LBYS0000001] pp. 254-256 sections 1180-1189.
44 Nida Mangoba first witness statement [IWS00001084] p. 4 sections 18-19.
45 Professor Bisby supplemental report [LBYS000000]1 p. 256 sections 1190-1193.
46 Professor Bisby supplemental report [LBYS0000001] p. 256 section 1194; Roncolato oral evidence Day 52/43/13-44/24.
47 Flats 36 (Ramiro Urbano first witness statement [IWS00000496] p. 5 section 21) and 46 (Jose Vieiro first witness statement [IWS00001122], p. 3 sections 12-13, 17).
48 Nadia Jafari first witness statement [IWS00000683] p. 4 section 18 and Day 54/25/16-31/13, 54/9/17-10/17.
49 Shah Ahmed first witness statement [IWS00000388] p. 10 section 33.

the advancing external fire.[50] He also referred to evidence from several "Flat 6" residents who said that the self-closing devices on their front doors had not been not working on the night of the fire and that some of the doors had been left open as they left their flats.[51]

24.21 In Professor Bisby's opinion, both the materials and products used in the refurbishment and its design were likely to have contributed significantly to the entry of both smoke and flames as the fire spread over and through the cladding.[52] He also thought that the route by which they had entered the building probably changed as the fire developed: when it was in its early stages they were more likely to have entered by attacking the materials around and within the windows (including the extraction fans), but when it had grown larger, the route of entry had changed to breaking the window panes by the imposition of high levels of heating.[53] Nonetheless, the materials and configuration of the cladding around the windows had continued to be important in relation to downward and horizontal fire spread due to the steady proliferation of smaller, local fires associated with them.[54]

4 Dr Lane

24.22 In Chapter 9 of her supplemental report Dr Lane identified a number of routes by which the fire could have penetrated the interior of the building. They included entering through the combustible materials in the window reveals, through the failure of window panes, through the kitchen extraction fans and through the XPS window infill panels.[55]

24.23 In that report Dr Lane identified a number of concerns about the ability of many of the front doors to the flats to withstand smoke and flames.[56] In section 19 she concluded that it was likely that the doors had failed to control the spread of smoke and flames in the following ways:[57]

a. failing to prevent the spread of smoke and flames through gaps between the door leaf and the door frame;

b. failing to resist the spread of fire and smoke from a flashover fire due to the presence of untested components (including, in a large proportion of the doors, glazing). Dr Lane noted that the testing of a glazed door taken from the tower by the BRE had achieved only 15 minutes' fire resistance instead of the 30 minutes required by the standards in force when it was installed;[58] and

c. failing to self-close effectively after the residents had left.

24.24 Dr Lane explained that the significance of such defects was likely to vary depending on the location of the flat. In principle, a non-compliant door could have severe consequences in one location but none in another where the effects of the fire were not so serious.[59] For example, she considered that the conditions that had been experienced by Antonio Roncolato in Flat 72 on floor 10 were very different from those that would have been experienced by the occupants

50 Professor Bisby supplemental report [LBYS0000001] pp. 256-257 sections 1197-1200.
51 Professor Bisby supplemental report [LBYS0000001] p. 257 sections 1201-1202.
52 Professor Bisby supplemental report [LBYS0000001] p. 257 section 1204.
53 Professor Bisby supplemental report [LBYS0000001] p. 257 section 1205 and oral evidence Day 78/207/8-208/15.
54 Professor Bisby supplemental report [LBYS0000001] p. 257 section 1207 and oral evidence Day 78/208/4-15.
55 Dr Lane supplemental report [BLAS000009] pp. 30-35 section 9.4.
56 Dr Lane supplemental report sections 15 [BLAS0000015] and 19 [BLAS0000019].
57 Dr Lane supplemental report [BLAS0000019] p. 20 section 19.5.28 and oral evidence Day 81/30/2-36/3.
58 Dr Lane supplemental report [BLAS0000019] p. 19 section 19.5.16.
59 Dr Lane oral evidence Day 81/3/21-4/16.

of Flat 201 on floor 23.[60] She said that, in general, fire doors were a very significant fire safety measure.[61] Although Dr Lane accepted that it was inevitable that the doors would fail at some point, she emphasised that their performance could be particularly important for those who were waiting in their flats.[62] She did not accept that the failures to comply with appropriate standards she had identified had had only a limited effect on the development of the fire or on the outcome for residents.[63] She emphasised in oral evidence that the self-closing devices on flat doors were very important for maintaining compartmentation; the whole point of having a functioning self-closing device was to ensure that the door closed behind a person as they left the flat, so ensuring that the protection it provided was maintained.[64]

24.25 Dr Lane recognised that firefighters had broken down the doors of some flats on various floors, but she cautioned against attributing too much significance to their activities. In her view other factors were likely to have contributed to the spread of smoke in the lobbies; it all depended on the particular location.[65] In her opinion the primary route by which smoke and heat had spread into the stairwell was through the doors from the lobbies and was probably caused by many of those doors being opened by firefighters and occupants or held open by firefighting equipment or other objects.[66] She explained that she would have expected to see more severe damage to the concrete in the stairwell if the doors from the lobbies to the stairs had failed entirely. Accordingly, the more likely explanation for the spread of smoke into the stairwell was activities associated with the doors, rather than a failure of the doors themselves.[67] Despite that, she had a number of concerns about the doors into the stairwell,[68] including the fact that, when tested by the BRE to current standards, one of the stair doors resisted fire adequately for only 16 minutes.[69]

24.26 During her inspection of the tower Dr Lane had identified particularly acute damage at floors 13 to 16. The plastic stair lights between floor 13 and floor 15 had been completely destroyed and severe damage had been caused to the lobbies on floors 13, 14 and 16. The pattern of damage differed from that seen in other parts of the stairs, including at higher floors, where the plastic lights had not suffered such severe damage.[70] In her opinion the most likely explanation for this "hot zone" was smoke and heat entering the stairs when the stair doors were opened during the fire. She thought that that may have been linked to firefighting operations during the night, including operations around floors 10 to 14 at around 02.00.[71]

24.27 Other possible routes by which smoke could have spread within the building were identified by Dr Lane. They included:

a. Through the ducting and vents of the smoke extraction system. Some residents said that they had witnessed smoke entering lobbies through the builders' ducts and louvres for

60 Dr Lane oral evidence Day 81/35/9-19.
61 Dr Lane oral evidence Day 81/32/9-21.
62 Dr Lane oral evidence Day 81/33/2-12.
63 Dr Lane oral evidence Day 81/33/13-18.
64 Dr Lane oral evidence Day 81/38/4-18.
65 Dr Lane oral evidence Day 81/36/20-37/13.
66 Dr Lane supplemental report [BLAS0000019] p. 45 section 19.7.27 and oral evidence Day 81/39/19-41/15.
67 Dr Lane oral evidence Day 81/40/11-41/7, 81/45/2-25 and 81/63/19-64/15.
68 Dr Lane supplemental report [BLAS0000019] pp. 29-32 sections 19.6.11-19.6.29, Appendix M [BLAS0000034].
69 Dr Lane supplemental report [BLAS0000019] p. 31 section 19.6.17.1; BRE Global Test Report [MET00021780]; oral evidence Day 81/61/3-63/13.
70 Dr Lane supplemental report [BLAS0000019] pp. 41-42 sections 19.6.92-19.6.98.
71 In particular Dr Lane noted the rescue operation described by FF Oliver Desforges at around floors 10-11 with the stair door being held open around 02.10 and also firefighter activity around floor 14 from 02.00 onwards: [BLAS0000019] p. 41 sections 19.6.93(e)-(f) and section 19.6.97; oral evidence Day 81/78/9-80/22.

the smoke control system.[72] If so, that might indicate that there had been a failure of compartmentation in respect of the shafts in the smoke extraction system, but further work would be necessary to confirm whether that had been the case.[73]

b. Through the uncompleted boxing protecting the new gas riser in the stairs, which contained oversized holes on the lobby side which had not been fire-stopped. Dr Lane was very concerned about the potential for smoke to spread from one lobby to another through the boxing, although she was unable to form a final view about that at this stage.[74]

5 Conclusions

24.28 Although the fire at Grenfell Tower was not an event which the building had been designed to withstand, the rapid failure of compartmentation and the speed at which smoke was able to spread into the lobbies and stairs is of very considerable concern. As Professor Torero pointed out, in comparable fires in other countries (including, in particular, several of the large fires in Dubai), few casualties occurred because the buildings' compartmentation was maintained. At Grenfell Tower, by contrast, a number of key fire protection measures, both active and passive, failed to operate as effectively as could reasonably have been expected, even taking into account the fact that they were required to respond to circumstances for which they were not designed in order to mitigate the effects of a fire which affected many floors at the same time.

24.29 I accept the evidence of Professor Torero that the glass in the windows could be expected to fail when it was exposed to high levels of heating resulting from the fire in the cladding and it is also clear from the evidence that some windows were open, providing a simple route for the fire to enter those parts of the building. The sad fact is that once the fire on the outside of the building had developed to any significant extent it was inevitable that it would find its way inside by one means or another, regardless of any weaknesses or defects in the windows or the construction of the external envelope. It is striking, nonetheless, that several residents described the fire coming into their kitchens through the openings caused when the extraction fans were dislodged. That is consistent with the pattern identified by Professor Bisby of such failures having occurred early in the development of the fire and tends to suggest that during those early stages the ease with which the fire was able to penetrate the building may have been greater because of the propensity of the fan units to deform and become dislodged when exposed to heat. I also accept the evidence of Professor Torero and Professor Bisby that the defects in the window arrangements and the configuration of the cladding around them may have contributed to the downward and horizontal progress of the fire.

24.30 If Professor Torero was right in saying that the external fire provided little more than the source of ignition for the contents of individual flats (and I have no reason to think that he was not), that raises the question why the heat and smoke generated by the fires in those flats were not contained by the compartmentation of the building, at least in the early stages. It is a difficult question to answer, but there is evidence to suggest that a number of factors are likely to have contributed to the loss of effective compartmentation.

[72] In particular the evidence of Farhad Neda on floor 23, Day 61/40/25-45/18; Daniel Griffin on floor 6, first witness statement [IWS00000173] p. 7 section 48; Emma O'Connor on floor 20, first witness statement [IWS00000121] p. 6 section 27.

[73] Dr Lane oral evidence Day 81/162/15-172/10.

[74] Dr Lane oral evidence Day 81/69/6-75/14.

24.31 In the early stages of the fire, when flames were accelerating up the east face of the tower, forcing the occupants of "Flat 6s" to leave, a number of the doors to those flats appear to have been left open due to the absence of effective self-closing devices.[75] There is evidence that the doors to "Flat 6s" on the following floors remained open for this reason:

a. Flat 76 on floor 10;[76]

b. Flat 86 on floor 11;[77]

c. Flat 116 on floor 14;[78]

d. Flat 136 on floor 16;[79]

e. Flat 146 on floor 17.[80]

As a result, smoke which had been able to enter those flats was able to get into the lobbies.

24.32 It is also possible that the doors to the following flats remained open for the same reason, although the evidence is less clear:

a. Flat 36 on floor 6;[81]

b. Flat 96 on floor 12.[82]

24.33 After the fire the BRE carried out an examination of the remains of the doors to the flats in the tower in an attempt to determine whether they had been open or closed at the time of the fire and whether the self-closing devices had been present and working.[83] In many cases the destruction or degree of damage to the door made it impossible for any conclusion to be reached. In some cases self-closing devices were found and in others they were not, but even where such a device was found it was not possible to decide whether it had been working at the time of the fire. It is possible that a door found by the BRE to have been closed may previously have been open for long enough to allow a significant amount of smoke to enter the lobby. Given the degree of uncertainty that surrounds the evidence contained in the BRE report, it is in my view reasonable to accept the evidence of those witnesses who are able to speak about the condition of their own doors and their actions at the time they left their flats.

24.34 In addition, there is evidence which suggests that the inability of flat doors adequately to resist the spread of smoke was also a factor in enabling the spread of smoke at an early stage. Thus:

a. FFSs Richard Hippel and Jamal Stern gave evidence that they had seen smoke emerging from around the closed door of Flat 26 on floor 5 during the 10 minutes after 01.19 and Mohammed Rasoul (from Flat 25) also saw dark grey smoke leaking from the sides and foot of the door to the flat at some time between 01.15 and 01.30.

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75 This was also identified as a likely source of smoke spread by Professor Purser in his Phase 1 report [DAPR0000001] summary at pp. 7-8 section 21(e)-(g).

76 Hoang Khanh Quang [IWS00000080] p. 6 section 31 and Day 67/85/9-67/86/24, 67/97/4-20; Van Quang Ho [IWS00000925] p. 5 section 25.

77 Nadia Jafari Day 54/14/3-15/6, 54/39/16-21.

78 Nida Mangoba supplementary witness statement [IWS00001145] pp. 1-2.

79 Hamid Wahbi first witness statement [IWS00001157] p. 6 sections 26 and 55 and Day 62/36/18-37/1, 41/11-42/10.

80 Larry Castro first witness statement [IWS00001091] p. 7 section 38.

81 Oscar Gonzalez first witness statement [IWS00001234] p. 5 section 17; Ramiro Urbano first witness statement [IWS00000496] p. 6 section 24; Claudia Montes first witness statement [IWS00001229] p. 2 section 9.

82 Roy Smith first witness statement [IWS00000771] p. 9 section 36 and Day 64/38/13-39/8, 64/43/24-44/9, 64/46/14-47/12, 64/49/13-52/12.

83 BRE Global Client Report dated 20 February 2019 [MET00039807] p. 73 section 5.1.

b. In a 999 call made at 01.37 Rosemary Oyewole in Flat 113 on floor 14 described smoke coming through her door and in her oral evidence she explained that smoke was "coming from any crack in the door"; both around the frame and through the letterbox.[84]

c. In a 999 call made at 01.37, Sener Macit in Flat 133 on floor 16 described smoke coming in under the front door.[85]

d. In a 999 call made at 01.38, a member of the El Wahabi family in Flat 182 on floor 21 said that smoke was coming from the front door. They had put down two blankets to block the smoke and it was not working.[86]

e. In a 999 call made at 01.40, Denis Murphy in Flat 111 on floor 14 explained that smoke was coming into the flat under the door.[87]

f. Ann Chance in Flat 73 on floor 10 recalled seeing smoke coming from underneath her front door at an early stage in the night.[88] In a 999 call at 01.41 she said that smoke was "coming up" and that the door was completely hot.[89]

g. In a 999 call made from Flat 155 on floor 12 at 01.44 Roy Smith reported smoke coming in around the door, even though he was using wet towels in an attempt to keep it out.[90]

24.35 However, there is evidence which suggests that some flat doors were more effective. For example, the doors of Flat 72 (Antonio Roncolato), Flat 82 (Natasha Elcock) and Flat 165 (Nicholas Burton) appear to have resisted the passage of smoke for some considerable time, which demonstrates the need for caution before assuming that the deficiencies identified by Dr Lane made a difference in all cases. Overall, however, it is safe to say that at least some of the front doors to the flats failed to control the spread of smoke and fire effectively, which allowed smoke to spread in some areas at an early stage. I do not accept the submission made by the TMO that it is not possible to make any assessment of the performance of the doors at this stage.[91] Although it may be necessary to ask the experts to look further into the performance of the front doors of the flats as part of their work in Phase 2, the evidence already available points to the conclusion that their deficiencies contributed to the early spread of smoke in some areas of the tower.

24.36 Firefighting operations undoubtedly played a part as well, because some doors to flats had to be broken down to enable firefighters to gain entry and the use of established firefighting techniques led to the doors to the stairwell being propped open by equipment, including hoses. However, that was limited to the floors on or adjacent to which active firefighting operations were being conducted. For example, on floor 5 FFs Wayne Archer and Thomas Abell forced the door of Flat 26 shortly after leaving the bridgehead at around 01.21. They attempted to fight the fire inside the flat for about 10 minutes, but by the time they left to return to the bridgehead conditions in the lobby were almost as bad as those in the flat. The front door of Flat 16 itself had been forced open as firefighters responded to the initial fire, which could have allowed smoke to spread into the lobby when the fire re-entered the compartment later in the night.[92] It seems reasonably clear that, where firefighters forced

84 [LFB00000678] p. 2 and evidence Day 58/24/22-27/13.
85 [LFB00000326] p. 3.
86 [LFB00000677] pp. 15-16.
87 [LFB00000322] p. 3.
88 Ann Chance first witness statement [IWS00000783] p. 4 section 24.
89 [LFB00000319] p. 3.
90 Roy Smith first witness statement [IWS00000771] p. 12 section 57; [LFB00000324] p. 2.
91 TMO closing submissions [INQ00000543] p. 8 section 22.
92 As noted earlier in this Chapter, Professor Torero has given other examples of such activity including on floors 11 and 12.

entry into flats, or where firefighting equipment such as hoses were being used on different floors, doors were propped open, which enabled smoke to enter areas that had previously been unaffected.

24.37 I accept the evidence of Professor Torero and Dr Lane that smoke is more likely to have entered the stairwell as a result of doors from the lobbies being held open than as a result of defects in the doors themselves. The evidence suggests that, in general, those doors performed reasonably well, provided they were kept closed.

24.38 It is possible that what Dr Lane described as the "hot zone" between floors 13 and 16 may have been a consequence of firefighting and rescue operations in those areas which involved holding doors open for lengthy periods during rescue attempts, but it is not possible to reach any definite conclusions about when or how those conditions came about. I accept the submission made by Rydon in their closing statement[93] that it is difficult to know with any degree of certainty when the hot zone developed.

24.39 Many other factors may have played a part in the spread of smoke in the tower, such as the movements of occupants and leakage through the smoke control shafts and vents and other open channels, but it is not possible at this stage to determine the extent to which, if at all, they contributed to the outcome. It is clear from what has been learnt so far that the building suffered a total failure of compartmentation. How the building came to be in that state is the most pressing question to be answered in Phase 2.

[93] [INQ00000557] pp. 19-21 section 60-63.

Chapter 25
Developing Conditions within the Building

This chapter provides an overview of the developing conditions of fire and smoke inside Grenfell Tower as experienced by its occupants and the firefighters.

1 Overview of the evidence

25.1 This chapter describes the conditions encountered by occupants and firefighters inside the tower as the fire developed. In the Narrative section I have recorded in some detail the available evidence about the developing conditions within the building. Here I seek to draw conclusions from that evidence about the nature of the fire and smoke in key areas of the building, using the Periods into which the Narrative section is divided. My attention has been concentrated principally on conditions in the lobbies and the stairs, since they were the most important areas of the building, both for occupants attempting to leave the tower and for firefighters attempting to fight the fire or carry out rescues.

25.2 The spread of fire and smoke created a dynamic situation which evolved rapidly in different ways in different parts of the building and the evidence on which my conclusions are based was inevitably to some degree subjective and imperfect. For example, perceptions of the colour and density of smoke appear to have varied; what appeared very dark and dense to one person appeared lighter and thinner to another. There are no objective criteria by which to measure the density of the smoke encountered by individual witnesses, and the ways in which I describe it in the following paragraphs depend heavily on the impression it made on them at the time. Moreover, conditions appear to have varied, sometimes over very short periods of time, as doors were opened and closed in particular locations. I have tried to describe the conditions inside the building in as much detail and with such confidence as the evidence allows, but it is important to recognise that it will never be possible to identify with precision exactly what they were like at any particular place at any particular time.

25.3 The evidence indicates that:

a. the lobbies on a significant number of floors had started to fill with smoke by around 01.20 or shortly after and that by 01.40 a number had become significantly smoke-logged;

b. in the early stages of the fire (before around 01.50) there was a marked difference between conditions in the lobbies and conditions on the stairs; generally, the smoke in the stairs was less dense than in the lobbies, allowing 168 people to escape the tower by 01.50;

c. by 02.00 a significant number of lobbies had become heavily smoke-logged, with conditions both in the lobbies and in the stairs continuing to deteriorate thereafter;

d. by 01.50 the stairs started to become significantly more affected by smoke, particularly at lower levels and between 02.00 and 02.20 conditions continued to deteriorate to the point at which there was thick smoke and considerable heat at some levels;

e. at some time between 02.20 and 02.50 some parts of the stairs were very hot, in some cases hotter than the adjacent lobbies;

f. although the lobbies and stairs were significantly compromised by smoke and heat by 03.00, 15 people were able to leave the building using the stairs between 03.00 and 03.30; and

g. some occupants who tried to escape died on the stairs, but throughout the night occupants managed to leave the building by the stairs until 08.07 when the last surviving occupant left the tower.

25.4 Those facts suggest that:

a. until 01.30, the building was fully passable;

b. between 01.30 and 01.50 it remained passable, although conditions in many lobbies were becoming more difficult;

c. after 02.00 conditions in most lobbies and in the stairs deteriorated to the point at which by 02.20 the smoke in the stairs posed a risk to life; and

d. after 02.20 conditions deteriorated further, but not to such an extent as to create an impassable barrier to everyone who attempted to leave the building after that time.

2 Period 1: 00.54-01.30

25.5 The evidence suggests that between 01.20 and 01.30 some lobbies became significantly smoke-logged while others remained relatively clear of smoke. Thus:

a. firefighters reported heavy smoke-logging of the lobbies on floors 5, 6, 8, 10, 11, 12, 15 and 16 by around 01.30; and

b. the evidence of former residents and those who made 999 calls suggests that the lobbies on floors 8, 10, and 12 had become significantly smoke-logged by this time, with at least light smoke also reported in the lobbies on floors 5, 11, 14, 17, 19, 21, 22 and 23.

25.6 The speed at which smoke penetrated particular lobbies varied. The smoke that billowed from the north lift when it reached the ground floor at 01.26 is broadly indicative of the volume of smoke in the lobby on floor 10 when it stopped there during its descent. Smoke is likely to have begun to penetrate floor 10 after 01.20 when the external flame front reached that floor. By 01.22 the external flame front had reached the top of floor 11. The rapid accumulation of smoke in the lobby on floor 10 was sufficient to trap three people (Mohamednur Tuccu, Khadija Khalloufi and Ali Yawar Jafari) in that lobby.

25.7 By contrast, the lobby on floor 7 appeared to be clear of smoke at 01.25.01, when a firefighter can be seen on the CCTV leaving Flat 46, even though the external fire had reached the flat by that time.[1]

25.8 By 01.30 the LFB control room had received 28 calls about the fire, of which eight[2] were from people in various parts of the building, including some near the top and therefore at a considerable distance above Flat 16. Separately, four 999 calls from floor 10 and above were put through to the MPS control room, two of which reported smoke coming into flats.

25.9 Although there is some evidence that the stairs were beginning to be affected by light smoke at certain levels by 01.30 and particularly at the level of floors 4 to 5 and above, the weight of the evidence suggests that the stairs were relatively free of smoke during this period and

1 [INQ00010835].
2 The figure does not include call-backs.

that they remained passable to those who wanted to leave. That is supported by the fact that by 01.15, 26 people had left the tower using the stairs and that between 01.15 and 01.30 a further 77 people left the tower in the same way (and a further seven by the lifts). A total of 112 people left the tower between 00.54 and 01.30, of whom 103 left by the stairs and nine by the lifts.

3 Period 2: 01.30-01.40

25.10 Between 01.30 and 01.40 conditions in the lobbies continued to deteriorate, with a number filling with smoke. During this period:

a. the evidence of the firefighters indicates heavy smoke-logging of the lobbies on floors 5, 8 and 16; and

b. the evidence of former residents and those who made 999 calls (and the video made by Rania Ibrahim) indicates that the lobbies on floors 5, 6, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23 had become significantly smoke-logged. Lighter smoke was reported in the lobbies on floors 7 and 9. Some occupants were able to reach the stairs despite heavy smoke in the lobbies; others were deterred by the conditions from leaving their flats.

25.11 Between 01.30 and 01.40 the emergency services received 18 calls from people in the tower, including a number in which occupants reported that they were trapped.[3] In particular:

a. callers from flats on floor 11,[4] floor 12,[5] floor 20[6] and floor 23[7] all reported fire and smoke entering either their flats or a flat close by;

b. callers from floor 14,[8] floor 16,[9] floor 21[10] and floor 22[11] reported smoke coming into their flats from the lobby; and

c. callers from flats on floors 11[12] and 18[13] said they were trapped by smoke in the lobbies or in the stairs, but that smoke had not actually entered their flats at that time.

25.12 Occupants who passed through the stairwell during this period have different recollections of the conditions they encountered. Some recalled there having been no[14] or very little smoke in the stairwell;[15] others described thick smoke.[16] Residents on higher floors who made 999 calls were reporting that they had tried to leave their flats but had found the stairs full of smoke.[17]

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3 This figure does not include call-backs.
4 01.33.12: Abdeslam Sebbar Flat 81 [LFB00000312].
5 01.38.37: Roy Smith Flat 95 [LFB00000318].
6 01.30.02: Farah Hamdan, Flat 175 on floor 20 [LFB00000314].
7 01.32.10: Biruk Haftom, Flat 155 but on floor 23 [LFB00000667]; 01.38.16: Mariem Elgwahry [LFB00000317]; Jessica Urbano Ramirez [LFB00055504] p. 9.
8 01.37.58: Rosemary Oyewole Flat 113 [LFB00000678]; 01.38.18: Zainab Deen Flat 115 [LFB00000321]; 01.40.17: Denis Murphy Flat 111 [LFB00000322] (having already reported smoke entering from the lobby at 01.25.16 [LFB00000308]).
9 01.37.28: Sener Macit Flat 133 [INQ00000280].
10 01.38.38: El Wahabi family Flat 182 [LFB00055498].
11 01.34.50 Hashim Kedir Flat 192 [LFB00000315].
12 01.33.01: Natasha Elcock Flat 82 [LFB00000313].
13 01.33.55: Rabia Yahya Flat 152 [LFB00000662].
14 Jones first witness statement [IWS00000033] p. 8; Nalukwago first witness statement [IWS00000009] section 21; Rasoul first witness statement [IWS00000670] pp. 6-7; Khoudair Day 55/138/1-142/3; Dedrich first witness statement [IWS00000102] p. 9.
15 Shah Ahmed first witness statement [IWS00000388] p. 11; Wesley Ignacio first witness statement [IWS00000826] pp. 11-12; Daffarn first witness statement [IWS00000169] p. 6; Atmani Day 67/133/15-134/16; Daniels Day 56/70/14.
16 Rawan Khdeir first witness statement [IWS00000204] p. 4; Mekonnen Day 55/32-38; Mekonnen first witness statement [IWS00000912] p. 3; Castro first witness statement [IWS00001091] p. 8 section 43.
17 [LFB00000315] and [LFB00000662].

Those who used the stairs moved at different speeds and their impressions of conditions in the stairs could have been affected by factors such as whether a lobby door was open or had been opened recently.

25.13 Overall, the evidence of the firefighters, former residents and those who made 999 calls suggests that during this period the smoke in the stairs was thinner than that in the lobbies. All 36 people[18] who left the tower during this period were able to do so safely.

4 Period 3: 01.40-01.50

25.14 The overall picture during this period is one of lobbies continuing to fill with smoke, and in some cases starting to have an effect on conditions inside flats. In particular:

a. the evidence of the firefighters indicates heavy smoke-logging of the lobbies between floors 4 and 10. The lobby on floor 10 was so heavily smoke-logged that firefighters could not enter it. On floor 20 the smoke in the lobby was such that firefighters' visibility was significantly reduced;

b. the evidence of surviving occupants and the transcripts of 999 calls indicate that the conditions in many lobbies continued to worsen with significant smoke-logging of the lobbies on floors 4, 7, 10, 11, 12, 14, 16, 20, 21, 22 and 23; and

c. the transcripts of 999 calls suggest that a number of occupants on different floors spanning floors 10 to 23 were experiencing smoke coming into their flats through their front doors and sometimes around the windows.

25.15 The evidence suggests that conditions on the stairs between 01.40 and 01.50 were generally better than in many of the lobbies and that conditions may have been worse lower down in the building. A number of former residents who gave evidence said that conditions in the stairs had been very different from those in the lobbies during that time. Between 01.40 and 01.50, 20 people left the building.

5 Period 4: 01.50-02.00

25.16 The evidence suggests that during this period conditions in the lobbies were variable, with heavy smoke-logging in some and clearer conditions in at least one:

a. the evidence of the firefighters suggested that during this period conditions in the lobbies varied; for example, there was heavy smoke-logging of the lobbies on floors 9 and 18, but clearer conditions in the lobby on floor 14; and

b. the evidence of former residents and those who made 999 calls suggested that many of the lobbies were significantly smoke-logged at this time, with particularly heavy smoke-logging on floors 9, 11, 12 and 21.

25.17 Of particular note is the fact that people in different parts of the tower were repeatedly calling the control room reporting significantly worsening conditions. A cumulative survey of how particular calls had developed is revealing. For example, Mariem Elgwahry's calls from Flat 205 on floor 23 show that:

[18] This figure includes Joseph John, Leanne Jackson Le-Blanc and their child, whose exits are not recorded on the CCTV footage because they climbed out of a window on the second floor and onto the gated walkway connecting Grenfell Walk.

a. at 01.30.00, having reached Flat 205 from her own flat on floor 22, there was "smoke everywhere";[19]

b. at 01.38.16, when she called again there was no smoke in Flat 205;[20] and

c. at 01.54.23, when she called again, Flat 205 was "full of smoke" and they were stuck.[21]

25.18 The El Wahabi family in Flat 182 on floor 21, who had started an hour-long call to CRO Pam Jones at 01.38.38, described worsening conditions throughout the call:[22]

a. in the first few minutes, Abdulaziz El Wahabi described smoke coming into the flat and said that it was "very smoky" on the landing outside. He had discovered that because he had attempted to leave by the stairs but had been forced by the smoke to retreat and because he was able to see the smoke through the spyhole in his front door;

b. soon after 01.45 he explained that the fire was nearby: "Something is right next door to us. It's burning, it's really burning."; and

c. at approximately 02.00, the caller said that the fire was in the flat next door and that conditions in their flat were now "really smoky".

25.19 Roy Smith, who was in Flat 95 on floor 12, also called the control room three times and described deteriorating conditions on his floor:

a. at 01.38.37, he told CRO Angie Gotts that the fire was spreading and that it was on his floor now and had come through the next-door kitchen. He said: "… It's started on the 16th floor and it's just spreading – all the stuff's flying out of the windows". He said it was "all smoke" outside;[23]

b. at 01.44.33, he explained to CRO Peter Duddy that there was smoke in his flat and that "the fire embers have started a fire in the flat next door as well. The front – it's come up through the windows, it's gone into number 96 Grenfell Tower". He said the fire was in the kitchen next door;[24] and

c. at 01.54.14, he called a further time and explained to CRO Duddy early on that it was "getting worse", that he could hear the fire next door through his wall and that there was black smoke in the corridor outside the flat. He then said: "It's coming in the window now. It's burning our windows now. It's like an explosion or something".[25]

25.20 The evidence of the firefighters suggests that, during this time, they were concerned about the ability of people to leave safely by the stairs, given the conditions that were being encountered. Their evidence also suggests that the conditions in the stairs were at their worst around floor 4 and bad between floors 4 and 14 (including being hotter and more densely smoke-logged), but improved higher up the tower.

25.21 There is very limited evidence from occupants about conditions in the stairs at this time since no one left the building during this period.

19 [LFB00000310].
20 [LFB00000317].
21 [LFB00000333].
22 [LFB00055498].
23 [LFB00000318].
24 [LFB00000324].
25 [LFB00055503] p. 3.

6 Period 5: 02.00-02.20

25.22 During this period a large number of lobbies were becoming heavily smoke-logged:

a. the evidence of the firefighters indicates there was particularly heavy smoke-logging of the lobbies on floors 4, 5, 20 and 21;

b. the evidence of former residents and those who made 999 calls suggests that the lobbies on floors 11, 12, 16, 18, 19, 20, 21, 22 and 23 were all heavily smoke-logged. Less dense smoke was observed on floor 5, 14 and 15 in this period; and

c. NPAS footage taken outside the tower showed that smoke was emerging at floors 12 and 21 from the west face of the building, indicating that there had been two breaches of compartmentation at those levels and strongly suggesting that the lobbies at those levels were smoke-logged.

25.23 That conditions in the building fluctuated is illustrated by the evidence of occupants on floors 5 and 14 who recalled there being less smoke in their respective lobbies during this period than they (and other witnesses) had seen at earlier times.

25.24 During this period, callers from flats in the north-west and south-west corners of the tower reported significant smoke penetration in their flats:

a. at 02.05.22, Isra Ibrahim in Flat 203 on floor 23 reported smoke around her face when she was standing in her living room;

b. at 02.10.33, at an early stage in a call that lasted for 27 minutes and 32 seconds, Sener Macit in Flat 133 on floor 16 described "black smoke" in the flat which was getting worse;[26]

c. at 02.11.42, Farah Hamdan in Flat 175 on floor 20 reported that there was "loads of smoke" in the flat;[27] and

d. at 02.13.03, Nicholas Burton in Flat 165 on floor 19 reported smoke in the whole of his flat.[28]

25.25 In a call at 02.15.07, the eldest son of Karen Aboud calling from Flat 92 on floor 12 reported that conditions in the lobby were so bad that they were trapped and could not leave. He reported that when they had tried to go out they could not breathe.[29]

25.26 During this period, conditions in Flat 192 on floor 22 changed rapidly. In a call at 02.03.47, Hashim Kedir said that there was no smoke in the flat but there was "too much smoke" in the corridor to leave.[30] He described being able to see the fire but said that it was not in the property yet.[31] Seven minutes later, at 02.10.31, the fire had entered the kitchen of Flat 192. Hashim Kedir also described smoke in the flat and said that everyone was coughing.[32] When he called again at 02.18.06 Hashim Kedir repeated that there was fire in the flat.

26 [LFB00055499] pp. 4-8.
27 [LFB00000342].
28 [LFB00000344].
29 [LFB00000346] pp. 2-4.
30 [LFB00000339] p. 4.
31 [LFB00000339] p. 4.
32 [LFB00000345].

25.27 The conditions in Flat 201 on floor 23 also deteriorated significantly during this period. Jessica Urbano Ramirez and Debbie Lamprell reported having difficulty breathing throughout their respective calls with the emergency services. They were sheltering with others in the bedroom of the flat. After describing thick smoke in the bedroom and the fire breaking in, Debbie Lamprell said that the smoke was making others in the bedroom sick. In this period Jessica Urbano Ramirez and Debbie Lamprell both stopped responding before their respective calls ended.

25.28 It is clear that during this period conditions in the stairs had deteriorated to the point at which they posed a risk to anyone who attempted to escape. Those survivors who used the stairs during this time spoke of encountering smoke which thickened as they descended and which made breathing difficult. Nicholas Burton struggled to breathe and was assisted all the way down by a firefighter. He described significant heat which increased as he descended to the point at which the handrail became so hot that he could not hold on to it. During this 20-minute period only eight people left the tower, all with the assistance of firefighters.[33]

7 Period 6: 02.20-02.50

25.29 During this period the overall picture of conditions in the lobbies is one of heavy smoke-logging in a number of lobbies at lower, middle and higher levels of the tower:

a. the evidence of former residents and those who made 999 calls suggests that the lobbies on floors 10, 11, 12, 14, 16, 18, 20, 21 and 23 were heavily smoke-logged and a number of those were also reported to be very hot; and

b. at around 02.40 the NPAS helicopter video showed smoke emerging from flats on the west face of the tower at floor 23, indicating that smoke had migrated across the lobby and into west-facing flats at the top of the tower.

25.30 Those who managed to leave during this period described thick, black smoke in the stairs as high up as floor 23, with very poor visibility and no light until they had reached somewhere between floors 2 and 4. The stairs are also described as having been very hot during this time, sometimes hotter than the lobbies from which individuals had come. The smoke in the stairs made breathing difficult and caused a burning sensation in the throat and lungs.

25.31 During this period 15 survivors left the tower.[34]

8 Period 7: 02.50-03.00

25.32 This is a short period and information relating to it is necessarily limited. However, the evidence suggests a pattern of heavy smoke-logging in a significant number of lobbies, with smoke penetrating many flats:

a. the evidence of former residents and those who made 999 calls indicates that the lobbies on floors 10, 11, 12, 15, 21 and 23 were heavily smoke-logged with smoke penetrating many flats beneath or around front doors; and

b. those occupants who made 999 calls during this time (there were 12 from people trapped in the tower during this period) frequently reported significant smoke entering their flats.

[33] Including Milad Kareem who is not shown on the CCTV, but is timed from Rebin Sabir's video as leaving at 02.19.

[34] This figure includes Rebin Sabir whose exit on his own video is timed at 02.21.

25.33 Smoke conditions everywhere on floors 21 to 23 had become very bad. Occupants trapped on floors 21 and 23 were having difficulty breathing. On floor 22 callers reported that conditions inside flats were so bad that the occupants could no longer see each other.

25.34 During this period only one person left the tower.

9 Period 8: 03.00-03.30

25.35 The evidence of the firefighters relating to this period indicates that conditions at lower levels of the tower between floors 5 and 11 (and particularly between floors 7 and 11) were generally poor with heavy smoke-logging and greatly reduced visibility. On floors 9 and 10 there was intense heat in the lobbies.

25.36 The evidence from 999 and other calls and messages from those in the tower indicates that floors 10, 12, 14, 15, 16, 17, 20, 21, 22 and 23 remained extremely heavily smoke-logged both in the flats and in the lobbies. On floors 7, 11 and 18 the lobbies were also filled with dense smoke.

25.37 Those who managed to escape or who attempted to do so during this period described dense smoke in the stairwell. Some described the smoke as varying in density and as being thicker at lower levels. Some said the stairs were hotter on the higher floors of the building.

25.38 A total of 16 people left the tower during this period.

10 Period 9: 03.30-04.00

25.39 During this period there is evidence from firefighters describing the smoke and heat as worsening as they reached floor 4, with the smoke on floor 5 being so thick that they could not see in front of them.

25.40 999 calls from those on floors 15, 16, 22 and 23 indicated that callers were struggling to breathe in flats at those levels. Occupants in Flat 82 on floor 11 and Flat 73 on floor 10 told the LFB that their flats were full of smoke.

25.41 CCTV footage from the lobby of floor 7 shows that it became completely smoke-logged during this period.[35]

25.42 Those who entered or looked into lobbies on floors 10, 11, 15 and 16 during this period consistently described thick, black smoke; some also described intense heat.

25.43 The few occupants who managed to escape during this period, principally from floors 15, 16 and 21, described intense heat on the stairs. Some said there was little difference between conditions in the stairs and conditions in the lobbies and in some cases that conditions in the stairs were worse. All described thick, black smoke in the stairwell. Some occupants said that conditions improved at around floors 8 to 10 and below.

25.44 During this period nine people successfully escaped from the tower.

[35] 03.00.20 (corrected from 03.01.00) [INQ00010923]; 03.34.59 (corrected from 03.35.39) [INQ00010925]; 03.36.05 (corrected from 03.36.45) [INQ00010924].

11 Period 10: 04.00-05.00

25.45 By 04.00 occupants on floors 10, 11 and 14 were still in contact with the control room or with friends and family outside the tower, but there was no further contact with occupants above floor 14.

25.46 Those survivors who were able to give evidence about conditions in the lobbies during this period described thick, black smoke on floors 10 and 11 and significant heat.

25.47 Some described conditions in the stairs as similar to those in many of the lobbies, particularly at the level of floors 8 and above. Others described the conditions as better in the stairs than in the lobbies. Video evidence shows visible smoke in the stairwell below floor 10 which clears lower down.[36]

25.48 Nine people from floors 10 and 11 escaped from the tower during this period.

12 Period 11: 05.00-08.10

25.49 There is limited evidence from survivors of the fire about conditions within the building during this period, but there is some evidence from firefighters, particularly about conditions in floors 5 to 13. It is clear that conditions at these lower levels were extremely poor and that some of the lobbies were very hot. In particular:

a. firefighters described thick smoke in floors 5 and 6 and above, with thicker and heavier smoke in floors 8 and above;

b. firefighters also described the lobbies at floors 11 to 13 as being hot and full of dark smoke. Floors 5 and 10 to 13 were described as particularly hot. On floor 11 a thermal imaging camera registered a temperature of 1000°C; and

c. several firefighters described significant quantities of water pouring down the stairs during this period.

25.50 Firefighters described conditions in the stairs above floor 4 as poor, with visibility of no more than 6 feet on floor 10.

25.51 Antonio Roncolato on floor 10 said that the temperature was very hot in the lobby, but cooler on the stairs where there was water.

25.52 Two people escaped from the tower during this period.

[36] [INQ00010922]; [INQ00010921].

Chapter 26
Compliance with Building Regulations

1 Non-compliant facade: functional requirement B4(1)

26.1 It is apparent from the findings made in earlier chapters that the external walls of the building did not resist, and indeed actively promoted, the spread of fire. That was principally due to the presence of ACM panels with a polyethylene core, but other materials and other features, including the design and geometry of the facade, also played a role.

26.2 A group of core participants[1] submitted that the construction of the Building Regulations 2010 is ultimately a question of law which I can decide at this stage of the Inquiry. They argued that there is clear evidence that the facade did not meet functional requirement B4(1) of Schedule 1 to the Building Regulations,[2] which requires the external walls of a building "to adequately resist the spread of fire over the walls … having regard to the height, use and position of the building".

26.3 Both Dr Barbara Lane and Professor Luke Bisby have expressed the view that functional requirement B4(1) was not met[3] in this case and a number of core participants, including RBKC,[4] C. S. Stokes[5] and Kingspan,[6] have accepted that that was the case.

26.4 Although it was not originally my intention to reach conclusions in Phase 1 about the tower's compliance with the Building Regulations, I can see no good reason why that question should not be determined now so far as it relates to the external facade. I accept that the construction of the Building Regulations is ultimately a question of law and there is compelling evidence that requirement B4(1) was not met in this case. It would be an affront to common sense to hold otherwise. Although in another context there might be room for argument about the precise scope of the word "adequately", it inevitably contemplates that the exterior must resist the spread of fire to some significant degree appropriate to the height, use and position of the building. In this case, whether one considers the rainscreen panels alone or the cladding system as a whole, or even the complete external envelope, including the original concrete structure, it is clear that the walls did not resist the spread of fire. On the contrary, they promoted it, as can be seen in the video recordings of the rapidly developing fire which engulfed the building in just over 2.5 hours.

26.5 In addition, I accept that the cladding of the external walls constituted "building work" within the meaning of regulation 3 of the Building Regulations, because it involved a "material alteration" of the building which resulted in its ceasing to comply with requirement B4(1).[7] In

1 Represented by the solicitors Bhatt Murphy, Bindmans, Hickman & Rose, and Hodge, Jones & Allen [BSR00000004].
2 G4 BSR closing submissions [INQ00000563] p. 11 section 2.30 and p. 24 section 2.80.
3 Dr Lane supplemental report [BLAS0000002] p. 15 section 2.9.8; [BLAS0000011] p. 96 section 11.23.7(b), p. 97 section 11.23.12 and oral evidence Day 79/109/21-110/8; Professor Bisby [LBYS0000001] p. 152 section 748-750 and oral evidence Day 78/157/23-158/9.
4 Oral opening statement 6 June 2018 Day 3/94/15-21; written opening statement [RBK00026858] p. 5 section 19; Phase 1 closing statement [INQ00000553] p. 3 section 10.
5 Closing statement [INQ00000568] p. 10 section 38.
6 Phase 1 closing submissions [INQ00000565] pp. 3-4 section 2.1.
7 Regulation 3(1)(c) and 3(2)(a) of the Building Regulations.

particular, before the fire, the exterior walls of the building, being constructed of concrete, complied fully with that requirement, since concrete does not support combustion, but that changed fundamentally when the cladding system was added during the main refurbishment.

26.6 Arconic alone submitted that I should not at this stage of the Inquiry make any findings about the compliance of the external walls of the building with the Building Regulations. In paragraph 19 of its closing statement it submitted that certain aspects of Dr Lane's evidence went beyond the scope of Phase 1, including Appendix O of her supplemental report, in which she expressed certain views about the Certificate for Reynobond Architecture Wall Cladding Panels issued by the British Board of Agrément (BBA) in 2008. However, although the questions she has raised may have a bearing on whether the ACM panels reflected the guidance given in Approved Document B, they have no bearing on whether functional requirement B4(1) of Schedule 1 to the Building Regulations was met. In circumstances where Arconic does not, and could not sensibly, dispute the rapidity and extent of the spread of fire over and around the building (and indeed in its closing statement put forward a number of mechanisms by which it says that could have occurred[8]), I can see no rational basis for contending that the external walls of the building met requirement B4(1), whatever the reason for that might have been. There is therefore no good reason for deferring to a later report what is no more than a self-evident conclusion. For the same reason I do not think there can be any unfairness in stating that conclusion at this stage. If any of the core participants had put forward a reasoned argument to the effect that the exterior walls of the building complied with requirement B4(1), the position might be different, but none has sought to do so. I think it is right therefore that I should say at this stage that on completion of the main refurbishment the external walls of the building did not comply with requirement B4(1) of Schedule 1 to the Building Regulations.

26.7 A separate question is how those responsible for the design and construction of the cladding system and the work associated with it, such as the replacement of the windows and infill panels, satisfied themselves that on completion of the work the building would meet requirement B4(1). That is a matter for investigation in Phase 2. Dr Lane has expressed certain views on some aspects of that question in her supplemental report, but it is a question which I have yet to consider and on which there is still much evidence to be obtained. It may also be a question on which various core participants may wish to address me. It would therefore not be right for me to express any view about it at this stage.

[8] Closing submissions [INQ00000558] pp. 16-20 sections 71-93, in particular sections 71, 82, 88, 93.

Chapter 27
Planning and Preparation

This chapter considers the preparations made by the LFB for recognising and responding to the risk of fires in the external envelopes of high-rise residential buildings.

1 Generic Risk Assessment 3.2

27.1 The purpose of Generic Risk Assessment (GRA) 3.2 was to assist fire and rescue services in drawing up their own assessments of risk to meet their statutory obligations under the relevant Health and Safety at Work legislation. It recommended that contingency plans should be drawn up for individual premises, which should cover the spread of fire beyond the compartment of origin, the possible need for multiple rescues and the need for an operational evacuation plan in case "stay put" became untenable. It follows that fire and rescue services were expected to provide those who might become incident commanders at fires in high-rise buildings with training in evacuation and casualty removal tactics, as well as training to enable them to recognise when a full or partial evacuation has become necessary.

27.2 GRA 3.2 covers a substantial amount of ground relevant to the LFB's knowledge of the risks at Grenfell Tower and their operations on the night of the fire itself which are examined elsewhere in this report. For present purposes, it clearly contemplated that total evacuation of a high-rise building should be an important part of any fire and rescue service's contingency plan for such a building. I refer to pages 15, 16, 17, 19-20, 27, 29 and 49 of GRA 3.2. I need only quote three passages.

a. Page 17:

"Contingency plans for particular premises should cover:

- fire spread beyond the compartment of origin and the potential for multiple rescues
- an operational evacuation plan being required in the event the "Stay Put" policy becomes untenable

…

- alternative communication arrangements to overcome any radio 'blind spots'"

b. Pages 19-20:

"Training, which will cover high rise incidents must include:

…

- Evacuation and casualty removal tactics. Incident Commanders should understand when a partial or full evacuation strategy might become necessary in a residential building where a "Stay Put" policy is normally in place."

c. Page 29:

"The advice offered to callers to remain in their property during fire survival guidance calls must be re-evaluated throughout an incident. Where circumstances make it necessary, an Incident Commander may need to consider changing the advice given. For example, callers may need to be advised to leave their property or to be guided from it by firefighters. The Incident Commander should also consider making use of all available systems within the building to communicate with occupants."

27.3 It is quite plain that, as a matter of national policy and guidance, a fire and rescue service is obliged to ensure that it has contingency plans in place for the partial or full evacuation of high-rise buildings in its area in the event that the "stay put" strategy becomes untenable. It follows that fire and rescue services, and incident commanders in particular, cannot take it for granted that the building is adequately compartmented in accordance with the Building Regulations and that therefore the standing "stay put" advice will hold reliably. Nor can they justify failing to consider a full or partial evacuation on the grounds that the building will not enable it to be accomplished successfully. On the contrary, fire and rescue services are required to understand, of any given high-rise building in their area, when a partial or full evacuation might become necessary and to provide training to incident commanders in evacuation and casualty removal tactics.

2 LFB Policy No. 633

27.4 The GRA 3.2 is national guidance from which local fire and rescue services derive their own policies. As I have explained elsewhere in this report, PN633 is the LFB's policy for high-rise firefighting.

27.5 In its approach to the "stay put" principle and the question of contingency planning for the evacuation of a high-rise building, PN633 is neither as clear nor as extensive as GRA 3.2 (and certainly does not mirror its provisions exactly). In particular, it does not spell out what LFB officers should do to prepare and initiate a contingency plan for evacuation. However, it clearly does envisage that evacuation of a high-rise residential building may be necessary. In particular:

a. Appendix 1 requires that during visits to premises carried out pursuant to section 7(2)(d) of the FRA officers must ensure that they are familiar with a long list of matters and their impact on firefighting and search and rescue operations. One of those items is "evacuation arrangements which may include phased evacuation".

b. The section entitled "Evacuation" provides:

> "7.45 The IC should consider following the evacuation plan devised as part of the occupier's fire risk assessment unless the fire situation dictates otherwise.
>
> 7.46 It may be necessary to undertake a full or partial evacuation in a residential building where a "Stay Put" policy is normally in place.
>
> 7.47 … The IC should consider:
>
> (a) the effect of firefighting tactics on evacuation (and vice-versa);
>
> (b) the resources required to support the evacuation."

c. The section entitled "Fire Survival Guidance" provides:

> "7.51 The advice offered during fire survival guidance calls should be re-evaluated throughout an incident and this may require a change in the advice given. In exceptional circumstances an IC may consider informing control that their advice to FSG callers should be altered, e.g. to attempt to leave their property. The IC should remember that this advice may be contrary to national policy for control staff on FSGs and liaison with the officer in charge at control will be required for agreement to change the prescriptive advice."

27.6 One major weakness of PN633 is that, although it refers to a potential need to evacuate a building to which a "stay put" strategy applies (paragraph 7.46), it does not make it clear to incident commanders that the existence of such a strategy should not deter them from undertaking a full or partial evacuation if the behaviour of the fire justifies it. Another is that it does not require any contingency planning for evacuation to be undertaken or give

any guidance to incident commanders on how to go about carrying one out. Despite those weaknesses, PN633 proceeds on an assumption that compartmentation may fail and that under those circumstances an incident commander must be prepared to carry out a full or partial evacuation.

27.7 Paragraph 4.8 of PN633 deals with particular aspects of planning and preparation for fighting fires in high-rise buildings. It says:

> "4.8 The tactics and resources required to mount safe rescue and fire fighting operations should be assessed, practised and confirmed where necessary for the building concerned. This may include the following considerations:
>
> (a) Planning for fire spread beyond the compartment of origin and the potential for multiple rescues. . .
>
> 4.10 . . . Premises evacuation procedures and their impact on firefighting tactics should be considered as part of 7(2)(d) visits . . ."

27.8 There were no tactical or contingency plans for the evacuation of Grenfell Tower. No satisfactory reason for that significant omission was given but a partial explanation may lie in the absence from PN633 of any reference to the need for an operational evacuation plan if "stay put" became untenable.

3 The LFB's knowledge of cladding fires

27.9 The absence of an operational evacuation plan was a major omission in the LFB's preparation for a fire at a building such as Grenfell Tower, but, since there was no attempt to carry out a managed evacuation of the building, it is less significant than the absence of any training for incident commanders in how to recognise the need for evacuation. That absence in turn reflects a failure to recognise the risk of fire taking hold on the outside of modern buildings. Several LFB witnesses said in one way or another that they did not understand what was happening as the fire spread up the building and that buildings "should not behave like that". That reflected a failure to educate firefighters in the dangers associated with combustible cladding systems.

27.10 That failure is surprising, given the long history of fires involving cladding on high-rise buildings both in this country and abroad, a history of which some senior figures within the LFB were aware. The risks of fire breaking out in external cladding have been known in the UK since at least 1991, when a fire at Knowsley Heights, an 11-storey block of flats on Merseyside, spread vertically up the building's entire face within the cavity behind the rainscreen, but without penetrating the interior of the building.[1]

27.11 On 11 June 1999 a fire broke out at Garnock Court, a high-rise residential building in Irvine, Ayrshire. It spread externally through spandrel panels below windows and up a strip of wall from floors 5 to 13.[2] As a result of the fire, a Parliamentary Select Committee investigated the risks arising from cladding systems and the extent to which they were subject to regulation. The Select Committee recommended that all external cladding systems should either be made of non-combustible materials or shown not to present an unacceptable risk of fire spread.[3] Thereafter, in 2000 certain amendments were made to Part B of Schedule 1 of the Building Regulations and Approved Document B.

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1 Refer to paragraph 2.40 of Colin Todd's report (dated 2018) [CTAR00000001] p. 13.
2 Refer to paragraphs 2.45-2.49 of Colin Todd's report (dated 2018) [CTAR00000001] p. 14.
3 First report: The Environment, Transport and Regional Affairs Committee "Potential Risk of Fire Spread in Buildings via External Cladding Systems" https://publications.parliament.uk/pa/cm199900/cmselect/cmenvtra/109/10907.htm

27.12 From 2012 onwards, there were more fires involving cladding systems on high-rise residential buildings, some abroad and some in the UK. Some of those fires were discussed in a presentation, entitled *Tall Building Facades*, apparently prepared by the LFB's Fire Safety Regulation department in the latter quarter of 2016, although dated 13 July 2016.[4] One of the fires discussed in the presentation occurred at Shepherd's Court in Shepherd's Bush, London in August 2016. It had started in the kitchen of a two-bedroom flat on floor 7 and spread rapidly up the facade to floor 11. The LFB's response involved 20 appliances, one ALP, five water jets and the deployment of BA crews. The general conclusions of the *Tall Building Facades* slide presentation provide a useful indication of the lessons that had been learnt from recent fires, including that at Shepherd's Court:[5]

> "As a **general principle** the external envelop [sic] of the building **should not contribute** to the fire spread along the façade.
>
> **New construction material** and method of construction are being used in facades and with a **limited understanding** of their **fire behaviour**/performance.
>
> There is a **need** to **understand**:
>
> - What products are being used in the façade system and their fire behaviour; and
> - If they are used appropriately and meet the relevant guidance.
>
> These could affect the way fires develop and spread in a building." [Original emphasis]

27.13 Following the fire at Shepherd's Court, in May 2017 AC Dan Daly, then Head of the LFB's Fire Safety Regulation department, wrote to the Chief Executives of all London boroughs.[6] The letter was headed "Tall Buildings – External Fire Spread" and made three essential points. First, as a result of certain recent incidents, the LFB had found that the level of fire protection provided by the external surfaces of tall buildings did not comply with the requirements of Part B of the Building Regulations in terms of limiting the speed at which fire could spread externally. Secondly, testing of the external panels following the Shepherd's Court fire had disclosed that they did not satisfy the requirements of the Building Regulations in terms of combustibility. Thirdly, Chief Executives should consider carefully their arrangements "for specifying, monitoring and approving all aspects of future replacement and improvement to building facades and construction of new buildings". In relation to buildings within local authorities' control, AC Daly encouraged Chief Executives to think about including in their risk assessment processes consideration of the extent to which external panels complied with the Building Regulations. In his concluding remarks, AC Daly said that:

> "where no reliable information is available for a given property, it is our general expectation that a strategy to assess the risk and where necessary implement short, medium and long term actions to address the risk [sic]. This assessment will need to take account of other fire safety measures already in place in the building as well as potential mitigation measures to ensure that any potential fire spread does not pose a risk to health and safety."

27.14 Notwithstanding this history of fires involving cladding systems, the LFB's experience and assessment of the Shepherd's Court fire in August 2016 and the letter to the Chief Executives of the London boroughs, very few (if any) of the incident commanders or senior officers who attended the fire at Grenfell Tower were aware of the risks posed by exterior cladding. Certainly, none of them had received any training in recognising or assessing risks of that kind or in the steps that should be taken in response to a fire in the envelope of a high-rise building. Even the Commissioner herself, who had been in charge of Safety and Assurance at

4 [LFB00003521].
5 [LFB00003521] p. 25: the emboldening is in the original text.
6 [LFB00000224].

the LFB at the time of the production of the *Tall Building Facades* slide presentation in 2016, admitted that she was unfamiliar with it at the time of the Grenfell Tower fire.[7] She could not explain why its circulation had been limited to a small group of fire engineers.[8] Her response was that nobody would expect an incident like Grenfell Tower to occur or a building to be covered in such a highly flammable product and to fail so spectacularly.[9]

27.15 It is also clear from the terms of AC Daly's letter that the LFB could not safely assume that external cladding complied with the relevant requirements of the Building Regulations.

4 Training

27.16 Furthermore, despite the clear terms of paragraphs 4.8, 4.10 and 7.45-7.47 of PN633, which envisaged a potential need to evacuate a high-rise building subject to a "stay put" policy, there is no evidence that any of the officers who attended the fire (with perhaps one exception) had received any training in the principles of evacuation, how to decide whether evacuation was necessary or how to carry it out safely and efficiently.

27.17 Despite the terms of GRA 3.2, the relevant paragraphs of PN633, the contents of the *Tall Building Facades* slide presentation and AC Daly's letter, the LFB's basic attitude to planning for the evacuation of high-rise buildings was summed up by the Commissioner in her oral evidence. She said that although cladding fires were a known and material risk to high-rise residential buildings, in which fires could behave unpredictably, the LFB would not develop a training package to respond to "something that simply shouldn't happen", or as she put it more graphically, "for a space shuttle to land on the Shard".[10] That evidence betrayed an unwillingness to confront the fact that by 2017 the LFB knew (even if she personally did not) that there was a more than negligible risk of a serious fire in a high-rise building with a cladding system. The evidence also revealed a reluctance to accept that there was a risk that a fire of this kind and scale might occur in any building that had been provided with exterior cladding. Although the wholesale failure of every layer of fire safety in the building may not have been reasonably foreseeable by the LFB, the risks of rapidly developing facade fires in high-rise buildings and a consequent deluge of FSG calls were well known to the LFB in June 2017. The question why that knowledge had not informed relevant policies (pre-eminently PN633), training and operational procedures and practice will be considered in Phase 2.

27.18 The Commissioner went on to say that, even if the incident commanders had known about these risks and had understood the nature of the fire when it was in its early stages, that would not have made any difference, since it was always incapable of being extinguished.[11] However, I have no doubt that to have known what he was facing once the fire had broken out of Flat 16 would have assisted WM Michael Dowden and those who succeeded him as incident commander in assessing the need to evacuate the building and formulating an appropriate strategy, even if its execution had presented serious challenges.

27.19 There is one final point which arises in relation to the LFB's knowledge of the risks posed by cladding. GRA 3.2 includes cladding among the things to be examined on a visit under section 7(2)(d) of the Fire and Rescue Services Act 2004. The Commissioner explained the absence from Appendix 1 to PN633 of any reference to cladding by suggesting that at the time it was not perceived to be a risk.[12] If she is correct, that suggests that the LFB did not

7 Cotton Day 50/47/2-14.
8 Cotton Day 50/51/7-20.
9 Cotton Day 50/51/7-20.
10 Cotton Day 50/51/21-52/11.
11 Cotton Day 50/52/12-53/10, 62/21-64/4.
12 Cotton Day 50/40/20-41/1.

become aware of cladding as a risk which deserved attention in a section 7(2)(d) visit until after June 2015, when latest version of PN633 was produced. That in turn raises the question why it was perceived to be a risk at national level but not in London. This question will require investigation in Phase 2.

27.20 The failure to train firefighters in how best to fight cladding fires was the inevitable consequence of the LFB's institutional failure to inform its firefighters about the risks they present. That failure to train is usefully illustrated by the actions of the first four crews which attended the fire. The members of these crews were all experienced firefighters. WM Dowden had joined the LFB in June 2003 and, at the time of the fire, had been a Watch Manager (whether in a temporary or substantive rank) for some seven years.[13] WM Brien O'Keeffe joined the LFB in 1993 and had been a Watch Manager for six or seven years at the time of the fire.[14] Similarly, CMs Charles Batterbee, David Davies, Christopher Secrett and Jamal Stern had a combined service of 52 years as firefighters. Notwithstanding their experience, none had received any training on the risks posed by exterior cladding or the techniques to be deployed in fighting fires involving cladding. None had received any training in when to withdraw "stay put" advice or how best to evacuate residents from high-rise buildings. None had seen or had received training on the *Tall Building Facades* slide presentation.[15] The training provided to the first four crews (including, in particular, the first incident commander, WM Dowden) did not adequately prepare them for the nature, speed and ferocity of the fire they faced.

5 Section 7(2)(d) visits to Grenfell Tower before the fire

27.21 The failure to appreciate the nature of the risks posed by the cladding at Grenfell Tower was due in part to the approach adopted by the LFB to the discharge of its obligations under section 7(2)(d) of the 2004 Act. That provision required the LFB to make arrangements for obtaining information needed for the purpose of extinguishing fires and protecting life and property in the event of fires in Greater London.

27.22 The LFB sought to discharge this duty by sending fire crews to inspect buildings in the areas of individual fire stations. Appendix 1 to PN633 contained a list of things to be inspected on these visits. Paragraph 1 provided that:

> "During 7(2)(d) visits personnel should ensure they are familiar with the following and their impact on firefighting and search and rescue operations."

There followed a list of 22 matters which reflected many of those identified in GRA 3.2. The language of the opening sentence indicated that what followed was not by way of mere guidance but was mandatory. In this context "should" means "must".

27.23 The following matters identified in paragraph 1 of Appendix 1 are particularly relevant:

- the location and accuracy of information available on the site;
- the location and availability of water supplies;
- hydrant locations and size of main;
- location and function of firefighting lifts;
- the likelihood and impact of any fire spread beyond the compartment of origin and the potential for multiple rescues;

[13] Dowden Day 9/4/11-5/13.
[14] O'Keeffe Day 17/125/6-126/24.
[15] [LFB00003521].

- occupancy and use profile;
- floor layouts and any building construction features which may promote rapid or abnormal fire spread;
- plans to show flat number, by floor and in relation to each other;
- means of ventilation and smoke control including the location of operating switches;
- fire-engineered solutions within the building design;
- potential communication problems;
- identification of areas that would be suitable as rendezvous points and appliance marshalling.

The list culminated in the advice that:

> "These points should also form the basis and be included as part of any site-specific plan that is necessary."

Again, in this context "should" means "must".

27.24 The Commissioner said that no training was given to firefighters in how to go about conducting a visit.[16] That much was clear from the evidence of firefighters, not only of those from North Kensington fire station who had carried out section 7(2)(d) visits to Grenfell Tower, but others as well. She, in common with other firefighter witnesses, also expressed scepticism about how realistic it was to expect frontline firefighters (who are usually no more senior than Watch Managers) to undertake the lengthy survey of the numerous different fire safety aspects of a high-rise building set out in Appendix 1 to PN633. The Commissioner described many of the aspects of the building which the policy requires them to examine during a visit as "incorrect" and "not realistic."[17] If that is so, it is not clear how the LFB came to produce such a flawed policy. This issue will be investigated further in Phase 2 together with two other points arising from the evidence: first, what type of information and in what detail needs to be gathered under section 7(2)(d) to ensure the effective performance by the LFB of its duty under section 7(1), and, secondly, to what extent does PN633 and the LFB's training and practice ensure that such information is properly gathered in relation to high-rise buildings.

27.25 Although the language of paragraph 1 of Appendix 1 requires personnel to familiarise themselves with all the listed matters, it is equally clear that as a matter of practice LFB officers conducting visits did not consider all of them but tended to concentrate on those relating to the particular cause or event that had prompted the visit. In relation to Grenfell Tower, although the local fire station (in this case North Kensington) was aware of the nature and extent of the refurbishment project, there was no attempt to carry out a visit which comprehensively addressed each of the listed matters to ensure that the information relating to the refurbished building and the assessment of the risks it presented was accurate and up to date. It is a cause for concern that, although the station managers at North Kensington fire station were aware of the scale of the refurbishment being carried out on the tower, and on one occasion shortly before the completion of work met one of the managers of Rydon Maintenance Ltd on site, no good explanation was given for the failure to carry out a comprehensive assessment of the tower after the refurbishment had been completed.[18]

[16] Cotton Day 50/40/15-19.
[17] Cotton Day 50/84/14-86/2.
[18] Ricketts Day 51/84/5-19.

27.26 WM Dowden and his crew, and others from North Kensington who conducted section 7(2)(d) visits to the tower, had received no training on how materials used in exterior facades might behave in fires and could not be expected to assess the risks created by the cladding system or how they might relate to other aspects of the building's fire safety measures. That is not something for which they can be blamed. It is equally plain, however, that they had been given no training in the evacuation of high-rise buildings generally, or in how to recognise the need to evacuate such a building or how to carry out such an operation safely. These failings were institutional in nature and no personal criticism can be made of WM Dowden or any other firefighter who visited the tower before the fire.

27.27 In this respect the LFB as an institution failed to implement the requirements of GRA 3.2 and PN633 by failing to train frontline officers in how to carry out proper section 7(2)(d) inspections. One question which arises in light of developments in construction techniques and practices is whether, and if so to what extent, section 7(2)(d) visits should be conducted by suitably qualified professionals in addition to fire crews. That issue will be examined at Phase 2.

27.28 However, most of the matters identified in Appendix 1 to PN633 were well within the experience and knowledge of rank and file officers. The North Kensington crews who carried out section 7(2)(d) visits to the tower before the fire failed to identify and correct inaccuracies in basic information relating to the tower itself (for example, that it had 25, including the basement, not 20, floors); they also failed to identify and make good deficiencies in the LFB's information, such as the absence of basic floor plans showing flat numbers and floor layouts. Presumably, such plans could have been easily provided by the TMO to North Kensington fire station in paper form or by email, but no determined effort appears to have been made by the LFB to obtain them. No concerns appear to have been raised during visits made before the fire about the absence of any tactical or contingency plans for evacuation. Nor was any attempt made to ensure that emergency contact details were kept up to date. There is no reason why that information could not have been routinely provided by the TMO to North Kensington fire station as the need arose.

27.29 Inevitably the question arises whether the cancelled practice drill at the tower that was due to take place on 8 June 2017, six days before the fire, would have revealed the inaccuracies and omissions in the LFB's information relating to the building. However, bearing in mind the previous failures to identify incomplete and inaccurate information about the tower and the narrow approach adopted in practice to section 7(2)(d) visits by North Kensington fire station (as well as crews from many other fire stations in relation to buildings within their areas), I think it unlikely. That serves to support my concern that section 7(2)(d) visits, as presently conducted by the LFB, are not fulfilling the purpose for which they are designed, namely to collect information that allows the LFB to extinguish fires and to protect life and property.

6 Section 7(2)(d) visits and the Operational Response Database

27.30 The purpose of section 7(2)(d) visits is to gather accurate information that will allow the fire and rescue service (in this case the LFB) to extinguish fires and to protect life and property. The information collected by the LFB during those visits is to be recorded on the ORD, so that if a crew is despatched to a fire at a high-rise building, it has the basic information about the building to enable it to fight the fire. As indicated above, the ORD entry for the tower dated 15 February 2017, which was available to crews attending the fire, contained minimal, and

in places inaccurate, information about the tower itself and no tactical plan for fighting the fire.[19] In summary:

a. There were no plans of the tower on the ORD, despite the fact that under the "earlier visit comments" for 10 May 2015 SM Nicholas Davis had noted: "plans are required for MDT".[20]

b. The only photograph of the tower was a small aerial image which gave no information about the building or access to it.

c. The number of floors in the tower was incorrectly recorded as 20.

d. Under the overall heading "Tactical plan" the subheading "Operational contingency plan" contained simply a blank box dated 30 October 2009. As the Commissioner accepted in her evidence, no detail was provided of the objective or the basic elements of the tactical plan.[21] There simply was no operational contingency plan.

e. The emergency contact details were out of date and related to individuals involved in the refurbishment, which had been completed in 2016.

27.31 After the fire, the LFB conducted a Performance Review of Command (PRC), which considered, amongst other things, the quality of command decisions on the night and the adequacy of the information available to incident commanders and monitoring officers.[22] The PRC concluded (and the Commissioner agreed)[23] that the information available to WM Dowden was insufficient, particularly in relation to the tactical plan and floor plans of the tower.[24] Each of these deficiencies in the tower's ORD rendered it woefully inadequate, as the Commissioner rightly accepted.[25] Cumulatively they were inexcusable, and indeed no LFB officer who gave evidence about them sought to defend them.

27.32 On the night of the fire AC Andrew Roe was particularly exercised by the absence of any plans of the tower until very late in the incident. Had the LFB maintained a proper ORD for, and ensured that the TMO had provided it with plans of, the tower, AC Roe would not have had cause to complain on that score. It will be a matter for Phase 2 exactly what efforts the LFB made with the TMO to obtain plans and what efforts the TMO made to provide them during the two years before the Grenfell Tower fire in which their absence had been noted.

27.33 The question then arises whether and, if so, to what extent, the deficiencies in the ORD and the absence of plans hindered effective command decision-making, the deployment of search and rescue crews and the firefighting response more generally. In relation to the response to the initial fire in the kitchen of Flat 16, there is no evidence that the deficiencies in the ORD had any effect at all on the speed or effectiveness of the response. In relation to the response to the catastrophic fire in the cladding that ensued, undoubtedly it would have assisted incident commanders, those in charge of the bridgehead and the crews deployed to search for and rescue residents to have had accurate drawings of the floor layout and an accurate statement of the number of floors. It would also have helped to have had up-

19 [LFB00003116].
20 MDT (the Mobile Data Terminal) [LFB00003116] p. 1.
21 Cotton Day 50/89/1-4.
22 A PRC is held for all incidents involving six or more pumps. Its purpose is to provide a constructive and supportive environment within which the performance of command function can be discussed openly. The objectives are to identify good practice and points for improvement: refer to LFB PN421 "*Performance reviews of the Command Function*", paragraphs 2.1 and 2.2 [LFB00001563].
23 Cotton Day 50/91/10-13, 50/92/17-93/5.
24 [LFB00003121] point 3, and the IMP Report [LFB00003114].
25 Cotton Day 50/92/17-93/5.

to-date emergency contact details for a caretaker or someone else who knew not only the tower but also the residents and which ones were vulnerable or had children. However, there is no reliable evidence to suggest that the inaccurate and incomplete information materially hindered the firefighting and rescue efforts.

27.34 It is worth noting that the London Safety Plan published by the LFB on 31 March 2017[26] made a virtue of the presence of premises information plates in high-rise residential buildings in the following terms:

> "From previous consultations, London Fire Brigade also knows that some people may still feel vulnerable from fires in high-rise buildings. The Brigade understands this concern and that is why it is one of the key concerns captured in the assessment of risk toolkit. The London Fire Brigade would like to reassure Londoners that it has effective measures in place for dealing with incidents in high-rise buildings and this includes a pre-determined attendance of four fire engines to any high-rise incident. **The Brigade has also developed premises information plates for residential high-rise buildings, which provide vital information about layout, dimensions, dry riser outlets, hydrant locations and whether the building has any lifts. These are available electronically to crews, enabling firefighters to familiarise themselves with the building while on route and to get to work quickly on arrival**." [Emphasis added]

27.35 In the light of the evidence of the lack of information available to the LFB crews attending Grenfell Tower on the night of the fire, these words will provide scant comfort to any Londoner. There is no legal obligation on a building owner or manager to provide a premises information box or plate and according to AC Roe they are not common in high-rise buildings.[27] How it came about that RBKC and the TMO failed to provide the LFB with even a fraction of this information, and that the LFB failed to demand it of them and ensure that the ORD reflected it, is a matter of the utmost seriousness. That question will be examined at Phase 2.

27.36 The failure to appreciate the nature of the danger at Grenfell Tower was due in part to the LFB's narrow understanding of section 7(2)(d) of the 2004 Act. The subsection is couched in general terms (". . . a fire and rescue authority must in particular . . . make arrangements for obtaining information needed for the purpose mentioned in subsection (1))", that purpose being extinguishing fires in its area and protecting life and property in the event of fires in its area. There is an obligation to gather relevant information in respect of all matters falling within the scope of the subsection from wherever it may be found (as indeed is recognised by PN800). That may well include the owner or manager of the building in question. Such information includes, but is not limited to, the matters listed in Appendix 1 to PN633.

27.37 It appears to be generally understood within the LFB that section 7(2)(d) is satisfied by sending fire crews to inspect buildings in their area, the frequency of such inspections depending upon an assessment of the risks identified in relation to those buildings. Such visits are of importance, because they enable the building to be examined by someone with a trained eye, but they are not the only potential source of information and some information of importance cannot be obtained by means of a visit of that kind. In the present case one cannot criticise WM Dowden or his crew for failing to discover on a visit to Grenfell Tower that combustible materials were being used in the cladding, much less that the particular configuration of the cladding system made it particularly susceptible to fire. However, information about the materials being used in the cladding system could and should have been obtained direct from the TMO. If it had been obtained, it should have alerted senior officers to the possibility of a cladding fire of the kind illustrated in the *Tall Building Facades* presentation.

[26] [LFB00000225] p. 27.
[27] Roe Day 49/91/23-25.

Chapter 28
The Incident Ground

This Chapter analyses the events on the incident ground, the responses of the LFB to the developing fire and the systems of communication between the control room and the incident ground and within the incident ground itself.

1 Introduction

28.1 There can be no doubt that the rank and file firefighters who attended the fire displayed enormous courage and selfless devotion to duty. In many cases they pushed themselves to, and even beyond, the limits of endurance in their attempt to fight the fire and to rescue those who remained in the building. At the end of his evidence, AC Andrew Roe paid the following tribute to his junior officers and crews:

> "I think there is always room in big organisations for improvement to systems, to improve training. I think there's always room for improvement to the underlying conditions in which our people operate. But, actually, in terms of the response of the night, I could not have been prouder to be a London firefighter, nor lead the men and women of the London Fire Brigade, because I felt that they operated in the best traditions of our 150-year history and put themselves at enormous risk for hour after hour after hour, and that we were battling against what was frankly an absolute failure of the building system, and they had done their absolute best in intolerable circumstances. I have nothing but praise for my junior officers and my crews who performed well beyond what was acceptable in terms of their physical and mental capacity, and, actually, in some numbers have paid the price consequently. It was a privilege to lead them and I'm very proud of what they did."[1]

28.2 AC Roe's words and sentiments are, on the whole, well justified and the firefighters who attended the tower deserve the gratitude of the local community and London as a whole.

28.3 I also bear in mind the following words of Dr Lane:

> "I do not consider it reasonable that in the event of the installation of a combustible rainscreen system on a high rise residential building, the fire brigade should be expected to fully mitigate any resulting fire event. That is particularly so in circumstances where the fire brigade had never been informed that a combustible rainscreen system had been installed in the first place."[2]

28.4 It is also worth repeating that, when analysing the events on the incident ground, it is necessary to guard against making judgements with the benefit of hindsight about decisions made under the pressure of the moment. There is a difference, elusive though it may be, between legitimate criticism of the LFB's performance on the night and the formulation of best practice for the future in the light of what is now known from the evidence. I have, therefore, taken care to evaluate command decisions by reference to the information that was, or should have been, available to the incident commanders at the time. The importance of context is illustrated by the fact that WM Michael Dowden was called out to an ordinary domestic fire in the kitchen of a lower floor flat of a high-rise residential block, a fire which appeared to have been successfully extinguished. He had no reason to think that it might develop into a catastrophic fire which would engulf the whole building. The development

[1] Roe Day 49/199/2-22.
[2] Dr Lane supplementary report [BLAS0000002] paragraph 2.10.1.

of that fire and the ferocity and speed of its spread were wholly outside his experience and training. These matters form part of the context in which the LFB's actions on the night and, in particular, the decisions of the incident commanders, should be viewed.

28.5 However, hindsight provides no answer to the significant systemic and operational failings revealed by the evidence. The bravery and commitment to duty shown by individual firefighters cannot mask or excuse the deficiencies in the command and conduct of operations. Once it was clear that the fire had spread out of control, that compartmentation had extensively failed, but that evacuation remained possible, a decision should have been made to evacuate the tower. In arriving at that conclusion I am conscious that I have received no expert evidence to guide me on it and that a qualitative judgement on the approach of the LFB at the Grenfell Tower fire might be thought to be a matter better reserved for Phase 2. However, I am confident that, on the clear and extensive evidence about the events of the night that I have heard at Phase 1, I can and should reach that conclusion at this stage. It is not in the public interest to wait until the conclusion of Phase 2 to express a view about it.

28.6 The reality was that, before AC Roe assumed command, none of the incident commanders had been able to conceive the possibility of mass compartmentation failure and the consequent need to consider, and then order, a total evacuation of the building. There came a point when it was, or should have been, reasonably obvious that operational responses to individual FSG calls were, or were likely to be, ineffective and that the stairs would remain passable for only a limited period of time. In those circumstances, it was, or should have been, obvious that only a supervised mass evacuation would minimise the number of casualties. That point had been reached by 01.30 at the earliest and by 01.50 at the latest. The result is that by 02.47 when the "stay put" advice was withdrawn the best part of an hour had been lost without any evacuation plan having been considered. By 02.44 when AC Roe arrived and assumed command it was too late to carry out a managed total evacuation.

28.7 Mass evacuation of the occupants of the tower would no doubt have presented serious risks to the lives of both residents and firefighters, given the internal layout of the building and the absence of any kind of communication system. Nonetheless, it is likely that, in the face of a rapidly developing fire on the exterior of the building and an increasingly pervasive spread of smoke and fire throughout the interior, prompt evacuation would have resulted in the saving of many more lives.

28.8 Although I take account of the significant difficulties confronting an incident commander faced with a rapidly deteriorating situation, there were many failures of response on the incident ground on the night. Before the arrival of AC Roe the principal failure was one of command. WM Dowden had sent the "persons reported" message at 01.28, but until AC Roe's arrival none of them had formulated a clear and effective plan directed to saving as many lives as possible in the light of the deteriorating circumstances and none of them had formulated an effective plan for deploying to best advantage the resources that had been summoned to achieve that aim. In short, before AC Roe assumed command, none of the incident commanders had, for a variety of reasons, effectively seized control of the situation.

28.9 The consequences of that failure of command were significant. They included a failure effectively, efficiently and swiftly to deploy the first EDBA crews to reach the incident ground in response to FSG calls, a failure to implement effective and efficient arrangements for the communication of FSG messages between the control room and the incident ground, a failure to ensure that information about the internal spread of the fire was communicated from the bridgehead to the incident commander, and a failure to obtain and assess up-to-date

and accurate information about the effectiveness of search and rescue operations, all of which were compounded by failures of communication between the incident commanders themselves.

28.10 It would be impracticable to identify and analyse the causes of each and every failure of action and error of judgement in responding to a mass emergency involving hundreds of officers over a seven-hour period. Instead, one must stand back and examine the LFB's operational response from a broader perspective.

2 Command and control

The response to the fire in Flat 16

28.11 There was no suggestion that the response to the fire in the kitchen of Flat 16 could have been materially quicker, having regard to the preparations necessary to allow firefighters to reach the building and enter the room safely with an adequate supply of water. WM Dowden formulated and implemented his plan to fight the fire on the understanding that it was nothing more than a routine fire in a domestic appliance. An appropriate number of firefighters were deployed to fight such a fire and, although there was some initial difficulty in securing entry to the tower, that did not unduly delay the crews. Although CM Christopher Secrett was unable to secure control over the lifts (for reasons that remain under investigation), the crews were able to use them to go to floor 2 and set up the bridgehead in accordance with the LFB's normal operating procedure. It should be noted at this point that the firefighters' inability to bring the lifts under their control is relevant to the circumstances in which some residents came to lose their lives.

28.12 Thereafter, there was no significant delay in the crews' reaching floor 4, setting in a hose and entering Flat 16. Once CM Charles Batterbee and FF Daniel Brown had entered the flat, they carried out a methodical search of the premises carefully and thoroughly. By the time CM Batterbee and FF Brown had entered Flat 16 and had started their search (01.09), the fire had broken out of the kitchen and ignited the cladding. That appears clearly in the video recording showing the east face of the tower.[3] By 01.20 (or thereabouts), when the crew entered the kitchen, the external fire had already rapidly developed. In short, CM Batterbee and FF Brown acted as swiftly as they reasonably could but, by the time they had entered Flat 16, it was already too late to stop the fire from escaping from the kitchen into the cladding.

28.13 Likewise, once they had put out the remaining flames in the large fridge-freezer and could see the external fire, FFs John O'Hanlon and Nicholas Barton (the first crew's back-up) tried to direct water towards what they thought was the window surround. As with CM Batterbee and FF Brown, FFs O'Hanlon and Barton did all that they reasonably could, but by 01.30 or thereabouts it was too late to prevent the rapid development of the fire on the exterior of the building.

The initial response to the external fire: 00.54 to 01.50

28.14 By 01.30 the following principal events had occurred:

a. The fire had broken out of the flat of origin on floor 4 and into the cladding by 01.09.

b. It had reached floor 5 by 01.13 and had spread with increasing speed and ferocity to the very top of the building by 01.26, i.e. in under 20 minutes.

[3] [LBYS0000002].

c. All the "Flat 6s" were exposed to the flame front. Some 20 flats on the east elevation had become involved in the fire.

d. The exterior fire was beginning to spread laterally around the crown towards the north facade, and southward along the east facade.

e. WM Dowden had made pumps up from (an already increased) six pumps (at 01.12) to 20 pumps (at 01.29) within some 16 minutes. He had ordered two FRUs and one ALP. There were six pumps and 30 firefighters (excluding those above the rank of Watch Manager) in attendance on the incident ground. A total of nine firefighters had been deployed into the tower from the bridgehead, including those crews deployed to fight the fire in Flat 16 and FF Justin O'Beirne who was not wearing BA. At 01.31.30 WM Dowden made pumps 25, only some two minutes after making pumps 20.

f. The lobbies as high as the top floor (floor 23) were either smoke-logged or beginning to be affected by smoke and firefighters were experiencing smoke as high as floor 16.

g. The LFB control room had received 29 calls about the fire, of which 12[4] had been received from occupants in various locations up to the top of the tower at a considerable distance above Flat 16. At least two were FSG calls properly so called (where the caller had said they were trapped). A number of the calls had reported the whole building on fire. The CROs were already overwhelmed with calls.

h. The stairs were beginning to be affected by smoke to different degrees at different levels but remained passable to evacuating residents.

i. The development of the external fire up the east face of the tower, coupled with the number of residents evacuating the tower who had been the subject of smoke inhalation, caused WM Dowden to send the "persons reported" message at 01.28.40.

j. A total of 112 people had left the tower in the 35 minutes that followed Behailu Kebede's first 999 call at 00.54.29, representing some 38% of the total of 297 people present in the building on the night of the fire. Of those, 84 had escaped between 01.15 and 01.29.59.[5]

k. The MPS had declared the fire to be a Major Incident (although the MPS had not told the LFB this at the time).[6]

28.15 The information objectively available by 01.30, certainly when taken cumulatively,[7] ought to have caused WM Dowden to consider whether an alternative strategy to firefighting should be adopted, and specifically, whether the building should be partially or wholly evacuated and, if so, how. By 01.30 it was or should have been obvious to WM Dowden that the external fire had reached the crown, that there was at least a significant risk that the fire would penetrate the interior of the building, given the strength and speed of its development, that firefighting measures were failing to contain or extinguish the external fire, and that residents (some

4 Including the call from Shah Ahmed in Flat 156 on floor 18, which was connected by BT but on which nobody spoke directly, although people could be heard saying "fire" in the background [INQ00000263].

5 The exit statistics are based on Annex A which is derived from the MPS's Schedule of CCTV exits [MET00016072] and other sources where appropriate.

6 Inspector Thatcher's declaration was at 01.26 but it was not shown on CAD 482 until 01.32.

7 WM Dowden cannot be criticised for not knowing that the MPS had declared a major incident: the MPS had not told the LFB of the fact.

of whom were suffering from the effects of smoke inhalation) were leaving in substantial numbers. He had also seen occupants coming out of the building suffering from the effects of smoke inhalation, which for him was, as he said, "a big change".[8]

28.16 The magnitude and speed of the external fire did, to an extent, inform WM Dowden's response. Throughout his time in command he positioned himself outside the tower at or near its south-east corner. He could see the fire's swift development and behaviour on the outside of the tower. What he saw was reflected in his pump make-ups and orders for other resources such as the ALP, two FRUs and the command units. Regardless of what he actually knew, however, the fact that he considered it necessary to increase the number of pumps in attendance from 15 to 25 in three steps within a period of little more than two minutes should alone have been sufficient to prompt him to reconsider what his overall strategy should be. Similarly, although he considered that sending a "persons reported" message at 01.28 and making pumps 15 was, in his words, "a pivotal change",[9] and although he could by then see that the fire was "getting into flats",[10] he did not consider a change in strategy.

28.17 Nor did WM Dowden discuss evacuation with any other officer who was there, such as WM Paul Watson (who had more experience than him) or SM Brett Loft (who was senior to him), despite his appreciation that his firefighting efforts were having no effect at all on the spread of fire up the exterior of the east facade.

28.18 I take account of the danger of judging with hindsight the very rapidly changing conditions, the scale of the incident, WM Dowden's relatively junior rank despite his 14 years' experience, and the fact that by that time only six appliances had arrived at the tower. Although I doubt that there was a sufficient number of firefighters at the scene by 01.30 to have allowed a safe and efficient assisted evacuation of all of the tower's occupants, WM Dowden should already have begun to review the quickly deteriorating scene and should have been giving thought to a possible evacuation of the building, either in whole or part. That should have involved consideration of how to deploy and co-ordinate the incoming resources in order to ensure a safe and efficient evacuation. I will return below to the question of how a full building evacuation might have been achieved.

28.19 By the time WM Dowden handed over command at 01.50 matters had deteriorated significantly. The position was as follows:

a. The fire was spreading southwards across the east face, both at the crown and at the lower floors, towards column C5 and had spread to the north face at the upper and lower floors, reaching column A4.

b. The LFB control room had received a total of 87 emergency calls relating to the incident. Of those, 37 had come from the tower relating to 23 particular flats in all (repeat calls had been received from Flats 82, 95, 111, 115, 175 and floor 16).[11] Of those 37 calls, some 20 were calls in which the caller reported being trapped and affected by fire, heat or smoke or the CRO stayed on the line, and were therefore unambiguously FSG calls. The 20 flats from which those calls had come ranged from Flat 9 (floor 3) at the lowest to Flat 205 (floor 23) at the highest. Nine of those were from flats on or above floor 20[12] and four were from floor 23.

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8 Dowden Day 11/13/25-14/9.

9 Dowden Day 11/11/11-12/2 and note of the PRC meeting of 3 July [LFB00003117] p. 7.

10 Note of the PRC meeting of 3 July [LFB00003117] p. 7.

11 This total includes the call from Debbie Lamprell from Flat 201 on floor 23 taken by Aisha Jabin in the North West FRS control room at 01.41.18 [LFB00055500]. Jessica Urbano Ramirez's call from Flat 201 with CRO Russell had already started (at 01.29.48) and was continuing [LFB00055504].

12 Flats 175, 182, 192, 193, 194, 201, 204, 203 and 205.

c. CU8 had received six messages from the control room relating to FSG calls from 10 identified flats across a total of 10 different floors.

d. Firefighters within the building had found many lobbies smoke-logged as high as floor 20, with increasing amounts of smoke in the stairs, particularly at lower levels.

e. The resources available on the incident ground were:

i. A total of 22 pumps which had arrived at the scene,[13] together with CU8 and CU7, Paddington's turntable ladder (A213), and two FRUs (A216 and G346); 114 firefighters and 10 EDBA wearers were therefore available.

ii. Ninety-one firefighters were available for deployment into the tower, and a further 21 firefighters had already been deployed under air into the tower.

f. By 01.50 168 of the 297 occupants of the building had escaped.[14] They had come down from as high as floor 20. Some were suffering from the effects of smoke inhalation.

28.20 That deterioration in conditions had led to a situation in which a full evacuation of the building had become the only realistic way of minimising loss of life and serious injury. It is doubtful whether WM Dowden ever had in mind the possibility of a full evacuation, since from his perspective such a course was contrary to all the established wisdom about fighting fires in high-rise residential buildings and there is no doubt that nothing in his training or experience had equipped him to deal with an incident of that kind. However, in his role as incident commander he can be criticised for failing to obtain certain important information that was available to him in addition to his own observation of the behaviour of the fire on the outside of the tower. If he had obtained and considered that information, it should have led him to consider evacuating the building, assess the risks involved and then make an informed decision to adopt it as his strategy in place of concentrating on individual rescues. It is difficult to say exactly when WM Dowden should have realised that that point had been reached, but it had certainly been reached by the time he relinquished command.

28.21 The most important information that WM Dowden lacked related to the receipt of emergency calls. Information about the increasing number of calls received by the control room from around 01.30 onwards would have told him three things of importance. First, the fact that by 01.50 the number of FSG calls properly so called dwarfed the number made at the Lakanal House fire[15] would have made him aware that the number of occupants already known to be at risk far exceeded those threatened by any previous fire. That alone might have prompted him to consider a full evacuation of the building, whether it could be carried out safely and if so, how. Secondly, the rate at which the number of FSG calls was rising would have alerted him to the fact that conditions in the building were not being stabilised by effective firefighting but were continuing to deteriorate. Thirdly, the source of the calls would have revealed that many callers were high up in the building, many floors above the floor of origin, and that the flats from which the calls were being made were not limited to those immediately above Flat 16 but included flats in the south-east corner[16] and the north-west corner.[17] There was, therefore, no clear pattern to the locations from which FSG calls were coming to indicate that any particular part of the building was or would remain safe.

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13 ORR p. 108.

14 There were 56 exits between 01.30 and 01.50. The exit times of the occupants of Flat 6 on floor 2 are not exactly known but occurred in Period 2. They are included in this total.

15 There were four FSG calls at Lakanal House.

16 For example, Flats 82 and 142.

17 For example, Flats 175 and 205.

28.22 WM Dowden did not speak to the senior officer in the control room (OM Alexandra Norman), or indeed anybody else in the control room, in order to find out whether any FSG calls had been received and if so from which parts of the building. Paragraph 5.9 of PN790 required all FSG information to be passed to the incident commander, who would then decide what action to take. No information of that kind was passed to WM Dowden and he did not himself ask for it. Although the control room passed numerous messages to CU8 once it had been set up (and there was a short delay while that was done) at no point did WM Dowden himself speak to WM Daniel Meyrick on CU8 to find out what 999 callers were telling the control room about the conditions in the building and where and why they were trapped.

28.23 It was only when CU8 arrived at around 01.30, and when SM Loft arrived shortly after that, that WM Dowden became aware at all that there were "multiple" FSG calls,[18] but at no point did he learn how many were in progress or from which part of the building they had come.[19] One possible reason for his failure to obtain that information was that he had put SM Loft in charge of managing the response to FSG calls as well as liaison with the bridgehead. This decision introduced an additional and unnecessary link in the chain of communication between himself and the bridgehead; it also denied him as incident commander of first-hand knowledge of the number of FSG calls, the locations of callers and the rate at which the number of calls was increasing.

28.24 When he instructed SM Loft to take responsibility for the management of FSG calls, WM Dowden did not give him sufficiently detailed instructions about how he was to carry out that role, contrary to the requirements of PN790. For example, he did not tell SM Loft how to obtain information from CU8 or how to forward it to the bridgehead. Nor did he tell him how to record information relating to FSG calls, how to keep the control room informed of actions taken in response or how to keep the incident commander informed of any relevant information derived from them. Similarly, WM Dowden did not establish a clear line of communication between himself and SM Loft and gave him no directions about how or on what basis FSG calls were to be prioritised.

28.25 The absence of any detailed instructions regarding the arrangements by which each link in the chain of communication was to be kept informed as the incident developed suggests that, when he briefed SM Loft, WM Dowden was not fully aware of the arrangements that had been put in place for the communication of information relating to FSG calls. The practical consequence was that, as incident commander at a dangerous fire which was already out of control, WM Dowden was not aware of current conditions within the tower or of the number and location of residents who considered themselves to be trapped. I return to the subject of the FSG communications on the incident ground and their effectiveness later in this chapter.

28.26 Information about FSG calls was not the only information that WM Dowden lacked. He did not seek or receive reports from the bridgehead about the conditions in the lobbies and the stairs higher up in the building. Information of that kind should have informed his decision-making in the latter stages of his time in command, but he did not ask those at the bridgehead what crews had reported about conditions in the building. To that extent, therefore, WM Dowden failed to ensure that, as incident commander, he had taken steps in accordance with paragraph 7 of PN431 to maintain clear lines of communication throughout the incident between the incident ground and the control room and between the LFB and other emergency services.

[18] Dowden Day 10/149/2-152/12.
[19] Dowden Day 10/152/1-154/12.

28.27 Even if WM Dowden could not see or know the precise number of people leaving the building, he should have been aware from his vantage point at the south-east corner of the tower that during the period between 01.30 and 01.50 many of the occupants had left the building. That might have suggested that conditions in the building had deteriorated to the point at which the occupants had decided to ignore the "stay put" advice, although in many cases they were not prepared to remain in the building once they had become aware of a fire. More importantly, however, the fact that so many people had left the building shows that at least up to 01.50 the stairs remained passable. There is no evidence that the stairs were blocked by firefighting activity or that movement was unduly hampered by congestion caused by the number of occupants leaving.

28.28 To evacuate a building of this kind in the face of an established "stay put" policy would have required a cool head and a great amount of self-confidence. By 01.50 WM Dowden had been acting as incident commander for the best part of an hour with little or no support from more senior officers. The behaviour of the fire was outside his experience and nothing he had done appeared to be having any effect. He was at a loss to understand what was happening or to know how to respond. However, by 01.50 at the latest he should have realised that the fire had begun to enter the interior of the building and that compartmentation, which underpins the "stay put" advice, had been breached. In those circumstances, he should have spoken to OM Norman in the control room and, having obtained the most recent information, should have decided to evacuate the building and set about ensuring, through the control room, that all callers from the building were told to leave come what may. However, that would not have guaranteed that all occupants still in the building at 01.50 would have been saved.

28.29 Two questions then arise: what could WM Dowden have done to evacuate the building and why did he not do it?

3 Evacuation

The building

28.30 The capacity of the stairs was sufficient for simultaneous total evacuation of the building. That was the view of Dr Lane,[20] and is supported by the fact that 77 people came down them in the 15 minutes between 01.15 and 01.29.59. Furthermore, evacuation may in many cases have been made easier by the fact that many of those escaping would have been family, friends and neighbours familiar with the building and with each other.

28.31 Until around 01.35 the stairs were substantially free of smoke and provided a means of escape before visibility was materially impaired.[21] Although conditions then began to deteriorate, the stairs remained substantially free of smoke until around 01.50.

Available evacuation methods

28.32 Although conditions in the stairs did not present an insurmountable hurdle, carrying out an organised evacuation of the building would have been by no means straightforward. Any plan would have required two practical elements: informing the occupants that they must make every effort to leave with the assistance of firefighters and deploying firefighters to inform the occupants that they must leave and to assist them in doing so. The two elements would have had to work together for the plan to be effective, but for neither of them was there any clear policy, training or well established method by which to carry them out. The challenge was

[20] Dr Lane supplementary report [BLAS0000019] 19.6.71.
[21] Dr Lane supplementary report [BLAS0000014] 14.4.188(b) and (c); Professor Purser [DAPR0000001] 153(a).

compounded by the fact that there was no reliable means by which the incident commander or the control room could tell the occupants that they needed to leave. These obstacles do not mean that a complete evacuation of the tower was impossible, but they do suggest that its execution would have been difficult and would have given rise to dangers, including a risk to life.

28.33 The need to inform the occupants that they must leave the building required a reliable means of communication. There was, however, no alarm or public address system serving the whole building which could have been used for that purpose. Although it was possible for firefighters on the ground to use loudhailers (and one was used early on in the night by FF Patrick Murray to advise occupants to leave)[22] or to ask the MPS to ask the NPAS helicopter crew present at 01.44 to use the "skyshout" on-board broadcaster, it is unlikely that any advice broadcast by these devices would have been clearly heard by all occupants above the noise of vehicle engines, pumps, sirens and the NPAS helicopter's rotor. It might also have been possible to use the flat entry intercom systems to speak to individual residents, but that depended on whether they could or would get to the entry phone to answer it. All these methods of communication would have been essentially improvisations and would probably have been unreliable to some extent.

28.34 As I have already observed elsewhere in this Report, there is nothing in the Building Regulations or in Approved Document B which requires the owners of high-rise residential buildings such as Grenfell Tower to have sounders or public address systems for the whole building or any means of communicating with all the occupants in order to facilitate a total evacuation. Accordingly, WM Dowden was always going to be restricted in what he could do to achieve full evacuation by the limitations inherent in the building itself. Furthermore, although GRA 3.2 makes it plain in several places that the incident commander should have contingency plans for the evacuation of a high-rise building, should circumstances require it, it provides very little practical guidance on how to go about it. GRA 3.2, section 2, paragraph 23 contemplates expressly that a "Stay Put policy may become untenable due to unexpected fire spread", but the control measure it then provides is to "consider all means of contacting persons within [the] building, such as intercom telephones, loud hailers etc". In other words, an incident commander is expected to consider revoking "stay put" and moving to evacuation if the circumstances so require but must resort to improvisation to carry it out. That is not to suggest that these methods of communication should not have been tried. On the contrary, if a decision to evacuate had been taken, they should all have been used or tried in the hope of reaching as many occupants as possible as early as possible.

28.35 If WM Dowden had decided to evacuate the tower there were in reality two possible ways of contacting the occupants, in addition to resorting to improvisation of the kind I have mentioned. One was to ask the control room to tell anyone calling from the building that the fire brigade had decided to evacuate the building and that they should leave. Although the message would have reached only those who had made an emergency call, it would have been received by those who were sufficiently concerned for their safety to make such a call. The other was by the deployment of firefighters into the building to inform occupants that they needed to leave and to assist with evacuation where necessary.

[22] Murray witness statement [MET00010925]; Rania Ibrahim's Facebook post at around 01.40 which picked up this broadcast: Ismail Exhibit SI/2 [IWS00001232] at 05.05.

28.36 The first way of contacting occupants was only ever likely to be a partial solution. Some 999 callers did not call for the first time until some time after 01.50.[23] The later that such callers called, the worse the conditions they would have encountered in the lobbies and, possibly, the stairs and therefore the greater the disincentive for any occupant to take the advice to leave. The element of chance could, therefore, not be wholly eliminated by using the control room to communicate with callers.

28.37 There was a partial solution to the problem of depending on people making calls, at least where they had rung previously. If the decision to evacuate at 01.50 had been made by WM Dowden, OM Norman, who was at that stage in command in the control room, could and should, where possible, have departed from the custom (prevalent in the LFB if not generally in other fire and rescue service control rooms in the UK) not to call 999 callers back. Once it became obvious that all available measures had to be taken to inform occupants of the need to evacuate, there was no good reason to cling to this anachronistic custom. The VISION system in the control room had captured the numbers of callers who had already made calls on their system, but it would have been difficult to identify earlier callers from within the tower. Accordingly I cannot accept the Commissioner's evidence that the only means of communicating with occupants who did not ring the control room again was by a "door-knock".[24] I do accept her evidence[25] that finding previous callers' phone numbers in the VISION system by scrolling through the log would have been difficult, but not impossible. But as I say, this partial solution was only workable at all for those who had already called.

28.38 The second possible route to achieving communication with occupants to effect a full evacuation would have been through the physical deployment of firefighters into the building both to inform occupants that they needed to leave and to assist with evacuation where necessary. SM Daniel Egan, in his oral evidence, explained his thought processes about how a full building evacuation could have been carried out. He said:

> "…they would systematically go through a couple of floors at a time, with crews going along, banging on doors, giving people a chance, you know, trying to cajole them out if they was in there, and then trying to escort them down. And then perhaps do three floors at a time, depending on how it was working…"[26]

28.39 Making every allowance for the lack of numbers of firefighters available to him during his time in incident command, WM Dowden could have sent as many firefighters as he had as high as possible into the tower to knock on people's doors on each floor and alert the occupants to the need to leave, and assisting them where necessary.

28.40 The method of contacting occupants described by SM Egan, although hypothetical, was at least possible and should have been attempted by WM Dowden at the latest by 01.50 while the stairs were relatively clear. In addition, WM Norman Harrison had had previous experience of a full evacuation of a six-storey building at night by using a similar procedure.[27]

28.41 By 01.50, 22 pumps had arrived at the incident ground, so WM Dowden had about 114 firefighters at his disposal, including 10 EDBA wearers. At that stage he should have sent as many crews as were reasonably available into the tower to knock on doors, alert the occupants

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[23] For example, Marcio Gomes (Flat 183, floor 21) whose first call was at 02.21.04; Khadija Saye (Flat 173, floor 20) whose first and only call was at 02.26.48.
[24] Cotton Day 50/183/1-23.
[25] Cotton Day 50/183/1-23.
[26] Egan Day 16/49/7-20.
[27] Harrison Day 45/101/6-20.

to the need to leave, and assist them to do so where necessary. Indeed, that approach was one which DAC Andrew O'Loughlin himself suggested in his evidence (although he did not adopt it on the night).[28]

28.42 Although this strategy might have exposed firefighters (very few of whom had EDBA by 01.50) to serious danger higher up in the building, it was still at least a possible use of the gradually increasing number of incoming crews. On any view it was far more preferable to WM Dowden's continued pursuit of firefighting while positively encouraging occupants to remain in the building by maintaining the "stay put" advice.

28.43 An important question which remains is how WM Dowden could have ensured the safety of those occupants of the tower whose impaired mobility or other health difficulties meant that they needed help to get out. Although GRA 3.2 provides a nod in that direction on page 18, it provides no practical assistance to an incident commander about how to rescue such people if they need to be evacuated. They will always need firefighter assistance, but any incident commander in WM Dowden's position will first need to know which flats they are in and what kind of difficulties they have before he can deploy crews to assist them. That information, specific to each occupant and up-to-date, should have been provided long in advance to the LFB by the TMO or RBKC and been available to WM Dowden in the ORD. It was not. Even if it had been, it is unclear even with the benefit of hindsight how WM Dowden could have achieved assisted evacuation of such occupants on the higher floors given the low numbers of EDBA wearers he had at his disposal by 01.50. I return later in this chapter to the attempts to prioritise rescues.

28.44 In summary, a mass evacuation was not something for which WM Dowden or any of the other officers present that night (including AC Roe) had been trained. It would have posed formidable practical difficulties, but it was possible and to attempt it was preferable to telling occupants to stay in their flats.

Why was evacuation of the tower not pursued?

Lack of training

28.45 The primary obstacle in the way of WM Dowden's carrying out a full evacuation of the building was that he had not been trained for it. The mere existence of the decision-making model in PN341 was not of itself enough. In simple terms, the decision-making model failed not only because WM Dowden did not "recognise and react quickly to changing circumstances", but because he did not know what to do. Similarly, there is nothing in PN633 or the various incident command policies that assists incident commanders in that respect. Having seen and heard WM Dowden over three days, I do not think that his failure was due to any personal lack of ability or commitment. Rather, it was due to deficiencies in his training which failed to equip him with the means of deciding when to switch from the "stay put" strategy to one of partial or total evacuation. His extensive oral evidence about his training and its limits, particularly in relation to evacuation and contingency planning in relation to fires in high-rise buildings,[29] strongly supports that conclusion, as does the evidence of other senior firefighters. Many senior firefighters said that they had not been trained in recognising the circumstances in which an incident commander should consider instructing the control room to abandon the "stay put" advice, as contemplated by paragraph 8.7 of PN790.[30]

[28] O'Loughlin Day 47/76/11-77/21, 161/1-163/9.
[29] Dowden Day 9/21/22-40/19.
[30] For example, O'Loughlin Day 47/25/11-27/1.

28.46 Although he recognised that the scale of the incident required greater resources, his training did not equip WM Dowden with the means of understanding the nature of the fire or how best to combat and contain it. Nor did it equip him to decide whether to undertake an evacuation of the tower or how best to do so. His failure to appreciate the significance of the information available to him must be attributed to inadequate training rather than incompetence on his part. He himself was candid in his PRC debrief, saying that at the point when he made pumps 15 (at 01.27.26) he "felt helpless".[31]

28.47 That conclusion is strongly supported by the fact that WM Dowden had plenty of more experienced officers around him during his time in command, such as WM Brien O'Keeffe, WM Watson, and latterly SM Loft and SM Gareth Cook, all of whom could see what he could see and none of whom took him to task over his methods or advised him to evacuate the tower. If WM Dowden had fallen below the standards expected of him, it would have been obvious to his fellow officers, who I am sure would have said something to him. I can only infer, therefore, that his actions were regarded as competent by the LFB's own standards. Indeed, the positive appraisal given by the LFB to his command in the LFB's incident report focused on firefighting and command structures and said nothing about considering alternative strategies or use of the decision-making model.[32]

Lack of support from more senior officers

28.48 It is a strikingly unsatisfactory feature of the incident that WM Dowden was left in command of this incident for so long after it had become quite apparent that it was a fire of unprecedented scale and not remotely under control and so long after he "felt helpless" at make pumps 15 (01.27.26). That was due in part to the sheer speed at which additional pumps were requested (which itself has a bearing on the attendance of more senior officers) and the time it took to summon more senior officers to the incident ground. However, when more senior officers did arrive shortly after 01.30, WM Dowden did not receive the assistance and support that he was entitled to expect from them.

28.49 LFB policy required the attendance of a monitoring officer. SM Andrew Walton assumed that role at 01.02.43 when he was paged by the control room, but could do little until he got to the incident ground at 01.40.12, and even then did not assume command in accordance with PN412. I appreciate that on arrival he may have wished to acquaint himself with the incident and the extent of the fire, but he could and should have taken steps to assume command more swiftly following his arrival. At 10 pumps a DAC was supposed to assume command monitored by an officer of AC rank, and at 16 pumps an AC was supposed to take incident command.[33] The fact that a Watch Manager was left in command, without any effective remote monitoring assistance, for the first hour of the incident and for a full 20 minutes or so after the make-up had reached 25 pumps displays a shortcoming in the LFB's mobilisation arrangements.

28.50 At 01.32 SM Loft arrived at the scene. Although PN431 suggests that the incident commander need not always be the most senior officer present, the fact that WM Dowden felt so out of his depth by 01.31 should have led SM Loft, as the more senior officer, to take command, but he did not do so.[34] Given the scale of events, WM Dowden could and should have discussed with SM Loft the strategic and tactical response to the fire, but did not do so. Equally, SM Loft could and should have forced a discussion with WM Dowden on these matters or, at least,

31 [LFB00003117] p. 7.
32 LFB's incident report [LFB00003114] pp. 4, 5.
33 PN412.
34 PN431, paragraph 1.2.

raised the question of evacuation, but he did not do so. Instead, SM Loft agreed to leave WM Dowden in command and was instructed by him to assume responsibility for managing FSG information. He accepted that role without any wider discussion of its purpose and without ensuring that he put in place a system whereby the incident commander would receive accurate and up-to-date information about the success or otherwise of deployments in response to FSG calls.

28.51 SM Cook arrived at 01.38. He attended as Press Officer and so was not entitled to assume command. However, his role was nonetheless to provide command support to WM Dowden in his decision-making, but he provided no such support, although he clearly understood that that was his role.[35] He was not able to provide any satisfactory explanation for that.

28.52 Having not assumed command themselves as policy required, neither SM Loft nor SM Cook gave WM Dowden any practical or effective advice about how to attempt to take control of the incident, whether to evacuate the building and, if so, how best to deploy the incoming resources to assist such an operation. No good reason was put forward to explain why WM Dowden was not relieved of command by SM Loft or SM Cook, although it is fair to say that there is no evidence that either officer had a better informed or a more positive plan to combat the fire or to save life.

"Stay put": an article of faith

28.53 There is in my view a further underlying reason why WM Dowden, and indeed the incident commanders after him, did not change strategies, quite apart from the fact that he (and they) failed to appreciate the significance of much of the information which demanded it. The absence of any policy guidance on how to carry out a full building evacuation with no evacuation plan in place and no means of telling the occupants to leave can only have discouraged him from contemplating the possibility of a full evacuation. The knowledge that high-rise buildings are constructed on the basis of effective compartmentation itself created a barrier to thinking about evacuation.

28.54 Similarly, one could occasionally detect in the evidence of senior officers a reluctance to believe that a building could ever fail to comply with the Building Regulations.[36] The evidence taken as a whole strongly suggests that the "stay put" concept had become an article of faith within the LFB so powerful that to depart from it was to all intents and purposes unthinkable. That itself helps to explain why it was not thought about until it was too late for many of the occupants of the tower. The fact that the Commissioner was compelled to ask the rhetorical question: "It's all very well saying 'Get everybody out', but then how do you get them all out?"[37] emphasises that the LFB had never itself sought to answer that question in its preparations and training and had not equipped itself to carry out a total evacuation of such a building. The requirements of GRA 3.2 and some of the provisions of its own PN633 demand an answer to that question, which will be investigated in Phase 2.

28.55 Quite apart from its remarkable insensitivity to the families of the deceased and to those who had escaped from their burning homes with their lives, the Commissioner's evidence[38] that she would not change anything about the response of the LFB on the night, even with the benefit of hindsight, only serves to demonstrate that the LFB is an institution at risk of not learning the lessons of the Grenfell Tower fire.

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35 [MET00007882] p. 4.
36 For example, O'Loughlin Day 47/20/11/-21/5.
37 Cotton witness statement [MET00012492] p. 38.
38 Cotton Day 50/236/8-17.

4 Handing over command

28.56 Efficient handover of command from one incident commander to the next is essential if firefighting and rescue operations are to be conducted effectively and with the minimum of disruption. That requires the incoming commander to obtain from the outgoing commander a clear understanding of the nature and development of the fire, the resources available, the measures that have been, and are currently being, taken to fight it, the number of people trapped in the building and the steps being taken to rescue them. These are all matters covered by PN431.

The handover of command to SM Walton

28.57 The principal characteristic of the handover of command from WM Dowden to SM Walton was its brevity. There was no discussion about the progress of the fire, which was still developing, the number and source of FSG calls, the practicalities of evacuation or withdrawal of the "stay put" advice. In the absence of any information about conditions within the tower, it was reasonable and necessary for SM Walton to despatch WM Dowden to collect that information, as he did. Although there is evidence that external firefighting had, to a limited extent, been successful in containing the fire on the east face below floor 17, there was no reason to think that the external fire was under control at all. On the contrary, it was continuing to develop at pace. In these circumstances, the risk of fire breaking back into flats and the consequential risk to life was plain. Indeed, SM Walton's main consideration was whether the fire was breaking back into flats; if it had been, he would have declared a Major Incident, because he would have considered that the whole building needed to be evacuated. However, he was not in command long enough to establish the facts or to formulate a plan for evacuation.

28.58 Given what SM Walton could see and given his concern about the risks of fire entering flats, the possible need for evacuation and its practicalities should have been explicitly raised during his assumption of command from WM Dowden. When DAC O'Loughlin relieved SM Walton very shortly afterwards, evacuation should have been the first matter discussed and, with the benefit of information about internal conditions, a decision should have been made. It is possible that it was not raised because SM Walton did not think that the fire was getting into flats. Laurence Ioannou, the LAS Incident Response Officer, arrived on scene at 01.49 and had a brief conversation with a firefighter, probably SM Walton, who said: "It's not as bad as it looks. We believe it is an external fire and has not penetrated internally".[39] It is possible, however, that SM Walton told Laurence Ioannou that the fire might be breaking back into flats and that the LAS should be prepared to deal with multiple casualties,[40] but if that was the subject of discussion, SM Walton did not act on it during his brief period of command, nor did he brief DAC O'Loughlin about it when he took over.

28.59 SM Walton's evidence about whether to mount a full evacuation was telling. He considered that a full building evacuation was to all intents and purposes impossible.[41] He told the Inquiry not only that he had received no training in how one might be carried out,[42] but also that in a high-rise building only the compartment of origin and the surrounding flats were ever evacuated, not the whole building. SM Walton thought that, as he put it, there was "no option to evacuate a building where the building principle has failed to the extent that the means of

39 Ioannou witness statement [MET00010862] pp. 3, 5.
40 Walton witness statement [MET00010828] p. 27.
41 Walton Day 46/14.
42 Walton Day 46/37, 64.

escape don't exist".[43] However, at the time he took over from WM Dowden, they did exist, and although by that stage the conditions in the lobbies and stairs had deteriorated markedly, they never became completely impassable, as the escapes later in the night attest.

The handover of command to DAC O'Loughlin

28.60 DAC O'Loughlin assumed incident command at around 01.56. The two defining characteristics of the handover from SM Walton to DAC O'Loughlin were, again, its brevity and, more importantly, the failure of DAC O'Loughlin to obtain the information required to exercise effective command over an obviously deteriorating situation.

28.61 By 02.00, a few minutes after DAC O'Loughlin had assumed incident command, the following principal events had occurred:

a. Flames had reached the crown on the south side of column C5 and its base was burning. Flats 151, 161, 171, 181, 191 and 201 had become involved in the fire, having been affected by the flame front as it spread southwards across the east face of the tower.

b. The flame front had begun travelling across the north face in a westerly direction.

c. The control room had received a further eight emergency calls since 01.50, two from members of the public and six from trapped residents. There were no new flats from which calls were emanating, but the conditions at different places in the building were rapidly deteriorating, as is shown by the developing information about repeated calls from Flats 196 (floor 22), 182 (floor 21) and 95 (floor 12). Forty-five adults and 16 children had been reported to be within the building.

d. On the incident ground:

   i. CU8 had been given FSG information in the form of a total of six further radio messages or admin line calls in relation to people on floor 10 and Flats 133, 182 (twice), 111, 115, 95, 205 and 201.

   ii. Twenty-five pumps and a second command unit (CU7) were in attendance. Since 01.30 some 30 firefighters had tallied out wearing BA and been deployed into the tower, including the EDBA crew of five from Paddington A216 who had been sent to the roof.

   iii. Evacuations from the tower had ceased from 01.49 (and did not resume until 02.07).[44]

28.62 DAC O'Loughlin's position was very different from that of WM Dowden when he had arrived at 00.59. From the outset, DAC O'Loughlin was faced with an uncontrolled, still-developing external fire. The state of the external fire should have spoken for itself, but during the course of the handover from SM Walton and WM Dowden there was no discussion of evacuation, the number and source of FSG calls or what arrangements had been put in place to prioritise FSG calls. If DAC O'Loughlin had stood back and considered what was in front of him, if he had asked WM Dowden about the rate of development of the fire, if he had asked the control room about the number of FSG calls that had been received, if he had considered the need for EDBA resources, if he had noted the fact that many residents had already left the building and their condition at the time, he would have had enough information to know that the risk

[43] Walton Day 46/146.

[44] There is an 18-minute gap between the exit of Branislav Lukic at 01.49.09 and David Lewis, a visitor, at 02.07.15.

of continuing to give "stay put" advice was greater than that of evacuating the tower. Even if SM Walton and WM Dowden had not raised the question of evacuation, an officer of DAC O'Loughlin's seniority and experience should have done so.

28.63 I fully recognise that, even if an order to evacuate (whether total or partial) had been given by 02.00, some lives might still have been lost. I also recognise that the mechanics of carrying out an evacuation of any sort in rapidly deteriorating conditions would have presented its own risks to the lives of residents and firefighters. However, I have little doubt that fewer people would have died if the order to evacuate had been given by 02.00. The time between 02.00 and 02.47, when AC Roe ordered the "stay put" advice to be withdrawn, was effectively lost.

The assumption of command by GM Richard Welch

28.64 Before returning to examine DAC O'Loughlin's actions in command, it is necessary to refer to the parallel assumption of command by GM Welch at around 02.00, the defining feature of which was that he purported to relieve SM Loft, who was not, and never had been, incident commander. Remarkably, GM Welch did not first seek to confirm with SM Loft that he was in command (which in fact he was not). This unfortunate episode, in which there were two incident commanders each operating in ignorance of the other, illustrates not only the extent of the confusion about who was in command of the incident at 02.00 or thereabouts, but also the potentially serious consequences that might have ensued if they had given contradictory orders. Thankfully, that did not happen, but the potential for confusion would have been avoided if GM Welch had asked SM Loft whether he was, in fact, the incident commander and followed the basic requirements of PN431 governing the handover of command.

28.65 Like SM Walton, GM Welch's view of the possibility of a full evacuation was negative. He said that he had no reason to think that the compartmentation of the building was failing and that fire might be spreading internally because "it's not something that we see".[45] He had not thought, on his arrival, that the fire was penetrating flats and throughout the brief period he was acting as incident commander he thought that the fire was remaining on the exterior, although he had not been into the building to investigate.[46] He considered that the calls from the tower were from occupants in a panic about smoke coming in through their open windows.[47]

The handover of command to AC Roe

28.66 When he assumed command at 02.43 AC Roe was briefed by DAC O'Loughlin about the state of the fire, the command and organisational structure that had been implemented as well as about the arrangements for the supply of BA equipment. Although AC Roe had assumed command with a clear idea of the strategy to be adopted (to which I turn later in this chapter), it is regrettable that DAC O'Loughlin did not tell him that no information had come back to CU8 from either the fire sector or CU7 for the previous 25 minutes. That piece of information might have identified, at the start of AC Roe's time in command, the communication difficulties that were hampering an informed response to the incident.

45 Welch Day 44/72.
46 Welch Day 44/55/4-56/1 and notes from 3 July 2017 PRC meeting [LFB00003117] p. 17.
47 Welch Day 44/55/20-56/1.

5 DAC O'Loughlin as incident commander

28.67 DAC O' Loughlin assumed incident command at around 01.56 and remained in that role until 02.44, when AC Roe took over. It was during his time in command that the principal failures of the LFB up to that point became a continuing and ineffective strategy. In summary, the failures were distinct but closely related: not revoking the "stay put" advice (and instructing the control room accordingly), not adopting an evacuation strategy as far as resources and the internal conditions would allow, and continuing to carry out targeted rescues in circumstances where the FSG information was changing and unreliable and there was no effective communication between the control room, the bridgehead and himself. DAC O'Loughlin concentrated on establishing command structures, but he did not gather the available information about conditions inside the building, fire spread, the nature, number and source of FSG calls and the results of BA deployments before formulating a strategy based on it. A sophisticated command structure was of little value unless it supported an informed strategy for fighting the fire and rescuing occupants. Although, ordinarily, command decisions about how to tackle a substantial fire should not normally be made in the absence of an appropriate command and control structure, there will be rare occasions (such as the fire at Grenfell Tower) when the urgency and threat to life is so great that decisions need to be made before such a structure has been established.

28.68 DAC O'Loughlin's period in command was marked by a number of errors. First, on taking command he did not discuss the strategy then in place and examine whether it needed to change. Given the information available at 02.00, that was a serious mistake. Although during his journey to the tower he had heard over his Airwave radio numerous FSG messages being passed to CU8, he did not consider whether the "stay put" advice needed to change. Indeed, he did not discuss that subject at all in the course of the handover with either WM Dowden or SM Walton. He told the Inquiry that his reason was (or "would have been") that there had been people in their flats who were unaffected by smoke, heat or fire and were in a safe environment. He said that he had had no reason to think that those on the south-west corner of the building would be at risk (i.e. the "Flat 3s") either from external fire spread or from internal smoke spread across lobbies.[48] He would, on the other hand, have expected those on the north-east corner (i.e. the "Flat 6s") to have left their flats.[49] However, these were unverified and erroneous assumptions. Had he spoken at the start of his command to OM Norman in the control room, or indeed WM Meyrick on CU8, he would have discovered that before 02.00 no fewer than seven FSG calls had come from "Flat 3s", including two on floors 22 and 23 (Flats 193 and 203), and five FSG calls from the "Flat 4s", i.e. on the west side of the tower, including two calls from Flat 194 (on floor 22) and two calls from Flat 204 (on floor 23).[50]

28.69 It was not until 02.41, just before AC Roe took over command, that DAC O'Loughlin became aware of the number of FSG calls that had been received and the number of occupants trapped in the building, when CU7 sent a runner to CU8 to tell him that there were as many as 58 adults and 16 children trapped. DAC O'Loughlin said that that had come as a complete surprise to him. He had thought the number was in double figures, but the figure he was

48 O'Loughlin Day 47/136/22-138/7.
49 O'Loughlin Day 47/138/7-12.
50 That of course assumes that the control room and CU8 were collating the FSG information in an organised way, which is itself a matter of doubt.

given was "an horrendous number".[51] However, despite his surprise, he continued to believe that there were flats where occupants remained safe, and called for a "clear briefing" on how the fire had progressed since he had last seen it.[52]

28.70 Secondly, if he had been able to establish contact with the NPAS helicopter, even by radio, he would have discovered that flats on the west and south-west aspects of the tower were affected by fire. At 02.07.25 there was a message that "flats [sic] from 115 are trapped, unable to get out", and at 02.09.32 the NPAS helicopter reported that "residents on the top 6 floors of the west and south-west aspect all leaning out of open windows, they will be in danger of the fire inside". At this point DAC O'Loughlin was still of the view that flats on the south-west corner would provide refuge for those in them.[53] That shows not only how important it was for him to have had the heli-tele downlink in operation at that time, but also that the NPAS helicopter was a vital source of visual information available to him that he did not try to use. There is no evidence that he made any effort to establish contact with the helicopter to ask the crew to tell him what they could see which he could not.

28.71 Thirdly, DAC O'Loughlin knew from the moment he arrived that the fire was spreading extensively on the exterior. It was, as he put it in his contemporaneous notes, "wrapping round the building."[54] However, he appears to have laboured under the mistaken impression that compartmentation had not wholly or substantially failed. His error resulted from a failure to pay adequate attention to whether the fire was breaking into the interior of the building. DAC O'Loughlin's evidence about his knowledge of that important development was inconsistent. His recollection as recorded in the notes of the PRC meeting on 3 July 2017 was unambiguous: "Fire was in flats. No clear indication of how many involved".[55] However, the gist of his subsequent witness statement was that he had thought that the cladding had caught fire and had burnt away and that the fire had remained on the outside of the building and had not got into many, if any, flats.[56] When he came to give evidence in person, he settled for a position somewhere between those extremes. He said that he had known that there was a risk that fire and smoke would get into flats through open windows and that although he had not expected that the fire would penetrate flats where the windows were closed, the risk of that happening was "on his radar" and something that he needed to establish.[57] He had been well aware in general terms that there were a number of FSG calls from the building in progress because he had heard them over his Airwave radio on his way to the incident. He had also been well aware that there were occupants trapped on high floors and were affected at least by smoke.[58] He said that he had understood from the radio messages about FSG calls that the "products" of fire (presumably hot gases and smoke) had got into some of the flats,[59] but he also said that he did not think that fire would "necessarily" be getting in.[60] That was hard to follow. His evidence struck me as an unsuccessful attempt to reconcile what he had heard by way of FSG information with his assertion that he had not realised that the fire had broken into the interior of the building, possibly extensively so. When asked about his conversation with GM Welch on CU8 he said that he had not been able to see the fire breaking into flats, but from the contents of the FSG messages he had assumed that it was.

51 O'Loughlin Day 47/240/1-241/18.
52 O'Loughlin Day 47/244/6-23.
53 O'Loughlin Day 47/137/9-139/9.
54 [MET00005213] paragraph 10.
55 [LFB00003117] p. 19.
56 [MET00012563] p. 8.
57 O'Loughlin Day 47/52/17-53/1.
58 O'Loughlin Day 47/41/24-42/2, 45/6-47/15.
59 O'Loughlin Day 47/48/11-18.
60 O'Loughlin Day 47/50/12-18.

28.72 To be fair to DAC O'Loughlin, there were others present on the incident ground who also thought that the fire had not penetrated the interior, including GM Welch and probably also SM Walton. However, as he accepted, given what he knew from the FSG calls, it was his responsibility to establish the extent to which that had occurred and to gather as much information as he could about conditions inside the building. The fact is that he did not do so.

28.73 Furthermore, the question of whether the fire was or was not limited to the exterior of the building, although vital, was not the only question. Another question of equal importance was the smoke conditions in individual flats and particularly whether the air continued to be safely breathable or there was an appreciable risk that flats were becoming unsafe for their occupants. It is clear that by 02.00 there were many occupants of flats throughout the building who were experiencing significant smoke ingress, either from the lobbies, under and around their front doors or from the windows. DAC O'Loughlin did not address that question, although the information was available from the various 999 calls and from firefighters returning to the bridgehead. It was critical to balancing the risk of advising occupants to leave their flats and entering smoke-filled lobbies and a deteriorating staircase against the risk of advising them to remain in increasingly smoke-filled flats. For much of DAC O'Loughlin's command that was to say the least a difficult choice, but it was one that needed to be confronted with the fullest information possible.

28.74 Fourthly, DAC O'Loughlin's assumption that there had been no failure of compartmentation affecting the whole building and that there were still flats in which the occupants remained safe resulted in his continuing with a strategy of targeted rescues rather than calling for a full evacuation. That strategy, such as it was, does not appear to have been the result of any specific decision by DAC O'Loughlin; rather it was a continuation of the strategy that had evolved under WM Dowden, SM Walton and GM Welch. It was also inconsistent with his own evidence that in the case of a 40-pump fire[61] the whole building would have to be evacuated.[62] It was pursued in the absence of proper information, because he had received no reports from the bridgehead about conditions in the building and he had received no information from the control room about the nature, number and source of FSG calls. There were other officers present, such as SM Egan and possibly also WM Harrison, who expressed the view at or shortly after 02.00 that the "stay put" advice should be revoked and a full evacuation ordered, but their views were never discussed with or considered by DAC O'Loughlin.[63]

28.75 That raises the question why DAC O'Loughlin did not revoke the "stay put" advice and order a full evacuation of the tower either upon or soon after taking command. The answer is because at no stage did he obtain a proper understanding of the nature of the conditions inside the building, whether from information available from FSG calls, information obtained by the bridgehead from crews returning from rescue operations, or information available from the control room. The value of the information available from the control room is demonstrated by the decision of SOM Joanne Smith, taken at around 02.35 in conjunction with DAC Adrian Fenton, to advise everyone to leave, come what may. It was made at a place remote from the incident ground with no visual aids to help them understand what was happening and no information from the bridgehead about conditions within the building. Yet the information they were receiving from callers was sufficient to convince them that nowhere in the building could be regarded as a place of safety and that the "stay put" advice should be revoked.

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61 As it was at 02.03 [LFB00002631].

62 Day 47/124/20-125/15.

63 Note also the fact that, as referred to above, FF Murray was using a loudhailer at around 01.40 to advise occupants to leave the tower, although it is not clear on whose orders he was acting.

28.76 The whole of DAC O'Loughlin's period in command was devoted to establishing a command structure from a single location inside CU8, which he entered at around 02.03 and did not leave until after AC Roe had taken over command at 02.44. DAC O'Loughlin's contemporaneous notes describe what he did by way of sectorisation and delegation of duties.[64] Although it may all have been in accordance with LFB incident command policy, the consequence of his actions was that at no point was he able to make an informed assessment of what was happening in the building. His surprise on learning at around 02.41 of the number of people trapped in the building and his need at that stage for a "clear briefing" on the progress of the fire, demonstrate how out of touch he had been up to that point. His role as incident commander required him to ensure that all the appropriate systems were in place and (so far as he could ascertain) were properly functioning, particularly in relation to the management of FSG calls. He said in evidence that he had considered that there was an effective system for managing FSG information, but it is not clear how he had satisfied himself that that was so.

6 AC Roe as incident commander

Revocation of the "stay put" advice

28.77 By the time AC Roe assumed command, the fire on the exterior of the building had spread from the north face and had started to burn down the west face. In relation to the stairs, there was black smoke as high up as floor 23 with very poor visibility and no light from somewhere between floors 2 and 4 to the top of the building. By that time it was no longer practicable to carry out a supervised mass evacuation due primarily to the deterioration in conditions in the stairs. In those circumstances AC Roe's strategy of carrying out individual rescues in response to FSG calls was the only practicable means of saving those who remained trapped in the tower.

28.78 The first thing AC Roe did on assuming command was to revoke the "stay put" advice. His decision was based on his assessment of the extent to which the fire had spread and what he considered to be a total failure of compartmentation.[65] He considered that the "stay put" advice was "absolutely unsustainable".[66] As he put it: "We were no longer going to be able to reasonably advise people they should stay put. That was the first thing in my head".[67] However, when asked what advice the control room should then have given he gave a more qualified answer which recognised that some people might do better to remain in their flats.[68] That qualification was not consistent with his decision to revoke the "stay put" advice to all callers from the building and his view that that advice was "absolutely unsustainable" and "unreasonable". The strong terms in which he expressed the need to change the advice (and the speed at which he did so on assuming command) strongly suggest that DAC O'Loughlin's continued maintaining of the "stay put" advice, at least towards the end of his time in incident command, was incapable of being defended.

28.79 AC Roe's decision to revoke the "stay put" advice was made independently of the decision made in the control room. It was made without hesitation, based on what he could see in front of him. He considered it unnecessary to discuss the matter with the control room because he was sure in his own mind that such advice could no longer properly be given.[69] He acknowledged that by telling callers to leave there was a risk of sending them into a smoke-

64 [MET00005213] paragraph 11.
65 Roe Day 49/19/18-21.
66 Roe Day 49/26/8.
67 Roe Day 48/231/3-6.
68 Roe Day 49/10/19-11/14.
69 Roe Day 49/7/19-8/11, 26/7-8.

logged environment. He said that he had grappled with that dilemma, but had concluded that compartmentation had failed to such an extent that it was impossible to see how any flat in the building could be relied upon to provide a safe environment.[70] In his view, anyone in the building above floor 4 was "in great danger".[71]

AC Roe's strategy

28.80 AC Roe's strategy was to flood the building with as many EDBA wearers as were available and to provide as much assistance as possible to the remaining occupants. The strategy was both bold and necessary. However, it meant that firefighters would be deployed into the tower without any firefighting equipment, which was both contrary to policy and created a very significant risk to their safety.

28.81 It was not a wholly unsuccessful strategy, in that some 36 occupants escaped from the tower between 02.53 and 08.07,[72] including eight from floors 21 and 22 and eight from floor 18. Although AC Roe did not consider how those who had previously been told to stay put or those who were not in contact with control could be told that they now had to leave the building, his plan to send EDBA wearers into the building to assist the evacuation of all the remaining occupants was a partial solution to that problem.

7 Communication and use of FSG information

28.82 It is necessary to examine two particular aspects of the way in which FSG information (i.e. information from or about callers from the tower) was managed once it reached the incident ground. The first is the system for receiving and recording that information and communicating it to the bridgehead; the second is the system for recording it at the bridgehead and the manner in which it was used to implement rescues.

The system for managing FSG information

28.83 There were principally two, but in practice sometimes three, methods by which FSG information was transmitted from the control room to the incident ground: by radio, by an admin line call and by mobile telephone call from SM Jason Oliff to WM Meyrick. Each of these methods originally resulted in information reaching CU8 or (from around 02.20 at the latest) CU7. Sometimes all three methods were employed at the same time.

28.84 From the command unit the information was transmitted to the bridgehead by various means which changed over the course of time. Differences of recollection and the absence of any means of ascertaining times with any accuracy make it very difficult in the case of some FSG calls to piece together exactly how the information passed down the chain of communication and when. The best description of the basic system, such as it was, that can be given on the basis of the available information is as follows:

a. CU8 arrived at 01.30.48. When it was in operation WM Meyrick received FSG information from the control room on the main scheme radio and by the admin line and passed that information by radio to WM Mark Kentfield, who was standing near the tower. WM Meyrick recorded the information he had received on a blank piece of paper. WM Kentfield wrote down on pieces of A4 paper the information he had been given by

[70] Roe Day 49/15/17-16/10.
[71] Roe Day 49/12/12-13/2.
[72] The total number of occupants escaping after the control room revoked the "stay put" advice at around 02.35 was 46.

WM Meyrick and gave them to SM Loft. At that time there was no system in place on CU8 for collating FSG information in one place.

b. It is not entirely clear how information passed from SM Loft to the bridgehead at this time. Until around 02.17 the bridgehead was on the second floor and in the early stages of the incident there was "an incident plan board" there. It is likely that SM Loft relayed the information using channel 3 of the fireground radio. The pieces of paper contained lists of flats and one of them may have been the so-called "Sadler envelope".[73] SM Loft received two or three such sheets of paper from WM Kentfield while he was carrying out that role. It was because some of them lacked flat numbers that at around 01.49 SM Loft took a photograph of a plaque showing flat and floor numbers that was fixed to the wall of the ground floor lobby.[74]

c. When WM Louisa De Silvo arrived at the bridgehead at 01.50 she was told to keep a record of the FSG information received by the bridgehead and was given an FIB which had a list of flats on it. WM De Silvo received FSG information directly by radio,[75] as well as by pieces of paper carried to the bridgehead by "runners" such as CM Batterbee. She kept a record of the information on the FIB. It appears that some FSG information had already been recorded on the wall of the lobby on floor 2 by FF O'Beirne before her arrival.[76]

d. Some time after 02.10 but before 02.22,[77] CU7 was established as the designated FSG call-handling command unit. SM Egan and WM Harrison moved to it, taking with them the 30 or so pieces of paper containing the FSG information that WM Meyrick had recorded together with the plaque that WM Kentfield had by then removed from the wall of the ground floor lobby and brought back to CU8 earlier.[78]

e. At some point shortly before 02.13 WM Kentfield instructed WM Paul Sadler to set up an "FSG point" to collate information before transmitting it to the bridgehead. WM Sadler made use of the bonnet of a car parked near the south-east of the tower as a desk. He obtained a control information form (quadruplicate) pad and a forward information board to record the information he received and sent CM Batterbee to the bridgehead to check that the FSG information held there was the same as that which he had. CM Batterbee copied the information on the forward information board at the bridgehead and recorded it in his notebook.[79] WM Sadler received FSG information from CU7 (and probably CU8 as well) both by fireground radio on channel 3 and on control information forms brought to him by runners. He then recorded that information on a control information form and sent the white top copy by runner into the tower. He used a second runner to take the yellow copy back to CU7, retaining the blue and green copies in his own possession. He also transmitted information by radio to the bridgehead. Shortly after he had started to carry out that role he saw what became known as the "Sadler envelope", which he photographed on his mobile telephone at 02.19. He then used the photograph to transcribe the information onto control information forms.

73 [MET00016967].
74 [MET00015644]; CCTV image [INQ00000302].
75 De Silvo witness statement [MET00010913] p. 6.
76 [MET00013074].
77 It was at 02.22.54 that CU7 sent the radio message to the control room asking for all FSG messages to be sent to CU7 [LFB00002301]; SIL p. 22.
78 CCTV image [INQ00000360].
79 [MET00015731].

f. Meanwhile from around 02.15 WM Glynn Williams had set up a system inside the tower for recording FSG information using the wall of the ground floor lobby. WM Williams received information sent into the tower by WM Sadler as well as from CU7, wrote it on the wall and then shouted it up to WM Watson who was based on the second floor mezzanine. WM Watson then wrote down the information, originally on the mezzanine wall, but later in his notepad, and then briefed crews to go to the bridgehead for deployment in response to those FSG calls. He kept no record of which slips he had given to which crews.

g. WM Williams did not have an Airwave radio and, due to the congestion on the fireground radios, his preference was to receive information on paper.[80] In the main he received it in the form of white control information form sheets from runners directly from CU7.[81] He also received control information forms sent into the tower by WM Sadler, but it is very difficult to identify which, if any, of those seen by the Inquiry he received by that route. Indeed, WM Williams did not even know that WM Sadler was operating as an intermediate FSG link outside the tower.[82]

h. WM Williams recalled that when he had started handling FSG information he had seen a list of numbers that CM Batterbee had brought to him from the bridgehead which he said he had cross-checked against the FSG information he had recorded on the wall. However he did not see the "Sadler envelope" and in any event the first numbers he wrote on the wall did not match what was on it.[83]

i. Although WM Williams said that he attempted to prioritise responses based on vulnerability and age,[84] the information with which to do so was often incomplete and it was a matter of chance to which floors crews were sent, particularly higher up in the tower.[85] In fact, throughout the night he responded to calls in the order in which the information had arrived.[86]

j. Once WM Watson had briefed a crew, he would shout down to WM Williams the number of the flat to which he had sent it and WM Williams would write "BA" next to the flat number on the lobby wall.

k. The results of deployments were sometimes collected by WM Williams from returning crews and where he had done so he placed a tick next to the relevant flat on the lobby wall. Much of the same procedure was used by WM De Silvo at the bridgehead, but it was unreliable due to the physical condition of many of the returning crews. In no case did WM Williams report back to CU7 the results of a deployment because it was "nigh on impossible" for him to match flats to which he had called for deployments to survivors coming out of the tower.[87]

28.85 After 02.22, when the control room began sending FSG information to CU7, the communication and collation system seems to have been as follows:

80 Williams Day 31/62/13-64/10 and Williams witness statement [MET00008045] p. 7.
81 Williams Day 31/67/22-68/3, 69/9-23.
82 Williams Day 31/76/14-15, 129/4-8.
83 Williams Day 31/77/18-79/13.
84 Williams Day 31/57/12-19.
85 Williams Day 31/59/14-60/2.
86 Williams Day 31/166/9-20.
87 Williams Day 31/107/8, 172/1-6.

a. WM Antony Peckham received FSG information from the control room by main scheme radio channel 4; he wrote the details down on control information forms, which he passed to other officers in CU7.

b. WM Meyrick continued to speak to SM Oliff in the control room by mobile telephone and transmitted the information he received by fireground radio to WM Sadler in place of WM Kentfield, who had left for CU8 at around 02.30.

c. Information was also carried directly to the bridgehead from CU7 by runners, such as WM Shaun Coltress and FF Mandeep Singh; it was also carried to WM Williams in the ground floor lobby, sometimes via WM Sadler. At around 04.00, SM Peter Wolfenden, who by then was assisting WM Williams, established a clear radio link to CU7. He received FSG information by that radio link and recorded it on the white wall of the ground floor lobby.[88] It is not clear why a direct radio link had not been established earlier. WM Williams was confident that any FSG information that reached him had been sent to the bridgehead, although there is no way of verifying that.[89] Certainly, not all FSG information did go to him; for example, FF Singh noted some FSG information on a piece of paper from his firefighter's notebook showing "15th floor 122 x2 people x 2 dogs".[90] That piece of paper was not seen by WM Williams and the information was not added to the wall of the ground floor lobby.

d. It is possible that within CU7, FSG information was from that time also recorded on the laminated board in CU7,[91] which was replaced with the grid whiteboard system from around 03.00.[92] Although WM Williams did not send any information back to CU7, GM Goodall on CU7 did receive the results of some deployments, because once his grid system had been set up he was able to record whether BA wearers had gone to particular flats.[93] That information came from runners coming back to CU7 or by radio to SM Egan or from information obtained from rescue centres later in the night. However, the evidence about that is very unclear.[94] WM Harrison recorded the information on the whiteboards.

28.86 After the bridgehead had moved up to the lobby on floor 3 at around 02.17, WM De Silvo gave up using a forward information board to record FSG information and began using the lobby wall.[95] She put a tick against a flat to show that it had been visited, a circle indicated that further information had been received and a cross through the flat indicated that it had been searched and a rescue carried out.

28.87 After the bridgehead had moved down to the ground floor lobby at around 03.10, the system continued in substantially the same way: FSG information was passed by WM Williams or SM Wolfenden to WM Watson, who passed it to GM Welch and GM Patrick Goulbourne at the bridgehead, which was by then at the foot of the stairs by the green wall. FSG information was recorded on the green wall there by WM De Silvo and others.

88 Williams Day 31/153/4-20.
89 Williams Day 31/158/8-11.
90 [MET00013089]; Williams Day 31/160/15-161/6. That was a reference to Steven Power, the resident of Flat 122. That flat was referred to with the information "smoke-logged" in the middle column of his wall list. WM Williams said that that came from the command unit (which was CU7): Williams Day 31/162/9-22.
91 For example, [MET00015930]. This could in fact have come over from CU8.
92 [MET00015934].
93 [MET00015924].
94 Goodall Day 35/80/3-81/18.
95 [MET00015819].

Defects in the system

28.88 It will be readily apparent from this broad and necessarily incomplete summary of what occurred that successive incident commanders and others responsible for managing FSG information failed to establish a clear and efficient system at the incident ground for receiving, recording and transmitting such information to the bridgehead and recording the results of deployments to individual flats. Far too much was left to the initiative of individual officers, who improvised methods of handling information that were disorganised and, in some cases, inconsistent with each other. Individual officers worked extremely hard to implement as good a system as they were able to devise under very difficult circumstances, but the fact remains that they were acting on their own initiative and with very little understanding of how their roles fitted into the wider chain of communication. As a result it is very difficult to trace the movement of any particular piece of FSG information from the point at which it reached the command unit[96] to a deployment from the bridgehead.

28.89 That deplorable state of affairs can be attributed to a number of factors. First, there were at least two, and possibly three, separate lines of communication between the control unit and the ground floor lobby, where a separate position had been set up for collating and managing the information. Although that may have reflected in part the fact that there were two or three lines of communication coming into the command units from the control room, that did not justify the officers on the command units in sending FSG information to the tower by different means and by different routes. No one appears to have noticed that that in itself posed a risk of duplication and loss of information and therefore no one attempted to impose some order on it. It continued all night: there was never a time when a single line of communication was established by which all FSG information travelled from CU7 to the bridgehead. As a result, the officers at the bridgehead continued throughout to receive FSG information both by radio and on slips of paper.

28.90 Secondly, there were too many links in the chain between the command units and the bridgehead. It is hard to know whether WM Sadler's activities outside the tower helped or hindered the management of FSG information, but it created a risk of confusion and duplication, particularly because there were at certain times two routes by which FSG information was being passed to him by the control units. Moreover, he communicated with the tower both by radio and by the use of runners to carry sheets of paper, which increased that risk yet further.

28.91 Another link in the chain was the introduction of WM Williams receiving and recording information at the ground floor lobby wall. WM Williams' record was only as good as the information that he had received, which came from at least two sources: on paper from WM Sadler or CU7 and later in the night by radio. To add to the confusion, some information on paper went by runner directly from CU7 to the bridgehead without going past WM Sadler or WM Williams and was therefore not recorded by either of them.

28.92 Thirdly, at no stage was the bridgehead in direct contact with either command unit. The evidence about the source of the information recorded on the walls of the lobbies on floors 2 and 3 where the bridgehead was located was not clear, other than that those sources did not remain constant. Again, the reliability of information reaching the bridgehead depended on the last link in the chain.

[96] Which is itself difficult to link with particular 999 calls coming into the control room.

28.93 The variety of methods used to record FSG information on the relevant command unit and on the incident ground meant that it was not possible to keep track of what was coming in, let alone what was going out. That meant that if anyone had wished to check with the command unit whether an FSG call from a particular flat had been passed to the bridgehead, it would not have been possible to do so until after the grid system had been established after 03.00. Even then there was no record of when the relevant information had left the command unit, where it had gone and by what means. The use of control information forms on the incident ground (although required by the terms of PN790)[97] did not make things any easier, as an attempt during the hearings to trace the movement of some of the information on WM Sadler's control information forms to WM Williams' wall attested. In these circumstances, any tried and tested method of recording information would have proved problematic and human error was likely.

28.94 Fourthly, there was no overall command structure from the outset. During the first hour of the incident many officers decided for themselves what tasks to perform or to whom to delegate tasks. A good example of that is the way that the links in the chain developed. WM Kentfield decided to instruct WM Sadler to pass messages to the bridgehead but left it to WM Sadler to devise a system for doing so. SM Loft had agreed with WM Dowden that he would take overall responsibility for managing FSG information, so he should have regarded himself as an FSG co-ordinator as contemplated by paragraph 7.6 of PN790, which required him to "collate, record and retain all the information on FSG calls received". Although that may in practice have been an impossible task for one officer, given the volume of FSG information constantly coming to the incident ground, the function still needed to be carried out. There was never any attempt to establish a coherent and all-embracing system for gathering and communicating FSG information under the supervision of one officer. A stark illustration of the absence of effective command and control was the fact that it was not until around 02.41 that DAC O'Loughlin discovered the number of FSG callers still in the tower, which came as a surprise to him.

28.95 Fifthly, many of the physical or electronic systems on the command units were not working, such as the CSS and the heli-tele downlink. According to paragraph 7.4 of PN790, the CSS was meant to be used to record messages sent to and from the incident ground, including messages sent by radio relating to FSG calls. Had the CSS worked, it would have given the officers on the command units access to the VISION system maintained by the control room, which included some of the FSG information being received, and to other tactical and command decisions made by senior officers. Remarkably, even before the Grenfell Tower fire, the CSS system had never worked at larger incidents involving more than six pumps. It had a history of unreliability and, despite attempts to get it to work on the night of the fire, it could not be started up.[98] The heli-tele downlink from the NPAS helicopter also failed to function, a matter to which I refer in detail elsewhere. Other technology, such as Toughbooks, Meshnode and the "striker camera" with which the command units were equipped did not work either.[99] Due to these equipment deficiencies, some of which had been well-known within the LFB for some time, the officers on CU8 and CU7 were deprived of ready access to vital information about FSG calls (the details of some of which were on VISION in the early part of the incident), conditions in or outside the building, and command decisions. Why the LFB was deploying emergency equipment which did not work in accordance with its own policy requirements is a question which will be examined further at Phase 2.

97 PN790, paragraphs 5.7 and 7.1.
98 Johnson Day 37/7/20-11/11.
99 Johnson Day 37/5/8-15/3.

28.96 Lastly, but most fundamentally, there was poor and sporadic communication by the bridgehead to the improvised link points in the FSG communications chain or to the command units of information about the results of deployments to particular flats and no communication at all of such information to the control room. The "information loop" from the control room, to the command units, to the bridgehead, to the command units and back to the control room was never completed.[100] That was contrary to PN790, in particular paragraphs 7.10 and 9.1 and 9.3, which emphasise in clear terms the "vital" need for control to be kept informed of the actions being taken to resolve each call. AC Roe, at least, recognised that "the closing of that loop is a very important part of FSG".[101] The failing was particularly serious in this case. The failure of the incident commander, or anyone else, to tell the control room that the fire had spread well beyond the flat of origin meant that the CROs continued to give wrong information and advice to callers because they had no means of knowing whether the advice that they were giving callers was appropriate to the conditions in the building, or whether their frequent assertions that the firefighters were on their way were well-founded or not. It also meant that neither the officers on the command units nor the incident commander had any idea whether individual crew deployments into the tower had been successful and if not, why. There was an attempt at both the bridgehead and by WM Williams in the ground floor lobby to gather that information from returning firefighters and evacuees, and the results were recorded where they could be. Indeed, in the vast majority of cases at least one of the crew members recalled some kind of debriefing at the bridgehead. However, although some information did start coming back to CU7 after around 03.00, once GM Goodall had taken over command of it and had established his whiteboard grid, it was late and piecemeal. No information about the result of deployments was passed back from CU7 to the control room. At no stage was CU7 able to communicate basic details of the fire to the control room. Even rudimentary information about the progress of the fire through the tower would have assisted the CROs to form a collective understanding of the gravity of the incident at an early stage. In the absence of even basic information CROs were left to piece together a confusing and often incomplete picture.

28.97 Although it is plain that the number of FSG calls and the constantly developing information from callers represented a significant challenge to the officers on the fireground,[102] that challenge was not insurmountable with the tools that were, or should have been, at their disposal. What was required was a single system of collating FSG information on the relevant command unit, a single and consistent line of communication to the bridgehead, and a single system for ensuring that the results of deployments were communicated to the command units and from them back to the control room. The fact is that the LFB was unprepared for an event involving a large number of FSG calls, despite the lessons which were said to have been learnt from the Lakanal House fire. In short, the LFB failed to put in place an adequate system on the incident ground for handling FSG messages.

Some consequences of the defects

28.98 The chaotic nature of the communication links meant that neither the control room nor the command units nor the incident commander could know whether rescue attempts had been made in response to calls, or if they had, what had been the outcomes.

[100] For example, Goodall Day 35/120/10-123/9.
[101] Roe Day 48/247/3-4.
[102] As GM Goodall explained in his evidence at Day 35/120/10-123/9.

28.99 In particular, the fact that neither the incident commander nor the control room had access to any reliable information about the results of rescue missions meant that, when it became necessary to deploy crews for a second time, the bridgehead did not have all the information needed to brief them properly. It also meant that CROs in the control room could not have regard to the results of earlier deployments when deciding what advice to give callers.

28.100 It is not possible to catalogue comprehensively all the consequences for particular individuals or flats or floors of the inadequacies in the systems for handling FSG call information, but two in particular call for comment as being illustrative of a broader picture.

The top floors

28.101 Mariem Elgwahry and Naomi Li called the control room (separately) to report a fire on floor 22.[103] A service request reflecting those calls was entered at 01.32.29.[104] Furthermore, OM Norman spoke to WM Meyrick on CU8 on the admin line at 01.35.24 to tell him that smoke was coming in on the top floor where Mariem Elgwahry and her mother Eslah Elgwahry had by then taken refuge. The "Sadler envelope" contained references to Flats 204 and 205 on floor 23 and Flat 195 on floor 22, but a crew was not deployed to floor 23 until 02.08, when FFs John Wright, Scott Bell and Zade Alassad tallied out.[105] In the event, that crew was diverted at floor 10 by the discovery of casualties coming down and as a result did not reach floor 23. There were no further deployments to floor 23 until 02.24 (CM Richard Evans and FF Gemma Bloxham) and 02.51 (FFs Michael Pole, Chris Cheesman and Niki Mitchell, who in fact went to floor 18). There was no deployment to floor 22 until 03.03, just after Naomi Li and Lydia Liao had started to escape, when CM Raoul Codd and FF John Joseph tallied out under instructions to go there. No firefighter ever did reach floor 23, and CM Codd and FF Joseph did not reach floor 22.

The family in Flat 142

28.102 Kamru Miah, Rabeya Begum, Mohammed Hanif, Mohammed Hamid and Husna Begum lived in Flat 142 on floor 17. All five members of the family died in the fire. The relevant communications can be identified as follows:

a. At 01.29.02 Husna Begum was connected to MetCC after calling 999. She reported that smoke was entering their flat and that they could see flames from their window. The MPS operator told them that they had spoken to the LFB and that someone was coming up to help them.[106]

b. At 01.38.02 MetCC contacted the LFB control room and told them that smoke was coming into Flat 142 on floor 17 and that there were five people in the flat.[107]

c. That information was passed to CU8 at 01.43.14 by OM Norman on the admin line, together with information relating to other flats.[108] The timing may explain why the information was not on the "Sadler envelope", which was probably created before 01.40, but it does not appear from the evidence that it was recorded on any piece of paper that went into the tower. It does not appear among the early information recorded on the white ground floor lobby wall after 02.15 either. WM Meyrick may have passed the

103 [LFB00000310]; [LFB00000311].
104 SIL p. 18.
105 [MET00013074] contains a photograph of the FSG information on the wall of the floor 2 lobby showing Flats 201 and 205.
106 [INQ00000264].
107 [LFB00000668].
108 [LFB00002726].

message to WM Kentfield, who delegated the task of sending it to the bridgehead to another Watch Manager, probably WM Sadler.[109] Indeed, the words "17th Fl, 142 FSC" do appear on the wall of what is likely to be the second floor mezzanine, where the bridgehead was sited before it moved up to floor 3 at 02.20. However, no deployment was made to floor 17 before 02.20, despite the fact that the information had reached the bridgehead, and by that time the best chance of rescuing the family in Flat 142 had been lost. It is possible that the information was lost in the move of the bridgehead to floor 3, since it does not appear on the wall on the third floor or on any forward information board of which I have seen evidence.

d. At 02.27.12 Husna Begum was connected to the LFB's control room. She told CRO Heidi Fox that they had been waiting for an hour, that the fire was right next to their window and that they were afraid that they were going to die.[110] CRO Fox took the flat and floor number and the number of people present and told them that they were not going to die and that she would pass the information to the command unit.

e. At 02.29.31 CRO Fox created a service request on the VISION system asking for a radio message to be sent to CU8 relating to Flat 142 and saying: "five adults including 2 elderly persons inside flats". At 02.30.42 CRO Sharon Darby sent the message to CU7 by radio;[111] it appeared as a service request on VISION at 02.31.07. It is not possible to say what happened to that information once it had been received by (at that stage) CU7. Since it was sent by radio, it would have been received by WM Peckham, who made a note of it on a control information form,[112] but there is no evidence about whether he then transmitted it, and if so, to whom.

f. Flat 142 appears on a laminated whiteboard on CU7 in a photograph taken at 02.59 showing what looks like 8 (or possibly 7) people as being present, corrected possibly to 5,[113] and indeed there is evidence that it was already on that list at 02.32.[114] Accordingly, it is clear that by that time the message had got through to CU7 that Flat 142 was the source of an FSG call. The laminated whiteboard might have been brought across from CU8 to CU7 by WM Harrison, but, given the low position of Flat 142 on the list, is likely to have been put there after the move to CU7 had been made. Accordingly, the reference to Flat 142 on the laminated whiteboard probably resulted from Husna Begum's call at 02.27.12.

g. At that time the bridgehead was on floor 3. Flat 142 does not appear on the list of FSG information kept by WM De Silvo on the wall of the lobby on floor 3. The list on that wall contains a gap for floor 17 which was still there when the bridgehead was moved to the ground floor at around 03.10. There is no evidence that the information contained in Husna Begum's call from Flat 142 at 02.27.12 had been communicated beyond CU7. It is possible that it was captured by the photograph of the whiteboard taken by WM Thomas Furnell which he then showed to WM Sadler who made a note of it.[115] It is likely that this was the photograph taken at 02.59 which WM Furnell recognised when giving evidence. If that is so, the information taken from the call at 02.27.12 was received by WM Sadler at some time after 02.59.

109 [MET00023051] pp. 13-14.
110 [LFB00000354].
111 [LFB00002784].
112 [LFB00001955] p. 12.
113 [MET00015930].
114 According to Inspector Thatcher's body-worn video.
115 Furnell witness statement [MET00008022] pp. 4-5.

h. Husna Begum and her brother made a further 999 call which was taken by CRO Yvonne Adams at 03.09.18.[116] She said that there were five people in the flat and that there was fire in the kitchen and hallway of the flat. CRO Adams advised her to "make a run for it". There is no record of this call being passed to CU7.

i. At 03.18.45 Husna Begum made a further call and spoke again to CRO Fox, who advised the family to leave.[117] The caller said that they were unable to do so and that there were five people in the flat. CRO Fox said that she would "tell them on the radio". There is no entry on the SIL of any service request to that effect and no other record of any such radio call.

j. However, Flat 142 appeared as an entry low down on SM Oliff's second whiteboard and therefore it is likely that the information was transmitted by him by mobile telephone to WM Meyrick on CU7 at some point after around 02.33 when the control room whiteboards had been set up and had started operating. It is possible that that entry recorded the call to CRO Fox at 02.29.31 (in which case it was duplicated with CRO Darby's radio message), but it is much more likely, in view of its low position on the second whiteboard, that it reflected one of the later calls made by Husna Begum at 03.09.18 and 03.18.45. At both of those times SM Oliff was still speaking to WM Meyrick on his mobile telephone.[118] Flat 142 also appears on the whiteboard grid on CU7,[119] showing five persons and a "P" for priority, which might indicate the presence of elderly persons.[120] The photograph of the whiteboard grid was taken between around 03.15 and 04.00. It is therefore at least possible that it recorded the FSG information contained in Husna Begum's call at 03.18.45. That is also consistent with WM Peckham's notation of Flat 142 on the yellow sheet of a control information form at 03.23 showing five persons in Flat 142.[121]

k. CU7 received information that there were five people in Flat 142 and entered it in the whiteboard grid. The information may have come from the MPS, because there was an MPS memo referring to Flat 142, floor 17 and six people.[122] However, on balance I think it more likely that the information reached WM Meyrick on CU7 from SM Oliff in the control room by mobile telephone and was then recorded by one of the officers on the whiteboard grid and also by WM Peckham on the yellow control information form. (Matters are confused by the fact that on a blue copy of the relevant control information form somebody has superadded "8 people".)[123]

l. Critically, however, the information received by CU7 does not appear to have reached the bridgehead until later. By the time Husna Begum made her last call at 03.18.45 the bridgehead had moved to the ground floor. It appears that the information about Flat 142 did reach WM Williams at some time after 04.00,[124] because it appeared on the right-hand part of the wall in the box for floor 17.[125] The inscription "142" also appears on the green wall on the ground floor by the bottom of the stairs (the location of the

116 [LFB00000408].
117 [LFB00000419].
118 On the call lasting 1 hour and 35 mins starting at 02.44.
119 [MET00008663].
120 The information about there being elderly persons was not given in the call at 03.09.18 but only in the call at 03.18.54.
121 [LFB00001955] p. 13.
122 [LFB00001968] p. 11.
123 [LFB00001955] p. 14.
124 [MET00005776].
125 WM Williams said that the right-hand grid format on the white lobby wall was not put up until the latter stages of the incident, between 04.00 and 04.30: Williams Day 31/101/6-103/6.

bridgehead) in a photograph taken by GM Michael Mulholland at either 04.45 or 04.49.[126] It is not clear when it was put there.

28.103 This intricate tracing exercise shows that the information obtained from the 999 calls from the family in Flat 142 was successfully transmitted from the control room to the command units but got lost thereafter in the subsequent morass of communications on the incident ground. The information contained in the final call was probably communicated to the bridgehead at some point, but, whenever that was, it was too late. The last deployment of crews who were able to reach floor 17 or above involved FFs Mitchell, Cheesman and Pole, who were deployed to floor 23 between 02.51 and 02.53. They stopped at floor 18 and helped evacuate occupants in Flat 153 when they realised they did not have sufficient air to reach floor 23. The last chance of rescue for the family in Flat 142 lay in the timely communication to the bridgehead of the information provided in Husna Begum's second call at 02.27.12 and its being acted upon swiftly. The information did eventually arrive, but there is no evidence that it was acted on.

28.104 I doubt that the family in Flat 142 were an isolated case, but their experience reflects a fundamental failure of command and control. It demonstrates that at no stage did any incident commander ask themselves whether every FSG call of which the relevant command unit had been informed had led to a deployment from the bridgehead, and if not, why not. Nor did they ask themselves whether the control room had been informed of the results of such deployments. Had any incident commander, or anybody charged with responsibility for handling FSG calls, asked those questions, it might have been possible to establish a better and closer link between control room, command unit and bridgehead in both directions. It might also have been possible to prompt an early review of the FSG communications structure and, more importantly still, the overall strategy.

Deploying crews in response to FSG calls

28.105 The approach adopted by successive incident commanders was one of making deployments in response to individual FSG calls, as opposed to devising and applying a strategy relevant to the whole building. Overall, of the 17 deployments to flats from which FSG calls had been made only three were wholly successful. Two were partly successful, in that some occupants were rescued, and 12 were unsuccessful. It is useful to break this overall picture down by reference to different phases of incident command.

28.106 During the first hour, when WM Dowden was incident commander, no organised deployments were made in response to the mounting number of FSG calls. I bear in mind that until 01.50 little or no FSG information had reached the bridgehead but that in itself is an indication that the system for transmitting FSG information was still in the process of being established and was not functioning fully or effectively during that period. The three crew members that went to floor 20 to rescue Jessica Urbano Ramirez (CM Christopher Secrett and FFs David Badillo and Christopher Dorgu) were acting on their own initiative in response to information that FF Badillo had received from Jessica's sister rather than any FSG information. Similarly, CM Tillotson's crew, who ultimately rescued Sharon Laci and her daughter from floor 9, were acting, as I have found, under instructions from CM Tillotson himself rather than on any specific briefing from the bridgehead. None of the other crews deployed during that period was instructed to search and rescue above floor 5, and the five-member Paddington

[126] [MET00018739].

EDBA crew was sent to the roof of the tower in a vain attempt at firefighting. No crews were deployed to floors 22 or 23 despite the fact that CU8 had received FSG information relating to floor 23 at 01.35.24, and that both appeared on the "Sadler envelope".

28.107 In the hour or so between WM Dowden's relinquishing incident command at 01.50 and AC Roe's assuming it at 02.44 the approach of responding to individual FSG calls remained the same. That approach was only minimally successful. In summary:

a. It resulted in fully successful rescues from only two flats to which the crews that rescued the occupants had been deployed: Flat 95 on floor 12 (Roy Smith and his family) and Flat 9 on floor 3 (David Lewis and Mariko Toyoshima-Lewis).

b. It resulted in partly successful rescues from two flats to which the crews that rescued the occupants had been deployed: Flat 175 on floor 20 (a child) and Flat 113 on floor 14 (Rosemary Oyewole and Oluwaseun Talabi and their daughter, and Omar Alhaj Ali). However, four occupants from Flat 175 and four occupants from Flat 113 were not rescued.

c. The rest of the deployments resulted in the evacuation of occupants other than those of the flats to which they had been deployed, normally as a result of crews coming across casualties from other floors on the way to their assigned destinations.

d. Only one EDBA crew was deployed during this period to carry out a rescue, namely FF Tom Reddington and FF Nikki Upton, who were briefed to go to floor 21 but failed to reach it because (at some point) they met Malak Belkadi and helped to take her out.

e. Of the 17 SDBA crews deployed from the bridgehead in that period 13 reached the floor to which they had been sent.[127] A further crew reached floor 3 as instructed (FFs Oliver Desforges and Wright) but they were then instructed to go to floor 24, which they did not reach.

28.108 It appears that at no stage did the officers at the bridgehead communicate the results of these deployments, or even the overall outcome of the strategy, to CU8 or CU7 or to the incident commander (principally DAC O'Loughlin during this period), nor did the incident commander seek to obtain the information for himself. Certainly, the control room never received any information of that kind. It showed that deployments were not being carried out, either because of an insufficiency of EDBA wearers (although CM Evans and FF Bloxham may have got up to between floors 18 and 20 after 02.20), or because crews were being diverted on the way up by deciding to rescue people they encountered on the stairs instead of making their way to the flats or floors to which they had been deployed. There was also a marked slowing of deployments above floor 14 between 02.15 and 02.44, with only four deployments to those floors.[128] The control room did not receive any of that information.

28.109 After AC Roe assumed command at 02.44 there were no successful rescues from flats to which crews had been deployed in response to FSG information.

a. Very few SDBA crews reached the floors to which they had been despatched and they carried out no rescues from any of them. Only one SDBA crew appears to have reached floor 15 (FFs Ricky Nuttall and Leon Whitley, deployed at 02.44).

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[127] This included the West Hampstead crew of FFs Brian Flanagan and Luke Cook who were sent to take hoses to floor 20. They made it to that floor and did random "door knocks" on the way down (on floors 17 or 18) but did not evacuate anybody: Flanagan witness statement [MET00007765] pp. 5, 6.

[128] CM Evans and FF Bloxham to Flat 205 at 02.20; FFs Nuttall and Whitley to Flat 122 at 02.44; FFs Upton and Reddington were deployed at 02.44; and FFs Cheesman, Pole, Jessamine Bate and Mitchell were also deployed by 02.53.

b. There were numerous floors on which rescues were carried out by crews who had been sent to other floors, for example:

i. FFs Reddington and Upton, who had been sent to floor 21, rescued Malak Belkadi in the stairs.

ii. FFs Richard Peacock and Matthew Harold, who had been sent to floors 5 and 6, assisted casualties on floor 7.

iii. FFs Paul Gray, Benjamin Holehouse, Gary Hiscock, Alan Hudson and Daniel Pegram, who had originally been despatched to floor 9, but had been diverted by radio to floor 11, went to floor 10, where they carried out a rescue.

iv. After the bridgehead had been moved to the ground floor at 03.17, the first crew despatched (CM Aldo Diana and FF Dean Nelson, an EDBA crew) was briefed to go to floor 16, but got only as far as floor 13. After that there appear to have been no deployments above floor 11.

28.110 Those are no more than examples of the way in which deployments failed to reach their objectives, but they are sufficient to enable some clear conclusions to be drawn. Deployments in response to specific FSG information intended to rescue occupants from particular flats were largely failing. A number of people were rescued from other flats and from other floors, particularly occupants who had left their flats, and that pattern increased during AC Roe's time in command after the "stay put" advice had been revoked and EDBA crews began to be sent up the tower in any numbers from around 03.20. However, it should have become apparent at an early stage that attempts to rescue individuals from specific flats in respect of which there was reliable FSG information at the bridgehead was not succeeding, because of a shortage of EDBA wearers and because many crews were taking it upon themselves to depart from their instructions in order to assist occupants who had left their flats. In addition, revised instructions were given to crews by radio after they had been deployed, without any records being made.

28.111 A strategy of deploying crews in response to FSG calls at a time when occupants were already leaving the building on their own initiative was, viewed objectively, always likely to have limited success because for understandable reasons crews were likely to depart from their instructions in order to assist occupants that they met on the stairs. Given the inevitably chaotic circumstances, the unreliability of communications between the bridgehead and firefighters and the absence of instantly available replacement crews, the consequence of the strategy pursued by successive incident commanders was that occupants who might have been rescued were not.

28.112 Moreover, although in some cases returning crews were debriefed at the bridgehead, in the vast majority of cases the information they gave was of doubtful reliability because the firefighters were exhausted and in many cases suffering from the effects of heat stress. Many were incapable of speaking coherently and many were in urgent need of oxygen and water. There was no comprehensive or wholly reliable system at the bridgehead for recording information obtained from returning crews or the results of deployments. That in turn meant that the officers at the bridgehead had no reliable means of measuring the success or failure of the strategy. They appear never to have grasped the fact that most of the occupants who had managed to leave the tower had done so largely without assistance or that those who had been assisted to leave had not come from the flats (or often even the floors) to which crews had been sent.

28.113 Finally, it is necessary to point out that the effectiveness of the strategy of deploying crews in response to specific FSG information depended critically on the bridgehead not only receiving accurate and timely FSG information but also on its acting on it promptly. There are a number of cases where that simply did not happen, either because the bridgehead acted on unsound information or because it failed to act on sound information. For example, at 04.04.37 SM Cook and CM Ben Gallagher were deployed to investigate reports of 10 people trapped on floor 16 and 11 people trapped on floor 18. The officers did not reach those floors, but they should not have been sent to them at all, because the reports, which cannot be traced to any 999 call or related FSG information, were wrong. It is of course possible that the information came from friends and family outside the tower passing messages to the LFB at various points (such as at CU7), but that only serves to highlight further the absence of a robust system for the flow of reliable FSG information to the bridgehead.

28.114 Flat 113 provides a tragic example of the failure of the bridgehead to act on sound FSG information. After FF Peter Herrera had returned from his deployment to Flat 113 Omar Alhaj Ali told him that he had not rescued all the occupants. FF Herrera passed that information to WM Williams and WM De Silvo, and CM Jamie Mayne and FF Marcus Lundquist were briefed by WM Williams or SM Wolfenden to rescue a woman and child in Flat 113. However, their instructions were changed at the bridgehead and they were sent to fight the fire on floors 3 and 4. It is not clear who at the bridgehead changed their instructions, or why; nor is it clear why CM Mayne and FF Lundquist did not press the case for carrying out the rescue or whether the officer at the bridgehead even knew that he or she was deploying a crew who had already been instructed to carry out a rescue. It is also a mystery why an EDBA crew was deployed to fight the fire low down in the building, a point that exercised CM Mayne at the time but which he felt constrained by his junior rank from raising with the more senior officers at the bridgehead. Since it is highly unlikely that any bridgehead commander would deliberately have preferred to use an EDBA crew to fight the fire low down in the building[129] instead of rescuing occupants on a higher, but probably reachable, floor, the decision was probably not deliberate. The decision to redeploy CM Mayne and FF Lundquist and the confusion surrounding it reflects a failure to process FSG information in a systematic way at the bridgehead (at least by around 03.25) and an absence of a robust command structure there.

8 The use and misuse of EDBA

28.115 There were deficiencies in the management and use of EDBA resources on the incident ground in the following respects:

a. The first EDBA crew was deployed for firefighting purposes in pursuance of an objective that it failed to achieve and should have been recognised at the time as unrealistic.

b. There was a failure to identify the need for EDBA resources at an early stage and to take appropriate measures to obtain them.

c. There was a failure to deploy the EDBA resources that were in attendance promptly after their arrival.

d. There was a failure to establish a system that ensured that EDBA resources were used for the purpose of rescues on the higher floors of the tower.

[129] Indeed, GM Goulbourne's evidence was that he would not have deployed an EDBA crew to floors 3 and 4: Day 41/175/8-176/12.

Paddington A216 crew: the "roof" mission

28.116 The nature and circumstances of WM Dowden's briefing of Paddington's FRU crew, the first EDBA crew to arrive at the scene at 01.35, has been described elsewhere. When he gave evidence WM Dowden very candidly accepted that in hindsight the task was never going to succeed due to the speed at which the fire was spreading. He also had no information about the layout of, or access to, the roof. Deploying the crew in that way was not a good use of valuable EDBA resources, which could have been deployed to carry out search and rescue operations on the higher floors of the tower or sent to specific flats in response to the FSG calls which by that time had already been received.

The need for increased EDBA resources

28.117 The need for EDBA crews was caused by the extent to which fire and smoke were spreading inside the tower and the locations within the tower from which FSG calls were being made. As a result of these factors SDBA crews were running low on air during their deployments and were struggling to complete them: see, for example, the deployments of FF Geoffrey Campbell and FF Steven Mills, who were unable to reach floor 20 and had to turn back.

28.118 The fact that this incident required, or was likely to require, a significant number of EDBA wearers was apparent by the time the request to make pumps 20 and for two FRUs was made at 01.29. By that time the following had taken place:

a. CM Jamal Stern had sent an urgent radio message to the bridgehead from the lobby on floor 6 saying that there was smoke and fire there and that firefighting media were needed. As a result, WM O'Keeffe immediately contacted WM Dowden to tell him: "The fire's jumping".

b. Externally, the fire could be seen to have reached floor 23 and to be developing with a ferocity that WM Dowden described as "just relentless".

c. The control room had received six 999 calls from residents inside the tower, including reports of fire and smoke on the upper floors of the building.

d. WM Dowden had seen a number of residents leaving the tower showing signs of smoke inhalation.

28.119 These factors, and specifically the reports of rapidly deteriorating conditions within the building that the bridgehead had received by 01.29, had already led WM O'Keeffe to expect the need for many rescues and to seek to implement a strategy accordingly. However, at that time no officer appears to have recognised that the location of those who needed to be rescued and the extent to which fire and smoke had spread within the building presented particular challenges to SDBA crews. The need for a greater number of EDBA wearers than would be provided by the two FRUs that WM Dowden had requested could and should have been recognised by that time. Despite that, it does not appear to have been discussed during the handover between WM Dowden, SM Walton and DAC O'Loughlin. When GM Welch understood that he was taking over from SM Loft, he was aware that there were some EDBA wearers present, but he likewise took no steps to establish how many or to call for any more.

28.120 Subsequently, WM O'Keeffe did seek to increase the number of EDBA wearers at the incident when he asked GM Welch to request "all the EDBA in London", when he arrived at the bridgehead shortly after 02.10. It is not clear whether that exchange between WM O'Keeffe and GM Welch prompted the request that was sent on behalf of DAC O'Loughlin by CU8 at 02.11 for six FRUs, or indeed that which was sent at 02.16 for 10 FRUs, but that does not

matter. The decision to request more EDBA resources was correct but the additional FRUs did not begin to arrive at the incident ground until 02.29.[130] That was over an hour and a half into the incident and an hour after the "persons reported" message had been sent at 01.29. Those requests ought to have been made and implemented sooner.

28.121 GM Welch did not in fact request all the EDBA in London (even if he was responsible for the make-up messages of 02.11 and 02.16), as WM O'Keeffe had told him was necessary. That is particularly significant in light of his observation on entering the tower (and even before he had spoken to WM O'Keeffe) that BA crews would never be able to get to the upper floors and back wearing SDBA, or perhaps even EDBA.

28.122 It is not possible to say whether the failure to ensure attendance by additional EDBA crews at an earlier time had any direct effect on the number of casualties. All BA wearers, both of EDBA and SDBA, who were committed under air over the course of the incident encountered enormous challenges and it does not necessarily follow that more rescues would have been carried out had EDBA crews alone been used. Nonetheless, the failure to take steps to obtain more EDBA crews within the first hour of the incident was a serious omission.

Delay in deploying EDBA crews

28.123 A repeated pattern revealed by the telemetry data is that (with the exception of the crew which was sent to the roof to fight the fire) there was a consistent delay between the arrival of EDBA crews at the incident and their subsequent deployment to carry out rescues inside the tower. That delay is particularly remarkable in the case of the first EDBA crews on the scene, when there was a shortage of EDBA wearers. That shortage ought to have led to an effort to ensure that such resources as were available were promptly used, but it did not, as the following shows:

a. Chelsea's FRU, G346, arrived at the incident at 01.47.33. The crew was initially given the task of gathering equipment from parked appliances. FF Alan Sime also assisted in setting up Soho's ALP. They subsequently waited for some time outside the tower to be deployed. While waiting FF Reddington stressed to SM Loft that the crew needed to be deployed as a matter of urgency and encouraged the rest of the crew to "be more proactive" in getting themselves up to the bridgehead in the absence of any instructions. The crew eventually tallied out at 02.44 (FF Upton and FF Reddington), 03.03 (CM Codd), and 03.27 and 03.29 (FF Sime and FF Ernest Okoh). The failure to deploy the Chelsea crew any earlier was due to simple lack of direction and, in particular, the lack of any system for identifying EDBA resources on their arrival.

b. Euston's FRU, A236, arrived at 02.29.50. None of the firefighters describe doing anything in particular on arrival, apart from locating the BA holding area and finding their way to the entrance to the tower. They tallied out at 03.04 and 03.05 (FF Andrew Brooks, FF James Morcos and CM Charlie Rawlings) and at 03.05 (CM Joseph and FF Codd). That delay was less pronounced than in the case of the Chelsea crew, but in the context was nonetheless significant. Again, the delay appears to have been due to a lack of direction and the absence of an effective system of expediting EDBA deployments.

28.124 Meanwhile, inside the tower, while those and other EDBA crews were waiting, SDBA crews were still being deployed until around 03.03, when the EDBA deployments began in earnest. Despite the fact that the additional FRUs that had been requested at 02.11 and 02.16 started

[130] The first FRU to arrive in response to the "make FRUs 6" request was Euston's A236 at 02.29.50: ORR p. 196.

to arrive at 02.29, only one of the nine crews deployed before 03.03 were using EDBA. It was for the bridgehead to tell SM Daniel Kipling at BA Main Control what resources were required and when, and he was always able to meet the demand.

28.125 It follows that the significant delays between the arrival of EDBA crews and their deployment were not caused by deficiencies in the way BA Main Control was organised. Rather, they resulted from a combination of two factors. First, there was no system for ensuring that EDBA wearers were directed immediately to BA Main Control on arrival, with the result that crews found themselves assisting with menial tasks at various other locations around the incident ground. Secondly, before 03.00 the officers at the bridgehead were failing to ensure that EDBA wearers were sent up to the bridgehead for deployment as soon as they entered the building, rather than waiting in line in the lobby or outside the entrance in the second holding area being managed by SM Loft.

Inadequate system for allocating deployments to SDBA or EDBA crews

28.126 Finally, there appears to have been no consistent system for ensuring that EDBA resources were used for deployments specifically to higher floors, and no system at all in the earlier stages of the incident. The bridgehead did not have a significant number of EDBA wearers to deploy to higher floors, initially (until 02.29) because there were only two EDBA crews at the incident and later (between 02.29 and 03.03), because there was no system for ensuring that EDBA crews were despatched promptly into the tower to be deployed. As a result, there was an over-reliance on SDBA crews, which were frequently deployed to carry out rescues from the higher floors of the building.

28.127 For example, the following crews were deployed using SDBA:

a. FFs Campbell and Mills were deployed to Flat 175 on floor 20;

b. FFs Katie Foster and Gregory Lawson were deployed to floor 18;

c. CM Craig Eden and FF Tom Welch were deployed to floor 20;

d. FFs Williams and Agnel Fernandes were deployed to Flat 175 on floor 20;

e. FFs Cook and Flanagan were deployed to floor 20;

f. FFs Desforges and Mitchell were deployed to floor 21;

g. FFs Wright, Alassad and Bell were deployed to floor 23;

h. CM Evans and FF Bloxham were deployed to Flat 205 on floor 23.

28.128 On the other hand, the deployment of CM Mayne and FF Lundquist, an EDBA crew, to fight fires and clear floors 3 and 4 at 03.29, shows that on at least one occasion EDBA resources which could have been used in an attempt to save life were wasted.

28.129 All BA wearers encountered difficulties of various kinds within the tower and it cannot be said with any confidence that greater use of EDBA would have resulted in a larger number of successful rescues. However, the over-reliance on SDBA crews before 03.03, particularly for the purpose of rescue operations on higher floors, placed unnecessary strain on those firefighters when EDBA crews would have been better placed to carry out those deployments. If, earlier on, the bridgehead had employed a system for managing crews that distinguished clearly between SDBA and EDBA wearers and had allocated deployments accordingly, it could both have reduced the pressure on SDBA wearers and made better use of the available

resources. That distinction was eventually made in the form of a decision to deploy SDBA crews as far as floor 10 and EDBA crews above floor 10. It is likely that that was not until after 04.30 although it is not possible to be more precise.[131]

9 Communications

28.130 The Narrative section makes it clear that from the earliest stages of the incident the deployment of firefighters inside the tower was plagued by generally ineffective communications. Although it is not possible to identify any precise time or place, the overwhelming weight of the firefighters' evidence was that as conditions deteriorated they found that it was impossible to communicate with the bridgehead using their BARIE sets or that not long after they had left the bridgehead it became practically difficult to do so. The result was that crews could not inform the bridgehead about conditions in the stairs, lobbies and flats, about casualties they had found on their way to and from any search and rescue deployments or about the results of their deployments. Crews were unable to call the bridgehead for additional resources or advice. The difficulties with communications significantly limited the efficiency of search and rescue operations inside the tower.

28.131 It is equally plain that it was well known within the LFB that BARIE sets performed badly in concrete high-rise buildings. Given that knowledge, greater efforts should have been made to establish and maintain effective communications inside the tower on the night. Whether that should have been achieved by using devices such as "leaky feeders" or providing Airwave radios to all crews working inside the tower or using other technology is a matter for investigation in Phase 2, together with a broader assessment of the adequacy of the communication systems in use by the LFB.

10 Equipment

28.132 The effectiveness of the equipment in use by the LFB will be considered in Phase 2, but, in addition to the defective or inoperable equipment on command units that I have already mentioned, there are two particular matters that arise from the evidence heard in Phase 1 that need to be addressed at this stage.

28.133 First, the ALPs mobilised by the LFB to the incident ground could reach a maximum height of 32 metres, which meant that they could not reach beyond floor 10 of the tower. In a city such as London, where there is a considerable and ever-increasing number of high-rise buildings, it is obviously unsatisfactory for the LFB not to have an ALP with a reach of 42 metres, like the one made available by Surrey FRS, or even higher. It is an open question whether a 42-metre ALP could have been safely deployed earlier on the night of the fire and, if so, whether it would have helped contain the spread of the fire on the exterior of the building. The essential fact, however, is that the LFB should have been able to deploy an ALP which was capable of reaching the higher floors of a high-rise residential building. I note that following the Phase 1 hearings the LFB announced its decision to acquire new ALPs, including three with a reach of 64 metres. On any view, that decision is a welcome and necessary one.

28.134 Secondly, the Inquiry heard evidence about the use of secondary masks attached to firefighters' BA sets as a means of helping casualties escape from the tower and in closing statements questions were raised about the use of secondary BA sets to assist the evacuation of occupants. The Fire Officers' Association, in particular, emphasised that secondary BA sets

[131] Refer to the photograph at [MET00005774]. The writing on the lobby wall "ABOVE 10 EDBA BELOW 10 SDBA" was not written by WM Williams, and he did not recall its being there before he left at around 04.30: Williams Day 32/42/3-22.

are not designed for that purpose but are intended for use in rescuing firefighters, but in any event there were not enough secondary BA sets available to make a significant difference.[132] The use of secondary masks and secondary BA sets for the purposes of rescuing occupants is not a straightforward matter and is one that deserves more detailed consideration in Phase 2.

11 Water supply and pressure

28.135 The effectiveness of some of the equipment used by the LFB is dependant on obtaining access to adequate supplies of water at the necessary pressure. The supply of water in large quantities for the purposes of firefighting while maintaining supplies required to meet domestic and commercial requirements is a complex task. Whether there was an adequate volume and pressure of water available to the LFB for carrying out firefighting operations at Grenfell Tower is another matter that will be examined in Phase 2 of the Inquiry.

[132] Paragraph 97 of the FOA's closing submissions (dated 6 December 2018).

Chapter 29
The Control Room

This Chapter examines the operation of the control room on the night of the fire, in particular how it handled emergency calls and communicated with the incident ground.

1 Introduction

29.1 It is clear that the control room was faced with, and overwhelmed by, an unprecedented number of 999 calls, which presented each member of the LFB control room team on duty on the night with a challenge wholly outside their experience and training. The magnitude and speed of spread of the fire and the volume of calls to which it gave rise presented each member of the LFB control room team on duty on the night with a challenge wholly outside their experience and training. It cannot be doubted that CROs saved the lives of many, and some of the residents of Grenfell Tower have been able to express their gratitude to the CROs who helped them. A notable example is the courage and calm of CRO Heidi Fox in coaxing Marcio Gomes and his family out of Flat 183 and down from floor 21.[1] The CROs have borne the personal consequences of that night with remarkable fortitude and the psychological cost to them must not be underestimated.

29.2 Nonetheless, there were serious shortcomings in the operation of the control room which cannot all be attributed to the scale of the incident, although that undoubtedly played a significant part. Those shortcomings can often be gathered only from a close examination of the ways in which individual CROs handled calls throughout the night, but they were in the main systemic in nature.

29.3 It is self-evident that the conclusions in Section F6 of the LFB Lakanal Report were critical of the control room's response to the Lakanal House fire. They were also strikingly prescient. Each of them applies with equal, if not greater, force to the Grenfell Tower fire. The evidence heard by the Inquiry at Phase 1 shows that, despite changes to certain LFB operational policies and the introduction of new training packages, few if any lessons were learnt by the LFB.

29.4 In the case of the Grenfell Tower fire, about 120 calls were received from occupants in the building in addition to the many calls made by members of the public from outside. It is clear, therefore, that the number and frequency of 999 calls, and in particular of FSG calls properly so called, was wholly unprecedented, exceeding by many times the number received in connection with the Lakanal House fire, which itself was a major event. If lessons are to be learnt for the future, however, it must be recognised that unprecedented and large-scale emergencies demanding a swift and effective response by the fire and rescue services may occur from time to time in London and other major UK cities. The circumstances surrounding the fire at Grenfell Tower and the LFB's response to it should not lead us to think that the unusual scale and speed of smoke and fire spread, the particular nature of the building and the unprecedented number of FSG calls conspired to create challenges that could not be repeated in a different form on another occasion.

[1] [LFB00055501]; Gomes Day 71/92/3-148/19; Fox Day 80/227/19-228/19.

29.5 One of the matters to be investigated during Phase 2 of the Inquiry is why, at least so far as the control room is concerned, the fire at Lakanal House did not lead to changes in practice and why the same mistakes were repeated in relation to the fire at Grenfell Tower. That investigation will involve an examination of the changes to policy and training programmes introduced as a result of the LFB Lakanal Report and the extent to which they achieved their objective.

29.6 For the purposes of Phase 1 the LFB's conclusions in the LFB Lakanal Report and the policies current at the time of the Grenfell Tower fire provide a useful lens through which to examine both the formal guidance given to CROs and the extent to which they followed it. That in turn provides the basis for a critical assessment of the response of the control room and enables a view to be taken about whether any steps should be taken immediately to improve its functioning.

2 LFB policies on managing emergency calls

29.7 The starting point for any analysis of the operations of the control room on the night of the Grenfell Tower fire must be PN539 and PN790, together with the "RIF for Operators" and the "RIF for Supervisors", to all of which reference has already been made. Taken together, they describe in some detail how the LFB expected CROs and senior officers in the control room to conduct operations. They should be understood in the context of the national guidance for fire and rescue services contained in Generic Risk Assessment 3.2. It is worth observing at this point, however, that the LFB has no specific policy to govern emergency calls from high-rise buildings.

Generic Risk Assessment 3.2

29.8 GRA 3.2 provides, at page 18:

> "Fire and Rescue Authorities must also have effective arrangements in place to handle fire survival guidance calls from residents and others when they believe they are unable to leave the building due to disability, poor mobility, illness or the affects [sic] of fire.
>
> Fire and Rescue Authorities should consider both generic procedures for persons expected, likely or advised to remain in their homes (unless directly affected by heat, smoke or fire) as well as bespoke arrangements for specific buildings.
>
> Fire survival guidance call arrangements should include:
>
> - details of how calls will be passed to and recorded at the incident
> - their impact on resources and mobilising
> - a re-evaluation process to ensure the balance of risk to the public is reviewed if circumstances change (which may result in a change to the advice previously given)
> - how information will be exchanged between callers, Fire Control and commanders at the incident."

29.9 It also provides, at pages 28 to 29:

> "Fire Control rooms may receive numerous fire survival guidance calls during a high rise incident and these calls can provide vital information, which the Incident Commander can use to locate and prioritise persons requiring rescue. Considering the life threatening circumstances, fire survival calls are likely to be extremely stressful.
>
> Control operators may obtain more accurate information as to the location of the fire and/or persons in need of rescue or reassurance than that gathered by an Incident Commander who is on scene.

> A clear record should be made of all fire survival guidance calls and relevant information on the location and circumstances of the callers. This is both at the fire service control room and at the incident ground.
>
> This will assist in the Incident Commander's confirmation of priorities and any subsequent reassessment of those priorities should information change as the incident develops.
>
> The advice offered to callers to remain in their property during fire survival guidance calls must be re-evaluated throughout an incident. Where circumstances make it necessary, an Incident Commander may need to consider changing the advice given. For example, callers may need to be advised to leave their property or to be guided from it by firefighters. The Incident Commander should also consider making use of all available systems within the building to communicate with occupants.
>
> Whenever fire survival guidance calls are being received, the Incident Commander must liaise closely with Fire Control."

29.10 I set this text out in full because it encapsulates both the importance of CROs' obtaining accurate and detailed information from callers and the need for close liaison between the control room and the incident commander so that the latter may act upon that information.

PN539

29.11 Paragraphs 4.20 to 4.24 of PN539 contain, among other things, a clear recognition that emergency call-handling skills are important. As paragraph 4.20 provides:

> "How effectively the emergency call is handled in terms of questioning and listening skills, capturing information accurately, creating a caring and professional experience are just some of the critical skills required for control room officers."

29.12 The skills are set out in paragraph 4.23: to listen, to maintain dialogue, to record "the relevant details accurately in the appropriate place on the mobilising system", to think about what information is and is not being given, and what is required to make decisions. Paragraph 4.24 of PN539 sets out basic concepts and principles and the questioning protocol in paragraph 4.25 encourages the use of open questions.

29.13 Fire survival guidance is referred to specifically in paragraph 5.19 of PN539, which provides:

> "Detailed information, advice and guidance for control room officers is set out in accordance with Fire Service Circular 10/93 appendix A. Guidance can also be found in appendix 3 of this policy and Reference Information File (Fire Survival Guidance)."

29.14 Fire Service Circular 10/93, which some witnesses referred to as the "*Dear Chief Fire Officer letter*",[2] was a letter dated 12 October 1993 from the Home Office to the Chief Executives of County Councils in England and Wales, the Clerk to the Fire and Civil Defence Authority and the Chief Fire Officer. Its focus was the regularity and content of training of control room staff and its main purpose appears to have been to report on the review of an earlier circular issued in February 1987. Contrary to what paragraph 5.19 of PN539 says, Appendix A to Fire Service Circular 10/93 was not "information, advice or guidance for control room officers", but rather a list of topics to be covered in initial or recruit training. Its relevance to PN539 is unclear.

29.15 More pertinently, the text of Fire Service Circular 10/93 said:

> "In the situation where, for example, the caller is prevented from escaping due to location (such as high rise flats) and/or smoke density or for some other reason is in danger, the operator taking the call may need to give very specific safety instructions in addition to establishing the location

[2] [LFB00003617]; for example, Smith Day 21/20/9-18.

of the incident for mobilising purposes. Additionally, in circumstances such as these a fire control operator may need to take into account that **the normal procedure of calming the caller may not be appropriate, and may even be dangerous in some circumstances**." [Emphasis added]

29.16 Appendix 3 to PN539 is of central importance, not least because it enshrines the LFB's "stay put" advice to callers and, critically, the points of departure from it. The whole text is relevant, but the most pertinent parts are as follows:[3]

> "The London Fire Brigade define a Fire Survival Guidance call as being a call to Brigade control where the caller believes they are unable to leave their premises due to the effects of fire, and where the control room officer remains on the line providing appropriate advice until either the caller is able to leave by their own means, is rescued by the Fire brigade or the line is cleared."
>
> …
>
> Brigade Control advise callers to "Get out and Stay out", however if a call is received from a High rise building where Fire, Heat and Smoke are not affecting the caller, LFB would advise that:
>
> > 'You are usually safest to remain in your premises unless affected by fire, heat or smoke. If the situation changes you should leave your premises and dial 999, if you need further assistance.'
>
> Should the caller be unable to escape, an information file containing prompts are in place on the computer-aided mobilising system to assist the control room officer in
>
> - Providing guidance to assist the caller to safety
> - Providing timely and relevant information to the attending resources
> - Provide reassurance to the caller that help and assistance is forthcoming.
>
> …
>
> Control Room officers will always use the four principles of Escape, Assess, Protect and Rescue to provide guidance to these callers.
>
> Firstly by assisting the caller to help identify a safe alternative **ESCAPE** route for them to leave their premises.
>
> If this is not possible, then **ASSESS** the situation by asking the caller direct questions.
>
> …
>
> Begin to **PROTECT** the caller by providing current safety advice to attempt to keep the caller safe.
>
> Reassure the caller and **REASSESS** the callers situation.
>
> …
>
> Control room officers will remain on the telephone with the caller and assist with **RESCUE**. [Original emphasis]
>
> …
>
> **General**
>
> Other control room officers and supervisory staff will assist the CRO carrying out the Fire Survival Guidance call by ensuring all relevant information regarding the caller's situation is passed via both the airwave radio and via telephone when a command unit is in attendance.
>
> Relevant information to be passed to the incident ground:
>
> - Number of persons involved
> - Names if known (by telephone only, not by radio)
> - Condition of their location i.e. heavy smoke, thick smoke
> - Location of caller within premises
> - Callers proximity to fire

[3] They are faithfully reproduced here, including the drafting errors.

- Latest FSG advice given by Control
- Time of FSG call

The callers premises number will be used as the single reference for each circumstance where guidance is provided to avoid confusion with names."

29.17 In general terms, it is clear from this policy that there is a three-stage process in respect of a 999 call from a high-rise building:

a. The working assumption is that in a high-rise building, the standing advice is that the caller should remain in their flat unless they are affected by fire, heat or smoke. Most CROs understood this to be what they called the "stay put" advice.[4]

b. Once the caller is "affected" by fire, heat or smoke, they should leave, unless they believe that they cannot leave. It is at that point that the first of the four principles applies, namely, to explore with the caller whether there is a safe alternative escape route.

c. Once the CRO has established that the caller cannot leave, or at least believes that they cannot leave, the call becomes an FSG call.[5] Only when there is no safe alternative route of escape should the CRO turn to "assess", "protect", "reassess" and "rescue".

PN790

29.18 PN790 was introduced in response to the Lakanal House fire and specifically in response to recommendation 7 in the LFB Lakanal Report.[6] It deals with fire survival guidance, although not specifically in the context of calls from or in respect of high-rise buildings. It broadly follows the generic advice for fire and rescue authorities contained on page 8 of GRA 3.2.

29.19 The purpose of the policy is set out at paragraph 1.1 as follows:

"The purpose of this policy is to explain what a Fire Survival Guidance (FSG) call is and to describe how critical information should be exchanged between Brigade Control and the incident ground. It provides guidance on how this information is to be recorded for use by incident commanders (IC)."

29.20 The central message of PN790 is, therefore, of the need for clear lines of communication between the control room and the incident ground. What should be done to achieve that is expressed in clear and detailed terms in paragraphs 4.2, 5, 7 and 9. In particular, paragraph 9, entitled Communication with Control, provides:

"9.1 It is vital that control is kept informed of the actions being taken to resolve each FSG call. The fact that control is aware of the actions being carried out on the incident ground will greatly enhance the advice given to FSG callers.

9.2 Informative messages from the incident ground should also contain an update on progress relating to those specific FSG calls by both the flat/house number to avoid confusion.

9.3 The outcome of every FSG call must be communicated to control."

29.21 In a similar vein, the following provisions of PN790 also deserve attention:

"4.1 Occasionally control receives multiple calls at an incident. All FSGs received by control are treated with the same level of urgency, however, in certain circumstances, the officer in charge of control may direct call handlers to terminate a call to answer another.

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4 For example, Real witness statement [MET00007696] p. 3.

5 This took some teasing out in the evidence: Smith Day 22/5/21-13/22. The essence of FSG is that the caller is or believes they are trapped. For example, Norman witness statement [MET000080589] p. 2; Fox witness statement [MET00007764] p. 2; Adams witness statement [MET00007762] p. 4.

6 [HOM00001124] p. 55. Recommendation 7 was: "Operational policies should better reflect the need for two-way communication between Control and the incident ground when FSG calls are underway".

> 4.2 The IC, based on their situational awareness and the information provided by control, will decide how to prioritise FSG calls and the actions to be taken on the incident ground. ICs should direct their resources to those callers at greatest risk (high priority) if practicable …
>
> …
>
> 5.1 As soon as control has confirmed that a FSG call is in progress they will contact the incident ground and start to pass over the initial details. At this stage it is likely to be basic information relating to the number of persons involved and their location within the property.
>
> …
>
> 5.4 Control will contact the Initial Command Pump (ICP) and pass the information below by appliance radio for each separate FSG call. When passing this information, control will reference the information using the relevant flat/house number.
>
> 5.5 Control will attempt to gather all the information on the Control Information Form (see Appendix 2) and relay this information to the incident as and when it becomes available:
>
> - Number of flat/house[7]
> - Number of persons involved
> - Location of caller within premises and access point
> - Condition of their location i.e. heavy smoke, thick smoke
> - Callers proximity to fire if known
> - Latest FSG advice given by Control
> - Time of FSG call
> - Time updated
>
> …
>
> 5.7 All FSG call information must be passed to the IC who will decide what action should be taken. The expectation is that all ICs will treat FSG calls as a priority and consider deploying and increasing resources accordingly.
>
> …
>
> 7.10 All actions taken on the incident ground to resolve the situation should be relayed back to control whilst a FSG call is still in progress. This is so that control can pass information which may be beneficial to the caller, e.g. the crew are en route."

29.22 Paragraph 8 of PN790 is entitled *Advice to Fire Survival Guidance callers*. It sets out, in clear terms, the four stages of "Escape, Assess, Protect and Rescue". Paragraph 8.3 makes it clear that if there is no safe alternative escape route the operator should ask the caller direct questions (i.e. move to the assessment stage). This broadly mirrors the contents of PN539 set out above. Both PN790 and Appendix 3 of PN539 require the operator to reassess the caller's situation, although this is not listed as one of the core principles.

29.23 Paragraph 8.7 of PN790 provides that:

> "In exceptional circumstances an IC may consider informing control that their advice to FSG callers should be altered e.g. to attempt to leave their property. The IC should remember that this advice may be contrary to National Policy for control staff on FSGs and liaison with the officer in charge at control will be required for agreement to change the prescriptive advice."

[7] The list set out in PN790 does not exactly match the list in Appendix 3 to PN539. For example, the number of the flat or house is not a required data point in Appendix 3 of PN539 and Appendix 3 of PN539 does not require the CRO to obtain information about the "access point" or to relay information of the "time updated".

RIF for Operators

29.24 The RIF for Operators (dated 3 April 2014)[8] was a prompt sheet or script for CROs handling FSG calls. The pertinent provisions in it are as follows:

The heading of paragraph 1.3 is "*When it may be safer to stay put*", beneath which it says:

> "**Purpose built flat/maisonette** – not affected by heat or smoke
>
> If a caller is inside a purpose built flat/maisonette that is not on fire or affected by heat or smoke, advise caller: It is **USUALLY SAFER** to stay inside flat/maisonette. But if they feel unsafe or they become affected by heat or smoke, then advise caller to **GET OUT AND STAY OUT**
>
> **All premise property types** – if escape routes are blocked by fire
>
> If escape routes are blocked by fire it maybe safer to stay put until the fire brigade arrives."

29.25 The essential information which it instructs CROs to obtain from callers includes information about whether they are able-bodied, whether there are hazards or pets, and the layout of the property.

29.26 The reassurance to the caller is scripted as example statements:

> "The firefighters are on their way
>
> "The firefighters know where you are
>
> "The firefighters are there
>
> "The firefighters are dealing with the fire…"

RIF for Supervisors

29.27 The RIF for Supervisors was also dated 3 April 2014 and (unlike the RIF for Operators) was updated on 2 April 2016.[9] The following are its most pertinent provisions:

> "If caller is ringing from a property that is on fire or they or their property is being affected by heat/smoke/flames from a fire elsewhere ensure that the CRO identifies if they are able to **escape** by primary or other means (ideas to prompt caller are provided in the FSG Operator RIF).
>
> The Incident Commander (IC) is informed that an FSG call is in progress and is provided with the information obtained so far, including the caller's flat/house number (this will be the unique identifier) …
>
> …
>
> Supervisor … to ensure that:
>
> An assessment of the situation is made by the CRO BEFORE they provide standard Fire Survival Guidance as detailed in FSG Operator RIF
>
> …
>
> Supervisor or nominated person to consider:
>
> - Dedicating a supervisor to act as a sole contact point between Control and ICP/CU or officer nominated by IC to pass all relevant information
> - Using M2FH or FLONOPS1 (if sufficient staff available) where a large number of FSG calls are being received as this will free up the main scheme radio
>
> …

[8] [LFB00003542].
[9] [LFB00003541].

- Supervisor or nominated person to ensure that the IC is kept informed of critical information passed to and from each FSG caller, including where available:
  - Number of flat / house (unique identifier for each call)
  - Name of caller (not to be passed by Radio) Number of persons involved [sic]
  - Location of caller within premises
  - Conditions within premises e.g. heavy / black smoke
  - Proximity to fire
  - Latest advice given to caller
  - Time of FSG call[10]

The above information to be passed to the lead appliance at the incident. If unable to raise the lead appliance – Page the IC and call any other attending appliances and pass information to that resource.

A message acknowledging receipt must be sent from the incident.

Ensure that attending Command Units are kept informed of messages to and from the incident."

3 The experience and training of CROs

Experience

29.28 Taken as a group, the CROs on duty on the night of the Grenfell Tower fire had decades of control room experience between them. That included handling calls from high-rise residential blocks, the make-up of pumps and other appliances at large incidents, resourcing and communications generally. As the statistics demonstrate, however, their experience of handling FSG calls was very limited. That was borne out by the evidence of the most experienced CROs themselves, who said that they had handled no more than a small number of FSG calls in the course of their long careers.

29.29 Even the most experienced members of the control room staff had no real understanding of how the control room would handle a large number of FSGs generated simultaneously by a single, or perhaps more than one, incident. CRO Adams recalled one occasion, some years before the fire at Grenfell Tower but after that at Lakanal House, when the control room took several calls from a high-rise residential building,[11] but beyond that, none could recall any previous experience of such a situation, other than in connection with the Lakanal House fire itself.

Training

29.30 All the CROs who gave evidence in person were asked about their training. It is right to point out that none of them were shown any training records or materials to refresh their memories and their evidence was therefore based entirely on their recollection and their individual impressions. It is understandable that they may not have remembered in any detail the occasions on which training was given in one form or another. Their evidence, therefore, is not necessarily a reliable basis for determining what training was in fact delivered, when, or what it contained and to that extent it must be approached with some caution. Nor have I yet had a chance to explore with those responsible for developing and delivering training what arrangements were made to ensure that control room officers generally, and supervisors in particular, understood what was expected of them. It would be inappropriate at this stage,

[10] There is then a list of information points similar to (but not exactly the same as) that contained in PN539 and PN790.
[11] Adams Day 80/9/15-10/10. The fire was in the Fred Wigg Tower in Leytonstone, London E11 in December 2011.

therefore, to make any findings about those matters, but the evidence heard in Phase 1 explains why these are matters that will need to be investigated in Phase 2. For present purposes it is more important to understand what the CROs thought they were supposed to do in response to FSG calls and whether they were adequately prepared to deal with what happened in the control room on the night of the fire. An objective assessment of the training that was provided and the extent to which (if at all) they fell short of it is a matter for Phase 2.

29.31 CRO Sarah Russell described the nine-week training which she had started in September 2016. She completed her probationary period shortly before June 2017. Her training was therefore both recent and fresh in her memory and involved the following:[12]

a. A day's training on FSG calls by reference to both PN539 and PN790, in the course of which working practices were explained and example calls were played. Trainees were instructed how to handle FSG calls, but there was no role-play.[13]

b. No specific instruction on the lessons to be learnt from Lakanal House, beyond being told that it was a "hard example" (because calls ended with fatalities).

c. "Brief" training on how to assist a caller in identifying a safe alternative escape route (such as by asking questions to find out if there is smoke or fire outside the door) but not specifically relating to a high-rise building.

29.32 As far as she could recall, however:

a. She had not received any training on assessing a potential escape route or on how to exhaust the possibilities of escape before moving to reassure the caller.

b. She had not been warned about the risk of lulling the caller into a false sense of security by moving too quickly to reassure them that rescue was on its way, thereby causing them not to examine with sufficient care the possibility of escape.

c. She had received no training specifically relating to FSG calls from high-rise residential buildings.

d. Nor had she received any training on how a control room should handle a large number of simultaneous FSG calls, or on how a CRO should act in that situation, or on how to prioritise calls.

e. She could not recall having received any training on how to obtain or respond to information from the incident ground or how to read and use the information from the heli-tele downlink in the control room.

f. She had received no training which enabled her to understand the significance of fire and smoke development.

29.33 The first FSG call of CRO Russell's career was with Jessica Urbano Ramirez. The call started at 01.29.48 and ended when CRO Russell terminated it at 02.24.45 after Jessica had become unresponsive. On any view this would have been a challenging call for even the most seasoned CRO, and the courage and calm professionalism with which CRO Russell handled it reflects great personal credit on her. When asked whether she would have liked to have had any additional training to prepare her for this call, she identified (i) more training in dealing

[12] Russell Day 76/3/14-6/11.
[13] Russell Day 76/52/24-53/6.

with such calls following her initial training; (ii) training on high-rise FSGs and multiple FSGs; and (iii) a set procedure to follow in order to prioritise FSG calls when many came in at the same time.[14]

29.34 CRO Peter Duddy was also a comparatively recent recruit to the control room, having been trained in 2015. He said that his training on FSG calls had comprised one afternoon session, which included what advice to give and what questions to ask.[15]

29.35 FSG refresher training for CROs who had completed their initial training and were now "on the Watch" appears not to have been regular or even annual. Their individual recollections of when they received training tended to vary, although it is possible that the dates on which they received training did vary.

29.36 Concern also arises about the training of supervisors. OM Alexandra Norman recalled a significant FSG training session in 2011 or 2012, but nothing since. She had the same training as the CROs.[16] The LFB Lakanal Report recorded (at page 53) that the LFB had "… introduced a supervisor's course, focussing on leadership and general supervisory actions and role within the Control room including FSG". It is not clear on the evidence at the moment whether OM Norman or other LFB officers of similar rank received such training and her evidence suggests that she did not. That is a matter which will have to be examined at Phase 2.

29.37 All the CROs who gave evidence in person were asked in general terms about the content of their training in relation to handling FSG calls and communication with the incident ground. Again, their accounts and recollections tended to vary in many respects and there was very little consensus about what their training had actually covered.

29.38 CRO Yvonne Adams and CRO Christine Howson recalled training sessions with the command units on handling multiple FSG calls which took place in January 2017.[17] They recalled that the number of FSG calls assumed for the purposes of those exercises did not exceed "six at most" (CRO Adams)[18] or "two or three" (CRO Howson).[19] One CRO recalled being trained on just a single FSG call.[20] Some CROs had undergone FSG role-play training sessions in 2016, but those were for the benefit of command unit officers rather than CROs.[21]

29.39 The CROs' evidence about their training can be summarised as follows:

a. CROs had been trained, at least in general terms, on PN539 and in some (but not all) cases on PN790,[22] but not necessarily on the RIFs provided for their use when handling calls.[23] They appeared to be familiar with the provisions of the policies when asked about them. Some CROs said that they had received training on PN790 in terms of what questions to ask trapped residents and how to extract the best information from them,[24] but some recalled no such training at all.[25]

14 Russell Day 76/52/9-23.
15 Duddy Day 42/175/5-176/11.
16 Norman Day 42/13/2-16.
17 Adams Day 80/5/21-25; Howson Day 80/123/9-16.
18 Adams Day 80/6/11 (as part of the command unit training sessions for training command unit officers).
19 Howson Day 80/124/12-15; Gotts Day 43/114/21-23.
20 Darby Day 33/115/19-23.
21 Howson Day 80/123/7-124/1; Adams Day 80/4/2-20.
22 For example, OM Norman was not trained on PN790: Norman Day 42/12/16-22.
23 For example, Gotts Day 43/112/14-18.
24 For example, Duddy Day 42/176/6-18.
25 For example, Gotts Day 43/113/7-13.

b. None of them recalled having received any training on how to advise occupants to evacuate a building in the event that the incident commander decided to alter the "stay put" advice and order a partial or full evacuation of the building.[26]

c. None of them had received training on what advice to give if the building had a single exit route, particularly where that was smoke-logged.[27]

d. No training had been given on how to judge whether a caller should be advised to evacuate or stay put.[28]

e. No specific training had been given on how CROs were to assess the safety of the exit routes or whether there were possible alternative exit routes for trapped residents.[29]

f. CROs had not been trained to understand that, when advising a caller who believes they are trapped, to move too quickly to the "reassurance" phase may unwittingly lull the caller into a false sense of security.[30]

g. None of their training appears to have been specifically directed to how a CRO should reassure callers without unfairly or falsely raising their expectations of rescue.[31]

h. They do not appear to have received any training on how to handle numerous simultaneous FSG calls other than (in the case of CROs Adams and Howson) in the training sessions with the command units which had taken place in 2017.[32] However, that training had been designed mainly to enable the command unit officers to understand their role and CROs Adams, Howson and AOM Peter May mainly participated in and facilitated the workshop.[33] In any event, that training did not cover more than, at most, six FSG calls at any one time.

i. They had received no training in how to make use of information obtained elsewhere in the control room or from the incident ground.[34]

j. Some CROs had received training in the lessons learned from the Lakanal House fire,[35] although their recollection of the specific content of that training was limited to generalities about what questions to ask callers. Some CROs recalled no specific Lakanal-based training.[36] CRO Angie Gotts's personal lesson from Lakanal House was that the assumption that crews would reach callers was not always reliable,[37] a lesson which, although contained in paragraph 293 of the LFB Lakanal Report itself, appears either not to have been taught in training or else had been forgotten by many CROs when advising callers from Grenfell Tower on the night of the fire.

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26 Given that paragraph 8.7 of PN790 anticipates that the incident commander could alter the FSG advice, it is reasonable to expect that CROs would be trained on how to give advice if that happened.
27 Gotts Day 43/113/7-114/4; Adams Day 80/7-8.
28 Norman Day 42/13/20-24.
29 Duddy Day 42/176/12-18; Russell Day 76/40/5-10.
30 Russell Day 76/40/11-19.
31 Howson Day 80/163/6.
32 Adams Day 80/5/21-25; Fox Day 80/183/1-4.
33 Adams Day 80/6/1-7/12; Norman Day 42/7/2-10.
34 Duddy Day 42/180/18-25; Gotts Day 43/121/22-122/4.
35 For example, CRO Gotts in 2012: Day 43/112/7-9; Fox Day 80/182/8-10.
36 Howson Day 80/124/16-20; Gotts Day 43/113/14-18.
37 Gotts Day 43/117/1-13.

k. Some, but not all,[38] CROs thought that they had probably received training in asking callers about whether they had mobility difficulties or whether there were children in the property, but not elderly people.[39]

l. They had received no training in how to communicate with callers whose first language is not English, although there had been training on how to set up a "Language Line" whereby an interpreter can be obtained.[40]

The LFB's awareness of the deficiencies

29.40 The absence of satisfactory procedures and training for handling large numbers of FSG calls appears to have been a cause of concern to some within the LFB following the Lakanal House fire. In 2014 SM Peter Johnson took the initiative to remedy what he saw as a deficiency by producing a Tactical Decision Exercise training programme[41] involving seven FSG calls (the number that could be accommodated on the FSG sheet in the command units under Appendix 1 of PN820). The purpose of the programme was to ascertain the maximum number of FSG calls the control room and incident ground could handle satisfactorily at any one time and to clarify the roles of the operational officers at an incident in handling FSG information coming from the control room. He also wished to demonstrate that the current FSG procedures could not adequately cope with a high-rise incident which gave rise to numerous calls and many casualties.[42]

29.41 SM Johnson's training programme was never implemented, but the real significance of his evidence lies in his realisation that even seven simultaneous FSG calls is a very large number. As he said, his aim had been to show that the existing policies needed to be changed, so that if the number of FSG calls did exceed three or four, the LFB could deal with them properly.[43] SM Johnson sat on the LFB's FSG policy group in 2014 and discussed this programme with senior officers at the time.

29.42 At Phase 2 it will therefore be necessary to examine whether, when and to what extent there was, within the LFB, an awareness of deficiencies in the FSG policy and training of the kind identified by SM Johnson and, to the extent that there was, what the LFB did or proposed to do about it. It will also be necessary to inquire why the LFB itself or Babcock International Group, as its training provider, decided not to proceed with SM Johnson's programme or something similar to it. For present purposes it is enough to say that SM Johnson's views on the subject proved to be remarkably prescient.

29.43 The evolution of CRO training between 1993 and 2009 (the date of the Lakanal House fire) is summarised at Section E of the LFB Lakanal Report and may also require closer examination at Phase 2. The point for present purposes is that the warning identified in the passage of the Fire Service Circular 10/93 emphasised above was, by reference, an applicable principle in the version of PN539 current at the time of the Grenfell Tower fire, as paragraph 5.19 of PN539 referred CROs to the Fire Service Circular 10/93 for detailed information, advice and guidance. However, according to SOM Joanne Smith's evidence,[44] the practice of calming the caller that Fire Service Circular 10/93 deprecated was removed from the policy in 2011 and

38 For example, CRO Duddy: Duddy Day 42/177/6-11.
39 Darby Day 33/140/15-141/13.
40 Darby Day 33/118/2-119/9; Duddy Day 42/176/19-177/5; Norman Day 42/59/9-60/14; PN539 paragraphs 4.7-4.8.
41 Johnson witness statement [MET00013235] pp. 2-3, 5 and PMJ/7: [MET00016997]; [MET00016998]; [MET00016999]; [MET00017000]; [MET00017001]; [MET00017002]; [MET00017003]; [MET00017004]; [MET00017005]; [MET00017006]; [MET00017007]; [MET00017008].
42 Johnson Day 36/219/17-21; 224/2-10.
43 Johnson Day 36/233/22-234/11.
44 Smith Day 22/18/2-20/19.

replaced with a process of more assertive reassessment of worsening conditions, which she said was now reflected in current LFB training. It is possible that this change in policy was prompted by the conclusion at paragraph 293 of the LFB Lakanal Report to which I have referred. That is another matter for investigation in Phase 2.

4 Deficiencies in the LFB policies

29.44 Having considered the LFB policy documents relating to the management of emergency calls, in the light of events on the night of the fire, I have reached the conclusion that they are deficient in a number of respects in relation to FSG calls.

Policy No. 539

29.45 PN539 is deficient in the following respects:

a. It defines an FSG call by reference to a combination of the caller's belief that they are trapped and the response of the operator in remaining on the line, but that involves defining the nature of the call by reference to the response it receives. In my view that makes no sense. Almost by definition, anyone who calls the fire and rescue service in the belief that they are trapped in a burning building is seeking fire survival guidance, whatever the nature of the response, but the policy tells CROs how to respond to such calls, and remaining on the line until the caller is able to leave without assistance or is rescued or the line is cleared is in reality part of that response.

b. The terms of the definition, however, point to an underlying reality, namely, that an FSG call is one which requires the continued telephone presence of a CRO. It follows that, if the policy is to be fully complied with, the number of simultaneous calls from people who believe they are trapped cannot exceed the number of CROs available to handle them. This important factor is not reflected anywhere in the LFB policy documents, but it suggests that, if the number of calls waiting to be answered exceeds the number of CROs on duty, the operations manager should inform the incident commander immediately, who can then decide what steps should be taken in the light of the way in which the fire is developing. That might include a partial or full evacuation.

c. It requires CROs to advise callers to leave if "the situation changes" and the caller is "affected" by fire, heat, or smoke, but it gives no guidance on what "affected" means for these purposes. As a result, too much is left to the individual CRO's interpretation of the policy. In particular, it is unclear whether, before the caller is advised to evacuate, they should be affected by fire, heat or smoke originating in their own flat or whether it is enough that they are affected by smoke emanating from elsewhere in the building. The evidence suggests that the majority of CROs thought it was the former. CRO Howson went as far as to say that she thought that it referred only to a fire in the caller's flat, and that, if a caller from a high-rise building said that they had smoke coming into their flat, she would advise them not to leave but to stop the smoke coming in.[45]

d. It contains no clear statement that the CRO must thoroughly explore the basis of the caller's belief that they cannot escape *before* moving to the "assess", "protect" and "reassess" phases. Given that a call is an FSG call if the caller believes that they cannot leave their flat, it is essential that the CRO taking the call does all they reasonably can to assess the safety of possible routes of escape in conjunction with the caller. CROs need

[45] Howson Day 80/127/8-129/24, and her witness statement [MET00007763] pp. 5, 7.

to satisfy themselves that callers are really unable to leave the premises, rather than simply taking their assertions at face value.

e. It refers to the four principles of "escape, assess, protect and rescue", but the implementation of those principles requires continual reassessment of the caller's situation: see paragraph 295 of the LFB Lakanal Report. The RIFs emphasise the importance of regular reassessment[46] during the call as a separate phase after the CRO has started to protect the caller.

f. PN539 does not warn that an assumption that the fire and rescue service is on its way to rescue the caller is not always well-founded. That danger, which was identified in paragraph 293 of the LFB Lakanal Report, does not appear to have found its way into PN539, with the consequence that CROs often provided reassurance to callers that was not founded on any information from the incident ground.

g. It contains nothing to assist CROs and senior managers in handling a large number of FSG calls concurrently.

h. Contrary to the guidance given at page 18 of GRA 3.2, the policy does not require CROs to find out whether the caller is, or has with them, a person who is disabled, has poor mobility or has an illness that would impede their ability to leave or who for some other reason would require assistance in the event of an evacuation.

i. It does not provide guidance on how to communicate with persons whose first language is not English. Although paragraph 4.8 of PN539 states that agreements are in place for the use of an interpreter service (the "Language Line"), the evidence was that this was a "quite long winded" process, and too slow for the purposes of an FSG call.[47] Although CROs in London have wide experience of speaking to callers whose first language is not English,[48] that is not a sufficient substitute for clear guidance supported by effective training.

29.46 These deficiencies in PN539 support the conclusion that it did not articulate the "stay put" advice well and did not make clear to CROs certain crucial requirements that had to be met in order to maximise the chances of escape from a high-rise building. The reasons why PN539 was unsatisfactory in these respects will have to be explored in Phase 2.

Policy No. 790

29.47 PN790 is deficient in the following respects:

a. Although it contemplates the possibility of several concurrent FSG calls, it gives no guidance on what action the control room should take to deal with further calls when the number of FSG calls currently in progress are occupying all the CROs on duty.

b. In particular, it contains no specific reference to the need to inform the incident commander when the number of FSG calls from a single incident is approaching, or has reached, the number of CROs available to handle them to enable the incident commander to take appropriate action.

c. PN790 does not give guidance to control room supervisors on what to do when a large number of FSG calls are received in order to ensure that they have enough resources

[46] [LFB00003542] p. 3; [LFB00003541] p. 3.
[47] Smith Day 21/130/19-131/3.
[48] Smith Day 21/131/1-3.

available. The RIF for Fire Survival Guidance (Supervisor) provides that when many FSG calls are received the supervisor should consider "placing all non-event radio traffic onto one channel" and "varying paging operator to any available staff".[49] It was thus envisaged that supervisors would need to take further action, although the measures suggested in the RIF do not address the question of how the limited resources within the control room could be expanded to absorb the extra demand. OM Norman suggested a recall system for control staff in large-scale incidents.[50]

d. Like PN539, PN790 fails to provide for any arrangements for assessing whether a caller may be unable to leave the building due to disability, poor mobility, illness or the effects of the fire, as required by GRA 3.2.

e. PN790 does not set out how FSG information should be recorded in the control room even though that is required by GRA 3.2 and by paragraph 7.50 of PN633.

29.48 For present purposes it is enough to note that PN790 was, subject to these flaws and within the assumptions on which it was based, for the most part a clear framework for the handling of FSG calls both in the control room and on the incident ground. It represents a reliable standard against which to undertake an assessment of what the control room and the officers at the incident ground did on the night of the fire by way of collecting, handling and communicating FSG information.

RIF Fire Survival Guidance (Operator)

29.49 The RIF for use by CROs is unsatisfactory in a number of respects:

a. It contains no clear guidance on what "affected" by heat, smoke or fire means or how it is to be assessed.

b. It contains no clear guidance on how to go about assessing the safety of routes of escape if the caller is, or says that they are, affected by heat, smoke or fire, or "feel unsafe".

c. It contains no warning that assurances that firefighters will rescue callers should be based on information from the incident ground rather than on their own expectations or assumptions.

d. It contains no guidance about what information the CRO should gather in order to assist the control room supervisor or incident commander to decide whether a partial or total evacuation of the building should be carried out.

e. It contains no guidance about what advice the CRO should give a caller once a decision has been made to carry out a full or partial evacuation of the building.

RIF Fire Survival Guidance (Supervisor)

29.50 The RIF for Supervisors suffers from similar defects. Like the RIF for Operators, it provides no guidance on how supervisors should gather information from CROs to enable them to form an overall assessment of the situation in order to assist the incident commander to decide whether the "stay put" advice should be revoked.

[49] RIF Supervisor p. 2.
[50] Norman contemporaneous notes [MET00005199] p. 5.

29.51 However, the RIF for Supervisors does repeatedly make it clear that even in the case of "a large number of FSG calls" it is essential that the fullest information possible be passed from the control room to the incident ground and vice versa. As in the case of the word "multiple" in paragraph 4.1 of PN790, the expression "a large number" is not defined, but (as in the case of PN790) it is unlikely to have contemplated more than about seven at any one time.

29.52 The reasons for the deficiencies in the RIFs will be explored at Phase 2.

5 Deficiencies in handling FSG calls

29.53 In the light of the deficiencies in policies and training identified above, it is perhaps no surprise to find that in many respects the CROs' handling of FSG calls was unsatisfactory. Their actions, as evidenced by their own accounts, the transcripts of the 999 calls and the contents of the SIL, showed that:

a. They were not sufficiently familiar with what the relevant LFB policies required them to do and the order in which to do it.

b. There was no consistent understanding among them of some of the basic concepts underlying the advice to be given to a caller, or the information to be gathered and at what stage.

c. As a body, they frequently failed to apply the policy requirements consistently.

29.54 These failings can be grouped around five distinct features of the advice that CROs gave to emergency callers from within the building. In general:

a. When callers said that they could hear, smell, feel or see (i.e. were affected by) fire, heat or smoke, CROs did not try to find out to what extent they were directly affected; often they did not advise them to leave their premises but instead told them to stay where they were.

b. CROs did not carry out a proper assessment of the safety of the escape route but advised the caller to stay put or moved immediately to the "protect" phase. All calls of that kind were treated as FSG calls, even though the caller may not in fact have been trapped.

c. CROs invariably told callers that firefighters were on their way without having any sound basis for doing so. As a result, some callers were lulled into a false sense of security, remained in their flats and did not attempt to leave with sufficient vigour, or at all, despite the fact that escape was possible.

d. CROs did not take in what callers were telling them about the location of fire and smoke; instead they too often treated what callers were telling them with scepticism, in some cases contradicting the caller.

e. CROs did not take adequate details of flat numbers, the number of people present or whether people were disabled or had health or other conditions that might impede escape, and they often did not take sufficient information about conditions in the flat.

29.55 The unprecedented volume of calls from people trapped inside the building placed enormous pressure on the control room, but in many cases that does not provide an excuse for these shortcomings, all of which involved significant departures from established policy in one way or another. The evidence which leads to these conclusions is summarised below.

Failure to ascertain the extent to which callers were affected by fire, heat or smoke

29.56 In early calls to the control room callers told CROs that they could smell or see smoke in their flats, but not that they were trapped. CROs advised callers to stay put without exploring and assessing the conditions, contrary to the advice set out in Appendix 3 of PN539 and the RIF for Operators.

29.57 In some instances that was a result of the CRO's failure to understand the policy. One example was CRO Howson, who would advise a caller that if smoke was coming into their flat, either through the door or the window, she would not consider that the caller was "affected" by it within the meaning of PN539 and would therefore not start to explore with the caller whether it was safe to leave. Instead, she would advise them to stop the smoke coming in and await rescue. The critical question, in her view, was whether the flat was on fire; only at that point would she begin to explore the possibility of escape.[51] She explained that that was because she assumed that in a high-rise building a caller is safe if they are not directly affected by fire, even if there is smoke coming in.[52] On that kind of call she would not usually take any further details. The calls at 01.32.10 from Biruk Haftom on the top floor and at 02.00.33 from Anthony Disson in Flat 194 on floor 22[53] provide two examples of CRO Howson's assumption that, because the flat was not affected by fire (as she understood it), there was no need to explore whether the caller could leave the building safely. In both calls, the callers had reported that they were affected by smoke. Her understanding of the policy in this narrow way was not supported by SOM Smith[54] and was a serious error.

29.58 CRO Adams, on the other hand, did think that a caller was "affected" by fire if they could see fire coming.[55] CRO Fox thought that a caller who had smoke in their flat was "affected" by smoke.[56] However, in practice, the CROs did not always apply their understanding of the policies to the calls they took.

a. During a call made at 01.26.58 from Flat 95 on floor 12,[57] Katarzyna Dabrowska told CRO Fox that her neighbour's kitchen was on fire and that smoke was coming into her own flat through the floor from the main door. Katarzyna Dabrowska did not tell CRO Fox that she was trapped. CRO Fox did not advise her to leave now that smoke was entering her property.

b. Similarly, Anthony Disson[58] calling at 01.30.08 from Flat 194 on floor 22 said to the control room that "you could not see a hand in front of ya", and yet CRO Fox did not tell him to leave the flat or explore whether he could safely do so. She explained her failure to do so by the number of calls needing to be answered.

c. At 01.30.38 CRO Gotts took a call from Naomi Li in Flat 195 on floor 22,[59] in which she was told that there was smoke in the flat and that the fire was in next door's kitchen. She did not tell CRO Gotts that they were trapped. Naomi Li asked CRO Gotts "Do we stay in the flat" to which CRO Gotts replied "Well, I obviously can't advise you but I'll let the

51 Howson Day 80/127/8-129/17, 80/139/23-140/4.
52 Howson Day 80/137/8-138/16.
53 Howson Day 80/152/9-23.
54 SOM Smith said that being affected by fire, heat or smoke meant that the caller should be advised to leave and assisted in assessing the safety of the exit route: Day 22/5/9-20.
55 Adams Day 80/16/4-17.
56 Fox Day 80/189/1-10, 80/191/4-19, 80/227/1-6.
57 [LFB00000309].
58 [LFB00000459].
59 [INQ00000472]; [LFB00000311].

firemen know you're there, ok?" That response did not comply with PN539 and the RIF for Operators, which required her to advise them to leave the flat unless they thought they were trapped, and then to explore with her whether there was a safe means of escape, and, if not, to give FSG advice. She declined to give any advice. She explained that omission by reference to her not having had a clear picture of the conditions in the exit route,[60] but that was because she did not engage Naomi Li in making an assessment together. She could not explain why she had not pressed Naomi Li to assist her in that exercise.[61] SOM Smith accepted that the approach taken on this call represented a departure from normal practice.[62]

d. Even OM Norman departed from policy in her advice to Farah Hamdan in Flat 175 on floor 20 who called at 01.30.02.[63] Farah Hamdan told her that the fire was in her neighbour's flat but that there was smoke coming into her own flat. She did not tell OM Norman she was trapped, but she did ask her what she should do. OM Norman advised her to stay in the flat unless it was safe to leave. She did not tell her that, because her property was now affected by smoke, that she should leave, nor did she assess with Farah Hamdan whether it was safe to leave.

Inadequate assessment of escape routes

29.59 CROs did not adhere to the requirements of PN539 or the RIF for Operators in properly moving through each of the three stages explained above.[64] Once callers reported that they were affected by fire, heat or smoke and that they believed that they were trapped, CROs failed to assess the safety of escape routes with them. Some CROs said when giving evidence that they knew that the policy required them to assess conditions and whether there was a safe exit route, for example, by asking callers about the situation, alternative exit routes and the severity of the smoke,[65] but in practice they took callers' statements that they were trapped at face value and too often jumped to the conclusion that no escape route existed. It was clear from the evidence that the reason they failed to adhere to the policy was due to the sheer number of calls that needed answering coupled with an assumption that crews would reach the occupants. In the absence of information from the incident ground that crews were having difficulties or that people were able to escape from the tower despite the conditions, the CROs were left to make assumptions based on their experience of previous fires and the belief that compartmentation would hold. The following are some examples from the evidence which show how widespread the problem was:

a. During a call at 01.30.00 with Mariem Elgwahry[66] on floor 23, CRO Duddy was told that there was smoke entering the flat and that there was fire in her own flat on the floor below, but he did not ask her whether there was any safe exit route.[67]

60 SOM Smith similarly attempted to defend CRO Gotts's approach by reference to CRO Gotts not knowing the conditions in the escape route (Day 22/14/14-16/22) and by reference to the volume of calls (Day 22/16/25-17/12).
61 Gotts Day 43/172/8-173/2.
62 Smith Day 22/16/13-17/12.
63 [LFB00000314].
64 Namely, stage 1 (the caller is safe to remain in their flat); stage 2 (the caller is affected by fire, heat or smoke and may need to evacuate), and then stage 3 (the caller is trapped in their flat).
65 For example, CRO Fox Day 80/189/1-10, 191/4-19, 227/1-6; CRO Howson Day 80/130/9-25; CRO Russell Day 76/10/15-15/18.
66 [LFB00000310].
67 Duddy Day 42/209/15-20.

b. CRO Gotts took another call at 01.43.19 from Natasha Elcock during which she reported that there was now smoke entering her flat.[68] She accepted that she had not explored alternative escape routes with her.[69]

c. CRO Gotts took a call at 01.47.49 from Meron Woldeselassie Araya and Lina Hamide[70] in Flat 74 on floor 10; again, she failed to explore alternative routes of escape. She put her omission down to the number of calls waiting and to accepting the caller's own assessment that they were trapped rather than testing it with them.[71]

d. In a call made at 02.13.03,[72] Nicholas Burton in Flat 165 on floor 19 told CRO Adams that he was trapped. She accepted what he said without exploring precisely why he thought he was trapped. She explained that she had assumed that he was trapped because he had said so and did not explore that in detail with him because there were more calls waiting. He said that he was safe and she expected the crews to get to him.[73]

e. During a call at 02.32.41 from Natasha Elcock[74] CRO Russell simply asked her whether she thought it was safer for her to stay or to try to leave.[75] She failed to ask for an assessment of the safety of escape routes. CRO Russell explained that CROs rely heavily on what the caller can see and leave the decision to them. She also blamed her failure to assess the prospects of escape on the volume of calls being received.[76]

29.60 The failure of CROs to assess the prospects for escape in accordance with the policies had two potential consequences in the period before the "stay put" advice was changed. First, occupants may have stayed in their flats when they could have escaped to safety, even though the conditions in the lobbies and stairs were increasingly hostile after around 01.40 and certainly much more difficult after 02.00. Secondly, the incident ground was told that all 999 calls from the tower were FSG calls and that occupants therefore needed rescuing, whereas some could in fact have escaped without assistance. That could have led incident commanders to adhere to the strategy of responding to FSG information relating to individual callers for longer than might otherwise have been the case.

Assurances to callers that the firefighters would rescue them

29.61 A widespread feature of the exchanges between callers from the tower and the control room is that callers were routinely told that firefighters were on their way to rescue them, or knew where they were, or would be told where they were, or some other variant of that advice. However, all that was said without any reliable information from the incident ground to back it up. As SOM Smith accepted, there was an expectation that crews had been and would continue to be committed and that people would be rescued, but the control room did not know what was happening on the incident ground, where the firefighters were, or which floors they could reach.[77] The following are some examples of the advice given throughout the night:

68 [LFB00000323].
69 Gotts Day 43/177/23-178/1.
70 [LFB00000330].
71 Gotts Day 43/180/8-181/10.
72 [LFB00000344].
73 Adams Day 80/90/10-91/11.
74 [LFB00000360].
75 Russell Day 76/57/23-58/18.
76 Russell Day 76/58/6-18.
77 Smith Day 22/97/19-98/6, and the control room Debrief Report [LFB00003113] p. 4.

CRO Duddy:

a. At 01.34.50, CRO Duddy took a call from Hashim Kedir in Flat 192 on floor 22, in the course of which he advised him to stay put, telling him that the fire brigade had "people coming to you now".[78]

b. At 01.44.43, CRO Duddy spoke to Roy Smith in Flat 95 on floor 12 and told him that "we've got a lot of people to get out and we're coming up … we're clearing everybody out as we go".[79]

c. At 01.50.00, CRO Duddy spoke to Anthony Disson in Flat 194 on floor 22 and told him that: "we're gonna come up, we've got firefighters coming to the 22nd floor already".[80]

CRO Howson:

a. At 01.32.10 CRO Howson told Biruk Haftom (who had by then moved from Flat 155 to the top floor): "I'll get the fire brigade to come along and check that everything's OK once they've put the fire out".[81]

b. At 02.18.06 she took a call from Hashim Kedir, in the course of which she advised him that: "they're making their way now … it's slow progress, I'm afraid, but they will get to you as soon as they can".[82]

c. At 02.25.38 she took a call from Mariem Elgwahry, in which she asked: "Can you get us a chopper or something, could you get a helicopter or something to get us out?", to which CRO Howson responded: "There is, there is one there, OK, all right, the fire brigade are on their way now, they're making their way".[83]

CRO Gotts:

a. At 02.15.07 CRO Gotts took a call from the elder son of Karen Aboud, in the course of which he asked CRO Gotts: "Are the fireman going to come?", to which she replied: "Yes, they, the firemen are there. They know you are there. They're going to come and find you, OK. There's just lots of floors, isn't there?" The caller then asked: "Is all going well?", to which she replied: "Yeah, they're putting the fire out. They're trying to put the fire out, OK?" Towards the end of the call, having been asked again whether the firemen will come, she said: "Yes, the firemen will come, okay? And they're on the 12th – they're - - they know you're on the 12th floor".[84]

b. At 02.42.14 she took a call from Paulos Tekle in Flat 153 on floor 18, who said that nobody was evacuating them and requested assistance for evacuation. CRO Gotts assured him that she would pass the message on to the firefighters and that "they can come up and

78 [LFB00000315].
79 [LFB00000324].
80 [LFB00000328].
81 [LFB00000667].
82 [LFB00000351].
83 [LFB00000670]. This advice was early in the call, before CRO Howson learned that the fire was in Flat 205 and advised the occupants to leave (p. 7). For further instances of requests for helicopters by trapped occupants, Bassem Choukair asked for a helicopter at 02.43.55 [LFB00000376] and again at 03.02.06 [LFB00000396]; Nadia Choucair asked for a helicopter at 02.37.00 [LFB00000366]; Nura Jemal asked for a helicopter at 02.31.23 [INQ00000276]; Hashim Kedir asked for one (with Nura Jemal) on a call at 03.08.56 [LFB00000406]; the daughter of Hesham Rahman asked if a helicopter would be used at 02.36.12 [LFB00000364]; Paulos Tekle requested a helicopter at 02.42.14 [LFB00000371]; Lydia Liao requested a helicopter to be sent at 02.55.59 [LFB00000389].
84 [LFB00000346].

find you". By that point the "stay put" advice had been revoked and CROs had been told that they should advise people to leave the building (see below).[85]

CRO Russell:

At 01.29.48 CRO Russell took a call from Jessica Urbano Ramirez (who by then had moved to Flat 201 on floor 23), in the course of which she told Jessica that the crews were coming for her and were fighting the fire and making their way up.[86] CRO Russell accepted that she had had no hard information on which to base those statements but said that they reflected what she had expected to happen and that she was trying to give reassurance.[87]

29.62 The CROs were well aware that no information about the response to FSG information, and in particular whether crews had been deployed in response to particular FSG calls, was being passed to the control room from the incident ground. The assurances they gave were based solely on what they expected or assumed to be happening or, in some cases, were given simply to calm worried callers. As the CROs who were asked about those calls accepted, their assurances were in fact likely to be misleading, because they were not based on any information coming from the incident ground.

29.63 After the "stay put" advice had been changed, SOM Smith and OM Norman told the CROs that callers had a "last chance" to leave the building and should do so without waiting for assistance. That message implied, or was at least intended to imply, that no one would be coming to rescue them. CROs were advised to use blunt language to get the message across to the callers. However, CROs did not always follow that advice and some continued to reassure callers that firefighters were coming to rescue them. For example:

a. At 02.55.38, after the "stay put" advice had been withdrawn, CRO Gotts took a call from Marcio Gomes in Flat 183 on floor 21 who told her that he and his family could not leave; she advised him that she would "let the firemen know, OK, to come up to you".[88]

b. At 03.08.56 (again, after the "stay put" advice had been withdrawn) CRO Gotts took a call from Flat 193 on floor 22. The callers asked her whether they could escape through the window to a helicopter that they could see. CRO Gotts told them that "We're coming up to you inside" and that "big ladders" were coming. Both callers could see a helicopter and asked for one to be sent to rescue them, to which CRO Gotts answered: "Okay, I'll let them know" and "Okay. All right, well I'll pass that over".[89] CRO Gotts was unable to explain why she had told the callers that big ladders were coming.[90] She also accepted that she had not intended to leave the callers with the impression that they could be rescued by helicopter. She had assumed that helicopter rescues were not possible because the rotor would fan the flames. She said that the reason that she had not advised the callers in clear terms that they would not be rescued by helicopter was to avoid causing them additional panic.[91]

85 [LFB00000371] p. 8.
86 [LFB00055504].
87 Russell Day 76/33/1-4, 38/7-20.
88 [LFB00000392] p. 3.
89 [LFB00000406].
90 Gotts Day 43/213/13-214/6.
91 Gotts Day 43/216/2-15.

29.64 Some of the occupants who gave evidence told the Inquiry that these assurances had created an expectation of rescue and had thereby deterred them from taking active steps to escape at an earlier stage. They therefore increased the risk that callers would die in their flats waiting for help that would never come or, if it came, would come too late. Examples of such evidence include the following:

a. Andreia Perestrelo said:

> "We only stayed in the flat as long as we did because Marcio had spoken to 999 and he told me that help was coming."[92]

b. Marcio Gomes said in his written statement to the Inquiry:

> "I wish the operators had been honest and more knowledgeable about the situation from the first phone call as, had I known that no help was coming, I would have handled the situation differently. I believe that there was a miscommunication between the call centre and the command centre on the ground and this is why we were still being told that help was coming. I appreciate that the operators started to change their advice on my third 999 call, but the operator still said she would let the crews know and would make us a priority. At no point did she say no help was coming and we had no choice but to try and get out ourselves. If I knew that no help was coming I would not have stayed in the burning tower with my family a minute longer."[93]

He told the Inquiry in his oral evidence that if he had known that the firefighters could not make it to their floor, he would have changed his approach.[94]

a. Roy Smith spoke to the LFB control room four times during the night. He said in his oral evidence that the advice from the CROs that firefighters were coming had influenced his actions.[95]

b. Karen Aboud, after a failed attempt to evacuate, was told by CRO Gotts during the call she made at 02.06.55 that she should stay put and that the firefighters would come up to her.[96] In her statement to the Inquiry, Karen Aboud said:

> "So at this stage I was thinking I should stay because of waiting for the firemen who I'd been told were coming. I didn't want my kids to get hurt – I thought it was just too risky to try and go without the firemen."[97]

c. Karen Aboud eventually escaped with her two sons after being told by CRO Duddy, in a call made at 03.08.01, that it was their only chance of survival.[98]

d. Meron Woldeselassie Araya and Lina Hamide called 999 at 01.47.49. CRO Gotts told them that she could not advise them to leave and that she would let the firefighters know that they were there.[99] According to Lina Hamide's evidence, they refused to follow advice from friends outside the tower telling them to get out because they had been advised to stay and thought that the LFB would rescue them. They eventually left the building after Lina Hamide, who was speaking on the telephone to her friend Musie, overheard a policeman tell Musie that they could not guarantee that the firefighters would reach them and they had to get themselves out.[100]

92 [IWS00000349] paragraph 62.
93 [IWS00001078] paragraph 134.
94 Gomes Day 71(Fri)/88/2-7.
95 Smith Day 64/81/23-82/11.
96 [INQ00000371] p. 3.
97 [IWS00000130] paragraph 28.
98 [LFB00000402].
99 [LFB00000330].
100 [IWS00001175] paragraphs 17, 18, 27.

29.65 On the night of the fire the CROs received no concrete information from the incident ground beyond that which was contained in the formal and relatively anodyne "informative messages". Their advice to callers that firefighters were on their way was based purely on their personal expectations and assumptions.[101] That was very dangerous, because the whole concept of fire survival guidance rests on a well-founded expectation that the caller will ultimately be rescued. The purpose of PN790 is to ensure an exchange of information between the control room and the incident ground so that appropriate advice can be given.[102] Without it, there can be no reliable grounds for such an expectation and the caller must be told to leave at all costs. However, it is not possible to say with any confidence whether unsupported assurances of that kind caused or contributed to any particular fatality.

29.66 Given the stark warning in paragraph 293 of the LFB Lakanal Report about the dangers of assuming that firefighters are on their way to rescue the caller, it is clear that that lesson had not been learned by the LFB, which repeated the mistake many times over in response to the fire at Grenfell Tower.

Dismissing information from callers about the location of the fire

29.67 A striking feature of many of the 999 calls in the early stages of the fire was that in many cases CROs insisted that the fire was on floor 4 of the building, contrary to what they were being told by the caller. They appear to have been unable to grasp the fact that it had spread rapidly up the building so that by 01.30 it was affecting (and indeed had entered) flats on the uppermost floors. Instead, CROs treated what callers were saying about the location of the fire with scepticism and in some cases actually contradicted them.

29.68 Furthermore, the CROs did not take in what they were being told by callers from outside the building so as to build up a broader picture of what was happening. There was no organised means of sharing with other CROs information obtained from callers, with the result that the CROs had no overall picture of the speed or pattern of fire spread. For too long they continued to think that the fire was still contained on the lower floors of the building. CROs consistently described being unable to understand what was happening on the incident ground. That was partly because they were getting no information from the command units at the incident ground.

29.69 These shortcomings emerge clearly from the evidence relating to the calls received in the 40 minutes or so after they started coming in to the control room at 01.21.[103] The following are particular examples:

a. At 01.30.38 CRO Gotts received a further call from Naomi Li, who told her that there was smoke on floor 22. CRO Gotts said that the fire was on floor 4.[104] Naomi Li told her that her neighbour had said that the fire was actually in her kitchen. CRO Gotts registered that fact, but immediately said that "You've just got some smoke up there". She told the Inquiry that she may not have understood what Naomi Li was saying and thought that some smoke had just travelled up to that part of the building.[105] She did not know that at the same time CRO Duddy had been speaking to the neighbour in Flat 196, Mariem Elgwahry, who had told him that her flat was on fire.[106]

[101] For example, Adams Day 80/91/15-19.
[102] Lakanal Control Report Recommendation 7 and Action 7 p. 55; PN790 p. 2.
[103] The first 999 call from the building was at 01.21.24 from Naomi Li (Flat 195, floor 22) [LFB00000303].
[104] [LFB00000311].
[105] Gotts Day 43/169/19-171/10.
[106] [LFB00000310].

b. At 01.30.00 CRO Duddy took a call from Mariem Elgwahry from Flat 196 on floor 22, who told him that the fire was in her flat and that she and others were now on floor 23.[107] CRO Duddy corrected her, saying:

> "Okay, the fire's on the 5th [sic] floor so you're well away from the fire, OK?"

She responded:

> "No it's not. It's in our flat, we ran out of our flat. It's in our kitchen."

He still questioned whether it really was fire or whether it was smoke. When giving evidence he explained that he had corrected her because in his experience people on upper floors of high-rise buildings often think there is fire when in fact there is only smoke and because at that point he still believed that the fire was on floor 4.[108] That was despite having taken a call at 01.26.54 from Helen Gebremeskel, in which he had been told that Flat 186 on floor 21 was on fire and that the whole building was on fire,[109] and despite having also taken a call at 01.28.26 from Natasha Elcock in Flat 82 on floor 11,[110] who had told him that she was stuck because of smoke in the lobby. His explanation was that he had been relying on information that they had received from the incident ground and there had been no confirmation of the extent of fire spread.[111]

c. At 01.34.50 CRO Duddy took a call from Hashim Kedir in Flat 192 on floor 22, in which he told him that he and his family were trapped because the stairs were full of smoke.[112] CRO Duddy replied that the fire was on floor 5 and that the smoke could be coming up from there. He was unable to explain why he had told him that the fire was on floor 5 (or floor 4) when only four minutes earlier he had been told by Mariem Elgwahry[113] that the fire was already in her flat on floor 22.[114] He told Rosemary Oyewole[115] in Flat 113 on floor 14 that the fire was on floor 3 when responding to the call she made at 01.37.58[116] and told Roy Smith in Flat 95 on floor 12 that it was on floor 4 when responding to the call he made at 01.44.33.[117] CRO Duddy said that Roy Smith was "well away from" it.

d. While responding to the call made by Jessica Urbano Ramirez at 01.29.48 CRO Russell told her that the fire was on floor 4,[118] because she thought that, although it might have moved, it was not anywhere near where Jessica was.[119] Jessica told CRO Russell that "there's fire in the house", but she repeated her assurance to Jessica that the fire was below her, on floor 4.

e. When he called the control room at 01.25.16 from Flat 111 on floor 14, Denis Murphy told OM Norman that fire was "coming right past my window from next door", but she told him that the fire was actually on floor 4.[120] Denis Murphy repeated that it was on floor 14, but she corrected him, saying, "No, it's on the 4th – 1, 2, 3, 4". OM Norman told

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107 [LFB00000310].
108 Duddy Day 42/207/22-208/5.
109 [LFB00000306].
110 [LFB00000307].
111 Duddy Day 42/208/6-209/2; also in relation to the call at 01.44.43 from Roy Smith in Flat 95, floor 12 [LFB00000324]; Duddy Day 42/219/25-220/5.
112 [LFB00000315].
113 [LFB00000310].
114 Duddy Day 42/215/1-6.
115 [LFB00000678].
116 Duddy Day 42/218/11-19.
117 [LFB00000324].
118 [LFB00055504] p. 3.
119 Russell Day 76/29/1-6.
120 [LFB00000308] p. 2.

the Inquiry that she thought that Denis Murphy had meant that smoke was outside his window, not fire, and that she had not learnt from her discussion with him that the fire had spread.[121] She said that it was her sense of disbelief that the fire could have reached floor 14 that had led her to correct him.[122] The upshot was that in her call to CU8 at 01.35.24 she did not pass on the information that the fire had already reached floor 14.[123]

f. At 01.30.02 OM Norman took a call from Farah Hamdan in Flat 175 on floor 20, in which she reported that her neighbour's flat was on fire and that smoke was coming into her own flat.[124] OM Norman told her, however, that the fire was on floor 4. Like CRO Gotts, OM Norman was unaware of the call CRO Duddy had received at the same time from Mariem Elgwahry, in which she had told him that the fire had reached the top of the building.[125] Moreover, she did not put the information she had obtained from Farah Hamdan together with the information she had obtained from her recent conversation with Denis Murphy and still thought that more smoke than fire had reached that far up the building.[126] In hindsight, OM Norman accepted that there was a risk that, in telling the caller that the fire was far away, she had given her to understand that she should not be concerned.[127]

g. When responding to the call made at 01.39.15 by Hesham Rahman from Flat 204 on floor 23, OM Norman told him that the fire was on floor 4.[128]

h. In a call made at 01.46.18 Sener Macit in Flat 133 on floor 16 told CRO Adams that there was smoke coming under his door.[129] She told him that the firefighters were dealing with a fire on floor 4. He questioned that, but she confirmed it, despite the fact that during a call made at 01.38.18 Zainab Deen in Flat 115 on floor 14 had told her that fire was coming through her door.[130] CRO Adams accepted in her evidence that by that time she had known that the fire was not contained on floor 4 and that that was probably the wrong information to give the caller. She could not explain why she had said it otherwise than by saying that she did not have any other information and that was what she definitely knew at the time.[131] She blamed the lack of information from the incident ground, saying:

> "…we had no clarification at that point as to where the actual fire was spreading to, other than what was coming in from the callers. But nothing specific from the ground itself."[132]

i. CRO Howson was told in a call at 02.10.31 from Hashim Kedir in Flat 192 on floor 22 that the fire was in their kitchen.[133] However, about a quarter of the way into the call, CRO Howson insisted that the fire was on floor 4. She explained to the Inquiry that (even after some 40 minutes of continuously handling FSG calls)[134] she had not appreciated that the fire was affecting flats that high up in the building. She had assumed that the

121 Norman Day 42/105/16-106/3, 107/3-6.
122 Norman Day 42/144/1-145/13.
123 [INQ00000194].
124 [LFB00000314].
125 Norman Day 42/85/17-86/24.
126 Norman Day 42/66/8-9.
127 Norman Day 42/108/12-110/4.
128 [LFB00000329].
129 [LFB00000326].
130 [LFB00000321].
131 Adams Day 80/52/19-53/23.
132 Adams Day 80/53/25-54/3.
133 [LFB00000345].
134 As OM Norman put it in her witness statement [MET000080589] p. 5 "[B]etween 01.20 to 2ish all hell broke loose".

fire was still on floor 4 because that was where the original fire had been and that, as she put it:

> "… it did not do what other fires do. It just, it shouldn't have happened, you know, the fire shouldn't have been there."[135]

29.70 CRO Howson's evidence stands in striking contrast with that of OM Norman, who said that shortly after 01.30 she had started to become aware that the control room was receiving calls saying that the whole block was on fire from top to bottom.[136] Indeed, by 01.33, there had been calls reporting fire in a number of flats involving 15 adults and three children.[137] By 02.00 those numbers had grown significantly. It is apparent that the control room as a whole had failed to understand that the fire had spread a long way from its point of origin and was affecting occupants right up the tower. OM Norman ought to have ensured that what she had learnt about the development of the fire was swiftly made known to all the CROs.

Failing to obtain sufficient information

29.71 On the night of the fire CROs routinely failed to ask callers for their flat numbers, the number of people in the flat, and information about people whose mobility or other health or personal problems might impede their escape. CROs also failed to obtain or provide the command units with sufficient information about conditions being experienced by callers in order to enable them to prioritise rescues.

Flat numbers

29.72 It is obvious that CROs answering calls from high-rise residential buildings must at least obtain the flat numbers of callers who are reporting fire or smoke. SOM Smith confirmed that in the case of FSG calls she would be surprised if CROs were providing advice to callers for whom they had no flat number.[138]

29.73 However, on the night of the fire some CROs frequently failed to ask callers for their flat numbers. For example, CRO Gotts did not seek that information from Naomi Li during the call she made at 01.30.38[139] but was unable to explain that omission. Nor did she seek that information from Meron Woldeselassie Araya and Lina Hamide during the call they made at 01.47.49.[140] In that case she attributed her omission to the volume of calls coming in.[141] Nor, again, did she seek that information from Karen Aboud's elder son during the call he made at 02.15.07;[142] again, she could give no reason for not having obtained the caller's flat number.[143] CRO Gotts was by no means the only one who failed to obtain that information. CRO Fox failed to obtain the number of Anthony Disson's flat when he called at 01.30.08[144] and CRO Duddy failed to obtain the location of Mariem Elgwahry, who had moved from Flat 196 on floor 22 to Flat 205 on floor 23 by the time she called at 01.30.00.[145]

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135 Day 80/154/21-155/10.
136 Day 42/84/12-14.
137 Damiana Louis (Flat 96, floor 12) at 01.24.57; Helen Gebremeskel (Flat 186, floor 21) at 01.26.54; Katarzyna Dabrowska (Flat 95, floor 12) at 01.26.58; Shah Ahmed (Flat 156, floor 18) at 01.27.26; Zainab Deen (Flat 115, floor 14) at 01.29.02; Jessica Urbano Ramirez (Flat 176, floor 20) at 01.29.48; Mariem Elgwahry (Flat 196, floor 22) at 01.30.00; Farah Hamdan (Flat 175, floor 20) at 01.30.02; Biruk Haftom (Flat 201, floor 23) at 01.32.10; Abdeslam Sebbar (Flat 81, floor 11) at 01.33.12.
138 Smith Day 22/80/1-25.
139 [LFB00000311]; Gotts Day 43/168/24-169/5.
140 [LFB00000330].
141 Gotts Day 43/179/23-180/6.
142 [LFB00000346].
143 Gotts Day 43/187/21-188/1.
144 [LFB00000459].
145 [LFB00000310].

29.74 It is not easy to understand why in each case the information was not sought when it was obviously essential, nor why the omission was so widespread. Although the sheer press of calls might have provided an explanation later in the night, it does not satisfactorily explain why the information was not obtained in the early stages of the incident.

Number of persons

29.75 Both PN539 and PN790 require CROs to ask the caller how many people are involved, but some CROs frequently did not seek that information. Again, by way of example only, CRO Gotts failed to obtain that information from Naomi Li during a call made at 01.30.38,[146] or from Roy Smith during a call made at 01.38.37 (even though he told her that there were children in the flat),[147] or from Meron Woldeselassie Araya and Lina Hamide during a call made at 01.47.49.[148] CRO Duddy failed to obtain that information from Natasha Elcock in the course of a call made at 01.28.26,[149] or from Mariem Elgwahry during a call made at 01.30.00,[150] or from Hashim Kedir during a call made at 01.34.50.[151] Similarly, CRO Russell failed to obtain that information from Natasha Elcock in the course of a call made at 02.32.41.[152]

Mobility, health or other vulnerabilities

29.76 CROs were not trained to ask callers whether they had any physical disabilities or other personal attributes (such as old age, the presence of young children or pregnancy) which might hamper their escape. It is therefore unsurprising that they did not ask callers about such matters, but left it to them to volunteer that information.[153] OM Norman said that they would expect the caller to tell the CRO "pretty quickly" that they had impaired mobility if they thought they were trapped.[154] Likewise, CRO Gotts said that she did not explore with callers whether they had impaired mobility but that it was something they normally mentioned themselves.[155] That was not invariably the case, however. Sometimes callers did raise it: for example, Mariem Elgwahry told CRO Howson of her mother's medical conditions during the call she made at 02.25.38 and Hesham Rahman told CRO Russell about his mobility problems when he called at 02.36.07.[156] Sometimes, however, they did not: Nicholas Burton did not mention his wife Pily's disability either when he called at 01.56.20 or when he called again at 02.13.03.

29.77 If callers did volunteer information of that kind, they often did so only when the CRO had got to the point of exploring whether they could leave, which itself depended on the CRO's considering that question before moving to the next phase. In practice, however, CROs routinely moved to the "protect" phase without first investigating fully the possibility of safe escape. In such cases they were unlikely to have reached the point of discovering whether the caller had personal difficulties of a kind that might need to be taken into account by firefighters. That seems to have been the practice in other control rooms too, but it was exactly what paragraph 294 of the LFB Lakanal Report warned against.

146 [LFB00000311].
147 [LFB00000318].
148 [LFB00000330].
149 [LFB00000307].
150 [LFB00000310].
151 [LFB00000315].
152 [LFB00000360].
153 For example, Adams Day 80/91/20-92/6; Howson Day 80/139/23-140/4; Gotts Day 43/208/5-25.
154 Norman Day 42/60/15.
155 Gotts Day 43/208/11-25.
156 [LFB00000368].

Conditions at the caller's location

29.78 PN539 and PN790 require CROs to obtain information about conditions at the caller's location. Both policies give examples, such as heavy smoke, thick smoke, slight smoke, as well as the caller's proximity to the fire, if known. However, that information was not always obtained by CROs on the night of the fire. When they were told that smoke was entering a flat or that the caller was trapped by smoke, they often did not seek any more precise information about conditions,[157] with the result that such information could not be passed to the incident ground. Its absence led WM Meyrick to ask CRO Adams at 01.50.09 to obtain information from callers about smoke logging and the nature of the smoke to enable him to prioritise calls. However, CRO Adams did not pass that message on to anyone else in the control room and so that information was not obtained, unless the caller volunteered it.

Failing to remain on the line with the caller

29.79 As already mentioned, PN539 defines an FSG call as one where the CRO stays on the line with the caller. It is an unsatisfactory definition, but it is reasonably clear that a CRO handling a call from a caller who is trapped and cannot escape should normally stay on the line. However, on the night of the fire, CROs were generally unable to do that. Instead, they advised callers to seal the places where smoke was getting in with wet towels and await rescue, before ending the call in order to take the next one in the queue. That departure from policy was necessary to enable the control room to cope even at a basic level with the number of FSG calls being received from the tower. Between 01.26.27 and 06.14.47 CRO Gotts handled the highest number of 999 calls, about 70 in all, and there is no doubt that the control room was overwhelmed.[158] Very few calls lasted more than about three minutes because the CROs did not have the luxury of time. They were trying to get through as many calls as possible and pass the relevant information to the incident ground to enable rescues to be carried out. It was a matter of judgement for each CRO whether and when to let callers go.[159]

29.80 The exceptions, such as CRO Russell's 55-minute call with Jessica Urbano Ramirez and CRO Fox's 33-minute call with Marcio Gomes, appear to have occurred at random. When asked why she had stayed on the line with Marcio Gomes but with none of the other callers she had spoken to that night, CRO Fox had no explanation and described the circumstances as "very alien to all of us in the control room that night".[160]

29.81 The one benefit of CROs' not staying on the line with callers was that other callers did at least get through to the control room and were able to give information to the CROs which in general was passed on to the incident ground. However, it also meant that the CROs almost never gave proper FSG advice tailored to the individual caller and the changing conditions they faced as the call progressed, as contemplated in the RIFs.

29.82 Individual CROs cannot be blamed for not staying on the line to continue what were on any view FSG calls. PN790 and PN539 did not contemplate that there would ever be more FSG calls than the number of CROs available to handle them in accordance with the guidance they provided. It was a problem caused by the volume of calls generated by the fire and not intrinsically a shortcoming in the way that CROs carried out their role. However, the very fact

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157 For example, call at 01.26.58 with Katarzyna Dabrowska [LFB00000309]; call at 01.30.38 between Naomi Li and CRO Gotts [LFB00000311/INQ00000472]; call at 01.28.26 between Natasha Elcock and CRO Duddy [LFB00000307]; call at 01.34.50 between Hashim Kedir and CRO Duddy [LFB00000315]; call at 01.38.37 between CRO Gotts and Roy Smith [LFB00000318]; call at 01.40.17 between CRO Howson and Denis Murphy [LFB00000322].

158 LFB Control Report.

159 Adams Day 80/94/15-18.

160 Fox Day 80/227/19-228/8.

that FSG calls were almost invariably being terminated prematurely by CROs in order to enable them to take incoming calls ought to have alerted the more senior officers in the control room to the fact that it had become impracticable to give proper FSG advice to callers; and that in turn ought to have prompted them to inform the incident commander, who might then have considered whether a full or partial evacuation of the building should be undertaken. The fact that that did not happen represented a failure of communication between the control room and the incident ground.

6 Managing information

Failing to share information

29.83 In the early stages of the fire, FSG information relating to individual calls was passed to the incident ground by radio. Before long, however, members of the control room attempted to collate FSG information from several calls for transmission to the incident ground. OM Norman collected information from four calls to pass to the incident ground by admin line at 01.35.24, although she said that she had done so because she had not thought that CRO Sharon Darby had been able to get through to the ICP on the radio.[161] She did the same again at 01.47.44. CRO Adams took information from CRO Pam Jones who was responding to a call from the El Wahabi family and passed it to CU8 at 01.50.49 using the admin line, together with information from a call she had taken herself.[162] Following that, CRO Adams went round the control room on her own initiative just before 02.00 and collected details of flats from which FSG calls had come. At 02.00.34 she called CU8 on the admin line and passed information relating to five flats to the officer in charge.[163] However, neither OM Norman or AOM Real, nor CRO Darby, the radio operator, was aware of what CRO Adams had done. CRO Adams accepted that it was likely that information had been duplicated, but thought that it was better for CU8 to have had it twice than not at all.[164]

29.84 One significant matter that emerges from the evidence is that, apart from those early improvised efforts to organise the transmission of FSG information, CROs were unable to compare what they were being told by callers with the information obtained by their colleagues or with the limited information being received from the incident ground. As a result, they did not grasp the scale of the fire and continued to assume that it could not have spread as quickly and as far as it had. However, the CROs also failed to compare what they were told about the development of the fire with what they themselves had been told by previous callers. They were unable to explain that omission otherwise than by saying that they had received no confirmation from the incident ground of what they had been told.

29.85 Their difficulty in understanding the development of the fire resulted from three things: first, an unquestioned assumption that fires in high-rise buildings will not in any circumstances spread through the building, either quickly or at all; secondly, a complete lack of information from the incident ground; and thirdly, the absence of any system enabling CROs to share information obtained from callers in order to gain an understanding of what was happening inside the building.

161 Norman Day 42/76/18-77/4.
162 [INQ00000203].
163 [INQ00000195].
164 Adams Day 80/67/1-70/14.

29.86 For reasons that have already been explained, by 2017 the assumption that fires in high-rise buildings would not in any circumstances spread through the building was no longer one that could properly be made, given that by that time the LFB knew that certain kinds of high-rise buildings could present a risk of rapid and unpredictable fire spread.[165] Whether CROs were given any information on that subject is a question that must be explored in Phase 2.

29.87 The lack of information from the incident ground represented a signal failure to observe some of the key principles of PN790. One of the main purposes of PN790 was to ensure that critical information about the incident and the progress of FSG calls was exchanged between the incident ground and the control room. The requirement to send the control room information about the action being taken in response to FSG calls was set out in mandatory terms in PN790,[166] which recognised that it would enable the control room to give callers information that would be beneficial to them.[167] For the first hour and a half of the incident the only information about the fire which the incident commander sent to the control room was that which was received in the informative message recorded at 01.16.02: that a fourth floor flat was 75% alight. Despite four telephone conversations between WM Meyrick and OM Norman and CRO Adams, WM Meyrick gave them no information about the development of the fire, the conditions in the building or the progress of crews deployed in response to FSG calls and neither OM Norman nor CRO Adams asked for it. Similarly, SM Jason Oliff was not given information of that kind when he started to speak to WM Meyrick by mobile phone at 02.06. At some point he was told that firefighters were having difficulty reaching floor 15, but that appears to have been all. The failure of the incident commander, or anyone else, to tell the control room that the fire had spread well beyond the flat of origin meant that the CROs continued to give wrong information and advice to callers. It was a failure on the part of OM Norman not to press the officers in the command unit (principally WM Meyrick) to give her the information that her CROs needed.

Access to NPAS helicopter information

29.88 The lack of information available to control room officers could have been mitigated by access to national television news and by the availability of a functioning link to the NPAS helicopter. The Stratford control room, unlike that at Merton, had no heli-tele downlink facility, a fact identified as an action point in the LFB's post-incident IMP Report.[168] As matters turned out, the presence of a functioning heli-tele downlink in the Stratford control room would have made no difference on the night of the Grenfell Tower fire, because the NPAS helicopter images of the fire could not be received by the LFB due to a technical defect explained elsewhere in this Report.[169] However, had a heli-tele downlink been available to the control room, it would have provided valuable information to the CROs, because the images transmitted by the helicopter after its arrival at around 01.44 clearly showed that the fire had reached the top of the building.[170] It would immediately have made the CROs aware that the fire was no longer contained on floor 4. OM Norman said that the heli-tele downlink was never used and that she had never had any experience of using it in relation to a fire in a high-rise building,[171] but the incontrovertible evidence was that, if the control room had been located at Merton and the technical defect had not arisen, it would have been available to the CROs.

165 Refer to LFB's Tall Building Facades slide presentation of October 2016 [LFB00003521].
166 Paragraphs 9.1 to 9.3.
167 Paragraph 7.10.
168 [LFB00003114]; [MET00012593] p. 62.
169 Chapter 30.
170 [MET00012593] p. 62 (image 5).
171 Norman Day 42/170/1-14.

Access to broadcast information

29.89 The Stratford control room was equipped with a 45-inch screen television. It also had a smaller portable television.[172] The normal practice in Merton is for the television to be on all the time to provide control room staff with up-to-date news feeds from public television news providers.[173] On the night of the fire, the large television screen in the Stratford control room was not working and OM Norman decided at the start of the shift not to turn on the small television.[174] Whether it would have been helpful for the CROs to have had images of the fire available throughout the night was a difficult question for them to answer. Although a number of them said they could not be sure if it would have helped,[175] CRO Adams said that she had had experience of watching the television on the night of the riots in London and thought that it was always good to be aware of what was happening.[176] Despite the obvious risk that disturbing images might have distracted some, seeing the pictures on television would have helped to avoid the confusion and bewilderment felt by many CROs who were unable to understand what was happening. As CRO Adams said:

> "So when they're telling us that the fire's on the top floors, you could see they really do mean it's on the top floors. And knowledge is always good. The more knowledge you have, it's always helpful."[177]

29.90 The first recorded images of the fire taken by the Press Association and recorded by the BBC are timed at 01.30.[178] It is therefore likely that if the television had been on, it would have enabled the CROs to understand better the situation in which they were placed and would have helped them to give accurate and realistic advice to callers, at least in the early stages of the fire.

29.91 The lack of any means whereby CROs can share important information calls for a technological solution. In order to provide high quality FSG advice it is also necessary to devise a system of information collection, collation and dissemination in the control room so that the information provided by callers is gathered together and made available to all CROs and the incident ground continuously as an incident progresses.

Conclusions

29.92 On the evidence, I am unable to reach any conclusive findings about whether the failures by CROs to obtain and share information about the matters I have identified led to adverse consequences for any particular individual, let alone materially contributed to any death. However, those omissions in information-gathering not only reveal a widespread failure to comply with the relevant requirements of GRA 3.2 and PN790 but also meant that at no time did any incident commander have the information required to prioritise rescues should they have wanted to use it. GRA 3.2 emphasises that control operators are in a much better position than those on the incident ground to obtain more accurate information about the location of the fire and persons in need of rescue, and that it is that information that should be used by the incident commander to confirm and reassess priorities. WM Meyrick told the

172 Norman Day 42/1-13.
173 By comparison Merton had two 70-inch televisions, one of which showed news coverage and the other operational information: Smith Day 21/94/12-19, 21/95/16-98/16; Adams Day 80/111/9-11.
174 Norman Day 42/98/1-24.
175 Howson Day 80/144/14-18, 166/23-167/9; Gotts Day 43/147/9-14.
176 Adams Day 80/112/3-10.
177 Adams Day 80/112/18-113/2.
178 BBC Timeline images [MET00004561].

Inquiry that, on the night, he was unable to prioritise calls effectively due to the lack of vital information about conditions,[179] although in fairness to the control room staff it seems that he only asked about priorities once.[180]

29.93 The CROs' failure to provide the basic information that each of them should have obtained from callers meant that the incident commander had little chance of being able to establish an effective system of prioritisation. In the final analysis, that may not have mattered much because, despite some effort in CU7 to establish priorities by reference to whether those trapped were children and elderly, the system of deploying crews in response to FSG information on the incident ground never evolved much beyond "first come first served".

7 The revocation of the "stay put" advice

The decision made by SOM Smith and DAC Fenton at around 02.35 to revoke the "stay put" advice represented a fundamental change in the LFB's response to the incident. They made that decision on the basis of the nature and length of the FSG calls, the limited information they had received from the incident ground that crews could not get above floor 15 and SOM Smith's experience of the Lakanal House fire. They did so without any visual information about the building and without any discussion with the incident commander (at that point DAC O'Loughlin), as required by paragraph 8.7 of PN790. As SOM Smith explained, there was "no way" that callers could wait to be rescued. It cannot have been an easy decision to make, and it was one for which there was no precedent or established guidance. I pay tribute to the judgement of SOM Smith and DAC Fenton in making it.

The communication of the new advice to CROs

29.94 Following the decision to abandon the "stay put" advice at around 02.35, SOM Smith instructed OM Norman to tell the CROs that the advice to callers was now that they must leave the building. SOM Smith's evidence was that the CROs "might need to use more forceful and blunt language to emphasise the necessity to evacuate the building".[181] Never before in the history of the LFB had such an instruction been given by a control room senior officer and there is no doubt that implementing it and giving advice of that kind to callers was stressful and difficult for most CROs, as well as wholly outside their experience.

29.95 Although the senior control room staff did not know exactly what conditions were like in the communal lobbies and stairs (since they had not received any relevant information from the incident ground), they were aware that they were poor and that there was heavy smoke logging.[182] SOM Smith was right to tell CROs to use forceful language because callers would realise that they were being asked to go out into extremely hostile conditions and might otherwise retain a lingering hope that they might be rescued. She told OM Norman that CROs should tell callers that they had no choice but to leave the building and when she gave evidence, strongly resisted any suggestion that CROs should leave the decision to the callers themselves.[183]

29.96 OM Norman communicated the new advice to CROs by showing each of them a message on an A4 piece of paper and asking them to confirm that they understood it.[184] As she recalled it in her witness statement, the new advice was that callers should get out of the building,

[179] Meyrick Day 20/75/3-20.
[180] In his admin line call with CRO Adams at 01.50.49 [INQ00000203].
[181] Smith witness statement [MET00007766] p. 4.
[182] Smith Day 22/127/24-129/24, 139/11-140/8.
[183] Smith Day 22/165/18-167/14.
[184] Norman Day 42/157/3-22.

putting wet towels over their heads.[185] In her oral evidence she also recalled that she had told CROs to advise callers to hold hands. Her near-contemporaneous note records that she told each CRO individually that callers "had to try and leave the building" and "try and get out".[186]

29.97 AOM Real also played a part in instructing the CROs that the advice they were to give had changed. However, as she said, she had simply passed on the new advice to CROs without telling them what kind of language or tone to use, leaving it to each individual CRO to decide how to deliver it.[187]

29.98 It seems that the message to be blunt and forceful with callers may not have reached all CROs, because they did not in fact always give the new advice in the uncompromising language SOM Smith had required. In some cases the urgency reflected in the warning recorded in the control debrief notes that it could be the caller's last chance was lacking. That much appears clearly from the tenor of some of the advice given to those who called after about 02.35. Although in the end it was for the CRO handling the call to decide how best to deliver advice of that kind, SOM Smith accepted that some CROs were left with the impression that callers still had to decide for themselves whether it was safe to leave.[188]

How the new advice was communicated to callers

29.99 Many CROs did not fully grasp the uncompromising nature of the advice they had been instructed to give, or were understandably reluctant to give it. As a result, after about 02.35 many CROs continued to give callers the impression that they should decide whether to leave or not. That was contrary to SOM Smith's instructions. Making reasonable allowance for the time required to enable the new instructions to reach all CROs, some of the advice subsequently given by CROs was far from unequivocal. Three examples suffice:

a. During the call made by Bassem Choukair at 02.43.55 and taken by CRO Adams[189] she told him: "Well, we are trying to get to you but it's very difficult…you make the decision whether you think you need to leave or not".

b. When responding to the call made at 02.51.09 by Naomi Li CRO Russell advised her that "your best bet is to try to leave",[190] and used the expression "best bet" three times. She explained in her oral evidence that that was "because no choice is 100% safe, but that was the best one I was offering". She also told Naomi Li that it was for her to decide whether it was safer to leave or to stay. CRO Russell explained that she had put it in that way because sending the caller out into the fire and smoke could have led to her death, whereas she had thought there was a chance of rescue if she stayed.[191] She could not recall in any detail what advice SOM Smith had told her to give or whether she had been told to advise callers that they should leave at all costs. She thought that there would always be an element of judgement, rather than just advising them to get out, come what may.[192]

c. In the call she made at 03.03.05 Natasha Elcock told CRO Gotts that she could not get out. Although CRO Gotts did advise her to leave, she also told her that she would tell the crews which flat she was in. The advice given was not the unequivocal advice that she

185 [MET000080589] p. 7.
186 [MET00005199] p. 3.
187 Real witness statement [MET00007696] p. 6; Real Day 43/51/20-53/1.
188 Smith Day 22/166/7-18.
189 [LFB00000376] p. 4.
190 [LFB00000386] p. 8.
191 Russell Day 76/63/17-64/1.
192 Russell Day 76/64/13-65/8.

had no choice but to leave. When giving evidence Natasha Elcock said that if someone had told her that there was no fire in the stairs she would have tried to go down.[193] At the time, she believed that the fire was below her and had therefore thought that she should stay in her flat, where she was relatively safe.

29.100 On the other hand, some CROs did use blunt and forceful language. For example:

a. When answering the call made by Alemishet Demissie at 02.42.40,[194] CRO Duddy said: "If you don't do what I tell you you're going to die in that flat. Okay? I know it's really harsh but that's the truth. Right?" He told her to cover her face with a wet towel, leave her flat and get to the stairwell.

b. CRO Duddy took a second call from Alemishet Demissie shortly afterwards at 02.58.44,[195] in which he told her that she should cover her face and get to the stairwell and that that was her "only option". He said: "Listen carefully, okay. Your only chance of surviving this fire is to cover your face with a wet towel and get to the stairwell and make your way downstairs, okay?" He went on: "this is your only chance".[196]

c. CRO Howson adopted the same approach in a number of calls, forcefully telling callers that they had to listen to her while she gave them instructions to leave their flat, go down the stairs, keep their nose and mouth covered with wet towels and stay together.[197]

29.101 As the incident progressed, CROs also faced a dilemma when they were told by a caller that they had tried to leave but had been unable to do so because of conditions outside or that they could not leave because of a disability. In some instances CROs reverted to advising the caller to protect themselves, suggesting that there was a chance of rescue, even though they had not received any information from the incident ground on which to base it. For example:

a. When in the call he made at 02.55.38 Marcio Gomes told CRO Gotts that they had tried to leave but could not get out, she advised him to block out the smoke and to get fresh air. When she gave evidence, she explained that in such cases she had taken callers at their word because she had thought that they would know the situation outside better than she did. She was not sure if she had been told at any time that crews could not get above floor 15 and she accepted that she should have advised Marcio Gomes more forcefully to leave. She accepted that she had not sought help or advice from a supervisor.[198]

b. Similarly, in a call she made at 03.04.52, Natasha Elcock[199] told CRO Gotts that she could not get out because it was too hot and begged her to send a forklift truck or cherry picker to get her out. In response, CRO Gotts advised her to stop the smoke coming in and told her that there were more aerial ladders coming. The caller was not advised to leave; on the contrary, she was given unfounded assurances that rescue ladders were arriving.

c. CRO Gotts gave similar assurances about the imminent arrival of long ladders to the callers from Flat 193 on floor 22 during the call they made at 03.08.56.[200]

193 Elcock Day 70/99/22-70/101/24.
194 [LFB00000683] p. 12.
195 [LFB00000680] p. 2.
196 Alemishet Demissie and her friend Ethiopia Assefa were rescued by FFs Sanders, Tucker and Charity shortly after 03.00.
197 Refer to calls at 03.07.13 [LFB00000404] and 03.17.05 [LFB00000418].
198 Gotts Day 43/210/6-211/23.
199 [LFB00000401] p. 3.
200 [LFB00000406] p. 3.

d. When responding to the call made by Hesham Rahman[201] at 03.10.34, CRO Russell advised him that his "best bet"[202] was to leave. He explained that he could not see because of the smoke and that he was disabled. She assured him that the crews "… are coming to you, I promise they are coming to you".

29.102 The difficulties in providing clear and unequivocal advice to leave at all costs were not limited to CROs. In the call made at 03.33.36, Natasha Elcock told AOM Real that she had already tried to leave but had been unable to do so. AOM Real advised her repeatedly to leave but Natasha Elcock told her that she could not do so. AOM Real then changed her approach and advised her to stay in the flat as long as she possibly could and told her that firefighters were trying to get to all floors.[203] AOM Real explained in evidence that, when Natasha Elcock had told her that she could not leave, she had believed that she could not get out and so did not try to assist her to assess the conditions outside her flat. She explained that she had advised her to lie on the floor and stay there as long as possible in order to protect her. She thought that was consistent with the instruction given to the CROs to tell callers to leave, because she had already told her that the advice was to leave.[204]

29.103 It is important neither to underestimate the pressures on CROs working under such difficult circumstances nor to overlook the unprecedented nature of the advice. However professional the CROs may have been and however experienced and well trained, it must have been extremely difficult for them to give advice and support to people whom they knew were likely to die in the building if they were unable to escape without assistance. It is understandable that, if a CRO was persuaded that the caller was indeed trapped with no realistic possibility of escape, they should offer such comfort as they could. However, as became clear in due course, some of those, such as Natasha Elcock, who said they were trapped and who received comforting advice, were in fact able to escape when urged strongly enough to do so.

29.104 All this points to the conclusion that although SOM Smith had attempted to convey to CROs through OM Norman and AOM Real the importance of emphasising to callers that they needed to leave the building at all costs, she and they had failed to bring it home to them clearly enough. The change of message from advising people to remain in their flats and protect themselves to advising them to leave the building even though in the face of thick smoke was, no doubt, a wholly new and unprecedented experience for most CROs and one not covered by any policy or training. In those circumstances the senior control room officers should, where possible, have monitored the advice being given by individual CROs to ensure that they understood that they were expected to tell callers in simple and direct terms to leave the building regardless of the conditions they encountered in the lobbies and on the stairs and not appear to leave it to their own judgement. Although it would have been impossible to monitor each and every call, the senior managers should have ensured that the CROs as a group were able to convey that message in the right terms and seek assistance and support if they encountered difficulties in conveying it to a particular caller. That was particularly so, given that CROs had never previously had to advise occupants of a high-rise block to make their own way out without help from firefighters.

201 [LFB00000409] p. 3.
202 The same expression she had used on her call with Naomi Li at 02.51.09: [LFB00000386] p. 8.
203 [LFB00000425].
204 Real Day 43/47/4-24.

Calling back

29.105 According to SOM Smith it was a longstanding, historic custom and practice of the LFB's control room not to call previous callers back. The practice dates from a time when most calls were made from landlines and was based on the notion that it is dangerous to call a landline in a building on fire, since returning to answer it might expose the occupant to danger.[205]

29.106 It is possible that this antiquated practice may have been part of the reason why CROs did not in general call back those who had previously called from the tower and it is certainly the case that neither SOM Smith nor OM Norman instructed CROs to try to call previous callers back. However, the practice was not invariably followed in respect of those who had called using mobile telephones and CRO Russell went as far to say that it did not apply to mobile numbers.[206] CROs did generally call back those using mobile telephones if they had been unable to obtain enough information from a caller or a call had been abandoned.[207] In some instances on the night of the fire some CROs did call people back. For example, CRO Duddy called back the Tekles at 03.02.35, following a call to him by Essex FRS (CRO Russ White) at 03.00.10.[208] (CRO White had already received calls from Paulos Tekle at 02.48 (abandoned) and 02.51 and had himself called back three times at 02.50, 02.54 and 02.56.)[209] In the call with CRO Duddy at 03.00.10, CRO White gave him Paulos Tekle's mobile telephone number and told CRO Duddy that he had spoken to a caller in Flat 153 who was trapped together with three other adults and five children.[210] CRO Duddy told CRO White that the advice was now to get out and he then rang the number that CRO White had given him. In general, however, calling previous callers back to advise them of a change in advice was outside the experience of control room staff.[211]

29.107 The main obstacle in the way of calling back previous callers was that only the numbers of the last four callers were readily accessible on the VISION system.[212] If a CRO wanted to find the number of any earlier caller they would have to search the incident replay section on the ICCS screen (which contains a log of all telephone numbers that have previously called in), which would have been a time-consuming and somewhat uncertain exercise.[213] There was therefore no easy way for CROs to find the telephone numbers of previous callers, even if they had wanted to call them back.

29.108 It must be borne in mind that by 02.35 when the "stay put" advice was changed, the control room had received approximately 140 calls from members of the public, residents, relatives and family members and other control rooms and calls continued to come in. Any search for numbers of previous callers would have been a time-consuming exercise which would have diverted CROs from the important task of responding to new calls.[214] It would have been made immeasurably more difficult by the fact that the telephone numbers held in the system did not distinguish between callers trapped in their flats and members of the public outside the building, who did not need to be told that the "stay put" advice had been changed.[215]

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205 Smith Day 21/25/25-26/12, 109/8-21, 22/152/13-15. Refer also to Norman Day 42/115/21-24.
206 Russell Day 76/67/25-68/6.
207 Smith Day 21/109/8-21; Norman Day 42/115/3-5. The practice is not set out in PN539 in the section that explains "Abandoned Calls" (paragraphs 4.62-4.64) or PN412 to which paragraph 4.64 refers.
208 [LFB00000557].
209 [MET00018266] p. 5; [LFB00000691] (02.51); [LFB00000692] (02.54); [LFB00000380] (02.56).
210 This was CRO White's call back to Paulos Tekle at 02.56: refer to [MET00018266].
211 Norman Day 42/115/11-24.
212 Norman Day 42/114/14-15, 116/17-18.
213 Smith Day 22/151/14-21; Norman Day 42/116/6-13.
214 Smith Day 22/151/14-21, 153/5-19.
215 Smith Day 22/152/25-153/19.

29.109 It is therefore understandable that the control room staff did not attempt to call previous callers back to tell them that the advice had changed. The fact that CROs in control rooms of other fire and rescue services did call previous callers back was of occasional assistance to the LFB, but the fact that they did so does not invite adverse comparison with the LFB's control room, which was faced with many more calls.

29.110 The problems associated with calling back highlight the difficulties encountered by the control room as a result of a decision to change the "stay put" advice at a relatively late stage in the incident. CROs were left without the means to communicate easily with those who remained in the building.

8 Communications with other control rooms

The LFB's policy on "spate conditions" and mutual assistance

29.111 At the time of the Grenfell Tower fire the problems presented by an unusually large number of 999 calls were neither new nor unforeseen. On the contrary, they were the subject of detailed LFB policy provision and formal and informal arrangements with control rooms of other fire and rescue services.

29.112 Paragraph 3.8 of PN539 contemplates that "spate conditions" may arise if there is a surge in incoming calls due to a large number of calls relating to many incidents, or many calls relating to the same incident. In such circumstances the number of calls received may exceed the number of CROs available to answer them. PN539 does not specifically address what should be done if there is a spate of FSG calls requiring CROs to stay on the line. Paragraph 3.9 says that under spate conditions the OM may decide to "queue" non-urgent calls, rather than answering them immediately, but it does not say how an OM should determine whether a call is "non-urgent". It strongly suggests that LFB did not contemplate spate conditions involving a large number of FSG calls as distinct from "ordinary" 999 calls.

29.113 Under spate conditions paragraph 3.10 of PN539 requires the OM to consider, among other things, recalling "all on duty shift related personnel to Brigade Control", liaising with BT and establishing critical contact arrangements, the details of which are set out in paragraphs 3.12 and 3.13 (in short, establishing direct lines of communication between the OM in the control room and BT and the MPS respectively, commonly known as the "red phone").

29.114 Paragraphs 5.12 to 5.14 and Appendix 1 of PN539 describe how the LFB control room should handle requests for assistance received from other fire and rescue services when major incidents occur. It says nothing, however, about how the LFB control room should go about seeking assistance from other fire and rescue service control rooms where that is needed, although it did receive assistance from North West FRS as provided for in the agreement between them, to which I refer below.

LFB's arrangements with other fire and rescue services control rooms

The agreement with North West FRS and Staffordshire and West Midlands FRS

29.115 At the time of the Grenfell Tower fire the LFB had a tripartite contract (albeit unsigned and undated) with North West FRS and Staffordshire and West Midlands FRS, under which each control room agreed to provide reciprocal services to the others during "spike" and "spate" conditions,[216] which were defined at paragraph 1.2 of the agreement as follows:

> "(a) Spike conditions [occur] where a high volume of emergency calls is received for one or more incidents over a short period of time, e.g. a vehicle fire on a motorway generating multiple emergency calls, or
>
> (b) Spate conditions [occur] where a high volume of emergency calls are received over a sustained period of time, e.g. abnormal weather conditions (electrical storm) generating multiple emergency calls to multiple incidents involving properties struck by lightning, flooded premises, people trapped in floodwater…"

29.116 The "vision" for these arrangements was described (at paragraph 1.12) as follows:

> "to develop and deliver a resilient relationship between the three busiest Fire Service Control Rooms in England, to provide support to each other and to the communities they serve, through receiving emergency calls and responding to emergencies on behalf of each other when required."

29.117 The services set out in Schedule 1 to the agreement were to be delivered in accordance with "pre-agreed protocols" that had yet to be agreed. Critically, under paragraph 5 of Schedule 1 the "Host Control Room" (in this case that of the LFB) was (by its senior officer) to ensure that:

> "a. The Assisting Control Rooms are notified of the expectation that emergency calls for the Host Control Room are likely to be received;
>
> b. British Telecom (BT) is informed and instructed of the situation and that if it is not possible to connect to the Host Control Room, emergency calls are to be directed to the Assisting Control Rooms (using agreed predefined telephone contact numbers or BT Smart Numbers).
>
> c. The appropriate Police and Ambulance Services whose areas are covered by the Host Control Room Service are instructed to pass emergency calls to the Assisting Control Rooms (using agreed predefined telephone contact numbers or BT Smart Numbers)…"

29.118 It was the obligation of the "Assisting Control Room" to:

a. Take and process emergency calls destined for the Host Control.

b. Complete emergency call details using agreed documentation.

c. Mobilise a response (if appropriate) in accordance with the criteria set out in this Agreement.

d. Record all subsequent radio traffic and requests.

29.119 Paragraph 7 of the Schedule to the agreement required training and exercises at least annually.[217]

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[216] [LFB00003607]. This was in place by October 2016 at the latest, since it is referred to in the Home Office's "*Future Control Room Improvements*" national document of that month [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492400/151215_Future_Control_Rooms.pdf] p. 57. SOM Smith said that it dated back to 2012: Day 21/63/16-25.

[217] [LFB00003607] p. 10, paragraph 7.1.

29.120 In light of what happened on the night of the Grenfell Tower fire, it is clear that there are certain aspects of these arrangements with North West FRS which make them vulnerable to failure. First, although Schedule 1 provides that the control room senior manager[218] of the host control room should notify the assisting control rooms that they should expect to receive emergency calls, it does not contain any procedure for how assisting control rooms are to obtain details about the incident and how the host control room is to keep the assisting control rooms informed about the development of a complex incident. For example, in the case of the LFB, assisting control rooms do not appear to have automatic access to the VISION system and may therefore not know the status of the incident (e.g. in relation to the number of pumps, informative messages and FSG calls). What is more, although paragraph 5 of Schedule 1 requires that a "standard and consistent" set of documents should be used by each control room, which includes "access to pre-determined hazard and risk information as agreed by the parties", it does not require each control room to have access to the other's ORD. Indeed, the LFB's control room did not even have access to the LFB's own ORD.

29.121 Secondly, since all policies are designed individually and training is provided at a local, rather than a national, level, there is no guarantee that the way in which an FSG call is handled in (say) West Midlands will be the same as in London. An emergency caller during spike or spate conditions may be "tipped over" to an assisting control room, which may have a different policy or training regime governing how to deal with the call. For example, North West FRS used a coloured flow chart to guide CROs giving FSG advice that was not used by the LFB, and contained more detailed advice in clear and separate steps.[219] SOM Smith told the Inquiry, in the context of answering questions about Essex FRS control room (with whom LFB had no reciprocal agreement), that all control room staff would follow national guidance and that LFB CROs could safely assume that the Assisting Control Room had asked the right questions.[220] That may or may not be correct, but there appears to have been no significant divergence of approach between the LFB control room and the control rooms of other fire and rescue services, as the Control Room Debrief report records ("*Other FRS did know guidance*").[221]

29.122 Thirdly, there was no evidence that any LFB control room officers of any rank had ever received training in the operation of these arrangements, whether specifically in respect of the contract with North West FRS or the general arrangements for spate conditions and mutual assistance under paragraph 3 of PN539.

29.123 Fourthly, the agreement contained no procedure to enable an assisting CRO to obtain information rapidly about conditions on the incident ground, since all communications are routed through the host control room[222] and telephone lines may become congested. The assisting control room is dependent on the host control room to inform it of any developments, such as a change in advice.[223]

29.124 I have set out these criticisms of the system, not because they all necessarily played a material role on the night of the fire, but so that they can be taken into account in any future discussion of how to improve control room policy and training.

218 Capitalised terms in this section are terms defined in the agreement.
219 [MET00018245].
220 Smith Day 21/107/21-108/22.
221 [LFB00003113] p. 4.
222 Smith Day 21/102/7-11.
223 Smith Day 21/102/20-103/7.

Arrangements with other non-LFB control rooms

29.125 Other than the contract with North West FRS and Stafford and West Midlands FRS the LFB had no formal agreements or standing arrangements with any other fire and rescue services control rooms. It was reliant on BT, as the primary call-taker for all 999 calls, to route the call to another emergency service control room if the number of calls exceeded the capacity of the control room assisting the main control room.

29.126 At the time of the Grenfell Tower fire the procedure was as follows. The OM or SOM would speak to BT and ask it to connect calls to neighbouring fire and rescue services, whose CROs would take the calls and pass the relevant information to the LFB control room. The call would be picked up by an LFB CRO on the ICCS system and appear as, for example, a call from Essex FRS.[224] The LFB CRO would then create a new incident call record for that caller and record the details that Essex FRS had provided. There were no means by which Essex FRS could provide that information electronically; it could be transmitted only by telephone. Even though the LFB CRO would be getting the information second hand, they would assume that the Essex CRO had asked the same detailed questions of the caller that the LFB CRO would have asked had the call come through directly to the LFB control room. The caller would, or at least could, be connected directly to the LFB control room and Essex FRS would then drop out.[225]

Involvement of other FRS control rooms on the night of the fire

29.127 On the night of the Grenfell Tower fire the following control rooms handled the following number of calls relating to the fire:[226]

FRS	No. of calls
North West	19
Kent	7
Surrey	7
Essex	5
Merseyside	1[227]

29.128 Staffordshire and West Midlands FRS handled no Grenfell Tower calls despite being a party to the reciprocal agreement with LFB and North West FRS. OM Norman explained that that was because only North West FRS receive the LFB's overflow calls whereas the Staffordshire and West Midlands FRS send their overflow calls to the LFB.[228]

Call-handling by North West FRS

29.129 As the table above shows, most of the calls handled by control rooms other than the LFB were handled by North West FRS, presumably under the contractual arrangements I have described. CRO Aisha Jabin of North West FRS gave evidence about how those would normally work in practice.[229] In summary:

224 Smith Day 21/105/13-106/18.
225 Smith Day 21/110/7-111/6.
226 Newman witness statement [LFB00004691] paragraph 16 and Appendix 1 thereto. Calls to a fire and rescue service where it has had to call back the caller because the call dropped have been counted as one call only.
227 Pike witness statement [MET00013002].
228 Norman Day 42/118/4-7.
229 Jabin witness statement [MET00008028] and Day 43/60/4-67/22.

a. If the LFB was experiencing delays of more than five minutes in answering calls, BT would pass the call to North West FRS.

b. BT would connect the call (giving the caller's number) to any CRO in the North West FRS control room, telling them that the call was for London;[230] it would also call the critical line to let the senior officers in the LFB control room know. The control room might also call the senior officer in the North West FRS control room directly to inform them of the incident, as in fact happened in the case of the Grenfell Tower fire.

c. The North West FRS CRO would record the location and nature of the incident and pass the information to the LFB control room.

d. The North West FRS CRO would then notify the LFB control room that they had received a call destined for London using the critical line.[231] The LFB control room number would be visible to the North West FRS control room on a whiteboard. Emails could also be sent.

29.130 However, on the night of the Grenfell Tower fire the arrangements between North West FRS and LFB proved to have limitations. First, there was no system whereby the North West FRS control room could communicate with the incident ground, or receive information directly from the incident ground about the progress of the fire or any rescue carried out in response to a call it had handled.[232] The only way in which the North West FRS CROs could monitor events was by using Airwave radio to listen to the LFB's channel carrying incident ground radio traffic,[233] but that was essentially reactive. Furthermore, there was no information available to the North West FRS CROs about the nature of the premises which were the subject of the calls, other than it was a high-rise residential building.

29.131 Secondly, there were at least two serious breakdowns in communication between the two control rooms:

a. During the call from Debbie Lamprell that started at 01.41.18 and was taken by CRO Jabin, the information she obtained about Debbie Lamprell's location changed as the call progressed. After CRO Jabin had ascertained that she was in Flat 201 on floor 23, it appears that she did not pass that information to the LFB control room and a crew was deployed to the wrong flat. It may not have been possible for CRO Jabin to give the right information to London in time for it to reach the bridgehead before the crew was deployed,[234] but in any event, it is not clear why it was not passed on to London at all or, if it was, why it was not recorded anywhere.

b. A North West FRS CRO called Zainab Deen back at 02.21.50,[235] the connection having failed when BT had tried to make it. Zainab Deen told the CRO that she was in Flat 115 on floor 14.[236] There is no evidence that that information was passed to the LFB, although by that point it was likely that Zainab Deen had already been moved to Flat 113.

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230 For example, the call at 01.43.14 from Flat 175, floor 20 (Farah Hamdan) [LFB00000444].

231 For example, the call at 01.43.00 taken by OM Norman from North West FRS, passing on details of Flat 9, floor 3 (Mariko Toyoshima-Lewis) [LFB00000688]. North West FRS had taken this call from the Glasgow BT operator at 01.36.23 [LFB00000506].

232 Jabin Day 43/64/20-65/12.

233 Pomponi witness statement [MET000080600] p. 6; Basson witness statement [MET00008003] p. 4.

234 Possibly the deployment of FFs Roots and Johnson, deployed at 02.02 to Flat 161 on floor 19, which was Debbie Lamprell's flat from which she had fled up to Flat 201 on floor 23.

235 [MET00017520].

236 [MET00017520]. In the transcript, it appears that Zainab Deen says she was in Flat 115, but it is likely that by that time she had been moved to Flat 113.

29.132 Despite those defects in its operation, the system for communicating between the LFB and the North West FRS on the night of the Grenfell Tower fire was reasonably effective. Calls and information were generally passed by North West FRS to the LFB control room and the LFB did tell North West FRS when the "stay put" advice had been changed.[237] Within the North West FRS control room that change in advice was shouted out by the team leaders and the North West FRS CROs knew they were expected to deliver the advice to get out in no uncertain terms. It seems that they did so.[238]

Call handling by other FRS control rooms

29.133 Apart from North West FRS, the other FRS control rooms which took calls from or about Grenfell Tower (Kent, Surrey, Essex and Merseyside) had no formal reciprocal agreements or arrangements with the LFB. Those control rooms were contacted on an ad hoc basis either by BT or by family members who were living in the area covered by those fire and rescue services.

29.134 Essex FRS was the first to be contacted by BT at around 01.30. By 01.47, Kent FRS had also been contacted by BT. Both had been asked if they could take calls because there were too many for the LFB and its fallback services to answer. In both instances, the control rooms were given next to no information by BT about the incident. That caused CRO Katrina Marshall in the Essex FRS to ask BT more about the incident, but BT gave her little by way of information and no help about what advice to give callers. Kent FRS was able to obtain information from CRO Howson in the LFB control room in a call at 01.47.13, but Essex FRS was not able to speak with the LFB control room and experienced difficulty in obtaining information about the incident.

29.135 The CROs in the Essex FRS control room made continual efforts to get in touch with the LFB control room using the admin line and the emergency line and through GM Nigel Dilley, the Essex FRS NILO. Eventually, CRO Sharon Lancaster resorted to searching for information about Grenfell Tower on the internet at around 02.14. In the meantime, Essex FRS had taken calls from trapped residents (at 01.48 from Nadia Choucair and at 02.13 from Natasha Elcock). In both cases the CROs were unable to provide any information to the residents about the incident or reassurance about rescue efforts; they did not provide any advice to help the callers to protect themselves.

29.136 OM Norman does not appear to have been specifically aware that control rooms of fire and rescue services other than North West FRS were taking calls on behalf of the LFB as she did not speak to them or set up any arrangements for them to take calls on behalf of the LFB. It is unclear why GM Dilley had such difficulty in contacting the LFB using the direct line and the dedicated Airwave channel. The consequence of these breakdowns in communications was that callers who were put through to other control rooms were not able to obtain any information about the incident or advice about what to do.

29.137 Furthermore, the difficulties experienced by Essex FRS meant that the information it had received from those who were calling from the tower was not passed to the LFB control room, and subsequently to the incident ground, in a timely manner. Indeed, there was a 30-minute delay between Essex FRS receiving the first FSG call from Nadia Choucair at 01.48.00 and the information reaching the LFB at 02.18.55. The failure was further compounded by the fact that when the information relating to those two calls was given to the LFB, CRO Marshall in the Essex FRS control room did not include the flat number given by Nadia Choucair because

[237] CRO Jabin put the timing of that at between 02.30 and 03.00: Day 43/89/14.
[238] Jabin Day 43/89/18-90/14.

it had not been recorded on the Essex FRS incident log and she had not taken the original call. Nadia Choucair did not make any further calls to the LFB until 02.37, so the LFB control room and the incident ground remained ignorant of the location of her flat for around 46 minutes.[239]

29.138 When the "stay put" advice was revoked at around 02.35, LFB CROs informed the other fire and rescue services and by approximately 03.09 at the latest all those taking calls on behalf of the LFB had become aware of the change in advice.[240] However, the need to advise people in forceful and blunt terms to leave the building does not always appear to have been fully understood by the CROs of the other fire and rescue services (apart from North West FRS). For example:

a. At 02.56, CRO White of Essex FRS spoke to Paulos Tekle and advised him to leave, but when Paulos Tekle told him that the lobby was full of smoke, CRO White advised him to block out the smoke rather than leave at all costs.

b. At 02.57.32, CRO Mitch Samson of Kent FRS spoke to Ann Chance for over 90 minutes while her brother, who was in the same flat, was on the phone to the LFB. During the course of the call, a colleague of CRO Samson in Kent FRS was told that the LFB had changed its advice. Although CRO Samson did tell Ann Chance to follow the advice being given by the LFB to her brother, he continued to reassure her that crews would be coming to her assistance.

29.139 Undoubtedly, it was difficult for other control rooms to know exactly what advice CROs in the LFB control room were giving callers, but given that they were acting on its behalf, it was important for the LFB to ensure that they knew the severity of the situation and what advice to give callers.

The role of BT

29.140 It would be normal practice in spate conditions for the LFB control room to establish critical contact arrangements with BT, in accordance with paragraph 3.10 of PN539. SOM Smith kept in contact with BT via the "red phone" during the night of the fire and BT routinely told her to which control rooms they were directing Grenfell calls.[241] BT passed calls to three neighbouring fire and rescue services control rooms: Surrey, Essex and Kent. At some point SOM Smith asked BT to stop directing calls to North West FRS because she thought that they were overrun.[242]

29.141 The communication between the LFB and BT would not normally extend to giving BT detailed information about the incident, although BT would often be able to discern from callers something of its nature.[243] BT would not normally handle calls itself and would not give advice to callers or take information from them, but on the night of the Grenfell Tower fire, its operators did in some cases provide advice to callers.[244]

29.142 OM Norman told BT operators what to say to callers before the "stay put" advice changed, but she did not keep in contact with BT during the night to give its operators the latest information about the incident or to obtain information from them about the calls that had

239 Naomi Li, who moved to the flat of Nadia Choucair during the fire, had made a call at 01.30.38 to report that she was in her neighbour's flat but she did not provide the flat number, only the floor number: [LFB00000311]; [INQ00000472].
240 North West FRS were told at 03.04; Essex FRS at 02.40.00 (by GM Dilley), 02.52.51 (by CRO Adams) and 03.14.23 (by Surrey FRS); Surrey FRS at 03.06.08 (by SOM Smith); Kent FRS at 02.59.04 (by CRO Gotts) and again at 03.09.03 (by Surrey FRS); Merseyside FRS at 02.47.37 (by CRO Jones).
241 Smith Day 21/63/7-10, 112/16-25. This must have been after her arrival at around 02.15.
242 Smith Day 21/112/21-23.
243 Smith Day 21/113/23-115/8.
244 Smith Day 21/111/9-24.

been taken.[245] SOM Smith had no discussion with BT about what advice their operators should give to callers, although after the "stay put" advice had been revoked she did tell BT that people calling from within the tower were now being told to leave.[246]

29.143 After the event, some concern was expressed within the LFB that BT had not known what advice to give callers,[247] but SOM Smith could not recall having had any concerns about that. It is right to say, however, that neither she nor OM Norman had spoken to BT to find out how calls were being handled, nor had they discussed with BT the substance of any calls.[248] In any cases where BT may have taken information from callers it remains unclear whether, and if so how, that information was transmitted to the LFB control room.

9 Advice given to callers by other emergency services

29.144 The LAS and MPS control rooms also handled a number of calls from occupants of the tower, but there was a lack of co-ordination between the three emergency services, particularly in the area of communication between control rooms and in relation to the advice to be given to callers trapped in the tower.

29.145 Unfortunately, the LFB did not in general communicate efficiently with the other emergency services. That may be because it does not share an established communications link with the MPS or the LAS, which themselves share a CAD link,[249] or because there was no joint Airwave channel, as required by paragraphs 4.1.2 and 8.10.2 of the LESLP Major Incident Manual.[250]

The MPS

29.146 The MPS control centre (MetCC) took 13 emergency calls in the course of which an operator gave advice to callers.[251] As is evident from the transcripts, the advice given by the operators varied widely; it included both unequivocal advice to get out of the building[252] and advice to leave if the caller wished.[253] In some cases the caller was put through to the LFB control room for advice.[254] According to Chief Inspector Graham Winch, that was in accordance with their training and the guidance given to MetCC operators and despatchers to use their common sense and to involve the LFB if specialist advice is needed.[255]

29.147 Beyond that generic guidance, MetCC operators did not understand the "stay put" concept and were not trained in giving fire survival guidance.[256] They were not trained to confirm with the LFB what advice the control room was giving callers and disseminate that information to all police operators dealing with calls,[257] and there was no statement of practice within the MPS to that effect.[258]

245 [MET000080589] p. 5 and Norman Day 42/122/24-124/19.
246 Smith Day 21/113/1-8.
247 Control Room Debrief notes [LFB00003113] p. 4 and [LFB00003119] p. 2.
248 Smith Day 21/112/11-25; Norman Day 42/124/12-16.
249 Winch witness statement [METS00020664] pp. 5-6.
250 [RBK00013294] pp. 13, 28.
251 NAJ/2 MET00023291. For individual calls, refer to: CAD 533 [INQ00000282]; CAD 542 [INQ00000264]; CAD 543 [INQ00000270]; CAD 578 [INQ00000280]; CAD 611 [INQ00000287]; CAD 801 [INQ00000284]; CAD 823 [INQ00000276]; CAD 828 [INQ00000266]; CAD 867 [INQ00000470]; CAD 932 [INQ00000281]; CAD 980 [INQ00000275]; CAD 1093 [INQ00000293]; CAD 1104 [INQ00000291].
252 CAD 533 [INQ00000282].
253 CAD 611 [INQ00000287].
254 CAD 578 [INQ00000280].
255 Winch witness statement [METS00020664] p. 10.
256 Winch witness statement [METS00020664] p. 9.
257 Winch witness statement [METS00020664] pp. 8-9.
258 Winch witness statement [METS00020664] p. 10.

29.148 Commander Neil Jerome said that although it would be common for MetCC to receive "fire calls about tower blocks", it would be rare for an operator to give advice to callers.[259] Indeed, Inspector Nicholas Thatcher was unaware what the acronym "FSG" stood for.[260] Some of the advice given by MetCC operators was inexplicable, such as the advice to Zainab Deen during the call made at 02.01.40 to wave at the police helicopter.[261]

29.149 Despite separate declarations of a Major Incident by the MPS and the LFB, there is no evidence that the LFB contacted the MPS or the LAS control rooms at any time to tell them what advice to give callers or how to advise callers once the "stay put" advice had changed.

29.150 Commander Jerome was unable to explain why, on his evidence, MetCC was still giving "stay put" advice as late as 03.05.[262] It was not until 03.08.27 that MetCC broadcast that change over the general MPS radio channel.[263] The message was repeated at 03.10.56, and then again with emphasis at 03.58.03,[264] and it is telling that the two MPS officers in charge at the incident, Detective Superintendent Paul Warnett and Inspector Thatcher, did not appreciate that the advice had changed until 03.58. Even though the LFB was in contact with MetCC, for example, to tell it that the LFB had declared a Major Incident,[265] there is no clear evidence of how the messages that the "stay put" advice had been revoked were relayed by the LFB to the MetCC control room.[266] It is possible that the message was sent by an officer at the scene who had in some way picked it up from the LFB.[267]

29.151 One of the consequences of the declaration of a Major Incident by the emergency services is that there should be a conversation as soon as possible between the supervisors of all the relevant control rooms. That is one of the joint operating requirements established under the Joint Doctrine Interoperability Framework agreed under JESIP.[268] I return to the topic in Chapter 30.

29.152 That is not to say that there was no communication at all between MetCC and the LFB control room. There are sporadic examples of contact, such as the call between the MPS and the LFB at 01.46.18, in which the MPS operator asked CRO Adams whether there was any advice they could give callers, as there was a distressed caller stuck on floor 16 (Sener Macit).[269] The MetCC operator then set up a conference call in the course of which CRO Adams gave "stay put" advice. The MetCC operator remained on the line and took the call back at its conclusion. MetCC also called GM Dilley, the Essex FRS NILO at 02.26.30 and 02.32.31 to pass on information, including the fact that the advice to callers had changed. However, the impetus for that is likely to have come from a decision made unilaterally by an MPS supervisor rather than from the LFB.[270]

29.153 In addition to MetCC operators, MPS officers on the incident ground also gave advice to callers from the building. The MPS's principal role on the night of the fire was to keep order outside the building and in the surrounding area in order to ensure a safe and unimpeded

259 Jerome Day 72/15/7-14
260 Thatcher Day 71(Mon)/113/3-4.
261 [INQ00000270]. Commander Jerome was unable to explain that advice: Jerome Day 71(Mon)/207/12-15.
262 Jerome Day 71(Mon)/213/11-25, 72/17/17-18/8. This was by reference to his own exhibit NAJ/2 [MET00023291] and CAD 932 [INQ00000281]. Although the transcript of that call does not actually record "stay put" advice being given, equally the operator did not advise the caller to leave at all costs.
263 CAD 482 [MET00023294] p. 20.
264 CAD 482 [MET00023294] pp. 21, 28.
265 AOM Real called the LAS at 02.37.26 [INQ00000376] and the MPS at 02.38.06 [INQ00000375].
266 Jerome Day 71(Mon)/211/19-25; Winch witness statement [METS00020664] p. 8; Woodrow Day 72/135/16-19.
267 That was Chief Inspector Winch's view: [METS00020664] p. 8.
268 Joint Emergency Services Interoperability Principles, 2nd Edition, 2 July 2016 [MET00023290].
269 [LFB00000326].
270 Winch witness statement [METS00020664] p. 9. That would be consistent with the MetCC's uneven approach to advice to callers.

operating environment for the LFB and the LAS that was large enough for their purposes.[271] Many of the officers were asked by families of those trapped in the building what advice to give them or were handed mobile phones and asked to speak to them directly. The Inquiry received some 35 witness statements from police officers who had attended the incident and gave evidence about communications they had had with callers or their family members, or about similar communications with their fellow police officers.[272] The overall picture derived from that evidence is that the advice they had given was a mixture of stay put and evacuation, in accordance with what each officer thought the LFB position was at the relevant time. Many of the officers recall the LFB advice changing at some point during the night and some of them said that they had heard it over the MPS radio.[273] Understandably, none of the police officers were able to put a precise, or even reasonably accurate, time on those conversations; nor was any of them able to put a time on the change of advice.

29.154 Finally, unlike the LFB, MetCC did not appear to operate a policy of not calling callers back. For example,[274] on CAD 578 (a call at 02.01.40) MetCC called back Zainab Deen.[275]

The LAS

29.155 As of 14 June 2017 there was no formal policy within the LAS requiring call-handlers to pass on information from 999 calls to the LFB, but ordinarily that should have been done.[276] The LAS was not expecting to receive calls from within the tower,[277] but, when they handled calls themselves, they were trained to go through triage protocols.[278] Within the triage protocol, there is a "critical danger" prompt which is a scripted message.[279] Call-handlers are not allowed to go off script and should have gone through the protocols before passing information on to the LFB if needed.[280] It was not possible to transfer a call directly to the LFB.[281]

29.156 As at 14 June 2017 the LAS provided no training to their call-handlers on giving FSG advice or indeed any guidance outside that which was scripted.[282] It is therefore unsurprising that those who took the calls gave no FSG advice. They had received no guidance from the LFB about how to advise callers from the building because the LFB had assumed that they would be handling the calls themselves.[283] Moreover, there is no evidence that the LAS had been told of the change to the "stay put" advice by the time it received the three calls mentioned below. The evidence suggests that the LAS control room was not formally told of the change in the "stay put" advice, although Laurence Ioannou, the LAS senior officer for the incident,[284] was informed of it at the scene.

271 Warnett witness statement [MET00008065] p. 3; Jerome witness statement [MET00023286] paragraph 26.
272 These are listed, and the key segments of evidence quoted, in Jerome witness statement exhibit NAJ/3 [MET00023285].
273 For example, PC Kiran Sangha [MET00007837] p. 5; PC David Heffernon [MET00007832] p. 2.
274 These call times are those recorded on the relevant CAD file.
275 [INQ00000270].
276 Woodrow Day 72/117/13-25.
277 Woodrow Day 72/124/24-125/3.
278 Woodrow Day 72/125/19-126/17.
279 Woodrow Day 72/127/15-128/2.
280 Woodrow Day 72/126/11-127/4, 130/10-133/4.
281 Woodrow Day 72/126/11-12.
282 Woodrow Day 72/127/5-128/2.
283 Woodhouse witness statement [MET00015657] p. 2.
284 Incident Response Officer (or IRO), in LAS terminology.

29.157 The LAS handled 28 emergency calls relating to the fire at Grenfell Tower, of which three calls were from flats within the tower itself.[285] The details of those three calls are as follows:

a. At 02.39.09 Elizabeth Woodhouse received a call from a woman[286] in Flat 186 on floor 21 reporting five persons in the flat.[287] She overheard a man shouting that they were dying. She told them that the emergency services were there, that they would be rescued and that she should be reassured that help was coming. She did not know what further advice to give and put the call on hold while she consulted her supervising officer. The line then went dead, but contrary to LAS protocol she did not call the caller back and complete the call.[288]

b. At 03.00.55 the LAS control room received another call from inside the tower.[289] The caller reported that he was on floor 15 and was stuck in the flat alone.[290] He said there was smoke but that he could see no flames. The call was triaged under the LAS protocols. The call-handler told him that there were a lot of firefighters there and that they were trying to get people to him. The call-handler remained on the line until the line was disconnected at approximately 03:05 before further instructions could be provided. The call-handler provided reassurance throughout the call and asked if the caller was by the window. There is no record of any attempt by the call-handler to call back.

c. At 03:18.43, Gayna Morris, an LAS control room operator, received a call from the same person on floor 15.[291] He asked for an update and said that he could not breathe. The call-handler said that the LFB would try to help him. The call was triaged through LAS's *Protocol 6 – Breathing Problems*. Gayna Morris placed the caller on hold and spoke to her supervisor, but the call was disconnected before any further instructions had been given. She tried to ring back. She got through to his voicemail, but did not leave a message.

29.158 Nobody in the control room informed the LAS of the decision to revoke the "stay put" advice and consequently the new advice to leave the building at all costs was not communicated to those callers. AOM Real's call to the LAS control room at 02.37.26 was probably the most opportune time at which to tell the LAS that the LFB's advice to callers had changed. If she had done so, the LAS operators would have advised those callers to leave the building.

10 Communications within the control room and between the control room and the incident ground

Lines of communication on the night of the Grenfell Tower fire

29.159 The scale of the Grenfell Tower fire and the speed at which it developed meant more emergency calls came in than the established systems could handle effectively. As a result, the manner in which information was communicated, both within the control room itself and between the control room and the incident ground, was to a large extent improvised.

[285] The full list of such calls, their times and CAD references and other details is set out at Table 1 to the witness statement of Paul Woodrow [LAS00000009].
[286] Possibly Helen Gebremeskel, who moved with her daughter to Flat 183 and escaped with the Gomes family at 03.38.06.
[287] CAD 392 [INQ00000383] p. 4.
[288] Woodhouse witness statement [MET00015657] p. 3.
[289] CAD 448 [INQ00000384].
[290] It can be deduced from the earlier exit times of the other occupants of floor 15 present on the night of the fire that the only occupants still on floor 15 at the time of this call were Steven Power (Flat 122), who perished in his flat, and Christos Fairbairn (Flat 124), who left the tower at 03.55.02. The call is likely to be from Christos Fairbairn.
[291] CAD 486 [INQ00000385], and Gayna Morris witness statement [MET00016785] p. 2.

It is appropriate to look first at how information obtained from callers was transmitted from the CRO by whom it was received to the incident ground, and secondly at how, if at all, information was communicated from the incident ground to the control room.

Information transmitted from the control room to the incident ground

The chain of communication

29.160 The steps by which information travelled from CROs through the control room and then on to the command unit at the incident ground were, in summary, as follows:[292]

a. The CRO taking the call recorded certain details in the incident log on the VISION system by creating a "service request", which would then be completed by the radio operator (CRO Darby) sending a radio message to the command unit.

b. Before SM Oliff began using whiteboards the information was passed either:

   i. by OM Norman or CRO Adams on the admin line to CU8,[293] or

   ii. by CRO Darby by radio, originally to pump G261, then to CU8 and finally to CU7, thereby completing the service request relating to that call.

c. Once the use of whiteboards to record FSG information had been introduced, CROs recorded FSG information on scraps of paper, which were either collected by a senior officer (such as SOM Smith)[294] and taken to SM Oliff or were taken by CROs themselves. Having recorded the information he had received on one of the whiteboards, SM Oliff transmitted it to the command unit using his brigade mobile telephone.

d. However, even after mobile telephone communication with the command unit had been established, CROs also made service requests on the VISION system, to which CRO Darby would respond by sending the information by radio.[295] An example is the service request created by CRO Fox at 02.24.11[296] for Flat 183 on floor 21,[297] which was completed by CRO Darby at 02.25.32[298] when she sent the message by radio to the command unit (by then CU7). SM Oliff also added Flat 183 to the right-hand whiteboard at some point,[299] although exactly when is not known.

e. The information on the whiteboard was changed by SM Oliff or one of the senior officers (including SOM Smith[300]) to reflect the information derived from FSG calls.

f. According to SM Oliff's mobile telephone records,[301] his first call to the command unit (probably still CU8 at that stage) was at 02.06 and lasted some 15 minutes. There were then shorter calls to the command unit (probably by then CU7) at 02.23 (2 mins 40 secs), 02.33 (8 mins 44 secs), 02.44 (1 hr 35 mins 12 secs) and 04.34 (9 mins). Thereafter, the calls became shorter and increasingly sporadic.

292 Smith Day 22/41/12-55/25.
293 CU8 arrived on scene at 01.30.48 and CU7 at 01.42.04 (SIL p. 8).
294 Also FFs Scott Hayward and Adam Crinion, once they had arrived.
295 Darby Day 34/7/21-9/1.
296 SIL p. 22.
297 The Gomes's flat.
298 SIL p. 22.
299 [MET00016906] p. 3.
300 She wrote "10 people" next to Flat 193: Smith Day 22/87/10.
301 [MET00016910].

g. In the command unit, FSG information was written down both by the officer in mobile phone contact with SM Oliff (in the early stages WM Meyrick) and by the radio operator (WM Antony Peckham), probably using a pad of control information forms.[302] After GM Thomas Goodall had taken over responsibility for the management of FSG information on the incident ground at around 02.20[303] he and WM Norman Harrison began to collate the details of FSG calls on a whiteboard in CU7.[304] The information was then despatched to the tower either by runner or fireground radio contact, as described earlier.

Defects in the chain of communications

29.161 The improvised nature of the communications between the control room and the incident ground makes it unsurprising that the system as it developed over the night had deficiencies. The most obvious were as follows.

a. There were at any one time at least two (and at times three) lines of communication between the control room and the incident ground:

i. Between 01.30 and 02.06, FSG information was sent to the incident ground both by radio and by means of the admin line.

ii. Between 02.06 (when SM Oliff began to communicate by mobile telephone with CU8) and 02.58 there were three separate lines of communication: radio, the admin line and mobile telephone.

iii. Notwithstanding that SM Oliff was passing FSG information by mobile telephone to the command unit, CRO Darby continued to send service requests by radio until at least 03.10.[305] There was therefore a period of over an hour during which there were two simultaneous channels by which FSG information was being sent to the command unit.[306] The entry in the Control Room Debrief[307] to the effect that all FSG information was sent by SM Oliff's mobile telephone and in "no other way" is wrong, as CRO Darby told the Inquiry.[308]

iv. At the same time (i.e. after 02.06) the control room was also passing messages to CU7 by the admin line.

b. There was no system of collating the information sent by different routes in order to ensure that there was no inconsistency or duplication.[309] Although the whiteboards that were set up in the control room at around 02.30 were the first attempt systematically to collate the information, the system was not helped by the fact that SM Oliff did not know that when he was sending FSG information by mobile telephone, CRO Darby was also sending FSG information by radio to a different officer.[310]

c. SM Oliff was not able to see the incident log showing service requests and completions and therefore did not know what information had been sent to the command unit by

302 Peckham Day 30/161/3-23.
303 For example, Goodall Day 35/28/1-17.
304 A photograph of the whiteboard taken at 02.59.58: [MET00015930].
305 03.10.51 was the last time recorded on the SIL at which an FSG was marked as completed and therefore passed by radio to the incident ground. WM Peckham could not explain why that was since he was receiving radio messages in the radio operator's chair on CU7 all night until at least daybreak: Day 30/173/6-25.
306 SIL p. 24 and Darby Day 34/13/18-14/11.
307 [LFB00003113] p. 4
308 Darby Day 34/17/13-18/2.
309 Darby Day 34/14/12-18.
310 Darby Day 34/14/12-15/1.

radio.[311] He was therefore unable to compare the information he had received on paper with service requests being created by CROs to avoid duplication and avoid mistakes. However, the incident log was not an easily navigable source of information and even if he had had access to it, he would not have been able to check whether any particular information had already been sent by radio. But the point remains that he was left in ignorance of the substance of the parallel radio communications with the command unit.

d. The rather primitive system of transferring information by scraps of paper was reliant on individual CROs making accurate notes of what they had been told while answering calls and operating the incident log. The accuracy of the information which SM Oliff passed to the incident ground depended on the care taken by CROs when writing it down.

e. For one reason or another FSG information was not always recorded fully or accurately on the whiteboards. The following are examples of different kinds of recording error:

    i. At 02.42.40, CRO Duddy took a call from Alemishet Demissie who was trapped in Flat 94 on floor 12. The details of the call were not recorded on the whiteboard at all.

    ii. At 02.46.42, CRO Jones took a call from Merseyside FRS who had received a message about Abdeslem Sebbar who was trapped in Flat 81 on floor 11. The details of the call were not recorded on the whiteboard.

    iii. At 01.54.14, CRO Duddy started a 40-minute call with Roy Smith in Flat 95 who reported that he was trapped with his wife and two children. The message on the whiteboard about his flat read (incorrectly): "95 – 12th flr – 1 male, 1 child".

    iv. Calls about Anthony Disson's flat, Flat 194 on floor 22, received by the LFB between 02.49 and 03.10 reported a change in conditions from heavy smoke to flames at his door. The whiteboard entry was as follows: "194 – 22 flr – heavy smoke. 1 adult". It was not changed to reflect the deteriorating conditions.

29.162 The overall consequence of these various deficiencies was that in many cases the incident ground was given duplicate or incomplete information.[312] However, the evidence as it stands does not make it possible to say whether that contributed to any death.

Information transmitted from the incident ground to the control room

29.163 Despite the requirement in paragraph 9.1 of PN790 that the control room be kept informed of the action taken to resolve every FSG call, in practice the control room rarely received information from the incident ground about such matters. SOM Smith said that in her experience the control room did not normally have much contact with the incident ground in relation to FSG calls and that it would learn of a rescue when the CRO taking the call heard firefighters in the background or the caller told the CRO that the firefighters had arrived.[313]

29.164 Similarly, despite the requirement in paragraph 9.3 of PN790 that the outcome of every FSG be communicated to control, SOM Smith said at one point in her evidence that she "had never experienced that happening".[314] The same applies in relation to paragraph 9.2, which requires

311 Smith Day 22/71/9-23, 49/3-10, 50/3-6. In fact, SM Oliff could have been logged on to the incident log, but it would have taken him time to familiarise himself with what was on it and how it worked, and it would not have eliminated the risk of incompleteness: Smith Day 22/72/23-73/11.

312 Smith Day 22/71/25-72/19. Examples are CRO Adams's admin line call at 02.00.34 [INQ00000195] and CRO Darby's radio message at 01.59.05 [LFB00002786].

313 Smith Day 21/185/18-186/15.

314 Smith Day 21/188/18-23.

that informative messages must contain an update on each specific FSG call. SOM Smith said that she had never personally experienced any of the requirements of paragraphs 9.1, 9.2 or 9.3 being followed in practice.[315] Later in her evidence, however, she said that she would ordinarily expect that on a smaller-scale incident information would be sent to the control room from the incident ground about the progress of an FSG call if the call had been prolonged and the firefighters were having trouble reaching the floor in question.[316] Viewed overall, my understanding of her evidence is that, although she had no personal experience of information about the response to an FSG call being sent from the incident ground to the control room, she would expect that to be done in less demanding circumstances, if firefighters were significantly delayed in reaching the caller.

29.165 PN790 was introduced specifically in response to the experiences of the LFB at the Lakanal House fire and the conclusions in the LFB Lakanal Report. It is founded on the principle expressed on page 18 of GRA 3.2 that as part of FSG arrangements "information will be exchanged between callers, Fire Control and commanders at the incident". It is hard to understand why, having gone to the trouble of formulating and introducing PN790, LFB's officers then routinely failed to follow it. The need for clear lines of communication between the incident ground and the control room is obvious and of vital importance, especially if there is to be a change in the advice given to callers. As SOM Smith accepted, since the incident commander is responsible for decisions affecting the advice given to people trapped in a burning building (including, if appropriate, a decision to abandon the "stay put" advice), it is necessary for them to be in active communication with the control room to enable proper advice to be given to callers.[317] It is a serious criticism, therefore, that the LFB habitually failed to ensure that the control room was informed about the progress of responses to FSG calls, which was one of the fundamental tenets of PN790.

29.166 On the night of the Grenfell Tower fire no information of that kind, nor indeed any information about conditions within the building more generally, was transmitted from the incident ground to the control room, despite there having been regular communication throughout the incident between the control room and the command unit dealing with FSG calls by radio, the admin line[318] and mobile telephone. It is a remarkable fact that none of the first three incident commanders (WM Michael Dowden, SM Andrew Walton or DAC Andrew O'Loughlin) made any attempt to contact the control room, either directly or indirectly, to provide information about conditions at the incident ground and the progress of operations. As a result, it was not possible for the control room to give callers reliable advice about the progress of the firefighters through the building. It is fair to say, however, that senior managers in the control room did not attempt to obtain information of that kind from the incident ground, despite the fact that it was a clear policy requirement to do so[319] and despite the various lines of communication which had been established with the command units.

29.167 As a result, CROs received no information at all about the development of the fire other than that which could be gathered from the formulaic and brief informative messages sent sporadically by the incident commander.[320] Those messages told CROs nothing of any value about the conditions within the building, in particular in the lobbies or stairs, the spread of

315 Smith Day 21/188/25-189/4.
316 Smith Day 22/27/2-23.
317 Smith Day 22/28/19-29/5.
318 For example, OM Norman's call with CU8 at 01.47.44 [INQ00000208].
319 PN790 paragraphs 9.1, 9.2 and 9.3.
320 There were three within the first two hours following the first call at 00.54.29, namely at 01.16.02, 02.04.20 and 02.42.03.

fire on the exterior of the building or the progress of firefighters in reaching residents or tackling the fire. They were therefore given nothing that would have enabled them to give more timely and focused advice to callers.

11 Deficiencies in the supervision of the control room

29.168 The recommendations of the LFB Lakanal House report included a recommendation that there should be a review of Fire Survival Guidance training for supervisors. A new course for supervisors focusing on leadership and the general supervisory role within the control room, which included the management of FSG calls, was said to have been introduced in response.[321]

29.169 However, the evidence of SOM Smith, OM Norman and AOM Real suggested that they had not received any specific training on the role of a supervisor, particularly in relation to FSG calls. SOM Smith said that she had not received any specific training from the LFB on the role of a senior operations manager; she had received training on the role of a supervisor only in 2005 when she had been working for Essex FRS.[322] OM Norman described receiving only "on-the-job training" and "experiential" training but no formal training for the role of operations manager. She said that she had been trained on PN539 when she joined the LFB in 2003 and had since developed her own additional training on that policy.[323] She had never received any formal training on PN790 (although she was aware of it), but had undergone a big FSG training session in 2011 or 2012.[324] She received the same FSG training as the CROs and did not have any additional training for her role as an operations manager.[325] She said she had never received any training in how to handle many FSG calls at the same time or in how to manage a control room dealing with a large incident of 10 pumps or more.[326] AOM Real also described the training she received as "on-the-job" training. She also said she had not received any training on how to manage a control room handling numerous FSG calls.[327]

29.170 I have already said that on the night of the Grenfell Tower fire the supervisors, like the CROs, faced an unprecedented and extremely difficult situation in which the control room was quickly overwhelmed by the number of emergency calls it received. I make every allowance for the fact that AOMs May and Real were also absorbed in management tasks such as requesting additional resources to be sent to the incident, despatching senior officers, liaising with other control rooms and agencies and maintaining fire cover across the rest of London. Nonetheless, despite all the difficulties, there were certain respects in which the supervisors failed to manage the control room adequately and perform the functions required of them by PN790. In particular:

a. The supervisors generally, but OM Norman in particular, failed to seek information from the incident ground about the progress of operations, the development of the fire and the actions being taken to resolve FSG calls. Although the incident commander had a duty to keep the control room informed of those matters, OM Norman, as the senior member of the team, ought to have asked the command unit to obtain that information to assist the CROs in providing advice to callers. The LFB Lakanal Report concluded that during the Lakanal House fire, control supervisors "regularly tried to obtain information about the progress with the incident particularly in relation to callers being given FSG".[328] That

321 LFB Lakanal Report [HOM00001124] pp. 52-53.
322 Smith Day 21/8/23-9/19.
323 Norman Day 42/12/13-22.
324 Norman Day 42/12/13-13/8.
325 Norman Day 42/13/1-16.
326 Norman Day 42/13/17-14/6.
327 Real Day 43/3/15-22.
328 LFB Lakanal Report [HOM00001124] paragraph 319.

did not happen on the night of the Grenfell Tower fire, despite the fact that at an early stage in the incident OM Norman had set up a direct telephone link with WM Meyrick by way of the admin line call and spoke to him on two occasions (at 01.35.34 and 01.47.44). Proper supervision would have involved ensuring that the officers in the command units were regularly pressed for information about the resolution of FSG calls relating to specific flats.

b. Because of the increasing flow of FSG calls to the control room after 01.30, OM Norman became involved in taking 999 calls. That was understandable, but undermined her ability to maintain managerial supervision. When the flow of FSG calls became a flood between around 01.30 and 01.40, OM Norman should have stood back and decided how to manage the collation and transmission of FSG information to the incident ground in a way that ensured that clear lines of communication were established between the control room and the command unit.

c. OM Norman failed to ensure that CROs obtained from callers all the information required by PN539 and PN790. Sometimes that was not possible because callers abandoned the line, but there were instances in which CROs simply did not ask all the questions required by the policies. OM Norman said that she expected CROs to obtain all the relevant information and did not think it necessary to remind them or chase them for more.[329] In the ordinary way that might not be an unreasonable attitude to take, but given the volume of calls, the fact that CROs were terminating FSG calls to take new calls and the fact that the information being passed to the incident ground was not complete, OM Norman ought to have realised that in some cases CROs were not obtaining all the necessary information and should have reminded them of the need to do so, even on the briefest of calls.

29.171 After the "stay put" advice had been revoked, the supervisors provided little or no supervision or assistance to the CROs in giving effect to the change. That was partly because they were extremely busy managing the incident and partly because the number of calls being received made it impossible for them to supervise them individually. However, in some cases it was, or should have been, apparent that CROs had not understood clearly enough the need to advise occupants in direct and forceful terms to leave the building immediately and not wait to be rescued. It was the responsibility of the supervising officer to listen to the tenor of the conversations between CROs and callers to ensure that unwelcome advice was being given clearly and unequivocally. Without adequate support and supervision, the CROs, who were faced with handling some very difficult calls, were left to do their best. Unfortunately, in some instances they failed to give the necessary advice in the right way.

29.172 The underlying reasons for these failures of supervision are not entirely clear, but on the basis of the evidence given by control room staff of all levels of seniority, it seems at least possible that they were attributable to a failure on the part of the LFB to provide its senior control room staff with appropriate training on how to manage a significant incident with a large number of FSG calls.

[329] Norman Day 42/79/17-80/2.

Chapter 30
The Response of the MPS, the LAS, RBKC and TMO

This Chapter examines the joint working arrangements in place for emergency services in London and the response of the emergency services other than the LFB on the night of the Grenfell Tower fire. It examines in particular how and the extent to which they communicated and co-operated with the LFB and with each other.

It also examines the responses of RBKC and the TMO on the night of the fire.

1 Introduction

30.1 The Inquiry received witness statements from officers of the MPS who attended the incident on the night of the fire, from National Police Air Service (NPAS) pilots and from other personnel. They included statements from two senior police officers, Chief Inspector Graham Winch,[1] who explained certain aspects of the MPS's communications and call-handling systems, and Detective Superintendent Paul Warnett, who was the MPS Gold Commander at the scene until around 04.20.[2] The Inquiry also received written and oral evidence from two senior officers, namely Inspector Nicholas Thatcher[3] and Commander Neil Jerome.[4]

30.2 The Inquiry also received written evidence from officers of the LAS who attended the fire, including a statement from Laurence Ioannou, the LAS senior officer at the scene,[5] as well as written and oral evidence from Paul Woodrow, the LAS's Director of Operations.[6]

30.3 Of particular value have been the main CADs for both the MPS (CAD 482) and the LAS (CAD 247).[7] Although they do not record all the transmissions during the night, they are the principal communications logs for the two services relating to the incident. The Inquiry has proceeded so far on the basis that the contents of CAD 482 are a reasonably reliable record of the relevant MPS communications on the night of the fire. However, in the light of further potentially relevant evidence received very recently, I am not entirely confident that the record of relevant MPS communications is complete.

30.4 The Inquiry received written witness statements from employees of RBKC and both written and oral evidence from Nickolas Layton and Michael Rumble, the Local Authority Liaison Officers (LALOs) at the scene up to 08.00.

30.5 The Inquiry also received witness statements from employees and officers of the TMO and heard oral evidence from Robert Black (Chief Executive), Teresa Brown (Director of Housing), Graham Webb (Managing Director of Repairs Direct Ltd, the company responsible for carrying out domestic repairs in properties managed by the TMO) and Hash Chamchoun (Head of Supported Housing).

1 [METS00020664].
2 [MET000080605].
3 [MET00012582]; [MET00018201]; [MET00023284].
4 [MET00023286].
5 [MET00010862].
6 [LAS00000009].
7 CADs are computer-aided dispatch logs used by the LAS and the MPS. CAD 482 [MET00023294]; CAD 247 [MET00019931].

2 The Joint Working Arrangements for the Emergency Services in London

30.6 The actions of the MPS, the LAS and the LFB are to be assessed against the standing arrangements in place at the time of the Grenfell Tower fire for joint operations between London's emergency services. Those arrangements are principally contained in the following three documents:

a. Joint Doctrine: The Interoperability Framework (2 July 2016).[8]

b. The LESLP Major Incident Procedure Manual (July 2015).[9]

c. The London Resilience Partnership Strategic Co-ordination Protocol (February 2017).[10]

30.7 The principles set out in those documents are intended to reflect and discharge the overarching obligations placed on certain public bodies by the Civil Contingencies Act 2004 (the CCA). The LFB, MPS, LAS and RBKC are Category 1 Responders within the meaning of Part 1 of Schedule 1 to the CCA. By virtue of section 2(1) each is under a statutory duty to assess the risk of an emergency of a kind that would be likely seriously to obstruct it in the performance of its functions and to maintain and publish plans for ensuring, so far as reasonably practicable, that, if such an emergency does occur, it will be able to continue to perform its functions, mitigate the effect of the emergency and take any necessary action in relation to it without the need for additional resources, if it considers that to be necessary or desirable.

30.8 Section 2(3) gives the government power to make regulations about the extent of the duties imposed by section 2(1) and the manner of their performance. Regulations made under that section govern joint working, co-operation, the entry into protocols and the maintaining of plans between Category 1 Responders in what is known as a local resilience area. Under the regulations then in force in 2017 the LFEPA[11] had lead responsibility for maintaining emergency plans in the case of a pan-London emergency, as well as carrying out exercises and training if requested by another Category 1 Responder.

30.9 The legislation comprising the CCA and the regulations made thereunder is complex. Whether the three sets of arrangements to which I have referred were adequate to fulfil the statutory purposes for which they were introduced and maintained lies outside the scope of the Inquiry's Terms of Reference. What matters for present purposes is to understand the nature of those arrangements and their intended purpose in order to assess their effectiveness in relation to the Grenfell Tower fire.

Joint Doctrine: The Interoperability Framework

30.10 The document entitled *Joint Doctrine: The Interoperability Framework* (the Joint Doctrine)[12] was produced and maintained by those agencies responsible for Joint Emergency Services Interoperability Principles, or JESIP. JESIP is a programme run by the emergency services nationally with the support of the Home Office, the MHCLG and the Cabinet Office.[13] The Joint Doctrine was first published in 2013 and was revised in July 2016. Its status is explained

8 [MET00023290].
9 [RBK00013294].
10 [MET00023288].
11 The London Fire and Emergency Planning Authority.
12 [MET00023290].
13 For a full description of JESIP refer to www.jesip.org.uk

in its section 2 as supporting the guidance entitled *Emergency Preparedness and Emergency Response and Recovery* issued by the Cabinet Office under the CCA.[14] The Joint Doctrine describes itself on page 2 as

> "an essential element in the hierarchy of guidance. It provides commanders, at the scene and elsewhere, with generic guidance on the actions they should take when responding to multi-agency incidents of any scale…
>
> …
>
> It should be embedded in individual organisation policies and procedures and in their training and exercise programmes, for all levels of response staff."

30.11 The basic principles of joint working are set out in section 3 as "co-locate", "communicate", "co-ordinate", "jointly understand risk" and "shared situational awareness".

30.12 Section 4 deals with the early stages of a Major Incident and emphasises the importance of recognising that the incident will involve working with other emergency services or responder agencies. It points out that the sooner other responder agencies are notified of the incident the sooner joint working arrangements can be agreed and put into place.

30.13 Section 4 also sets out the principles of joint working at a Major Incident, which it defines as an event or situation with a range of serious consequences which requires special arrangements to be implemented by one or more emergency responder agencies.[15] The declaration of a Major Incident triggers a pre-determined strategic and tactical response from each of the emergency services and other responder agencies. The section goes on to point out that declaring that a Major Incident is in progress as early as possible means these arrangements can be put in place as soon as possible.

30.14 To that end, the Joint Doctrine espouses a framework of common messaging or reporting called METHANE, which stands for:

Major incident
Exact location
Type of incident
Hazards
Access
Number of casualties
Emergency services.[16]

In section 5 of the Joint Doctrine each element of METHANE is broken down and explained. Each responder should send a METHANE message to their control room as soon as possible. The first resources to arrive at the scene should send the METHANE message so that situational awareness can be established quickly.

30.15 Section 6 of the Joint Doctrine governs control rooms and communications between emergency services, and prescribes five "supporting principles". It explains how control rooms are the key communication links between agencies and points out that there cannot be a co-ordinated multi-agency response or effective communication if control rooms do not deliver a swift and joint approach to handling them. The first supporting principle is that a dialogue between control room supervisors must be established as soon as possible in order

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14 *Emergency Preparedness and Emergency Response and Recovery.*

15 The definition is taken from the Cabinet Office's "Lexicon of UK civil protection terminology", at www.gov.uk/government/publications/emergency-responder-interoperability-lexicon

16 It is also possible that the incident is not yet a Major Incident, in which case the message should be ETHANE, but commanders should monitor the incident in case it exceeds the threshold.

to start sharing information about the incident. The discussions must be frequent and cover specific points, such as who is the lead agency, what information and intelligence each agency shares, what hazards and risks are known by each agency, what resources are being deployed and why, how the agencies will continue communicating with each other, and the point at which multi-agency interoperable voice communications will be required and achieved. Section 6.1.1(b) calls for the nomination of a single point of contact in each control room and the establishment of a method of communication between them all.

30.16 Supporting principle 5 requires the lead responder (in the case of the Grenfell Tower fire, the LFB) to suggest a location for commanders to "co-locate" in the early stages of the incident, and "if early location information is unverified" then the lead responder and other control rooms should agree an initial rendezvous point and communicate it to the commanders as soon as possible. That reflects supporting principle 4, that it is always preferable for commanders to meet and speak to each other directly.

30.17 The Joint Doctrine then sets out the framework for establishing "a common operating picture" (section 7), "arrangements for joint working" (section 8), a "joint decision model" (section 8.1), and under section 8.1.3 a "working strategy", namely, an action plan that commanders develop and agree together. It sets out key steps in the establishment of an effective, integrated multi-agency operational response plan, which involves identifying hazards, carrying out a dynamic risk assessment, identifying tasks, applying risk control measures, formulating an integrated multi-agency operational response plan, and recording decisions. It then sets out further principles relating to "briefings, supporting joint decision making, information sharing and tiers of command, including operational, tactical and strategic principles, and inter-agency resources and information sharing under a multi-agency information cell (MAIC)".

30.18 The Joint Doctrine is well-intentioned, but it is not an easy document to navigate or penetrate beyond the first few pages. The basic principles are clear enough, but the repetition of the same ideas in numerous different guises, and the bewildering array of management language and acronyms, often at a high level of abstraction, makes practical application something of a challenge. I hope it is not unfair to say that it bears all the hallmarks of managerial conceptualism, designed to fulfil a statutory requirement in a vacuum, and does not appear to be based on the experience of those who operate on the incident ground in the real world.

30.19 Two things at least are, however, plain from the Joint Doctrine. First, if an emergency service declares a Major Incident, it is essential that that fact is communicated to the other emergency services as soon as possible. That is a simple rule to follow in practice and the consequences of failing to do so would be obvious to any responder at the scene. The declaration of a Major Incident is all but useless if it is not communicated to other Category 1 Responders as soon as possible.

30.20 Secondly, it is vital that clear lines of communication between control rooms are established as soon as possible once a Major Incident has been declared, so that each emergency service knows what the others are doing at any given stage.

The LESLP Major Incident Procedure Manual

30.21 LESLP is the London Emergency Services Liaison Panel, which was formed in 1973 and consists of representatives from the MPS, the City of London Police, the British Transport Police, the LFB, the LAS and local authorities, as well as other public bodies. The LESLP Major Incident Procedure Manual (the Procedure Manual),[17] version 9 of which was released in July 2015, was

[17] [RBK00013294].

produced to incorporate the JESIP principles contained in the Joint Doctrine.[18] As paragraph 1.8 of the Introduction to the Procedure Manual says, each emergency service has its own arrangements for responding to a Major Incident. The purpose of the Procedure Manual is to describe the agreed procedures and arrangements for the effective co-ordination of the joint efforts of those who operate within the London Resilience Strategic Co-ordination Protocol, with which it is designed to be read (and to which I will return in detail below).

30.22 The Procedure Manual is a more accessible and pragmatic document than the Joint Doctrine. The important sections for present purposes are as follows:

a. Section 2, *Major incidents*, contains the JESIP definition of a Major Incident and goes on to explain what it typically involves, such as the large-scale combined resources of the police, the LFB and the LAS. It states that a Major Incident can be declared by one or more of the emergency services. Although what is a Major Incident to one emergency service may not be so to another, each of the emergency services will attend with the appropriate pre-determined response.

b. Section 3, *The main functions of the emergency services and other agencies*, contains clear guidance on the role of each emergency service, the NHS and the local authority. It also creates the role of LALO (section 3.9) and provides for their functions.

c. Section 4, *Working together*, summarises in a more digestible form the Joint Doctrine requirements, including, in particular, the requirement to communicate (including meeting face to face: section 4.1.1), to establish a Joint Emergency Service Airwave channel through MetCC (section 4.1.2) and to share information and situational awareness with partner services by use of the METHANE model of reporting (section 4.2.2).

d. Section 5, *Scene management*, sets out how a scene will be managed by the use of cordons and access points, RVPs, marshalling areas for multi-agency resources and a forward command point.

e. Section 8, *Communication systems*, describes the various methods of communication that the emergency services use, in particular for inter-agency command (section 8.10). Section 8.10.2 provides for all emergency services to be able to communicate on Airwave interoperability talkgroups, such as Talkgroup IC1 for tactical commanders, the ES Talkgroups for operational commanders and IAT1 for all Airwave users.

f. Section 9, *Casualty clearance*, provides for a system of sorting casualties in order of seriousness, triage, the creation of the casualty clearing station and matters such as the involvement of the coroner and disaster victim identification. Sections 9.5, 9.6 and 9.7 contain procedures in respect of evacuees, rest centres and survivor reception centres, responsibility for which lies with the MPS supported by the local authority. Section 9.9 provides procedures for the establishment of the casualty bureau by the MPS, where details on all dead, casualties, survivors and evacuees are to be collated and where telephone enquiries from friends and relatives are to be handled. It is essential, in order to match enquiries with details of persons involved, that all casualty information be routed through the casualty bureau (section 9.9.5).

g. Section 10, *Helicopters*, provides for helicopter assistance in the Greater London area. Section 10.1.2 sets out what equipment NPAS helicopters have on board, including a public address system (known as "skyshout") and video transmission equipment to ground-based receiving stations, which include the MPS and LFB command vehicles

[18] Presumably the 2013 version and not the July 2016 version of the Joint Doctrine, which post-dated the 2015 Procedure Manual.

and a number of police patrol supervisor vehicles. It also provides for mobile receivers which can be delivered close to the scene. Section 10.1.3 describes the ten types of support facilities that NPAS helicopters can provide. They are all assessment facilities designed to provide information and intelligence about the incident (such as casualty search and assessment of numbers), but not to carry out physical rescue of those in danger. Sections 10.2 and 10.3 provide for military helicopters and LAS HEMS (Helicopter Emergency Medical Services), principally for the mass transport of high numbers of casualties rather than rescues (although military helicopters have winch capabilities). Section 10.4 provides that HM Coastguard's search and rescue helicopters may be called upon to assist in marine or land rescue incidents in the London area.

30.23 The remainder of the Procedure Manual deals with investigation, safety, other assistance, media liaison and public information, occupiers' response to an incident, debriefing and the welfare of responders (sections 11 to 17).

The London Resilience Partnership Strategic Co-ordination Protocol

30.24 The London Resilience Partnership Strategic Co-ordination Protocol version 7.3 dated February 2017[19] (the Protocol) is published by the London Resilience Group (LRG). The LRG is part of the London Resilience Forum established under the CCA. The LRG is jointly funded by the Greater London Authority, London local authorities and the LFB (but at the time of the Grenfell Tower fire by its predecessor, the LFEPA). The LRG had its headquarters at the LFB's head office.

30.25 The Protocol establishes the escalating co-ordination arrangements for London's response to a disruptive incident, including a Major Incident and is intended to complement the Procedure Manual (section 1.1). It lays down the principles for establishing command structures through strategic co-ordination groups (SCGs), which are the top tier of command of multi-agency co-ordination, below which sit the Tactical Co-ordinating Group (TCG) and Operating Co-ordinating Group (section 1.3.3-1.3.7).

30.26 The Protocol distinguishes between a Critical Incident (as defined by the MPS) and a Major Incident (using the JESIP definition set out above). A Critical Incident is any incident where the effectiveness of the police response is likely to have a significant effect on the confidence of the victim, their family and/or the community.

30.27 This shows that although each emergency service has its own definition of different gravities of incident, a Major Incident always gives rise to a multi-agency response. The Protocol proceeds under Part 2 to set out some 15 "core functions", including notification of strategic co-ordination arrangements, carrying out the detailed roles and responsibilities of the SCG, TCG and OCG, creating and maintaining shared situational awareness, determining strategy and decision-making.

30.28 At the front of the Protocol there is a schematic colour-coded six-page guide under six heads: Notification, Assessment, Co-ordination Level, Activation, Response Strategy and Recovery. Beyond this, as with the Joint Doctrine, much of the Protocol is at a high level of abstraction containing little beyond statements of the obvious, and does not appear to leave much to common sense. But, like the Joint Doctrine, the basic imperative is plain enough: for emergency services to communicate with each other properly and in a timely fashion in the event of a Major Incident in order to formulate and execute a co-ordinated plan.

[19] [MET00023288].

3 Arrangements for Inter-agency Communications

30.29 Before embarking on an examination of the actions of the MPS and the LAS on the night of the fire it is necessary to understand the key elements of the communications systems used by the various emergency services. The systems used by the LFB have been described in Chapter 7. The systems used by the MPS and the LAS are described below.

The MPS communications systems

30.30 In his written witness statement to the Inquiry Chief Inspector Winch described in general terms the MPS's systems for handling emergency calls and communicating both internally and with the other emergency services.[20] For present purposes his evidence can be summarised as follows:

Emergency calls

a. When someone dials 999 the call is answered by a BT emergency operator, who finds out which emergency service the caller requires. If the caller is unable to say which service they require, or the line is cut, the call is put through to the police control room. The MPS has two automated systems for handling calls: the Call Handling System (CHS) and the Computer-Aided Despatch (CAD) system.

b. BT puts the call through to CHS in the police control room at one of three locations in London: Bow, Lambeth and Hendon (collectively known as MetCC). The system automatically enters details of the caller, their location and certain other matters.

c. Once the minimum amount of information has been obtained the call is "passed" by the CHS call handler to the borough "pod" for the location of the incident. ("Passing" is a technical term; it means that the call has been transferred to a pod and entered on the CAD system, but the original call handler remains on the line to the caller.)

d. If the call is passed to a pod it becomes a CAD and is given a CAD number, time and level of importance.[21] The location to which the police officers have been called is entered. The person organising the response to the call (known as the "despatcher") then acknowledges the CAD. Where there are a large number of calls to the same incident the first CAD number generated for that incident is the "working CAD"; in the case of Grenfell Tower it was CAD 482. That CAD is the place where MPS operators (MetCC) subsequently record their actions and additional information. Later CADs relating to the same incident are linked to the "working CAD".

e. The MPS has a standard operating procedure (SOP 300) for abandoned calls from landlines or mobile telephones, which require the MetCC operator to try to call the caller back twice before referring the matter to a controller to decide whether to close the call.[22]

Radio communications

Every borough within the area covered by the MPS has a main channel known as Despatch 1, which is then identified by its borough code. The borough code for Kensington and Chelsea on the night of the Grenfell Tower fire was BS Despatch 1. Communications on that channel

[20] [METS00020664].
[21] There are four grades of call: Immediate, Significant, Extended and Referred.
[22] Refer to the flow charts at GNW1; [METS00020665] and [METS00020666].

were monitored constantly by MetCC and could be heard by all police officers monitoring the channel. In addition to the main channel the MPS operated a support channel, which could be used for non-urgent matters such as Police National Computer checks. Further, officers could use despatch channels for other boroughs if need be, and there were various additional channels which could be used by officers for longer discussions without impeding the use of the despatch channel.

Liaison with other emergency services

a. The MPS has a CAD link with the LAS, which allows call handlers and despatchers to send a message to the LAS by means of the CAD instead of having to make a telephone call. It is designed to deal with individual 999 calls where the MPS decides that the incident requires the attendance of the LAS and vice versa. This facility is independent of the call passing, so an ambulance can be called even before the incident is passed. When a CAD is passed to the LAS the LAS receives the pre-formatted dialogue box with the details of the caller, location and an assessment of their medical condition.

b. The MPS has no CAD link with the LFB, possibly because of the incompatibility of systems. MetCC communicates with the LFB by telephone, usually through a unit called DI/10 (sometimes known as the contact desk) which sits at the MetCC room at Lambeth, as well as by other methods, including radio. If a Major Incident occurs, the emergency services commanders normally gather in the special operations room at Lambeth, as they did during the night of the Grenfell Tower fire.

The LAS communication systems

30.31 Evidence about the LAS's communication systems was given orally by its Director of Operations, Paul Woodrow, who also provided a witness statement to the Inquiry.[23] The LAS's Incident Response Procedures comprise Annex C to his statement. In summary:

a. The LAS control room communicates with the LFB by telephone, not by CAD.[24]

b. The LAS can also communicate with the LFB by Airwave radio and there is also a "tri-agency" channel, on which critical information can be shared. That channel is monitored at the LAS incident management desk or, once an incident has been declared a "significant incident", by the special operations centre.[25]

c. The LAS has an electronic CAD link to the MPS, which allows each service to transfer messages directly into the other's CAD system, although it does not allow either of them to view the other's CAD log.[26]

30.32 The LAS Incident Response Procedures contemplate two types of serious incident, "Significant Incidents" and "Major Incidents".

Significant Incident

The LAS[27] definition of a Significant Incident is:

> "Any incident which from initial intelligence will require attendance of a number of resources along with a management presence or dedicated response."

23 [LAS00000009].
24 Woodrow Day 72/66/2-11.
25 Woodrow Day 72/66/2-67/5.
26 Woodrow Day 72/67/6-25.
27 Section 1.1 of the LAS Incident Response Procedures [LAS00000008] p. 21.

Significant Incidents include fires where there are "persons reported" and fires which are attended by six pumps, as well as any incident which another emergency service has declared to be a Major Incident. The declaration of a Significant Incident triggers a pre-determined response of four ambulances, two Incident Response Officers (IROs) and two Operational Commanders[28] and requires consideration to be given to the attendance of specialist resources such as a Hazardous Area Response Team (HART).[29] It also puts control of the incident into the hands of the Special Operations Centre.[30] The Special Operations Centre is based at Bow and at Waterloo Road. It is a dedicated management suite within the control room. It has numerous functions including the central co-ordination of incident activity and the management of Airwave talkgroups and communication.

Major Incident

The LAS adopts the NHS's definition of a Major Incident, namely,[31]

> "A Major Incident is any occurrence that presents serious threat to the health of the community, or causes such numbers or types of casualties, as to require special arrangements to be implemented."

This is not the same as the JESIP and LESLP definition, but the JESIP principles are embedded in all LAS Incident Response plans and training and the LESLP Procedures Manual governs the LAS response at the scene of a Major Incident.[32]

30.33 The LAS expects the LFB to be the lead emergency service for a fire of the kind that occurred at Grenfell Tower. As such it expects to be told how much of the building is affected, how many flats are in the building, broadly how many casualties there are, how many people have left the building unaided or with assistance and how the LFB intends to fight the fire or evacuate the residents.[33] In terms of the LAS's experience of communications with the LFB, the reality is that there is very little joint operation between them, not least because less than 1% of the 1.9 million emergency calls received by the LAS annually are to fire-related incidents. Paul Woodrow rejected the suggestion that historically there had been any "overarching problems" with communication with the LFB at incidents.[34]

30.34 The LAS expects the MPS to manage access and to cordon off the scene of the incident to ensure the safety of its personnel. It looks to the local authority as a fellow Category 1 Responder to provide reception centres for patients who are mobile and are not in immediate need of being taken to hospital.[35]

4 The response of the MPS and the LAS

30.35 In the light of all the evidence it is clear that on the night of the fire the responses of the Category 1 Responders (i.e. the MPS, the LAS and RBKC, in addition to the LFB), did not fully adhere to the principles contained in the Joint Doctrine, the Procedure Manual or the Protocol. The principal flaw, common to all, was poor communication, both at control room level and on the incident ground, which meant that individual organisations were often working in isolation and in ignorance of what the others were doing.

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28 Section 4.6.3 of the LAS Incident Response Procedures [LAS00000008] p. 73.
29 Woodrow Day 72/83/21-85/1.
30 Woodrow Day 72/88/14-89/2.
31 Section 1.2 of the LAS Incident Response Procedures [LAS00000008] p. 22.
32 Sections 1.13 and 1.14 of the LAS Incident Response Procedures [LAS00000008] pp. 27-30.
33 Woodrow Day 72/73/22-74/1-18.
34 Woodrow Day 72/75/22-25.
35 Woodrow Day 72/62/3-20.

Separate declarations of a Major Incident

30.36 The concept of a Major Incident lies at the heart of the joint emergency services' response enshrined in the Joint Doctrine, the Procedure Manual and the Protocol. Declaring a Major Incident, even where it has previously been declared as a "Critical Incident" (the MPS) or a "Significant Incident" (the LAS), is, as Inspector Thatcher said, a massive step.[36]

30.37 As is clear from section 2 of the Procedure Manual, a Major Incident can be declared by any one or more of the emergency services. What appears to be a Major Incident to one may not appear so to another and each of the emergency services should attend in accordance with the appropriate pre-determined response without necessarily themselves declaring a Major Incident.[37] However, if one emergency service declares a Major Incident that fact must be communicated to the others immediately so that they can respond appropriately and establish inter-agency communication.

30.38 In the case of the Grenfell Tower fire,

a. the MPS declared a Major Incident at 01.26.32;

b. the LFB declared a Major Incident at 02.06.38; and

c. the LAS declared a Major Incident at 02.26.53.[38]

30.39 In no case did the emergency service making the declaration take immediate steps to inform either of the others that it had done so. In no case did the emergency service making the declaration know when it took that step whether either of the others had already done so, or take any steps to find out whether that was the case.

The declaration of a Major Incident by the MPS

30.40 In the case of the MPS, Inspector Thatcher said that he had not given a second thought to whether the LFB or the LAS had already declared a Major Incident.[39] He had received training on JESIP, which is why he recognised that it fell to him to make the declaration,[40] but he did not appear to realise that the Joint Doctrine required him to send a METHANE message to his own control room as soon as possible. He simply trusted MetCC to send it.[41] MetCC did not send it, and neither he nor, it appears, Detective Superintendent Warnett checked with MetCC that it had been sent.[42]

30.41 For their part neither the LAS[43] nor the LFB[44] was aware that the MPS had declared a Major Incident, either at the time it was declared or at any later stage during the night. At 01.41.42, when the LAS declared a significant incident, it did not know that the MPS had already declared a Major Incident, a fact that Paul Woodrow told the Inquiry was unusual. As he said,

36 Thatcher Day 71/36/5-37/4.
37 For example, section 1.6 of the LAS Incident Response Procedures [LAS00000008] p. 25 and the Strategic Co-ordination Protocol [MET00023288] paragraph 1.4.7 p. 12.
38 It should be noted that the time recorded on the CAD for a particular event is the time when the entry is recorded by the operator.
39 Thatcher Day 71/39/11-13.
40 Thatcher Day 71/37/5-18.
41 Thatcher Day 71/42/6-20.
42 Thatcher Day 71/49/14-50/4.
43 Woodrow Day 72/89/3-5.
44 O'Loughlin Day 47/186/1-4.

he would have expected that information to be conveyed to them.[45] That information could have been communicated to the LAS through the shared Airwave channel 3 which was up and running by that time.[46]

30.42 If the LFB had known that the MPS had declared a Major Incident some 35 minutes before GM Richard Welch took that step at 02.06.38, it is a fair inference that he would not have thought it necessary to send his own METHANE message.

30.43 When Chief Inspector Duane Barrett briefed Commander Jerome about the incident at 02.30, he told him that the MPS had declared a Major Incident.[47]

The declaration of a Major Incident by the LFB

30.44 The following sequence of events occurred:

a. The LFB first alerted the LAS to the fire at Grenfell Tower as a 20 (then 25) pump fire with "persons reported" at 01.29.06.[48] Paul Woodrow's evidence was that the LFB should have called the LAS earlier to alert them to the fire.[49]

b. When GM Welch declared a Major Incident at 02.06.38, he did not know that the MPS had made a similar declaration at 01.26.32, or at all, since the MPS had not communicated that fact to the LFB.

c. At 02.27.39, some 20 minutes later, the LFB informed the LAS by telephone call from AOM Debbie Real in the LFB control room that it had declared a Major Incident,[50] but it was not accompanied by a METHANE message from the LFB.

d. Although GM Welch asked for a METHANE message to be sent, that was not done.[51] He had given the task to GM Stephen West, who was only part way through writing the contents of the message on a whiteboard on CU8 when he was distracted by an attempt (in the end unsuccessful) to make channel 2 on the fireground radio available for use by the commanders.[52] The incident commander (then DAC Andrew O'Loughlin) failed to follow the matter up and ensure that the METHANE message was sent.

e. At 02.38.06 the LFB informed the MPS that it had declared a Major Incident.[53] Inspector Thatcher was told about the declaration by DAC O'Loughlin soon afterwards when they met at 02.39 on CU8.

The declaration of a Major Incident by the LAS

30.45 The LAS did inform both the LFB and the MPS of its declaration of a Significant Incident,[54] in the case of the LFB at 01.52 and in the case of the MPS at about the same time (around 10 minutes after the event). Paul Woodrow said that it was "imperative" that the information that a significant event had been declared should be communicated to partners as soon as

45 Woodrow Day 72/89/3-10.
46 Woodrow Day 72/89/11-16.
47 Jerome witness statement [MET00023286] p.12.
48 [INQ00000378].
49 Woodrow Day 72/76/23-24.
50 [INQ00000380] and CAD 247 [MET00019931] p. 8. Refer also to Woodrow Day 72/118/6-119/12. Paul Woodrow said that he did not think that it would have changed anything that the LAS had done at that point.
51 Welch Day 44/59/18-60/20.
52 West witness statement [MET00017073] pp. 5-6.
53 In AOM Real's admin line call [INQ00000375].
54 Which it had declared at 01.41.42.

practicable.[55] The LAS then confirmed the declaration of a Significant Incident and sent a METHANE message over the radio. There is no evidence that either the LFB or the MPS picked up the fact that the LAS had sent a METHANE message.

30.46 After a further 30 minutes the LAS declared a Major Incident at 02.26.53. That declaration occurred as a result of Laurence Ioannou's visit to CU7 and his discovery that there were FSGs reporting 40 people trapped in the building and patients coming out unconscious. He gave another METHANE message reporting 40 people trapped and two unconscious children.[56] The purpose and effect of his declaring a Major Incident was to increase the resources at the incident to 20 ambulances, eight officers, a HART (although four were despatched at 01.34 and one was already at the scene from 01.45), specialist vehicles and equipment, and a Medical Emergency Response Incident Team.[57] Four hospitals were put on standby and more staff had been allocated to the LAS special operations room at Waterloo Road.[58]

30.47 For its part the LAS did communicate its declaration of a Major Incident to both the MPS and the LFB, or so Paul Woodrow believed.[59] Although there is no record of these communications in the CADs or the SIL, the information may have been communicated by telephone or some other means. If LAS did tell the LFB, it is likely that Laurence Ioannou told the LFB incident commander on the fireground (at that point DAC O'Loughlin).

RBKC

30.48 It was only at 02.42.38 that RBKC was told by the LFB (AOM Real)[60] that a Major Incident had been declared. One can well see that the LFB control room had been swamped with calls up to that point and that AOM Real may not have been able to get around to notifying RBKC until that time (not least because the LFB control room had been occupied with instructing CROs to change the advice they were giving to 999 callers from "stay put" to "get out"), but there is nothing to explain why neither the MPS nor the LAS saw fit to tell RBKC as a fellow Category 1 Responder that a Major Incident had been declared.

Major Incident: consequences and conclusions

30.49 There is much to commend about the emergency services' joint working on the night of the fire. For example, the TCG meetings which were effectively led by AC Roe provided a useful and substantially effective forum in which the emergency services' senior representatives were able to share information and seek to co-ordinate their respective responses. The MPS's policing of the incident ground was particularly sensitive to the demands of the situation. It should also be borne in mind that the circumstances which the emergency services faced were undoubtedly challenging. As Paul Woodrow said in evidence:[61]

> "So I think this was unprecedented. So from my experience … the emergency services have a close relationship, they do work together, we do exercise together. I just think that the nature and scale of this incident, and I think that there were other environmental challenges that were in play there, which just made it very difficult. Information was shifting and it was changing constantly, and I just think that just created a very difficult environment to maintain those clear communication challenges"

55 Woodrow Day 72/94/22-25. He could not explain the delay.
56 Ioannou witness statement [MET00010862] p. 7.
57 Section 4.6.3 of the LAS Incident Response Procedures [LAS00000008] p. 74; Woodrow Day 72/104/17-105/5.
58 Ioannou witness statement [MET00010862] p. 7; this is broadly reflected the section 4.6.3 of the LAS Incident Response Procedures p. 74 although not in terms. Refer to Woodrow Day 72/109/1-4.
59 Woodrow Day 72/109/5-15.
60 [INQ00000188].
61 Woodrow Day 72/102/7-16.

30.50 Although I accept that, in the circumstances, it would be unrealistic to expect complete compliance with each and every aspect of the Joint Doctrine and its supporting manuals and procedures, there were failings in the operation of the inter-service arrangements. The disjointed and haphazard nature of the various declarations of a Major Incident involved a significant departure by each of the emergency services from the principles set out in the Joint Doctrine, the Procedure Manual and the Protocol. That departure may be explained by the rapidly escalating nature of the incident and the need of each senior officer present to attend to more pressing matters, but it is precisely for Major Incidents such as the fire at Grenfell Tower that the Joint Doctrine was designed.

30.51 In terms of their operational response, it is difficult reliably to identify the consequences of the departures from the Joint Doctrine. There is little doubt that, if the LAS had known about the declaration of a Major Incident by the MPS at 01.32, or the declaration by the LFB at 02.06.38, far greater LAS resources would have been available at Grenfell Tower much earlier, but it is difficult to say precisely when. It was only at around 03.00, some 35 minutes after the declaration by the LAS that, as Paul Woodrow put it, the "full predetermined attendance for a Major Incident was met".[62] It is therefore reasonable to infer that if the LAS had known about and had responded to the declaration of a Major Incident by the MPS at 01.26, resources appropriate for a Major Incident would have been at the tower by around 02.00, an hour earlier than in fact was the case. However, there is no evidence that a departure from the Joint Doctrine by any of the emergency services caused or contributed to the death or injury of any person at Grenfell Tower.

30.52 It is also likely that the disjointed timing of the METHANE messages meant that the nature of the hazards (H) and the possible numbers of casualties (N) were not the subject of the shared understanding which the joint operability documents all treat as essential to the formulation of a joint strategy. For example, it was only when the LAS discovered the number of casualties and of people trapped in the building that, at 02.26.53, it declared a Major Incident. If it had heard the LFB declaration at 02.06.38, and if the LFB had then sent a METHANE message, the LAS would probably also have declared a Major Incident at that stage, with the consequent increase in resources.

30.53 Although the MPS did not send a METHANE message following its declaration of a Major Incident at 01.32, it is not clear what information which would have made a significant difference to the actions of the LFB or the LAS would have been contained in it, not least since the LFB had increased its resources to 25 pumps at 01.31.48.

30.54 There remains the question why the LFB did not declare a Major Incident before 02.06.38. At 01.38.51 AC Andrew Roe, having been called to the incident by radio pager, called the control room and spoke to AOM Peter May.[63] He told the Inquiry that, as a result of what he heard on that call, "All of my instincts as a professional officer told me I was driving towards a Major Incident".[64] Yet neither WM Michael Dowden nor SM Andrew Walton nor DAC O'Loughlin, all of whom were at the incident ground and had held incident command at some point before 02.06, took it upon themselves to declare a Major Incident.

30.55 That is much less a criticism of the joint working arrangements between Category 1 Responders than it is of the LFB, but it does lay bare one truth about the concept of a Major Incident, namely, that it may be easier to make a judgement about whether to declare a Major Incident when one is at a distance from the scene rather than in the midst of the action having to

62 Woodrow Day 72/107/15-25.
63 [INQ00000202].
64 Roe Day 48/198/16-18.

make command decisions in a rapidly changing and dangerous environment. It is perhaps no coincidence that Inspector Thatcher declared a Major Incident before he arrived at the tower on the basis of what he could see at a distance from the top of Ladbroke Grove.

30.56 One of the consequences of the declaration of a Major Incident by the emergency services is that there should be a multi-agency conversation between the control room leads. This was a requirement of the joint operating requirements established under the Joint Doctrine, particularly sections 5, 6 and 6.1.1, which requires that following the declaration of a Major Incident a dialogue between control room supervisors should be established as soon as possible. That was also a requirement of the Procedure Manual (section 4, and particularly section 4.2). Commander Jerome told the Inquiry that the Grenfell Tower fire was an incident that particularly called for such a conversation.[65] The evidence that such a conversation ever took place is at best unclear.[66]

Communications between the emergency services

30.57 Communication between the emergency services on the night of the fire, both remotely and on the incident ground, was poor. It did not meet the standards expected by the provisions of the Joint Doctrine, the Procedure Manual and the Protocol. Indeed, Paul Woodrow (LAS) accepted in his witness statement that communication between the emergency services could have been better on the night.[67]

Remote communications

30.58 The LAS control room normally communicates with the LFB control room by telephone.[68] Paul Woodrow accepted that the LFB should have called the LAS earlier to alert them to the fire (the first call that the LFB made to the LAS was at 01.29).[69] Although LFB communications could have been recorded on the MPS's CAD if that information had been entered by MPS operators located on DI/10 or DI/9 (about which the evidence remains incomplete), the absence of a direct CAD link between the LFB and either the LAS or the MPS which did not depend upon the intervening actions of MPS operators meant that the LFB's communications could not be directly recorded on the MPS or LAS CADs.

30.59 The LAS has a CAD link with the MPS and vice versa and these emergency services can update each other's CADs although they cannot see them. Of course, the CAD was not the sole means of communication between the three emergency services and information could be (and was) shared by telephone or shared radio channels. That was demonstrated by the use of one of the two shared tri-agency radio channels, both of which were being monitored.

30.60 However, despite the fact that the tri-agency radio channels were being used and monitored by the LAS control room,[70] as was normal,[71] it is not clear from the evidence how widely they were actually used on the night. Paul Woodrow's evidence was that he would have expected messages from the tri-agency radio channels to be recorded in LAS CAD 247 by the loggist,[72] and indeed CAD 247 records some messages on channel ES3, mainly from the NPAS

65 Jerome witness statement [MET00023286] pp. 6, 12; Jerome Day 71/172/20-179/6.
66 Winch witness statement [METS00020664] p. 10.
67 Woodrow witness statement [LAS00000009] p. 27.
68 Woodrow Day 72/66/2-7.
69 Woodrow Day 72/76/9-24.
70 CAD 247 entry at 01.57.52 noting that the MPS were asking the LAS to liaise with the NPAS helicopter on one of the tri-agency channels [MET00019931] p. 5; Woodrow Day 72/111/19-112/4.
71 Woodrow Day 72/66/7-22.
72 Woodrow Day 72/112/18-113/1.

helicopter to the LAS.[73] Critically, the tri-agency radio channels do not appear to have been used to inform either the LAS or the MPS control room about the abandonment of the "stay put" advice.[74] There is only one instance of the LFB using channel ES3 to communicate with the other services, which occurred at 04.38.46.

30.61 It seems that any information that the LAS had about patients which it decided to pass to the LFB was communicated by telephone on a case-by-case basis.[75] Three emergency calls received by the LAS from people inside the tower were not passed on to the LFB, based on individual decisions made by the LAS's despatch deployment sector. There is no evidence as to how those decisions were made, but Paul Woodrow told the Inquiry that there was no protocol or policy in place requiring the LAS to pass all FSG callers to the LFB. This was, as he fairly accepted, an area where improvement was required.[76]

30.62 It is not clear that Supporting Principle 1 in paragraph 6.1.1 of the Joint Doctrine (see above) was fully satisfied. There should have been a single point of contact in each control room and the establishment of a method of communication between them. Paul Woodrow, on behalf of the LAS, did not know if appropriate arrangements had been in place on the night.[77] He accepted that it would have helped to have had a single point of contact in place and that its absence clearly contributed to difficulties in communication.[78] In relation to the LFB, the evidence indicates that there was no single point of contact in its control room who was communicating with counterparts in the LAS or the MPS. Therefore, irrespective of the arrangements that the MPS may have had in place, it is not clear whether the other two emergency services had implemented the requirements of Supporting Principle 1.

30.63 Similarly, it is clear that Supporting Principle 2 in section 6.3.1 of the Joint Doctrine, which requires control room supervisors to engage in multi-agency communications and carry out the initial actions to manage the incident, was never complied with properly.

30.64 One possible reason for these failures of communication is that the Joint Doctrine was not engaged at the earliest opportunity. Given the independent declarations of a Major Incident by each emergency service and the fact that they were not communicated to either of the others, it is hard to pinpoint when anyone realised that a co-ordinated response was required. Inspector Thatcher recognised it and declared a Major Incident at 01.26.32. It was recorded on CAD 482 at 01.32.27 but that was not communicated to the other services.[79] It is obvious that a declaration of a Major Incident which is not communicated to the other emergency services is all but useless for the purposes of engaging the Joint Doctrine principles.

30.65 That is not to say that there was no communication at all between the MetCC and the LFB control room. There are sporadic examples of contact, such as the call between the MPS and the LFB at 01.46.18, in which the MPS operator asked CRO Yvonne Adams whether there was any advice they could give callers, as there was a distressed caller stuck on floor 16 (Flat 133, Sener Macit).[80] The details of this call are set out in Chapter 29.

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73 CAD 247 [MET00019931]. For example, refer to the messages at 01.57.52 and 01.59.43. There were then seven further entries on CAD 247 recording the use of channel ES3 between 02.10.20 and 04.38.46.

74 Woodrow Day 72/111-116.

75 For example, at 02.21.41 LAS's despatch deployment sector desk sent a telephone message to the LFB about "patients alive on 25th floor": refer to Woodrow witness statement [LAS00000009] p. 10 and Day 72/115/10-116/21.

76 Woodrow Day 72/116/22-117/25.

77 Woodrow Day 72/71/12-72/9.

78 Woodrow Day 72/119/13-120/10.

79 Thatcher Day 71/35/2-18.

80 [LFB00000326]. The MPS recording of this call is CAD 578 [INQ00000280] p. 4, which has a slightly different time of 01.45.28.

The heli-tele downlink

30.66 I have touched on the heli-tele downlink in Chapter 28 and Chapter 29 so far as its failure to function on the night of the Grenfell Tower fire adversely affected LFB operations. Here I examine in more detail why it did not work.

30.67 The heli-tele downlink is an encrypted visual communication system which enables the NPAS helicopter to transmit images from its video cameras to the LFB's receiving equipment in the command units and control room. Each of the NPAS helicopters present at Grenfell Tower on the night of the fire was fitted with an airborne data link. Fixed receivers are fitted in 10 MPS vehicles and LFB command units. A series of channels and encryption protocols are built into the airborne data link systems. There are four channels used across the UK, of which channel D is the default. Within each channel is a series of encryption keys, the two main keys being the National Emergency Service user key, which is installed in every piece of transmitting and receiving equipment used by the emergency services throughout the country, and the National Police user key, which is installed in all MPS equipment (fixed and portable) but for reasons of security not in the equipment used by the other emergency services. In order for an LFB command unit to receive video signals from an NPAS helicopter and watch the live feed it is necessary for the both the transmitter and the receiver to have the same encryption keys installed. When the equipment fitted to the MPS helicopters is switched on it defaults to channel D, and within it to the National Emergency Service encryption, which all emergency service vehicles have and which allows access to the helicopter video link.[81]

30.68 Unfortunately, on the night of the fire the three MPS helicopters were being serviced. The helicopters that attended the incident were equipped with an airborne data link system which did not default within channel D to the National Emergency Service user encryption but to the National Police user encryption. That meant that the LFB did not have the relevant encryption key in its receiving equipment. That was not evident to the NPAS crews at the time because they had never received any training on the differences between the two systems.[82] Accordingly, until the MPS provided the LFB with portable downlinks using the correct National Police user encryption, the firefighters could not view the images.

30.69 It is unclear when, if ever, the portable downlinks actually reached the incident ground, and a serious question arises about whether the video feed from the helicopters was ever available to the LFB. Daniel Arnold, an NPAS Sergeant and the Base Manager at Lippitts Hill (the NPAS London base), said that the portable downlinks had the same encryption keys as the helicopter, which enabled the video to be viewed.[83] However, the LFB officers who were asked about it said that they could not receive the NPAS helicopter video at any stage of the incident and, although his timings were "very hazy", SM Peter Johnson said that the LFB officers in CU8 could not view the heli-tele pictures until around 10.00 or 10.30 on 14 June 2017, when they were told by a police officer that it was now working and that the feed had been "scrambled" up to that point.[84]

81 Arnold second witness statement [MET00039527] pp. 1-2.
82 Arnold second witness statement [MET00039527] p. 2.
83 [MET00039527] p. 2.
84 Johnson Day 37/21/6-25/1. SM Johnson can clearly be seen on the Thatcher body-worn video footage at 02.37 [INQ00000520] inside CU8 telling Inspector Thatcher that the helicopter downlink was not working. Some BSRs suggested that the clip reveals that the LFB officers on CU8 said that they did not have time to use it, but it is not easy to see or hear where in the clip this appears.

30.70 I tend to prefer the LFB's evidence on this question, not least because, if the portable downlinks had been working by around 04.00, it is probable that the fact would have been recorded in the Roe Log and that at least some of the LFB officers who gave evidence would have recalled it. Further, Sergeant Arnold does not say when the portable downlinks did successfully provide the LFB with video images.

30.71 It remains wholly unclear whether having access to the NPAS video feed at that stage of the incident would have had a material bearing on the outcome. However, it must remain a matter of criticism that the NPAS helicopters which did attend all defaulted to a channel which disabled the LFB from being able to view the live feed until many hours into the incident. The first NPAS helicopter to arrive at Grenfell Tower (NPAS 44) was there before 01.45.25 and it would have been extremely valuable, at that crucial stage in the incident, for the LFB to have been able to obtain an aerial view of all four sides of the tower. It is not clear whether that would have made any difference to the strategy which WM Dowden had adopted up to that point, but it might well have assisted both him and succeeding incident commanders. If nothing else, it might have enabled them to appreciate that the fire was not confined to the exterior of the building, as they appear to have believed, but had penetrated a large number of flats, with the result that the compartmentation of the building had completely failed. Their failure to appreciate that the fire had penetrated the interior of the building contributed to the delay in the decision to revoke the "stay put" advice to residents. Seeing the visual images might also have brought forward the point at which the LFB declared a Major Incident.

Communications on the incident ground

30.72 Paul Woodrow's evidence was that, in ideal circumstances, the LFB and LAS would have had their control units close together, but it had not happened on the night.[85] He said that the first person to attend from the LAS should make an initial assessment of the scene, report back, and then speak to the LFB incident commander.[86]

30.73 That did not happen and, even allowing for the exigencies of the night, it is unfortunate that there was no communication between senior officers from the three emergency services at the scene until well into the incident (although there was of course communication between more junior officers from each service at much earlier stages of the incident). In particular:

a. The first face-to-face meeting between the senior LAS officer and the LFB incident commander did not occur until around 02.23, when Laurence Ioannou went to CU8 and spoke to DAC O'Loughlin. Until that point it appears that he had not known who was in command,[87] although he had arrived at 01.49. According to Paul Woodrow that meeting was unusually late, but he attributed the delay to the "unprecedented" nature of the incident. Laurence Ioannou tried, initially without success, to find and talk to the LFB's incident commander, but did manage to have a brief conversation with SM Walton shortly after arriving.[88]

b. The MPS Silver Commander (Inspector Thatcher) first spoke to DAC O'Loughlin at around 02.39. The MPS Gold Commander (Detective Superintendent Warnett) first met the LFB incident commander at the first TCG meeting, which took place at 03.20.

c. It is uncertain whether, and if so when, Laurence Ioannou met or spoke to either Inspector Thatcher or Detective Superintendent Warnett before the first TCG meeting at 03.20.

85 Woodrow Day 72/63/13-22.
86 Woodrow Day 72/63/13-64/19.
87 Ioannou witness statement [MET00010862] p. 6.
88 Woodrow Day 72/101/12-102/3; refer also to Ioannou witness statement [MET00010862] p. 7.

30.74 It is possible that an examination of the CAD messages to and from MPS officers in addition to those shown on CAD 482 and other linked CADs might reveal that the emergency services were communicating with each other on the incident ground to a greater extent than CAD 482 itself indicates, and I recognise that CAD 482 may not fully convey the sheer volume of communications between the emergency services. However, what matters is not how often officers from the different emergency services communicated with each other but whether important information and decisions were shared at a senior level. I think it unlikely that the detailed and time-consuming analysis of all the available CAD messages that would be required would identify any further important communication of that nature of which I am currently unaware.

30.75 Section 6.3.2 of the Joint Doctrine (Supporting Principle 4) makes it clear that it is desirable for commanders to meet in person and speak directly to each other. These delays in face-to-face communication between the senior officers for the three emergency services present on the incident ground constituted a failure to comply with sections 6.3.1 and 6.3.2 (Supporting Principle 5) of the Joint Doctrine. Section 6.3.2 required the LFB as the lead responder to suggest a location for commanders to co-locate in the early stages of the incident, or agree an initial rendezvous point with the other control rooms and communicate it to the commanders as soon as possible. That did not happen. It was a further departure from the fundamental principles of the Joint Doctrine by each emergency service, but primarily by the LFB.

Change to the "stay put" advice

30.76 There is no evidence to explain why the LFB did not tell either the MPS or the LAS about its decision to abandon the "stay put" advice, either after SOM Joanne Smith had made the decision in the LFB control room at around 02.35 or after AC Roe had made the same decision on the incident ground at 02.47.

30.77 The LFB did not tell the MPS about its decision to abandon the "stay put" advice until shortly before 03.08.07, when MetCC broadcast the message to all police officers. Inspector Thatcher knew by the time of the first TCG meeting at 03.20 that the advice had changed, possibly because he had heard the information when it was broadcast a second time by MetCC at 03.10.56.[89] The consequences of this delay in the MPS learning about the change in "stay put" advice are examined in Chapter 29 but, in summary, it is possible that it resulted in "stay put" advice still being given by MetCC operators as late as 03.05.[90] That is not something for which the MPS can be criticised.

30.78 So far as concerns the LAS, Paul Woodrow said that it would be "reasonable" for the LAS to be informed if the "stay put" advice were changed during an incident,[91] but there is no evidence that the LFB did in fact tell the LAS about it before the first TCG meeting, and indeed Paul Woodrow could identify no formal record of the LAS having been told about it at any time.[92] The Roe Log[93] refers to the change in advice and Laurence Ioannou's recollection was that he had learnt of it at the first TCG meeting.[94]

89 Although he did not recall having heard the message. Thatcher second witness statement [MET00023284] p. 10 and Day 71/126/12-127/1.

90 CAD 932 [INQ00000281]. Although the transcript of that call does not actually record "stay put" advice being given, equally the operator did not advise the caller to leave at all costs. Refer to Exhibit NAJ/2 [MET00023291] in which Commander Jerome refers to that call as giving "stay put" advice.

91 Woodrow Day 72/127/9-12.

92 Woodrow Day 72/133/20-21, 135/19-19.

93 [MET00005404] p. 2.

94 Ioannou witness statement [MET00010862] p. 10. Laurence Ioannou actually refers to the second TCG meeting but that is likely to be incorrect given the contents of the Roe Log and Inspector Thatcher's recollection that it was mentioned at the first TCG meeting.

30.79 Given that the LAS's procedure was to stick to their triage scripts, it is not clear whether LAS call-handlers would have handled emergency calls from the tower differently if they had been told earlier that the "stay put" advice had been abandoned. However, as Paul Woodrow accepted in oral evidence, it might have affected their appreciation of the severity of the incident more generally.[95]

Logistical problems at the incident ground

Congestion

30.80 There were a number of logistical problems at the incident ground. The primary challenge for the emergency services was congestion resulting from parked emergency and ancillary vehicles in the narrow streets around the tower and the number of firefighters attending the incident. This made it difficult to establish rendezvous points and caused some delay to firefighters attending the incident, because they had to park at a distance and proceed on foot. However, it is difficult to identify any specific instances in which congestion had any particular effect on the delivery of emergency services and in the case of the LAS there appears to have been no significant effect on patient care.[96]

Cordons and crowds

30.81 The second major logistical challenge was putting cordons in place to keep people at a safe distance from the building and maintaining public order. The effect on family and friends of watching a tall building burning out of control with their loved ones trapped inside is unimaginable in its horror, and it was wholly understandable that they would wish at all costs to attempt to enter the building and assist with rescue. However, not only would that have put their own lives and the lives of others in danger, it would also have seriously impeded the LFB's operations. The task of the MPS was to establish and maintain cordons at a safe distance from the tower and secure a safe working environment for the LFB.[97] That was hard to achieve, not only because of burning debris falling from the tower, but because there were occasions during the night (e.g. at around 03.00) when the threat of public disorder was very real. The incident required both the intelligent location of cordons and firm but sensitive policing, both of which were achieved, principally due to the impressive leadership of Inspector Thatcher. There were no public order offences; the crowd was kept away from the tower and in the end became supportive and helpful. In addition, the MPS provided riot shields to protect firefighters and casualties from the falling burning debris. All those aspects of the policing of the Grenfell Tower fire reflect great credit on the MPS and on Inspector Thatcher and Detective Superintendent Warnett in particular.

The identification of casualties

30.82 A further question arising out of the emergency services' response to the fire is whether the LAS could have obtained quicker and more reliable information about which flats patients had come from. There is evidence to suggest that survivors, families and friends were unable to find their loved ones because they were not told which hospitals they had been taken to and that it was a difficult and time-consuming exercise to find out where they were.[98] The anxiety

95 Woodrow Day 72/134/2-16.
96 Woodrow Day 72/155/1-7.
97 Warnett witness statement [MET00080605].
98 For example, Helen Gebremeskel [IWS00000933] p. 11 and Nicholas Burton [IWS00000064] p. 21.

born of not knowing what had happened to those caught in the fire in the hours immediately after their evacuation must have been immense and in the case of those occupants who had successfully escaped can only have added to their trauma.

30.83 Sections 9.6 to 9.11 of the Procedure Manual call for a number of different kinds of facilities to be established in response to a Major Incident. One (section 9.9) is a casualty bureau to be established by the police at which details of all dead and injured, survivors and evacuees, are collated and which can provide information in response to inquiries from friends or relatives of those believed to be involved in the incident. To avoid discrepancies in casualty numbers all information ought to be routed through the casualty bureau which acts as the sole source of information. The function of the casualty bureau to some extent overlaps with the function of the Survivor Reception Centre (section 9.7) and the Friends and Relatives Reception Centre (section 9.8) in so far as it is a source of information for survivors, friends and relatives.

30.84 Having considered the available evidence, I do not think it is possible to say that the casualty bureau was not set up as quickly as reasonably practicable in accordance with sections 9.6 to 9.11 of the Procedure Manual. I have little doubt that it was extremely difficult to obtain all the information required to provide an effective casualty bureau in this case and that when dealing with an incident of this kind it may not always be possible to obtain the information needed to dispel the anxieties of friends and family as quickly as one might wish. However, if there are ways of improving the speed and accuracy of matching casualties with inquiring friends and relations, which is, after all, the aim of sections 9.6 to 9.11 of the Procedure Manual, they ought to be explored and adopted without delay.

Helicopter rescue

30.85 Some who lost members of their families in the fire want to know whether people trapped in flats high in the tower could have been rescued by helicopter from the roof of the building or directly from their flats. That is in part because some of those who made emergency calls from within the tower were given the impression that rescue by helicopter might be possible, or at least were not told in clear terms that it was not.

30.86 Section 10 of the Procedure Manual deals with the use of helicopters in a pan-London Major Incident. Section 10.1.2 describes the equipment NPAS helicopters usually have on board, and section 10.1.3 lists the support functions that NPAS helicopters can provide. They amount to providing further information and analysis, among other things, to support emergency rescue at the scene and to recording data for later analysis. They do not include actively engaging in rescues, for which NPAS helicopters are not equipped.

30.87 If rescue by helicopter had been considered feasible, it would have been possible to call on the services of HM Coastguard's search and rescue helicopters, as contemplated by section 10.4.1 of the Procedure Manual. Under section 10.4.2, for a land-based rescue the MPS would have to alert HM Coastguard helicopters via the Aeronautical Rescue Co-ordination Centre at RAF Kinloss. There can be little doubt, therefore, that even if the rescue of occupants from high in the tower had been possible, the NPAS helicopters at the scene could not have carried it out.

30.88 AC Roe did, briefly, consider whether to summon HM Coastguard helicopters. The Roe Log records at 05.40 "AR: MCA hele to consider winching off – investigating" and at 05.45 "Potential deployment of MCA SAR hele".[99] AC Roe told the Inquiry[100] that he considered it briefly at that time mainly because he had information that there were people trapped on the

[99] [MET00005404] p. 4.
[100] Roe first witness statement [MET00007520] p. 12 and Day 49/204/10-208/25.

roof of the building. However, as he explained, he quickly discounted helicopter rescue from the roof because of the minimum 45-minute arrival time, the potentially aggravating effect of the rotor downdraft on the fire, the risk to the crew, firefighters and remaining occupants of the building and the inherent difficulty of such a rescue operation. As he put it,

> "it was going to be almost impossible to put someone on the end of a winch to get someone out. Let alone, you know, effectively dropping a line into a fire environment."[101]

30.89 I accept AC Roe's evidence on that point. A helicopter rescue by HM Coastguard would have been perilous and extremely uncertain, a fact confirmed by the evidence of two officers from the Maritime Coastguard Agency.[102] In any event no occupants of the tower were able to get on to the roof of the building. Calling a rescue helicopter would therefore have been a waste of time. The gate on floor 23 closing off the stairs from the lobby to the roof was locked on the night of the fire, which may explain why no one was on the roof at any time, but even if it had it been open, I am satisfied for the reasons given by AC Roe that it would not have been possible for anyone who had reached the roof and had survived the conditions that they would have encountered there to have been rescued safely.

5 RBKC and the TMO

The role and emergency plans of the RBKC and TMO

30.90 RBKC, as the local authority in whose area Grenfell Tower lies, was a Category 1 Responder as defined in the CCA and was subject to the corresponding civil protection duties. RBKC had a formal "Contingency Management Plan",[103] which contained the procedure to be followed in the event of an emergency.

30.91 The TMO was not a responder under the CCA and therefore was not subject to the corresponding duties. Its functions were set out in the Modular Management Agreement[104] and did not extend either to assuming RBKC's obligations under the CCA or to assisting RBKC in the discharge of those obligations. That was despite the fact that RBKC's Contingency Management Plan required its departments and service providers to maintain service emergency plans and procedures. Nor did the TMO have any obligation under the Modular Management Agreement to keep emergency plans and procedures. Although the TMO was not identified in the Contingency Management Plan as a department or a service provider, however, its contact details were listed in RBKC's Contingency Management Plan[105] and RBKC's Duty Silver Manual.[106]

30.92 At the time of the fire the TMO had an emergency plan,[107] but it was not activated in response to the fire because, it was said, of the scale of the incident.[108] Both the TMO emergency plan and the RBKC Contingency Management Plan were silent about how, if at all, they were intended to complement each other in the event of an emergency. There was no reference to the circumstances in which one or other plan would take precedence or whether they were

101 Roe Day 49/208/19-22.
102 Witness statements of Philip Hanson [MET00013123] pp. 2-3 and Douglas MacDonald [MET00013126] p. 4.
103 [RBK00004396].
104 [RBK00018796].
105 Annex 01 provided, at p. 22, contact details for the TMO's "TMO Contact Centre (24/7)" [RBK00014620].
106 "TMO Out of Hours Service" contact details are listed at p. 40 [RBK00029034].
107 [TMO10013898].
108 Black Day 74/147/12-20; Brown Day 75/54/5-56/11.

intended to operate simultaneously and if so how. Given the extent of RBKC's reliance on the TMO for information, the fact that the TMO emergency plan was not activated meant that in certain respects there was no emergency plan at all.

30.93 The TMO emergency plan, for what it was worth, was some 15 years out of date. The information about Grenfell Tower on which it was based therefore failed to reflect the changes to the building brought about by the refurbishment in 2016. It contained the wrong number of flats (120 rather than 129) and contained materially inaccurate and out of date details of the numbers of vulnerable residents who would need assistance to evacuate in the event of an emergency. Teresa Brown, who was present at the incident from 03.50, did not realise that the section of the plan containing details of the property was out of date or that it was the responsibility of the Health and Safety team led by Barbara Matthews to make sure that it was correct.[109] How it came about that the TMO allowed such a potentially important document to remain obsolete for so many years is a question which will be explored at Phase 2. Certainly none of the TMO witnesses who were asked about it could offer any explanation.

30.94 It cannot have helped that the most senior TMO executives present at the incident, Teresa Brown and Robert Black, had no clear idea of the TMO's functions in relation to it. Teresa Brown described the role of the TMO staff on the night of the fire as "voluntary".[110] She thought that they were there to enable them to respond to requests for information from the emergency services and to co-ordinate the rest centres.[111] She told the Inquiry that the role of Robert Black was to be the point of contact outside CU8.[112]

30.95 For his part, Robert Black told the Inquiry that the TMO had "no role" in responding to the fire, as the LALOs were present acting on behalf of the local authority.[113] He described the role of the TMO as a "spare part". He said that the TMO emergency plan was not activated because it did not apply,[114] and that nobody at the TMO expected it to be activated.[115] He also said that, as he was not at any of the TCG meetings, his role was to try and help. He, together with Teresa Brown, was trying to mobilise staff to work within RBKC's plan, mainly to help at rest centres, but he appeared to think that the TMO had "nothing else to offer".[116] I can well see that it might have been potentially confusing to activate the TMO emergency plan in parallel with the RBKC plan, but that does not explain why Robert Black thought that the TMO had "no role".

30.96 The fact that the TMO had no formal role as a responder, combined with the absence of documented clarity about the applicability of its emergency plan or any contractual obligation to have a plan in place, meant that its senior executives did not have a clear view of what they were supposed to do on the night of the fire. Robert Black, in particular, did not appear to have any clear perception of how he personally, or the TMO as an organisation, could assist either RBKC or the LFB and he had no plan by which he could lead his staff. Critically, his view that the TMO had nothing else to offer was incorrect. It was in possession of, or had access to, important information, such as plans of the building, a list of residents and a list of survivors at rest centres, that had been repeatedly requested by the emergency services and by Nickolas Layton as LALO. That information was unsatisfactorily late in coming to the incident ground.

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109 Brown Day 75/111/10-20. Teresa Brown said that the correct details about numbers of properties were provided early in the morning: Brown Day 75/113/13-114/3.
110 Brown Day 75/56/21.
111 Brown Day 75/57/4-16.
112 Brown Day 75/57/23.
113 Black Day 74/156/21-158/12.
114 Black Day 74/156/8-157/16.
115 Black Day 74/156/21-158/12.
116 Black Day 74/158/1-12.

The LALOs

The role of a LALO

30.97 The Inquiry heard from Nickolas Layton[117] and Michael Rumble,[118] each of whom acted as a LALO for RBKC on the night of the fire and gave evidence about RBKC's immediate response to the incident. Upon notification from the RBKC out of hours call centre, Nickolas Layton, the Borough Duty Officer, informed his superior, David Kerry,[119] who set up the Borough Emergency Command Centre (BECC).

30.98 Nickolas Layton was sent to the scene as the first LALO,[120] arriving at 02.47.[121] His role as LALO was to represent the council as "Council Silver" (second level decision-maker), liaise with the emergency services and determine the initial response and call forward resources through the BECC.[122] He described his role as the "eyes and ears for the BECC".[123] That was an important role because he was the sole link between the emergency services and the council.

The LALOs' training

30.99 Both Nickolas Layton and Michael Rumble were trained LALOs, Nicholas Layton since 2002[124] and Michael Rumble since October 2015.[125] There were, however, differences in the training they had received. Notably, Michael Rumble had undergone a four-day practical multi-agency disaster training course with the LFB. Nickolas Layton had not undertaken such training and said he was not familiar with the JESIP principles.[126] Neither LALO had previously dealt with a major fire on this scale, although Nickolas Layton had acted as LALO at the fire at Trellick Tower in April 2017.[127]

Record keeping

30.100 Nickolas Layton recorded his notes[128] from the night in a personal notebook, as at that time RBKC did not have its own LALO pack. It has, however, since introduced one.[129] By contrast, Michael Rumble used a LALO pack from another council (Lambeth), which he said he found helpful in that it provided an aide-memoire of things to consider. Significantly, that included a reference to the potential need for the attendance of a Dangerous Structures Officer.[130] A LALO pack or notebook would have greatly assisted Nickolas Layton when confronted with such a serious and difficult incident. Such an item would have encouraged a better contemporaneous record of events and in particular may have prompted an early recognition for the need for the attendance of a DSE (a topic to which I return in more detail below). It is surprising and unsatisfactory that RBKC did not have its own incident pack for LALOs and that Michael Rumble was forced to use a Lambeth LALO pack that he had picked up at an LFB training exercise.[131]

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117 Layton Day 74/3.
118 Rumble Day 74/84.
119 He was employed as a Contingency Planning Officer for RBKC. Layton witness statement [RBK00029034] p. 4.
120 Layton Day 74/22.
121 Layton Day 74/26.
122 Layton Day 74/11.
123 Layton witness statement [RBK00029034] p. 4.
124 Layton Day 74/5.
125 Rumble Day 74/88.
126 Layton Day 74/7/2-11.
127 Layton Day 74/ 8/20-9/21.
128 Exhibit NL/1 of Nickolas Layton [RBK00029036].
129 Exhibit NL/4 of Nickolas Layton [RBK00029033] and Day 74/22/22-24/10.
130 Exhibit MJSR/4 of Michael Rumble [RBK00029039] p. 6.
131 Rumble witness statement [RBK00029037] paragraph 8.3 p. 4 and Day 74/99/2-7.

Initial attendance at the scene

30.101 It is clear from the evidence that, until he reached the scene of the fire, neither LALO had appreciated the scale of the incident. Michael Rumble arrived at approximately 03.10, before the first TCG meeting, in the role of a second LALO, following a call from David Kerry at approximately 02.45. He had not been made aware of the severity of the incident or of the fact that it had been declared a Major Incident by the police and the LFB.[132] More effective sharing of information before their arrival at the scene might have equipped them better for their initial duties.

30.102 The LALOs did not specifically divide responsibilities between them.[133] It would appear that a significant amount of time was devoted to the location and setting up of rest centres for displaced residents. Nevertheless, although substantial demands were made on the LALOs, better co-ordination and division of roles might have made more use of their expertise and might have ensured that information which the LFB had asked for was provided more quickly. For example, when Michael Rumble took over from Nickolas Layton as senior LALO at 07.00, a clearer handover would probably have resulted in his knowing that Robert Black had been repeatedly asked for a list of residents and that the request had been outstanding at the time of the third TCG meeting at 05.50. That in turn might have prompted Michael Rumble to press harder for the list of residents at the fourth TCG meeting. However, I am satisfied that Nickolas Layton did all he could to ensure that Michael Rumble was aware of the need to obtain the information, even if Michael Rumble's own recollection of events was not as clear.

The LFB's requests for information or action

Request for the attendance of a Dangerous Structures Engineer (DSE)

30.103 The LFB requested the attendance of a DSE at 02.17.38, but some hours elapsed before the eventual arrival of the first structural engineer (Amir Fardouee) at the cordon at around 04.30. He was unable to assist and a further delay occurred before John Allen, the RBKC DSE, was able to enter the building and assess its structural integrity at around 06.00. It is necessary to examine the reasons for that delay.

30.104 A request for the attendance of a DSE was sent by CU8 to the control room by radio at 02.17.36, but the first call to RBKC was not made until 02.42.38 when AOM Real contacted RBKC using the "admin line" to inform them that a Major Incident had been declared (a matter of which RBKC was already aware).[134] The reason for that delay is unexplained, but it is possible that it was caused by the pressure on the control room. By the time of AOM Real's call a second request for a DSE had already been sent by CU8 to the control room (at 02.38.21).[135] When AOM Real reached RBKC the operator asked her whether there was anything she wanted at that moment, but AOM Real did not ask for a DSE to attend. It is unclear why she did not do so, not least because a second service request for a DSE to attend had been created by CRO Angie Gotts only 4 minutes earlier.

132 Rumble Day 74/96.
133 Layton Day 74/32/17-35/8.
134 [INQ00000188].
135 SIL p. 23.

30.105 At 03.15.32[136] CU8 made a third, urgent request to the control room for the attendance of a DSE, which appears to have prompted the control room to pass the request on to RBKC for the first time at 03.17.21,[137] very shortly after CRO Sharon Darby had created the urgent service request in response to the message from CU8.[138]

30.106 The control room repeated its request to RBKC at 03.40.43[139] and again at 03.48.57.[140] During the first of those calls the RBKC operator was pressed with the urgency of the matter, but could not provide either an estimated arrival time or a direct number for the DSE. During the second call the RBKC operator (Erin) said that she had not been able to contact a DSE and was going to "escalate" the matter.[141]

30.107 It is not clear from the evidence when Amir Fardouee, the RBKC surveyor on call that night, was first asked to attend the incident. It must have been at some time before 04.30, because it was at about that time that David Kerry, RBKC's Contingency Planning Manager, spoke to him when he was at the police cordon. It is probable that he was contacted by RBKC not long after the call from the control room at 03.48.57.

30.108 Nickolas Layton told the Inquiry that he had not been aware of the requests for a DSE until 04.15 when he was asked to call one.[142] It is unfortunate that he did not hear about the request made to RBKC at 03.17.21 or recall AC Roe's mentioning at the first TCG meeting at 03.20 that a DSE had been requested.[143] At 03.37 Nickolas Layton called David Kerry, by then in charge of the BECC. David Kerry's log contains the note "One corner in danger of collapse".[144] Although Nickolas Layton provided that information to David Kerry, it did not prompt him to ask for a DSE to be sent urgently, but he accepted in evidence that it should have done so.[145]

30.109 Similarly, when he arrived and spoke to Nickolas Layton at around 03.10, Michael Rumble (who did not attend any of the TCG meetings before 07.10) thought that there might be a risk of the tower collapsing.[146] However, he did not ask for a DSE or suggest that it might be necessary to call one, despite the fact that it was the first item on the list of immediate problems to consider that were identified in the Lambeth LALO pack he was using that night.[147]

30.110 It was only after the LFB made a direct request to Nickolas Layton at 04.15 to arrange the attendance of a DSE that he called David Kerry to ask for one to attend.[148] It appears that Nickolas Layton had not been informed by the BECC or the RBKC call centre that there had been a number of requests from the LFB for a DSE to attend, let alone that the first request had been made some hours before.[149] Nor could he recall being told even then that the LFB had been calling for a DSE for some time.[150] He did not know at that time that Amir Fardouee was on his way to the cordon and learnt that he was there only when David Kerry called to

136 SIL pp. 22-24.
137 [INQ00000211].
138 SIL p. 24.
139 [INQ00000210].
140 [INQ00000212].
141 [INQ00000212].
142 Layton witness statement [RBK00029034] p 7, Day 74/45/24-52/24, and Layton log at [RBK00029036] p. 1 item 9 ("DS REQ URGENT BLUE LIGHT 016.15").
143 Thatcher body-worn video clip [INQ00000530]; Layton Day 74/49/15-21.
144 Kerry Log [RBK00028849].
145 Layton Day 74/50/5-51/3.
146 Rumble Day 74/105/3-8, 134/2-135/3.
147 [RBK00029039] p. 6; Rumble Day 74/133/4-134/1.
148 Layton witness statement [RBK00029034] pp. 7-8 and Day 74/46/3-52/9.
149 Layton Day 74/46/7-47/24.
150 Layton Day 74/52/10-19.

tell him so at 04.31.[151] At the second TCG meeting at 04.34, Commissioner Dany Cotton drew attention to the fact that the LFB had been asking for the attendance of a DSE for the past two hours and that one was then en route.[152] That was the first that Nickolas Layton had heard of any earlier requests.[153] However, although he had just been told that Amir Fardouee was at the cordon, he did not tell the Commissioner that a structural expert was already at the scene.[154] He was unable to explain why he had failed to pass on that important piece of information to the LFB.[155]

30.111 The confusion surrounding the response to the request for a DSE to attend at the incident ground demonstrates a worrying failure of communication between RBKC and the LFB. The LFB should have made its request to RBKC for the attendance of a DSE an hour earlier than it did and the request, when it finally was made, did not result in the attendance of a structural engineer until 04.30. The LALOs, for their part, had not picked up the need for the urgent attendance of a DSE, despite its having been raised at the first TCG meeting and, in the case of Michael Rumble, despite his own recognition that the building might collapse. Nickolas Layton was unable to explain why he did not tell Commissioner Cotton that a DSE was already at the cordon, particularly in the light of his evidence that at around 04.30 he had seen Amir Fardouee and a person he thought was John Allen near CU8 talking to the LFB.[156]

30.112 These deficiencies suggest the need for standardised instruction manuals to be provided for use by LALOs at large-scale incidents instead of leaving it up to individual local authorities to decide how to prepare and equip them. They also indicate the need for far better direct communication between fire and rescue services and local authorities and for LALOs to take a more active role in ascertaining and meeting the needs of the lead responder. It is easy to understand the natural desire of a LALO not to get in the way of the emergency services, particularly at such an horrific event, but LALOs play an important role in supporting them and must be ready to obtain vital information and make sure it reaches the person who needs it.

30.113 In the event, although GM Dave O'Neill, Sector Commander Safety, had been advised by John Allen by telephone that the building had two to four hours' fire protection,[157] Amir Fardouee was too traumatised by events at the scene of the fire to enter the tower and carry out a structural inspection (for which he cannot be criticised.) Although the advice from John Allen was communicated by GM O'Neill to AC Roe at 05.32,[158] John Allen did not arrive at the scene until around 06.00. He was quickly taken to the building, where he carried out an inspection to establish whether the central core was intact. He was able to provide his initial advice to AC Roe at around 06.13.[159]

30.114 Poor communications both within the LFB and between the LFB and RBKC meant that there was an unacceptable delay between the first request by CU8 for a DSE at 02.17.36[160] and AC Roe being personally briefed by the DSE at 06.13. The whole point of obtaining advice from a DSE who had personally viewed the building was to enable the incident commander

151 Kerry Log [RBK00028849] p. 4.
152 Roe Log [MET00005404] p. 3.
153 Layton Day 74/57/6-8.
154 Kerry Log [RBK00028849].
155 Layton Day 74/58/1-4.
156 Layton Day 74/53/15-55/7. It is more likely that John Allen was not in fact there at that time.
157 O'Neill Day 51/47/14-20.
158 Roe Log [MET00005404] p. 4.
159 Roe Log [MET00005404] p. 5.
160 SIL p. 22.

and other emergency services to know whether it was at imminent risk of collapse. Such information would inevitably affect the incident commander's strategy and that of the other emergency services.

30.115 AC Roe's evidence was that the delay in the DSE's arrival had not affected his plan or his understanding of the stability of the building, because he took the view that DSEs are invariably cautious, whereas LFB commanders are prepared to accept greater risks and prefer to rely on their own professional judgement when deciding whether to commit firefighters to a potentially dangerous building.[161] However, that is an approach which should be treated with scepticism, since it overestimates the ability of frontline firefighters, even senior commanders, to understand the behaviour of complex building structures. Firefighters are not structural engineers or construction professionals and do not have the training needed to understand the response to fire of complex buildings constructed using modern materials. This was, indeed, a point that Commissioner Cotton was at pains to make in the course of her evidence.[162] What is more, if the opinion of a DSE about whether a building was at risk of collapse was not something that an incident commander would place firmly at the centre of their strategy, it is most unlikely that CU8 would have made repeated requests for a DSE throughout the night; and it is most unlikely that Commissioner Cotton herself would have demanded a DSE in such strenuous terms at the second TCG meeting, emphasising the long delay that had already occurred in summoning one. The extraordinary nature of the Grenfell Tower incident and the very fact that urgent requests for the attendance of a DSE were made throughout the night suggest that advice about the structural integrity of the building was regarded by the LFB as important.

30.116 In the final analysis, the absence of a DSE until after 06.00 did not affect AC Roe's decisions because his plan was to continue to commit crews into the tower unless and until he was told that there was real doubt about the structural integrity of the building. His strategy was supported by the assessment of GM O'Neill, at 05.32, that there was no concern about total collapse.[163] AC Roe's strategy was admirable as an example of willingness to commit firefighters in an attempt to save lives, even when the risks to their safety were high, but as it turned out, the risks were in fact not as serious as was feared. In that respect the LFB was fortunate. However, the long delay in the arrival of a DSE in this case is not excused by the fact that it had no serious consequences. In another major building fire delay of that kind could have proved disastrous.

The request for a list of residents

RBKC's role

30.117 Shortly after the second TCG meeting at 04.34 and before the third TCG meeting at 05.50 Nickolas Layton was asked by the LFB for a list of residents of Grenfell Tower. Immediately after receiving the request he asked Robert Black for the information because he believed that he would either have it or could get it. He chased Robert Black for this information three times during the course of the night, but when he left the incident at 07.00 he had still not received it.[164] He asked Robert Black for the information rather than David Kerry because he thought that RBKC would not have a full list of residents, since it was not managing the tower; he assumed that only the TMO would have it.[165] It is not clear from the evidence whether

[161] Roe Day 49/194/13-195/15.
[162] Cotton Day 50/84/14-87/6. That was in the context of dismissing as impracticable the requirement for firefighters to examine some aspects of a building's construction when carrying out an inspection under section 7(2)(d) of the FRA.
[163] Roe Log [MET00005404] p. 4.
[164] Layton Day 74/64/4-69/13.
[165] Layton Day 74/69/14-16.

RBKC did in fact have a complete list of current residents and therefore it is not possible to say whether, if Nickolas Layton had approached RBKC earlier, he would have been able to obtain a list of residents sooner than he did.

30.118 Although the account given by Nickolas Layton in his witness statement and in his oral evidence to the Inquiry was not fully reflected in his original evidence to the MPS or in his contemporaneous notes, it is clear that he did ask Robert Black repeatedly for a full list of residents of Grenfell Tower and not only for a list of residents at the rest centres. The TMO had been asked for such a list and had provided it to Robert Black and he knew at least after the third TCG meeting that the LFB wanted to compare the names of those who were at the rest centres with a full list of residents so that it could identify who was missing.

The TMO's role

30.119 Robert Black held an important position, both as Chief Executive of the TMO and as the primary point of contact between the TMO and the LFB at CU8. As Chief Executive he either had, or should have had, ready access to important information about the Grenfell Tower and its residents. He was present at the incident from around 03.30 and waited outside CU8 in order to be able to speak to the LALOs or the LFB as necessary. However, despite being the link between the TMO and the LALO, Robert Black played an essentially passive role and failed to display effective leadership. I recognise, however, that the RBKC Contingency Plan did not require him to act in a formal capacity, at an incident such as the Grenfell Tower fire and that omission may have contributed to his lack of leadership. However, the lack of a formal role designated by RBKC does not explain why, by his own account, he did not oversee any of his staff in their roles and did not get involved in collecting information about residents who had survived. His recollection was very limited and, although he accepted that while he had been present at the command unit he might have overheard requests for information about the building and its occupants being made by the LFB and the MPS, he was not sure whether he could obtain it, or if he could, how to get it to the scene.[166] Robert Black said that he had not become involved in understanding the system set up by his staff to identify survivors to assist the LFB. He left that task to Teresa Brown who was collecting information and could provide it.[167] He placed a heavy burden on Teresa Brown, leaving her to obtain a list of residents of the tower for the purpose of use at the rest centres while she was also under enormous pressure to establish them. I take account of the fact that she was assisted by a team from the TMO, but that does not detract from the conclusion that Robert Black remained essentially detached.

30.120 In particular, Robert Black did not ensure that important emails were forwarded to the LALO or the LFB, assuming (but never checking) that Teresa Brown had done it. One striking example is provided by the emails sent to him by David Noble at 06.24 and 06.38 containing the list of residents as at 30 May 2017.[168] Robert Black failed to pass on either of them to the LALO or the LFB until 07.56. His reasons for not acting sooner were that in the first email the LFB had not asked for the information and that he assumed that Teresa Brown would send on the second email. His evidence displayed a lack of direction on his own part and an almost casual assumption that someone else would take responsibility for doing what needed to be done.

166 Black Day 74/181/17-183/23.
167 Black Day 74/175/11-177/14.
168 Emails contained in a chain of emails [TMO10031176]. The email of 06.38 is marked as sent at 05:38 but for technical reasons the time is shown as GMT and not BST. The position is less clear for the email marked as sent at 05:24 but it is possible that this was in fact also sent at 06.24 for the same reasons.

30.121 Teresa Brown for her part was more active in taking responsibility for collating information at St Clement's Church. As requests for information were referred to her, a direct line of communication appears to have evolved between her and the LFB. She said that she had spoken to the LFB and had initially provided sheets of handwritten notes to LFB officers Chris Line and Vincent Bell until a colleague bought a laptop enabling an electronic list to be kept.[169] Despite this direct line of communication, she did not forward to the LFB the emails sent by David Noble[170] at 06.24 and 06.38 containing the list of residents of the tower, because she had assumed (quite fairly) that Robert Black had sent them on.[171] He eventually did so at 07.56.[172]

30.122 During the fourth TCG meeting at 07.10, Michael Rumble was asked for a floor plan of the tower and a copy of the electoral roll.[173] Following the meeting, he asked the TMO for a list of residents. He made a request through the BECC for a copy of the electoral roll but was unable to say what had come of the request. Teresa Brown provided him with a hard copy list of residents before 11.00. He asked her to email it to the LFB and provided a specific email address for that purpose. He said that that had all happened just before the TCG meeting at 11.00.[174]

30.123 The delay in providing the LFB with a list of residents was unacceptably long. It was caused by an unjustifiable failure on the part of Robert Black to appreciate its importance to the LFB and to act upon the repeated requests from Nickolas Layton for the information. He appears simply to have assumed that Teresa Brown would deal with it, but without actually checking with her that she had done so. She for her part assumed that Robert Black was dealing with it, which in the circumstances was not entirely unreasonable of her. The result was that despite pressure from the LALO to obtain the information, the request fell between the cracks and the information was not provided until many hours later.

Plans of the building

RBKC's role

30.124 An enduring feature of the incident was that the LFB had no floor plans or drawings of the tower. There was no information of that kind on the ORD and the building had no premises information box. These fundamental failings by the LFB and the TMO[175] have been addressed at Chapter 27 of the Report. The consequence was that the LFB was forced to seek plans from the LALO and from the TMO, but could only do so once the relevant staff had arrived.

30.125 The evidence is not entirely clear about when the LFB started asking for plans of the building. Nickolas Layton's evidence was that he had not been asked about the layout of the tower or for detailed plans at any point. He did not have any record of this request being made during any of the TCG meetings he had attended and said that he did not overhear any requests for plans.[176] Indeed, there is no record by anyone else of such a request having been made at any of the TCG meetings he attended before he left the scene at 07.00, either in the Roe Log[177] or elsewhere. On the other hand, as was recorded by Inspector Thatcher's body-worn video

169 Brown Day 75/58/17-60/3, 78/12-80/21 and Brown witness statement [TMO10048960] p. 3.
170 A TMO policy officer helping with the "customer relations team"; Brown Day 75/83/8-15.
171 Brown Day 75/89/21-91/22.
172 [TMO10031176].
173 Rumble Day 74/114/15-23.
174 Rumble Day 74/124/10-130/22.
175 As I have pointed out in Chapter 27, the TMO was not legally obliged to provide a premises information box, and they were not common in high-rise buildings.
176 Layton Day 74/74/7-75/20.
177 [MET00005404].

recorder, AC Roe told those present at the fourth TCG meeting at 07.10[178] that he had been asking for plans for "a very long time" and that the continuing failure to provide a full set of plans would be recorded as a "major deficiency".

30.126 On balance, I think that AC Roe probably had asked someone to obtain plans of the tower before the fourth TCG meeting at 07.10 but that he had done so in a less formal context than the earlier TCG meetings which Nickolas Layton had attended. The entry in the Roe Log at 06.13[179] refers to the attendance of the DSE, John Allen, and notes that he "will attempt to locate plans". There is also an email shortly afterwards at 06.16 in which Robert Black forwarded to John Allen an email which he had received at 06.14 from David Noble with the subject "Fwd: Fire access plans from the refurb" with two attachments entitled "fire access" and "fire strategy".[180] Although Robert Black said that he could not remember why he sent plans to John Allen, it seems very likely, in view of the timing of the messages, that he had been asked to do so.[181] It remains unclear when the first request for plans was made; it may not have been as long before the fourth TCG meeting as AC Roe thought.

30.127 There appears to have been some confusion about the supply of plans to the LFB. John Allen had no recollection of receiving the email from Robert Black timed at 06.16.[182] He was clear that he had not forwarded it to the LFB and the fact that he did not receive it may explain why he returned to the RBKC Town Hall to search for plans of the building, returning with them between 07.45 and 08.00. On the other hand, Michael Rumble, who attended the fourth TCG meeting at 07.10, said that he had been made aware at about that time that Robert Black had a copy of the plan of one floor of the building on his phone. After the meeting he relayed the request to Robert Black. He saw Robert Black speaking to an LFB officer and he believed that he had sent the plans to the LFB by email (although he never saw any plans himself).[183] Plans of the building had been provided to the LFB before the next TCG meeting at 08.45.[184] For his part, when John Allen returned to CU8 between 07.45 and 08.00 with the plans he noticed that the LFB already had the plans that he was about to give them up on a screen inside CU8.[185] As a result, he did not provide further copies.[186]

30.128 I think it likely that the LFB were provided with plans of the building between 07.35, when the fourth TCG meeting ended,[187] and around 08.00. The evidence suggests that the plans were probably provided by the TMO, although RBKC had by then been able to find them in its files. It would therefore have been able to make them available at about the same time, but not any earlier.

The TMO's role

30.129 The TMO was unable to obtain accurate information about the layout of Grenfell Tower with any speed. It is apparent that one of its employees, David Noble, who was assisting remotely, had accessed the emergency plan and sent a "cut and paste" version of its contents to Teresa Brown and two other members of staff, Janice Wray and Nicola Bartholomew.[188] The section of the emergency plan containing details of the properties managed by the TMO was

178 [INQ00000518].
179 Roe Log [MET00005404] p. 5.
180 [RBK00001468].
181 Black Day 74/213/4-7.
182 Email [RBK00035692]; Allen second witness statement [RBK00035691] p. 9.
183 Rumble witness statement [RBK00029037] p. 6 and Day 74/117/7-121/19.
184 Roe Log [MET00005404] p. 8.
185 [LFB00001968] pp. 49, 51.
186 Allen second witness statement [RBK00035691] p. 9.
187 Roe Log [MET00005404] p. 7.
188 [TMO10031176].

intended to include important information about the buildings, including information useful to the emergency services. That included a specific section to which plans of the buildings were to be attached. However, in the case of Grenfell Tower that was blank. There was clearly a system in place which could have assisted the emergency services, if the information had been regularly reviewed and kept up to date, but regrettably that had not been done.

30.130 There is no evidence to suggest that David Noble's email timed at 06.03 containing this inaccurate and obsolete information was forwarded to the LFB, and they did not rely on it. However, Graham Webb, who was part of the TMO leadership team and attended the incident at a later time, said that the TMO also kept an asset register which held structural plans of the building. This system was managed by the TMO asset team, but anyone who had the necessary approval could obtain access to the information and send it to the LFB as an attachment to an email.[189]

30.131 Graham Webb's evidence raises concerns about why the TMO failed to keep the relevant section of the emergency plan up to date and why at the time of the incident its employees were able to gain access to out of date information about the building but not, as it seems, to up-to-date and readily accessible information about it. It also raises the question whether RBKC maintained a similar asset register and if not, whether it should have done so.

[189] Webb Day 75/24/10-25/6.

Chapter 31
Isolating the Tower from the Gas Supply

31.1 Gas was supplied to the tower by Cadent Gas Ltd (Cadent). At 03.22 on 14 June 2017 the LFB contacted the Gas Emergency Call Centre and asked Cadent to attend.[1] By 03.50 an Emergency Response Team from Cadent was present at the incident.[2] Between 04.30 and 05.00 they reported to the LFB command unit on Bramley Road and were told to stand by and await further instructions. At all material times Cadent was a Category 2 responder within the meaning of Part 3 of Schedule 1 to the CCA and as such had an obligation to assist the LFB in the performance of its duties under the Act. In practice, that meant that Cadent was required to support the LFB by cutting off the gas supply to the tower when required to do so.

31.2 Jason Allday, a Level 7 Network Engineer and member of Cadent's Emergency Response Team, gave written and oral evidence describing the operations that were carried out in order to shut off the supply of gas to the tower.[3] A number of written statements from Cadent personnel also addressed that topic.[4]

31.3 Although Jason Allday was not on standby for the Emergency Response Team that night, he attended the incident because he was very familiar with the area as a result of his involvement in gas repair work on Bramley Road near to the tower. He had also attended training in managing an emergency incident in conjunction with other emergency services, including the LFB. Having seen news reports about the fire in the early hours of 14 June, he realised that his assistance would be required and decided to attend the incident.[5] He reached the incident ground at around 07.20 and, after gathering key information about the situation and the resources available to him,[6] reported to CU8, where he was told that the LFB wanted the gas supply to the tower to be cut off.[7]

31.4 In principle there were three methods by which that might be achieved: (1) by closing the pipeline isolation valves (PIVs) immediately outside the perimeter of the tower, (2) by shutting off the gas governors serving the local area and (3) by cutting the gas mains in the streets adjacent to the tower. In the event, neither of the first two methods could be adopted. PIVs are normally located within one or two metres of the building they serve and in this case they were completely inaccessible due to falling debris.[8] The gas governors are pressure-reducing valves within the gas network[9] which operate, in effect, like taps, so that if one is closed the others open more widely in order to maintain the pressure in the system. It would have been necessary to close at least 10 governors in order to shut off the gas supply to the tower and it would also have been necessary to place physical isolations behind each of them.[10] In those circumstances, Jason Allday and his team quickly rejected that option.[11]

1 [CAD00000002].
2 [MET00007821] p. 2; [MET00007956] section 20.
3 Day 73; [MET00012710]; [CAD00003018].
4 Read into the record on Day 73 (14 November 2018) https://www.grenfelltowerinquiry.org.uk/hearings/evidence-cadent-gas-ltd-and-bsrs
5 Day 73/14/17-15/18.
6 Day 73/30/15-24.
7 Day 73/31/2-32/10.
8 Day 73/32/20-36/9.
9 Shown in Exhibit JMA/3 [CAD00003012].
10 Day 73/37/14-42/14.
11 Day 73/41/25-42/7.

31.5 The third method, which involved cutting and sealing the pipes supplying gas to the area of the tower at suitable points in streets nearby, was therefore chosen as the best option for isolating the tower. There were three gas mains serving the area of the tower and it was therefore necessary to cut all three in order to achieve complete isolation.[12] By using a combination of electric laptop devices (known as "Go-Books") and hard copy maps, Jason Allday and his team identified three locations, on Grenfell Road, Testerton Walk and Station Walk respectively, at which it was safe to excavate the roadway and expose the pipes for work to be carried out on them.

31.6 The pipes beneath Testerton Walk and Station Walk were both made of ductile iron. In order to stop the flow of gas in metal pipes of up to 12 inches in diameter, a "bagging off" system is used, which involves drilling six holes in each pipe, three on either side of the point at which it is intended to make the cut, inserting four air bags and inflating them to create a seal and creating a bypass line to check that the flow of gas has ceased. Once a tight seal has been created, the pipes can be cut and capped.[13] The pipe beneath Grenfell Road was made of polyethylene. Pipes of that kind can be compressed using a special tool to cut off the flow of gas to enable the pipe to be cut and capped off.

31.7 At 08.50 Jason Allday discussed with the LFB safety officers his proposal to cut the three gas mains and obtained their approval to do it. He said that until that time cutting off the gas supply to the tower had not appeared to be a priority for the LFB, given the more immediate pressures of fighting the fire and attempting to save life.[14] No concerns were raised by the LFB at that time about the possibility that gas could be fuelling the fire or reigniting sections of the tower.[15]

31.8 It was not until later in the day, at some time between 14.00 and 15.00, that Jason Allday became aware that the LFB was concerned about gas burning inside the tower,[16] when orange flames, which appeared to be fed by gas, could be seen in some compartments.[17] That was consistent with his own view that it was not until that stage that gas had been contributing to fires in the tower.

31.9 At around 14.00 Jason Allday was asked by the LFB for the first time whether there were any valves in the building which could be used to shut off the gas. After consulting his colleagues, he explained that there were four risers in the building serving the residential flats, with a separate gas supply for the communal boilers.[18] The LFB asked him whether he was prepared to go into the basement to try to operate the valves to shut off the risers. That was the first time he had considered entering the basement because up to that point burning debris falling from the building had made it impossible to approach it.[19] At around 15.50, Jason Allday and Patrick Kelly, a member of the contract management team at Cadent, approached the basement together with three LFB officers. In order to gain access to the entrance door on the east side of the tower, they were escorted by LFB officers carrying riot shields to protect them against the risk of falling debris.

12 As shown in Exhibit JMA/1 [MET00012914] at points 3, 4 and 5 on the map.
13 Day 73/72/4-73/22.
14 Day 73/62/18-65/3 and [MET00012710] section 38.
15 Day 73/65/4-10.
16 Day 73/66/12-16, 81/24-82.
17 Day 73/108/9-109/3.
18 Day 73/92/19-24.
19 Day 73/82/10-19.

31.10 Once inside the basement Jason Allday was able to identify three of the four gas risers, which were located in the corners of the room with valves at a high level,[20] but conditions in the building prevented him from carrying out anything more than a cursory inspection. There was a significant quantity of water present and he realised that the electricity was still on, which immediately gave him cause for concern. Apart from that, after no more than 5 minutes, the LFB advised everyone to leave the building because there were fears that it was about to collapse. In those circumstances it was not possible for him to try closing the valves, which would have involved taking ladders down into the basement to enable people to climb up to them. The risk to life posed by the conditions in the basement made that impossible.[21] (When later that evening at around 20.15 the LFB asked Jason Allday to consider re-entering the basement, he declined to do so in view of the serious risks to safety, a decision which was supported by his line manager, Tony Day.)[22]

31.11 The team from Cadent therefore turned their attention to cutting off the supply of gas at the locations that had been identified in Grenfell Road, Testerton Walk and Station Walk. They had difficulty gaining access to the excavation sites in Grenfell Road and Testerton Walk because both were brought within the inner exclusion safety cordon around the tower when it was extended during the afternoon. In addition, the activities of other emergency services made it difficult to bring the vehicles and equipment needed to carry out the excavations into the area.[23] As a result, part of the excavation had to be carried out by hand at both sites and at one stage the Cadent team had to pull back when it was considered too dangerous to remain within the inner cordon because of fears for the stability of the building. Work could continue only with the help of a team of LFB "spotters" who were deployed to watch for signs of instability in the tower. Jason Allday described a number of tense moments when difficult decisions had to be taken on whether it was safe to carry on with the work.[24] In the event, excavations in both locations started at around 14.30 and the work was completed by 20.00 that evening.

31.12 The work to cut the gas main on Station Walk also proved difficult. Both the Go-Book electronic map and the paper maps showed it as a 12-inch main, which was consistent with the size of pipe marked as branching off the nearby governor at Latimer Road.[25] However, after some difficulty finding the pipe (five attempts were needed to locate it and it lay deeper in the ground than had been expected),[26] the team from Cadent discovered that the pipe was in fact 15 inches in diameter. They did not have the proper equipment to isolate a main of that size, but they decided to adopt an improvised method which involved over-inflating the air bags designed for use on a 12-inch pipe. That enabled them to avoid waiting for a specialist subcontractor to arrive, which would have caused further delay. In the event, their plan was successful and at 23.40 the flow of gas to the building ceased. In the early hours of 15 June a more permanent solution was achieved with the assistance of Cadent's specialist subcontractor.[27]

20 Day 73/92/9-14.
21 [MET00012710] section 57.
22 Day 73/95/7-96/14; [MET00012710] section 64.
23 [MET00012710] sections 47-49.
24 Day 73/96/25-100/5.
25 Day 73/50/22-62/17, 103/1-104/22.
26 Day 73/76/18-80/15.
27 [MET00012710] sections 66-73; Day 73/100/11-107/10, 111/8-112/7.

31.13 When the gas was cut off at 23.40, Jason Allday described seeing the flames in the tower die down almost immediately,[28] demonstrating the contribution that gas had been making to the fires at that time. He remained on hand to supervise the permanent work on the pipe beneath Station Walk and eventually left at 07.15, having been on site for around 24 hours.[29]

31.14 There can be no doubt that the Cadent team did an excellent job in finding the local gas mains and cutting off the supply of gas to the tower. They succeeded in completing a challenging task over a long period of time in difficult and sometimes dangerous conditions. Their success was to a large extent due to Jason Allday's inspirational leadership, clarity of planning and careful execution.

[28] [MET00012710] section 72; Day 73/107/11-108/8.
[29] [MET00012710] sections 72-74; Day 73/111/23-112/7.

Part IV
Remembering those who died

Chapter 32
Remembering Those Who Died

1 Introduction

32.1 Everyone who has had anything to do with this Inquiry has been reminded day by day that 70 people failed to escape from the building and lost their lives as a result. A child was later stillborn as a result of the trauma suffered by his mother in the course of her escape and another resident, Maria del Pilar (Pily) Burton, who had escaped from the burning building, died some months later in hospital.

32.2 Between 21 and 30 May 2018 a series of hearings took place at the Millennium Gloucester Hotel in Kensington to commemorate those who had died, to hear evidence about them as individuals, friends and neighbours and to celebrate their lives and their contributions to the wider local community.

32.3 It is fitting that this report should not only name each of those who died but should celebrate their lives as individuals, drawing on the evidence given by loved ones and friends at the commemoration hearings and in witness statements made to the Inquiry. No summary of the moving tributes delivered during those hearings could hope to do full justice to the memory of those who were lost in the fire, but I hope that this chapter, which forms part of the permanent public record of these proceedings, will bring some comfort to those who knew and remember them. Some bereaved relatives did not feel able to commemorate those whom they had lost publicly at those hearings, but in order that the record may be complete, and in accordance with what I understand to be the wishes of their relatives, I set out brief details of the person who died.

32.4 The following people died in the building, or following attempts to escape from it. I list them in the order in which their names were read by Bernard Richmond QC at the end of the commemoration hearings and the flats in Grenfell Tower which were their homes:

Floor 23

Fathia Ahmed Elsanousi	(Flat 206)
Abufras Mohamed Ibrahim	(Flat 206)
Isra Ibrahim	(Flat 206)
Mohammed Amied (Saber) Neda	(Flat 205)
Hesham Rahman	(Flat 204)
Rania Ibrahim	(Flat 203)
Fethia Hassan	(Flat 203)
Hania Hassan	(Flat 203)
Marco Gottardi	(Flat 202)
Gloria Trevisan	(Flat 202)
Raymond Herbert (Moses) Bernard	(Flat 201)

Floor 22

Eslah Elgwahry	(Flat 196)
Mariem Elgwahry	(Flat 196)
Anthony Keith Disson	(Flat 194)
Bassem Choukair	(Flat 193)
Nadia Choucair	(Flat 193)
Mierna Choucair	(Flat 193)
Fatima Choucair	(Flat 193)
Zainab Choucair	(Flat 193)
Hashim Kedir	(Flat 192)
Nura Jemal	(Flat 192)
Yahya Hashim	(Flat 192)
Firdaws Hashim	(Flat 192)
Yaqub Hashim	(Flat 192)
Sirria Choucair	(Flat 191)

Floor 21

Abdulaziz El Wahabi	(Flat 182)
Faouzia El Wahabi	(Flat 182)
Yasin El Wahabi	(Flat 182)
Nur Huda El Wahabi	(Flat 182)
Mehdi El Wahabi	(Flat 182)
Ligaya Moore	(Flat 181)

Floor 20

Jessica Urbano Ramirez	(Flat 176)
Omar Belkadi	(Flat 175)
Farah Hamdan	(Flat 175)
Malak Belkadi	(Flat 175)
Leena Belkadi	(Flat 175)
Mary Ajayi Augusta Mendy	(Flat 173)
Khadija Saye	(Flat 173)
Victoria King	(Flat 172)
Alexandra Atala	(Flat 172)

Floor 19

Mohamednur Tuccu	(Flat 166)
Amal Ahmedin	(Flat 166)
Amaya Tuccu Ahmedin	(Flat 166)
Amna Mahmud Idris	(Flat 166)
Majorie Vital	(Flat 162)
Ernie Vital	(Flat 162)
Debbie Lamprell	(Flat 161)
Gary Maunders	(Flat 161)

Floor 18

Berkti Haftom	(Flat 155)
Biruk Haftom	(Flat 155)
Hamid Kani	(Flat 154)
Isaac Paulos	(Flat 153)
Sakina Afrasehabi	(Flat 151)
Fatemeh Afrasiabi	(Flat 151)

Floor 17

Vincent Chiejina	(Flat 144)
Khadija Khalloufi	(Flat 143)
Kamru Miah	(Flat 142)
Rabeya Begum	(Flat 142)
Mohammed Hamid	(Flat 142)
Mohammed Hanif	(Flat 142)
Husna Begum	(Flat 142)

Floor 16

Joseph Daniels	(Flat 135)
Sheila	(Flat 132)

Floor 15

Steven (Steve) Power	(Flat 122)

Floor 14

Zainab Deen	(Flat 115)
Jeremiah Deen	(Flat 115)
Mohammad Alhajali	(Flat 112)
Denis Anthony Peter Murphy	(Flat 111)

Floor 11

Ali Yawar Jafari	(Flat 86)
Abdeslam Sebbar	(Flat 81)

32.5 Logan Gomes was delivered stillborn on 14 June 2017. Pily Burton was evacuated from her flat with the assistance of firefighters. She died in hospital on 29 January 2018.

32.6 I turn now to the individual deceased in the order set out above.

2 Floor 23

Fathia Ahmed Elsanousi, Abufras Ibrahim and Isra Ibrahim (Flat 206)

32.7 Isra Ibrahim lived in Flat 206 with her mother, Fathia Ahmed Elsanousi. Abufras Ibrahim, the son of Fathia Ahmed Alsanousi, was visiting his mother and sister on 14 June 2017.

Fathia Ahmed Elsanousi

32.8 Fathia Ahmed Elsanousi was born in 1940 in Al Nuhood, a town in the West Kordofan province of Sudan.[1] Fathia married a military officer, who died in 1984.[2] Fathia was the mother of two daughters and three sons.[3] She was 77 years old at the time of the fire.

32.9 On 24 May 2018, Fathia's friend, Wafa Osman, read in both English and Arabic a commemoration of her friend on behalf of Fathia's younger sister, Hayat Elsanosi.[4] Wafa also shared some of her memories of Fathia. On 29 May 2018 Fathia's son, Abu Baker Ibrahim, presented his commemoration.[5]

32.10 As a young woman living in Sudan, Fathia trained to be a school teacher. A successful educator, she rose to become headmistress of a primary school. Fathia moved to the Sudanese capital, Khartoum. After her husband died, she lived on a farm outside the city, rearing chickens and growing cattle feed. At that time she was still teaching and raising her children. Fathia was also a mother figure for her sister Hayat. Hayat suffered serious injuries at the age of 13 during a fire and Fathia was a key figure in supporting her through her education and into work.[6]

32.11 Two of Fathia's children left Sudan to study in eastern Europe and in the 1990s she decided to move with her family to the United Kingdom to escape the civil war in Sudan. She made her life in London, becoming a British citizen in about 2000. She moved to Flat 206 in 2007. Fathia was remembered as a lynchpin of the Sudanese community in Kensington and Chelsea. Drawing on her professional background, she helped to establish and run the Azza Supplementary School, which has the aim of educating children of Sudanese origin in Kensington and Chelsea to understand their heritage as well as British culture.[7]

32.12 Fathia would visit her family in Sudan on a regular basis and was able to have a house built for her sister Hayat, where she would stay on her long visits home. Fathia was skilled at cooking, jewellery-making and sewing. She had been taught to sew as a young woman by Italian nuns. Fathia will be remembered by her family and friends as a loving mother, an educator committed to her community and a welcoming host who always had a tin of Quality Street available.[8]

Abufras Mohamed Ibrahim

32.13 Abufras Mohamed Ibrahim was born on 8 January 1978. He was 39 years old at the time of the fire. In June 2017, he was living with his brother, Abu Baker Ibrahim, who gave a commemoration for him on 29 May 2018.[9]

32.14 Abufras was known as Fras to his friends and family. He was described as a tough man with a very soft centre. He cared very deeply about his family. Abu Baker recalled a time when he was unwell and Fras looked after him. Abu Baker woke up in the middle of the night to find Fras awake sitting by the window, watching over him.[10]

1 Commemoration hearing 24 May 2018 [CH4/33/8].
2 Commemoration hearing 24 May 2018 [CH4/36/6].
3 Commemoration hearing 29 May 2018 [CH6/88/23-89/5].
4 Commemoration hearing 24 May 2018 [CH4/31/10-13].
5 Commemoration hearing 29 May 2018 [CH6/88/12-16].
6 Commemoration hearing 24 May 2018 [CH4/33/19-34/18].
7 Commemoration hearing 24 May 2018 [CH4/32/1-25-33/2]; Commemoration hearing 29 May 2018 [CH6/89/19-90/20].
8 Commemoration hearing 24 May 2018 [CH4/35/3-14]; Commemoration hearing 29 May 2018 [CH6/90/17-23].
9 Commemoration hearing 29 May 2018 [CH6/90/7-11].
10 Commemoration hearing 29 May 2018 [CH6/92/23-93/19].

32.15 Fras loved to cook for his family and was due to start working at the fishmonger's business that Abu Baker ran. He was remembered as a brave man who would put the welfare of others before that of himself.[11]

Isra Ibrahim

32.16 Isra Ibrahim was born on 8 August 1983. She was 33 years old.

32.17 Remembering his sister on 29 May 2018, Abu Baker Ibrahim described her as a loving and compassionate person. She carried those qualities into her working life where she helped to care for elderly people, reflecting her altruistic nature.[12]

32.18 On 30 May 2018, Said Essaouini delivered his commemoration for Isra. He was Isra's partner; they had met in 2014. He described Isra as having a very strong faith in God and taking religion very seriously. She would wake early to perform an extra hour of morning prayers.[13]

32.19 Isra was a very generous person, often donating money to people whom she thought needed it more than she did. Her last job was as a salesperson and she also spent time working at the St Charles Hospital caring for elderly people.[14]

32.20 Fit and healthy, Isra enjoyed spending time outdoors. She enjoyed trips out of London and would often visit Brighton. She loved Regent's Park, feeling it was a place where she could get away from the world.[15]

32.21 Isra enjoyed cooking Sudanese food for her friends and family and loved her family above all.[16]

Mohammed Amied (Saber) Neda (Flat 205)

32.22 Mohammed Amied (Saber) Neda lived with his wife Flora (Shakila) Neda and son Shekab (Farhad) Neda in Flat 205. His friends and family knew him as Saber.

32.23 Saber Neda was born on 3 May 1960 in Afghanistan. He was 57 years old at the time of the fire. On 21 May 2018, commemorations for Saber were presented on behalf of his brother Aref, his son Farhad and his wife Flora.

32.24 One of 10 children, Saber grew up in Afghanistan. He and Flora met in 1989 in Kabul when he was 28 and she 26 years old. At the time he was a high-ranking officer in the Afghan army and had just returned from Czechoslovakia where he had spent two years training. Saber and Flora married in 1991 in Kabul and were husband and wife for over 27 years. Flora recalled the pride and joy Saber felt when their son Farhad was born in 1993.[17]

32.25 Saber and his family left Afghanistan in 1998 because of the risk they faced from the Taliban. He was targeted as an army officer and Flora was no longer able to work as a primary school teacher. The family were able to claim asylum in the United Kingdom.[18]

11 Commemoration hearing 29 May 2018 [CH6/93/419].
12 Commemoration hearing 29 May 2018 [CH6/91/8-13].
13 Commemoration hearing 30 May 2018 [CH7/68/24-69/5].
14 Commemoration hearing 30 May 2018 [CH7/69/23-70/2].
15 Commemoration hearing 30 May 2018 [CH7/70/16-19].
16 Commemoration hearing 30 May 2018 [CH7/70/3-6]; [CH7/70/20-23].
17 Commemoration hearing 21 May 2018 [CH1/43/1-12].
18 Commemoration hearing 21 May 2018 [CH1/44/1-2].

32.26 Saber immediately threw himself into life in this country. He attended English and computer classes in a desire to better himself and to provide a good quality of life for his family. In 1999 the family moved into Flat 205, which was to be their home for 18 years.[19]

32.27 Saber was very hardworking and in those early years in the United Kingdom would take whatever work he could find to support his family. He spent time cleaning, delivering pizzas and working for a minicab firm as a driver. His experience as a driver led Saber to establish his own chauffeur business where he continued to work hard for his last 10 years. Saber was always impeccably turned out, wearing a smart suit and a range of colourful ties even when not at work. He developed a loyal group of customers drawn to his warm personality and professionalism.[20]

32.28 Saber's hard work underpinned his dedication to his family. Many of his siblings settled in the United Kingdom, Netherlands and Germany and the extended family often took holidays together. Saber was most proud of the achievements of his son Farhad. He encouraged Farhad with his studies and interests. He would take him to Taekwondo competitions throughout the United Kingdom and Europe, always finding time for his son amid a busy working life. Farhad worked alongside his father while studying at university and Saber was there to see his son graduate. He was also extremely proud to throw his son an engagement party and the family explained that their successes were a product of Saber's hard work and positive attitude to life.[21]

Hesham Rahman (Flat 204)

32.29 Hesham Rahman lived in Flat 204. He was born on 30 January 1960 in Egypt.[22] He was 57 years old at the time of the fire.

32.30 A video tribute to Hesham, prepared by his cousin Noha el Baghdady and her young son, was played at the hearing on 22 May 2018.[23] A moving and powerful tribute was delivered by Hesham's nephew, Karim Mussily.[24]

32.31 Hesham always considered himself to be Noha's big brother and he loved and cared for her very deeply. He would do anything for his family, especially for Noha's mother, who was also a mother-figure for Hesham. Hesham's own mother had died in childbirth when he was three years old and he was primarily raised by his maternal grandmother and aunt.[25] He joined the family in the United Kingdom in the mid-1980s and set out to make a life for himself in his new country.

32.32 A talented hairdresser, Hesham had a kind and generous approach to life. He had a love of music and wrote poetry. Noha recalled that Hesham used to sing to her until she fell asleep. They would go on long walks together during which she would share her troubles and hopes.

32.33 Noha's young son described his uncle Hesham as the kindest man he had ever met. He remembered the fun they used to have together and how Hesham's personality made him stronger whenever he was with him.

19 Commemoration hearing 21 May 2018 [CH1/46/9-13]; Flora (Shakila) Neda first witness statement [IWS00000887] p. 3.
20 Commemoration hearing 21 May 2018 [CH1/45/10-13]; [CH1/36/8-17].
21 Commemoration hearing 21 May 2018 [CH1/39/9-11]; [CH1/46/20-47/9].
22 Ragab witness statement [IWS00000475] p. 1.
23 Commemoration hearing 22 May 2018 [CH2/90/16].
24 Commemoration hearing 22 May 2018 [CH2/89/22-90/16].
25 Ragab witness statement [IWS00000475] p. 1.

Rania Ibrahim, Fethia Hassan and Hania Hassan (Flat 203)

32.34 Rania Ibrahim lived in Flat 203 with her husband Hassan Awadh Hassan and their two daughters, Fethia, and Hania. Hassan was not in Grenfell Tower on the night of 13-14 June 2017.

32.35 Rania Ibrahim was born on 3 March 1986 in the city of Aswan in Egypt. She was 31 years old. Her eldest daughter, Fethia, was born on 5 October 2012. She was four years old. Her younger daughter, Hania, was born on 4 June 2014. She was three years old.

32.36 The commemorations for Rania, Fethia and Hania were given over three days. First, on 22 May 2018, from Rania's sister, Rasha Ahmed Adly Ibrahim.[26] Then on 23 May 2018 there was a video tribute prepared on behalf of Rania's sister, Sayeda Ibrahim.[27] Finally, on 29 May 2018, Hassan, Rania's husband and father to Fethia and Hania,[28] and Rania's good friend and neighbour, Munira Mahmud, shared their commemorations.[29]

32.37 Rania grew up in a large family. She was an active and adventurous child who enjoyed swimming and riding her bicycle in the mountains and was a keen member of the Egyptian Scouts. As a child she enjoyed school and was a supportive student who would stand up for those in need. Her love of learning persisted throughout her life.[30]

32.38 This quality led Rania to choose to study law and she successfully gained admission to university in Cairo to do so. Rania was a hard worker and while studying she also worked part-time in a pharmacy with her sister, Rasha.[31]

32.39 In 2009, Rania came to the United Kingdom to help care for her eldest sister Sayeda's four children, while Sayeda recovered from a serious illness. Sayeda recalled how Rania's caring and optimistic nature helped her to focus on her recovery.[32]

32.40 Rania met Hassan in 2010 and they married the following year in the Al Manaar Mosque.[33] Hassan recalled that on the first day they met he knew from Rania's smile that she had a big heart. Their first daughter, Fethia, was born in 2012.[34]

32.41 Fethia was an active and outgoing child who reminded her family of Rania. Known as "Fou-Fou" by Rania's family, she inherited her mother's playful personality. Rania's sister, Rasha, remembered a time when they had been visiting their family in Egypt. Rania, Fethia, Rasha and her son had had a food fight throwing eggs at each other. They still have video footage of the aftermath showing them covered in broken eggs.[35]

32.42 Fethia was a confident child and Hassan told us about her first trial day at nursery, which was a week or so before she was due to start attending regularly. Fethia had a wonderful time and could not understand why she could not return the following day.[36] Hassan also remembered one morning when they had been rushing to their destination. They reached a quiet road with a pedestrian crossing indicating not to cross. When Hassan went to cross he was reprimanded by Fethia, who said: "Daddy, the man is red."[37]

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26 Commemoration hearing 22 May 2018 [CH2/33/16-20].
27 Commemoration hearing 23 May 2018 [CH3/6/11-22].
28 Commemoration hearing 29 May 2018 [CH6/21/3-4].
29 Commemoration hearing 29 May 2018 [CH6/27/16-20].
30 Commemoration hearing 23 May 2018 [CH3/6/22].
31 Commemoration hearing 23 May 2018 [CH3/6/22].
32 Commemoration hearing 23 May 2018 [CH3/6/22].
33 Commemoration hearing 22 May 2018 [CH2/34/3].
34 Commemoration hearing 29 May 2018 [CH6/26/6].
35 Commemoration hearing 22 May 2018 [CH2/35/17].
36 Commemoration hearing 29 May 2018 [CH6/24/9-20].
37 Commemoration hearing 29 May 2018 [CH6/24/21-25/5].

32.43 Rania and Hassan had their second daughter, Hania, in 2014. She idolised her elder sister and would copy everything Fethia did. Even at her young age Hania had a very grown-up attitude and would roll her eyes to show her disapproval. Hania was very happy when she could join her sister at nursery, where they were able to play together. The children had good manners, were respectful and were extremely happy in each other's company.[38]

32.44 The family moved into Flat 203 in 2015.[39] Rania quickly established herself with new friends gained through her open and inquisitive nature together with her love of food and cooking for others. Her friend, Munira, said that even though Rania had a busy life, she would always find time for others. She would help Munira by looking after her father-in-law while she was away, cooking for him, making sure he had his medication and taking the time to talk to him, all while raising a family.[40] Above all, she spoke of Rania's kindness; her sister, Rasha, said that no one would sit with Rania and not smile.[41]

Gloria Trevisan and Marco Gottardi (Flat 202)

32.45 Gloria Trevisan and Marco Gottardi lived together in Flat 202. Gloria was born on 2 December 1990 in Camposampiero, in the province of Padua, Italy.[42] She was 26 years old. Marco Gottardi was born on 26 June 1989. He was 27 years old.

32.46 On 29 May 2018, Gloria's mother and father, Emanuela Disaró and Loris Trevisan, gave a video tribute to their daughter followed by a short statement. Emanuela Disaró also spoke about Gloria and Marco in the witness statement she gave to the Inquiry.

32.47 Gloria's parents remembered how from a young age she had shown an interest in and exceptional talent for art. Gloria could produce incredibly accurate pencil drawings that looked like photographs. Upon leaving school she studied at art school and then decided to pursue architecture. Gloria studied at the University Institute of Architecture of Venice.[43]

32.48 At university Gloria met Marco, a fellow architecture student, and they became a couple. After much hard work and sacrifice they both graduated in 2016 with degrees in architecture.[44]

32.49 Gloria's main professional interest was in the restoration of old buildings rich in history and art. She had a very happy life in Italy. She had wonderful friends who cherished her advice. She was extremely close to her family and enjoyed the sunshine, food and lifestyle that Italy had to offer.[45]

32.50 Marco and Gloria were very happy together and planned their lives as a couple.[46] In December 2016 they decided to move to the United Kingdom to learn English and to develop their professional skills; they felt the opportunities for work here would be better than in Italy. They eventually moved to London on 4 March 2017. They stayed with one of Marco's cousins for their first few weeks before moving into Grenfell Tower.[47]

38 Commemoration hearing 29 May 2018 [CH6/26/6].
39 Commemoration hearing 29 May 2018 [CH6/21/22].
40 Commemoration hearing 29 May 2018 [CH6/32/22-33/4].
41 Commemoration hearing 22 May 2018 [CH2/35/17].
42 Disaró first witness statement [IWS00000543] pp. 1-2.
43 Disaró first witness statement [IWS00000543] p. 2.
44 Disaró first witness statement [IWS00000543] p. 2.
45 Commemoration hearing 29 May 2018 [CH6/36/12].
46 Disaró first witness statement [IWS00000543] p. 2.
47 Disaró first witness statement [IWS00000543] p. 3.

32.51 Gloria obtained a position at Peregrine Bryant Architects, a firm specialising in the conservation and restoration of historic buildings. For Gloria this was her dream job and the reason she had left her happy life in Italy. Peregrine Bryant spoke of Gloria's exceptional talent and how in the short time she had worked at the firm she had made a significant contribution to the development of the Royal Hospital, Chelsea.[48]

32.52 Marco also found work in London, securing a position as an architect at Creative Ideas and Architecture Office.[49]

32.53 Marco was a sound, grounded person. Gloria's mother referred to him as very rational; someone who never exaggerated and who used reason rather than instinct. He was very calm and sensible.[50]

32.54 In their video presentation, Gloria's family described her as a simple girl who loved laughing and joking. She loved and was thoroughly loved in return by her friends and family.[51]

Raymond Herbert (Moses) Bernard (Flat 201)

32.55 Raymond (Moses) Bernard lived in Flat 201 with his dog Marley.[52] He was born on 22 May 1954 in a small village in Penal on the island of Trinidad in the West Indies.[53] He was 63 years old.

32.56 The commemorations for Moses were heard on 30 May 2018. The address given by his sister, Sheramin Bernadette Bernard,[54] included a video of the remembrance service held for Moses and messages from his mother, Rose Bernard, and another sister, Marva Bernard, both of whom now live in Trinidad.[55] We also heard from Moses' son, Julian Bertin,[56] and his daughter, Marlene Bernard Anderson, who attended with Ashley Anderson.[57]

32.57 Moses was the third of the seven children of Rose and Ben Bernard.[58] He spent his early life in Trinidad, where he attended the Penal Roman Catholic School,[59] leaving at the age of 14 to become an apprentice car mechanic.[60] In 1969 he joined his parents in London, where they were working. Raymond then attended Isaac Newton Boys' School in Ladbroke Grove.[61]

32.58 At the age of 16 Moses began an electrical engineering apprenticeship at the House of Lords. He qualified as an electrician and worked at the Houses of Parliament and Buckingham Palace.[62] He met Sonia, whom he went on to marry, in 1973 and they had two daughters, Marlene and Selina. He had two other children including his son, Julian, born in 1978.[63]

48 Commemoration hearing 29 May 2018 [CH6/36/12].
49 Disaró first witness statement [IWS00000543] p. 3.
50 Disaró first witness statement [IWS00000543] p. 6.
51 Commemoration hearing 29 May 2018 [CH6/36/12].
52 Commemoration hearing 30 May 2018 [CH7/15/3].
53 Commemoration hearing 30 May 2018 [CH7/7/11-12].
54 Commemoration hearing 30 May 2018 [CH7/6/3].
55 Commemoration hearing 30 May 2018 [CH7/20/13].
56 Commemoration hearing 30 May 2018 [CH7/21/10-12].
57 Commemoration hearing 30 May 2018 [CH7/23/2-4].
58 Commemoration hearing 30 May 2018 [CH7/23/14-15].
59 Commemoration hearing 30 May 2018 [CH7/7/24].
60 Commemoration hearing 30 May 2018 [CH7/8/10-12].
61 Commemoration hearing 30 May 2018 [CH7/9/18-19].
62 Commemoration hearing 30 May 2018 [CH7/9/20-21]; [CH7/23/20-21].
63 Commemoration hearing 30 May 2018 [CH7/23/22-24]; [CH7/10/3-7].

32.59 Moses had a deep love of music. He had been a sound man for the Gemini Sound System and his sister remembered him in his early twenties having long flowing locks resembling a free-spirited lion.[64] With his close friends, he also ran a nightclub called "The Embassy" in Shepherd's Bush, playing reggae and soul music. Moses was an intrinsically happy person, his happiness stemming from being with those he loved and being surrounded by music.[65]

32.60 Moses had lived on the top floor of Grenfell Tower for more than 30 years.[66] It was while living there that he met Karen, his partner for over 20 years.[67] Moses' personality was warm and affectionate, like the Caribbean island where he had been born.[68] He never lost his love for Trinidad or the West Indian cricket team, which he supported with passion.[69] Moses was a charismatic, kind-hearted and warm person. He was a peaceful protector of his friends and family who would help anyone in need.[70]

3 Floor 22

Eslah Elgwahry and Mariem Elgwahry (Flat 196)

32.61 Eslah Elgwahry and her daughter Mariem Elgwahry lived in Flat 196. Eslah, born on 1 December 1952, was 64 years old. Mariem was born on 11 April 1990 in London. She was 27 years old.

32.62 On 29 May 2018, Ahmed Elgwahry, the son of Eslah and brother of Mariem, spoke of his mother and sister but explained that he did not feel ready to speak in too much detail about his mother.[71]

32.63 Eslah had lived in Grenfell Tower for 34 years; Mariem had lived there for all her life.[72] When Mariem was eight years old her father died and Eslah raised her two children alone. She instilled in them a strong family bond, so that they would support each other, come what may.[73]

32.64 Mariem was a single-minded and ambitious young woman.[74] A graduate of Roehampton University, she went on to establish a successful career as a marketing manager.[75] She was a positive force with a mischievous sense of humour, who would not hesitate to play the fool if it made her friends and family smile.[76]

32.65 Ahmed described his sister as a brave and adventurous woman who loved to travel the world. While on her travels, she climbed an active volcano, abseiled, paraglided, jet-skied and cycled around Mexico. Mariem loved adventures and lived for the moment.[77] She loved sport, particularly tennis.[78] Her drive and determination were shown by her efforts in raising money

64 Commemoration hearing 30 May 2018 [CH7/24/1-2].
65 Commemoration hearing 30 May 2018 [CH7/11/12-22]; [CH7/22/17-19].
66 Commemoration hearing 30 May 2018 [CH7/16/8-10].
67 Commemoration hearing 30 May 2018 [CH7/14/22-24].
68 Commemoration hearing 30 May 2018 [CH7/22/9-16].
69 Commemoration hearing 30 May 2018 [CH7/24/6-8].
70 Commemoration hearing 30 May 2018 [CH7/20/13].
71 Commemoration hearing 29 May 2018 [CH6/17/8-17].
72 Commemoration hearing 29 May 2018 [CH6/18/15-16]; [CH6/2/11-12].
73 Commemoration hearing 29 May 2018 [CH6/1/20-2/6].
74 Commemoration hearing 29 May 2018 [CH6/4/12-14].
75 Commemoration hearing 29 May 2018 [CH6/19/22-20/1].
76 Commemoration hearing 29 May 2018 [CH6/3/9-16].
77 Commemoration hearing 29 May 2018 [CH6/4/19-5/2].
78 Commemoration hearing 29 May 2018 [CH6/2/17]; [CH6/10/17-21].

for those charitable causes close to her heart – even running the final four and a half miles of an obstacle course after receiving treatment for an asthma attack.[79]

32.66 Mariem and Eslah had an extremely close relationship. Even in adulthood, Mariem continued to live with her mother in order to care for her.[80] Eslah was a strong woman and though she had raised two children on her own she remained young at heart. She was known for her authentic Egyptian cuisine. She wanted to maintain and share her Egyptian culture and tradition and was always cooking for neighbours, friends and family.[81]

32.67 Mariem's caring nature was most strongly focused on her family. In the midst of a busy life she would always drop whatever she was doing to put her family first.[82] She was an ambitious, talented and confident woman who was a credit to the mother who had raised her.

Anthony Disson (Flat 194)

32.68 Anthony Disson lived in Flat 194. He was born on 27 November 1951 in North Kensington. Known to everyone as Tony, he was 65 years old.

32.69 On 23 May 2018, Tony's eldest son, Lee Disson, gave a commemoration for his father.[83] A video commemoration from his wife Cordelia and their three sons, Harriboy, Alfie and Charlie was also shown.[84]

32.70 Tony was the youngest of seven children.[85] As a young man he met his first wife in 1967 and they had a son, Lee, who was born in February 1970.[86] They lived together in Shepherd's Bush and then in 1974 moved to Fulham.[87]

32.71 Tony's love of sport endured throughout his life. He coached various sports at the Brunswick Boys' Club in Fulham.[88] A loyal supporter of Fulham Football Club, he would attend their matches and lend his vocal support whenever he could.[89] Lee Disson recalled happy weekends and summer holidays spent at a chalet in Leysdown on the Isle of Sheppey and further afield in Gran Canaria.[90]

32.72 Tony and his first wife divorced amicably and on New Year's Eve 1987 he married Cordelia. The couple had a beautiful wedding with well-wishers celebrating their union into the new year, although Cordelia did say that not many people remembered the clock striking 12.[91]

32.73 Tony and Cordelia had three sons together: Harriboy, born in 1993, Alfie, born in 1994 and Charlie born in 1998.[92] Tony was a good dad who loved his children and would do anything for them. He encouraged his sons' love of boxing, taking them to the Dale Youth boxing club

79 Commemoration hearing 29 May 2018 [CH6/6/22-7/11].
80 Commemoration hearing 29 May 2018 [CH6/5/14-15]; [CH6/17/18-18/2].
81 Commemoration hearing 29 May 2018 [CH6/18/8-19].
82 Commemoration hearing 29 May 2018 [CH6/18/4-7].
83 Commemoration hearing 23 May 2018 [CH3/8/4-7].
84 Commemoration hearing 23 May 2018 [CH3/16/20].
85 Commemoration hearing 23 May 2018 [CH3/8/14-15].
86 Commemoration hearing 23 May 2018 [CH3/8/22-24].
87 Commemoration hearing 23 May 2018 [CH3/9/4-5].
88 Commemoration hearing 23 May 2018 [CH3/9/11-14].
89 Commemoration hearing 23 May 2018 [CH3/9/18-22].
90 Commemoration hearing 23 May 2018 [CH3/10/19-11/6].
91 Commemoration hearing 23 May 2018 [CH3/16/20].
92 Commemoration hearing 23 May 2018 [CH3/16/20].

at the bottom of Grenfell Tower. His sons excelled in the world of amateur boxing and Tony would drive them all over the country to take part in competitions. He always made his voice heard in support of his sons, even in the face of a partisan local crowd.[93]

32.74 Tony had an excellent sense of humour which he passed on to his sons. Cordelia remembered her sons laughing while watching Tony trying to turn on a computer by talking to it; they had tricked him into thinking that that was the way to do it. They enjoyed teasing Tony, but he was a patient father, ready to watch their choice of television programmes so that he could spend time in their company. Tony became a proud grandfather and great-grandfather and idolised the younger members of his family.[94]

32.75 Those closest to him described Tony as a generous man with a good heart. He would never see anyone go without, because he knew what it was like to be without. He was a good dad, a brilliant husband and a wonderful grandfather. He was not the richest man in the world, but he was rich with love for those he held closest.[95]

The Choucair/Choukair Family (Flat 193 and Flat 191)

32.76 Nadia Choucair, Bassem Choukair and their daughters Mierna, Fatima and Zainab lived in Flat 193. Nadia's mother Sirria Choucair lived in Flat 191 on the same floor.

32.77 Sirria Choucair was born on 25 October 1956 in Lebanon. She was 60 years old. Her daughter Nadia was born on 14 January 1984 in London.[96] She was 33 years old. Bassem Choukair was born on 1 December 1976 in Lebanon and was 40 years old. Their three daughters were born in London; Mierna Choucair, born on 22 November 2003, was 13, Fatima Choucair, born on 1 March 2006, was 11 and Zainab Choucair, born on 17 May 2014, was three.

32.78 As well as Nadia, Sirria had three other children: her sons, Nabil and Hisam, and her daughter, Sawsan. Hisam and Sawsan Choucair presented their commemoration on 22 May 2018.[97] Nabil Choucair gave a separate commemoration on 30 May 2018.[98] A letter written by Bassem's parents was also read out by Mr Aboudihaj on 30 May 2018.[99]

32.79 The second eldest child in her family, Sirria took responsibility for her younger siblings from an early age. She would cook, clean and get them ready for school and because of these responsibilities was not able to attend school herself.[100] Sirria moved to the United Kingdom at the age of 17 and married her husband. They set up home in Redcliffe Gardens, Earl's Court, where they brought up their four children.[101] As soon as Sirria arrived in the country she enrolled herself on an English course.[102] Education was something that she held in very high regard throughout her life.

32.80 Sirria very soon realised that to give her children a good life, she would need to find paid work alongside raising her family. She followed her husband into the food industry. Sirria spent all of her working life in the catering department at the Royal Marsden Hospital and loved her job very much.[103]

93 Commemoration hearing 23 May 2018 [CH3/16/20].
94 Commemoration hearing 23 May 2018 [CH3/16/20]; [CH3/13/14].
95 Commemoration hearing 23 May 2018 [CH3/16/20].
96 Commemoration hearing 30 May 2018 [CH7/74/5].
97 Commemoration hearing 22 May 2018 [CH2/62/4-18].
98 Commemoration hearing 30 May 2018 [CH7/72/16-21].
99 Commemoration hearing 30 May 2018 [CH7/82/4-7].
100 Commemoration hearing 30 May 2018 [CH7/74/5].
101 Commemoration hearing 22 May 2018 [CH2/63/7-14].
102 Commemoration hearing 22 May 2018 [CH2/63/14-17].
103 Commemoration hearing 22 May 2018 [CH2/63/18-64/2].

32.81 Sirria's life was characterised by hard work. She was the first to wake up in the morning and would cook delicious meals for the family, filling their home with appetising smells. She would then go to work and complete a full shift at the hospital before returning home to complete the housework.[104] Sirria wanted her children to have the opportunities that she had not enjoyed. Together with her husband she worked hard to put all four children through private schools.[105]

32.82 Bassem lived in Lebanon where he worked as a welder. He also spent time in the military and was very well known in his town.[106] While Nadia was visiting her family in Lebanon she met Bassem and they agreed to marry.[107] Bassem came to live with Nadia in the United Kingdom where they had their three daughters. Bassem was an extremely hard worker and his priority was to make a good life for his family.[108] Waking early every morning, he would cycle to his job at Marks & Spencer. There he was quickly promoted to the position of Section Co-ordinator, where his strict approach, respected by those he managed, could not have been more different from the caring and affectionate man he was at home with his family.[109]

32.83 Nadia and Bassem moved to Grenfell Tower in around 2006.[110] When Mierna was old enough, she attended nursery at Avondale Park Primary School. Nadia had always wanted to work with children and she started working at Avondale as a nursery officer.[111] She was a valued member of staff, loved by parents, colleagues and children for her keen, positive approach and her desire to develop in her career.[112]

32.84 Mierna was a student at Kensington Aldridge Academy.[113] She was a clever and fun-loving young woman who was a caring and compassionate friend.[114] Mierna worked hard at school and excelled academically. Ambitious for her future, she was in the process of deciding whether to pursue a career in law or medicine.[115] It is clear from a video she made about her morning routine that Mierna had a witty and keen eye for the details of life.[116] She was also very active; she loved to go swimming at the weekends and she was extremely protective of her younger sisters.[117]

32.85 Fatima was a student in Year 6 at Avondale Park Primary School where her mother worked.[118] She was much quieter than her sisters and was extremely active. She loved to participate in sports and played in the school football team. Fatima was an excellent gymnast and wanted to pursue the sport professionally.[119] She had lots of friends who would often visit her and she always worked very hard to do her best at school. It was said that if something did not come naturally to her, she would do everything in her power to master it.[120]

104 Commemoration hearing 22 May 2018 [CH2/64/22-23].
105 Commemoration hearing 22 May 2018 [CH2/65/14-16].
106 Commemoration hearing 30 May 2018 [CH7/74/5].
107 Commemoration hearing 22 May 2018 [CH2//79/18-20].
108 Commemoration hearing 22 May 2018 [CH2/79/20-23].
109 Commemoration hearing 22 May 2018 [CH2/80/1-6].
110 Commemoration hearing 22 May 2018 [CH2/74/13-14].
111 Commemoration hearing 22 May 2018 [CH2/67/24-68/3].
112 Commemoration hearing 22 May 2018 [CH2/83/21].
113 Commemoration hearing 22 May 2018 [CH2/70/24-71/1].
114 Commemoration hearing 22 May 2018 [CH2/83/21].
115 Commemoration hearing 22 May 2018 [CH2/71/6-7].
116 Commemoration hearing 30 May 2018 [CH7/74/5].
117 Commemoration hearing 22 May 2018 [CH2/83/21].
118 Commemoration hearing 22 May 2018 [CH2/83/21].
119 Commemoration hearing 22 May 2018 [CH2/78/12-14].
120 Commemoration hearing 22 May 2018 [CH2/83/21].

32.86 Zainab was described as the spark of the family.[121] She attended the nursery at Avondale. Zainab was a good actor who did not shy away from the limelight. She would delight in reciting her favourite nursery rhyme, "The Three Little Pigs", to her family, who always enjoyed her performance.[122] She would put olives on the ends of her fingers and eat them one by one. Zainab loved to make things; she also loved the company of her sisters, whom she would seek to imitate.[123] She had a very close relationship with her grandmother, Sirria, who would look after Zainab while Nadia and Bassem were at work. The two shared a very special bond.[124]

32.87 Sirria's husband died when he was 52 and that put considerable strain on her. She developed arthritis and was not able to continue working.[125] When Nadia and Bassem moved into Grenfell Tower, Sirria was able to move into Flat 191 on the same floor as her daughter.[126] It was here that she found a new role as a caring grandmother. She took great pleasure in being close to her daughter's young family and helping to raise her grandchildren.[127] Sirria would travel every year to Lebanon to visit her own mother and the warmer climate helped to alleviate her arthritis.[128]

32.88 The family was extremely close and would always be in and out of each other's flats, cooking for one another, watching films and going to the park together.[129] They were a close knit, supportive family; a solid unit whose members adored each other.[130] Sirria instilled in her family a culture of respect for those around them and, in turn, they were respected by their community.[131] The family spent their holidays in Lebanon and invested whatever money and time they could spare building a home for themselves by hand from the foundations up.[132] It is clear that each member of the family lived their lives for others and that was the foundation upon which this strong and loving family was built.

The Jemal/Kedir Family (Flat 192)

32.89 Nura Jemal, Hashim Kedir and their children Yahya, Firdaws and Yaqub lived in Flat 192.

32.90 Nura Jemal was born on 1 August 1981 in Ethiopia. She was 35 years old. Hashim Kedir was born on 7 March 1973 in Addis Ababa, Ethiopia. He was 44 years old. Their children were all born in the United Kingdom; Yahya Hashim, born on 5 August 2003, was 13, Firdaws Hashim, born on 13 January 2005, was 12 and Yaqub Hashim, born on 18 May 2011, was 6.

32.91 On 25 May 2018 commemorations for the family were given on behalf of Hashim's sister and brothers, Assema Habib, Shemsu Kedir Habib, and Redwan Kedir and on behalf of Nura's sisters and brother, Bedriya Jemal Kelbeto, Nurya Jemal Kelbeto and Sadik Jemal Kelbeto. The commemorations included a video presentation.[133]

32.92 Hashim was the eighth of nine children born to Aisha and Kedir Habib.[134] The family sadly lost Aisha when Hashim was very young and his father raised him with the help of his older

121 Commemoration hearing 22 May 2018 [CH2/83/21].
122 Commemoration hearing 30 May 2018 [CH7/74/5].
123 Commemoration hearing 22 May 2018 [CH2/83/21].
124 Commemoration hearing 22 May 2018 [CH2/76/22-77/4].
125 Commemoration hearing 22 May 2018 [CH2/66/11-14].
126 Commemoration hearing 22 May 2018 [CH2/66/14-18].
127 Commemoration hearing 22 May 2018 [CH2/66/19-23].
128 Commemoration hearing 22 May 2018 [CH2/67/8-9].
129 Commemoration hearing 22 May 2018 [CH2/77/6-11].
130 Commemoration hearing 22 May 2018 [CH2/83/21].
131 Commemoration hearing 30 May 2018 [CH7/74/5].
132 Commemoration hearing 22 May 2018 [CH2/81/4-10].
133 Commemoration hearing 25 May 2018 [CH5/54/4-5].
134 Commemoration hearing 25 May 2018 [CH5/72/25].

siblings.[135] Hashim's older siblings gave up the chance of an education to help raise the younger children. This had a lasting impact on Hashim, who was able to attend school, where he thrived.[136] Hashim was always top of the class and received high grades in his final exams. He went on to study electrical engineering.[137]

32.93 Hashim came to the United Kingdom in 2000 and immediately threw himself into the world of work.[138] He was a construction worker, a parking attendant and an electrician. He then passed the Knowledge exam to become a black cab driver.[139] In 2002, Hashim met Nura in London through a mutual friend.[140]

32.94 Nura was one of eight children born in a rural part of southern Ethiopia called Silte.[141] The family shared a one-room house in a farming community.[142] Nura did not attend school as a child but was very bright. At the age of 14 she moved to Addis Ababa to work as a housekeeper.[143] She then managed to open up a small shop where she sold tea and coffee.[144] Dedicated to her family, Nura sent the money she earned home to help support her entire family.[145] Nura then left Addis Ababa and went to work in Saudi Arabia before moving to the United Kingdom. She continued to support her family financially, morally and emotionally when living in London.[146]

32.95 Nura and Hashim married and had three children. Yahya was described as kind, polite, loving, generous, thankful and pure-hearted.[147] He was a student in year nine at Kensington Aldridge Academy where his favourite subject was maths.[148] Yahya was a competitive boy who enjoyed playing basketball and football.[149] He was a unique character with a big heart who was always making people laugh.[150] A devout Muslim, he would lead the family in prayer.[151] His wish when he grew up was to become an Ustaz, which is an Islamic scholar and teacher.[152]

32.96 Firdaws' aunt Assema described her as intelligent, wise and eloquent with a wonderful singing voice.[153] She was a student in Year 7 at Kensington Aldridge Academy, where she excelled academically.[154] Firdaws was a voracious reader who would be perfectly happy concentrating on a book in the midst of a social gathering.[155] Even at her young age she was a gifted public speaker and was awarded a prize by Bill Gates for best floor speech when taking part for her school in Comic Relief's "The Big Debate". The journalist, Jon Snow, one of the judges, commented that Firdaws stood out above everybody else; she was spellbinding and confident and he felt she was going to go far.[156]

135 Commemoration hearing 25 May 2018 [CH5/73/2-8].
136 Commemoration hearing 25 May 2018 [CH5/73/8-23].
137 Commemoration hearing 25 May 2018 [CH5/73/21-23].
138 Commemoration hearing 25 May 2018 [CH5/74/5-9].
139 Commemoration hearing 25 May 2018 [CH5/74/9-12].
140 Commemoration hearing 25 May 2018 [CH5/71/3-4].
141 Commemoration hearing 25 May 2018 [CH5/70/1-4].
142 Commemoration hearing 25 May 2018 [CH5/89/17-21].
143 Commemoration hearing 25 May 2018 [CH5/89/24-90/9].
144 Commemoration hearing 25 May 2018 [CH5/98/25-99/2].
145 Commemoration hearing 25 May 2018 [CH5/90/5-9].
146 Commemoration hearing 25 May 2018 [CH5/92/6-10].
147 Commemoration hearing 25 May 2018 [CH5/65/21-22].
148 Commemoration hearing 25 May 2018 [CH5/66/3-4].
149 Commemoration hearing 25 May 2018 [CH5/103/17].
150 Commemoration hearing 25 May 2018 [CH5/103/17].
151 Commemoration hearing 25 May 2018 [CH5/66/13-14].
152 Commemoration hearing 25 May 2018 [CH5/69/6-7].
153 Commemoration hearing 25 May 2018 [CH5/61/7-8].
154 Commemoration hearing 25 May 2018 [CH5/61/17-18].
155 Commemoration hearing 25 May 2018 [CH5/62/9-13].
156 Commemoration hearing 25 May 2018 [CH5/103/17].

32.97 Yaqub was a bundle of energy with a spirited, sharp mind; he was an inquisitive child able to make reasoned arguments even at his young age.[157] A student in Year 1 at Avondale Park Primary School, Yaqub was well liked by teachers and his classmates.[158] Yaqub was an extremely active child; he played football and loved to dance. His favourite song was "Watch Me" by Silentó – a song to which he knew all the choreography.[159] As the youngest child, he was determined to show that he could do whatever his elder siblings could do.[160] Yaqub was always laughing and brought a spark of happiness into the family.[161]

32.98 Nura was a positive-minded, devout and courageous mother and wife who loved her friends and appreciated the small things in life.[162] Hashim was described as a smart, soft-hearted and generous man who loved football (he was a lifelong Arsenal supporter). He maintained a close relationship with his family in Ethiopia, whom he supported whenever he could.[163] Nura and Hashim encouraged all their children to learn Amharic so they could maintain a relationship with their extended family in Ethiopia.[164] The family would regularly return to Ethiopia to see friends and relations and make sure everyone was well cared for.[165]

32.99 It is clear that the family were warm, close-knit and generous with both their time and their money. Firdaws is recorded at "The Big Debate" competition as saying:

> "We have so much and we're so fortunate to have it, and we all have it, and we're lucky to, so why shouldn't others?"[166]

32.100 These sentiments reflect the kindness, compassion and humanity of the family she grew up in.

4 Floor 21

Logan Gomes (Flat 183)

32.101 Logan was the son of Andreia Perestrelo and Marcio Gomes, who lived in Flat 183 with their two daughters. The family's commemoration for Logan took place on 21 May 2018.[167]

32.102 Logan was due to be born on 21 August 2017.[168] Marcio recalled how happy the family were about the prospect of their new arrival. He had cried when he found out he was going to have a son.[169] They held a baby shower for their friends and family and received lots of presents in anticipation of Logan's birth.[170]

32.103 The family had made detailed plans for Logan. Not only had they prepared the nursery, but they had decided that Logan would support Benfica and Liverpool.[171] He would be Marcio's

157 Commemoration hearing 25 May 2018 [CH5/56/11-57/1].
158 Commemoration hearing 25 May 2018 [CH5/58/21-25].
159 Commemoration hearing 25 May 2018 [CH5/57/12-16].
160 Commemoration hearing 25 May 2018 [CH5/57/19-21].
161 Commemoration hearing 25 May 2018 [CH5/58/19-20].
162 Commemoration hearing 25 May 2018 [CH5/69/23-24]; [CH5/70/17-18].
163 Commemoration hearing 25 May 2018 [CH5/72/18-24].
164 Commemoration hearing 25 May 2018 [CH5/101/9-11].
165 Commemoration hearing 25 May 2018 [CH5/86/6-8].
166 Commemoration hearing 25 May 2018 [CH5/103/17].
167 Commemoration hearing 21 May 2018 [CH1/14/16].
168 Commemoration hearing 21 May 2018 [CH1/17/7-9].
169 Commemoration hearing 21 May 2018 [CH1/18/13-14].
170 Commemoration hearing 21 May 2018 [CH1/18/17-19].
171 Commemoration hearing 21 May 2018 [CH1/18/1-2].

Xbox gaming buddy and his sisters wanted to help look after him.[172] They were most excited about a planned trip to Disneyland the summer after Logan was due to arrive.[173]

32.104 Logan was delivered stillborn on 14 June after his mother had escaped from the tower. Marcio described how he was able to hold his son. Logan was beautiful and restful; it was as if he was asleep.[174] Logan will always be with his family in their hearts. He was their little star.[175]

The El Wahabi Family (Flat 182)

32.105 Abdulaziz and Faouzia El Wahabi lived in Flat 182 with their three children, Yasin, Nur Huda and Mehdi. As a family, the El Wahabis were a big, well-loved part of their community.

32.106 Abdulaziz El Wahabi was born on 1 December 1964 in Larache, in northern Morocco.[176] He was 52 years old. His wife Faouzia was born on 1 June 1975, also in Larache. She was 42 years old. Their son Yasin was born at St Mary's Hospital, Paddington, on 9 August 1996. He was 20 years old. Their daughter Nur Huda was born in St Mary's Hospital, Paddington[177] on 27 June 2001. She was 15 years old. Their youngest child Mehdi was born at Chelsea and Westminster Hospital on 22 February 2009. He was eight years old.

32.107 On 25 May 2018, several family members of the El Wahabis gave commemorations in person and by way of two video presentations.

32.108 Abdulaziz was described as a simple man who loved to travel. In 1976, when he was 11 years old, Abdulaziz and his family moved to the United Kingdom from Morocco.[178] Abdulaziz had a strong attachment to his British and Moroccan identity and filled his home in London with Moroccan décor.[179] He loved taking photographs at family gatherings and had many pictures, especially of his children, on his walls.[180] He was a kind, loyal family man, who was so proud when anyone in the family achieved anything in life.[181] Abdulaziz was particularly close to his mother[182] and was loving and supportive to his wife and children.[183]

32.109 Abdulaziz worked in various trades throughout his life, including as a butcher, a mechanic, and a porter at University College Hospital London, where he remained for 22 years.[184] Marcel Levi, Chief Executive of UCLH Trust, described Abdulaziz as a popular colleague known for being kind to his patients.[185] Colleagues recalled that he brightened up the workplace with cheerful and cheeky banter, and was relaxed, chatty, and friendly to staff and patients alike. He went above and beyond what was required of him and his colleagues felt honoured to know and work with him.[186]

32.110 Faouzia was the third of five children. She was artistic and creative. Her mother, Menana, recounted that by the age of seven Faouzia was already doing her own embroidery. She always wanted to stay indoors and help with adult tasks; she especially enjoyed helping out in

172 Commemoration hearing 21 May 2018 [CH1/18/20-22].
173 Commemoration hearing 21 May 2018 [CH1/18/3-7].
174 Commemoration hearing 21 May 2018 [CH1/17/13-16]; [CH1/19/25-20/1].
175 Commemoration hearing 21 May 2018 [CH1/17/7].
176 Commemoration hearing 25 May 2018 [CH5/15/12-16].
177 Commemoration hearing 25 May 2018 [CH5/28/1-2].
178 Commemoration hearing 25 May 2018 [CH5/39/17-18].
179 Commemoration hearing 25 May 2018 [CH5/15/17-22].
180 Commemoration hearing 25 May 2018 [CH5/15/21-24].
181 Commemoration hearing 25 May 2018 [CH5/18/5-6].
182 Commemoration hearing 25 May 2018 [CH5/43/1-7].
183 Commemoration hearing 25 May 2018 [CH5/40/8-14].
184 Commemoration hearing 25 May 2018 [CH5/16/14-20].
185 Commemoration hearing 25 May 2018 [CH5/16/21-24].
186 Commemoration hearing 25 May 2018 [CH5/17/4-18/1].

the kitchen.[187] Faouzia moved to London aged 20,[188] where she married Abdulaziz in 1994.[189] She was a lively, friendly woman who loved her role as a mother and wife. Described as the anchor of her family, she was always laughing and joking with her three children.[190]

32.111 Faouzia continued to pursue her creative interests as an adult and was especially good at crochet and knitting, as well as having her own sewing machine. She was a natural teacher who was calm and patient when teaching her young niece how to knit.[191] Faouzia used her skills to benefit others; she sold some of the items she made at Portobello Market, with the profits going back to her local community.[192]

32.112 A famously good cook, Faouzia enjoyed making meals from different cuisines from all over the world. She was in demand as a baker and on 13 June 2017 had made cakes for a family friend's engagement party.[193] She used to cook every day for Abdulaziz's mother, to whom the whole family were very close.[194]

32.113 Yasin was Abdulaziz and Faouzia's eldest child. He was studying accountancy part-time at Greenwich University. Alongside his studies, Yasin trained as a football referee and officiated at adult and children's games.[195] He was said to be just like his father in both looks and personality; both lit up the room when they walked in.[196]

32.114 Joe Ward, a friend of Yasin, recalled how Yasin taught him to be confident at a time when he was struggling with anxiety due to the trauma of having lost his own father. Yasin and his family had treated him with great kindness and generosity. He remembered a particularly happy day which he and Yasin had spent riding around Yasin's estate on the back of a BMX, laughing, talking and getting chased by a group of girls. He described Yasin's strength of character and positive approach to life as an inspiration.[197] Another friend recalled how Yasin would lend a hand to anyone who needed it.[198]

32.115 Nur Huda went to Thomas Jones Primary school and Holland Park Secondary School, where at the time of the fire she had been in the middle of taking her GCSEs.[199] She was remembered as a loyal and supportive friend.[200] When her younger cousin had started at Holland Park, Nur Huda, like a big sister, had offered to take her to her classes, even though she knew it would make her late for her own.[201]

32.116 Nur Huda's teacher, Ms Hirst, felt that Nur Huda had empathy well beyond her years, whilst her inherent sense of right, wrong and justice stood her in good stead. Nur Huda was industrious, ambitious and diligent at school; she wanted to earn her successes through her own hard work and hoped to become a PE teacher. Ms Hirst used to look forward to seeing the El Wahabis at parents' evenings, not least because the love between the whole family was palpable.[202]

187 Commemoration hearing 25 May 2018 [CH5/46/22-24].
188 Commemoration hearing 25 May 2018 [CH5/20/4].
189 Commemoration hearing 25 May 2018 [CH5/47/14].
190 Commemoration hearing 25 May 2018 [CH5/20/6-10]; [CH5/23/12-14].
191 Commemoration hearing 25 May 2018 [CH5/20/16-25].
192 Commemoration hearing 25 May 2018 [CH5/21/14-17].
193 Commemoration hearing 25 May 2018 [CH5/22/4-21].
194 Commemoration hearing 25 May 2018 [CH5/43/12-14].
195 Commemoration hearing 25 May 2018 [CH5/24/4-9].
196 Commemoration hearing 25 May 2018 [CH5/41/6-8].
197 Commemoration hearing 25 May 2018 [CH5/25/2-22].
198 Commemoration hearing 25 May 2018 [CH5/26/25-27/1].
199 Commemoration hearing 25 May 2018 [CH5/28/2-4].
200 Commemoration hearing 25 May 2018 [CH5/32/5-6].
201 Commemoration hearing 25 May 2018 [CH5/28/6-20].
202 Commemoration hearing 25 May 2018 [CH5/30/5-31/17].

32.117 Mehdi was the baby of the family. He was mothered by both his parents and his siblings.[203] He enjoyed playing Minecraft and Lego. Mehdi was like a collector, and had arranged his toys all over his desk – it was completely full.[204] He enjoyed ice cream, curry and couscous. His young cousin thought that Mehdi would have become a comedian, though he would have needed to do some work on his jokes first.[205]

32.118 Mehdi's teacher from Oxford Gardens Primary School, Ms Trabelsi, thoroughly enjoyed teaching him. She felt that one of Mehdi's strongest qualities was his ability to make everyone laugh and smile; his smile lit up any room he entered and his kindness and generosity to others made him a very popular person.[206] Oxford Gardens has dedicated a plaque to Mehdi and his family.[207]

Ligaya Moore (Flat 181)

32.119 Ligaya Moore lived alone in Flat 181. She was born on 28 October 1938 in the village of San Luis, Pampanga, in the Philippines.[208] She was 78 years old.

32.120 On 25 May 2018, a commemoration for Ligaya was delivered by her friend Nenita Bungay on behalf of herself and Ligaya's niece, Caroline Custodio.[209]

32.121 Ligaya was the second of four children. As a young woman she had dreamt of travelling the world and exploring new places.[210] She left the Philippines in 1972 and travelled to London where she secured work as a nanny.[211]

32.122 Shortly after arriving in London she met her husband Jim. Having married, they spent many happy years together and explored the United Kingdom. They did not go further afield because Jim did not like to fly.[212]

32.123 Ligaya was a stylish and sociable woman. She loved fashion and would always wear heels, claiming that she did not know how to walk in flat shoes.[213] She enjoyed shopping and would often visit the Westfield shopping centre with her friend Nenita.[214] Ligaya had a passion for ballroom dancing and others remarked that she was full of energy and enthusiasm. She would explore London on foot, often walking from Holland Park all the way to Trafalgar Square.[215]

32.124 Ligaya loved living in Grenfell Tower. From her flat she enjoyed wonderful views across London and would often say to her friends that she felt on top of the world.[216] Ligaya was heavily involved in charity work and did a great deal to help those less fortunate than herself. She did not forget her early life in the Philippines and had set up a savings account to provide help to those in need in her country of origin.[217]

203 Commemoration hearing 25 May 2018 [CH5/34/5-6].
204 Commemoration hearing 25 May 2018 [CH5/34/21-25].
205 Commemoration hearing 25 May 2018 [CH5/35/1-5].
206 Commemoration hearing 25 May 2018 [CH5/35/6-17].
207 Commemoration hearing 25 May 2018 [CH5/36/23-25].
208 Commemoration hearing 25 May 2018 [CH5/6/18].
209 Commemoration hearing 25 May 2018 [CH5/5/12-18].
210 Commemoration hearing 25 May 2018 [CH5/6/19-20]; [CH5/7/3-5].
211 Commemoration hearing 25 May 2018 [CH5/7/9-10].
212 Commemoration hearing 25 May 2018 [CH5/7/10-14].
213 Commemoration hearing 25 May 2018 [CH5/6/22-25].
214 Commemoration hearing 25 May 2018 [CH5/8/1].
215 Commemoration hearing 25 May 2018 [CH5/9/5]; [CH5/8/9-11].
216 Commemoration hearing 25 May 2018 [CH5/8/16-9/1].
217 Commemoration hearing 25 May 2018 [CH5/10/8-15].

32.125 Above all, she is remembered as a wonderful loving friend who was always generous with her time and affection.

5 Floor 20

Jessica Urbano Ramirez (Flat 176)

32.126 Jessica Urbano Ramirez lived in Flat 176 with her family.[218] Jessica was born on 4 July 2004 in London. She was 12 years old.

32.127 Jessica's sister, Melanie, her mother, Adriana Ramirez and her father, Ramiro Urbano, presented a commemoration for Jessica on 25 May 2018.

32.128 Adriana described how Jessica had brought joy to the family's lives from the day she was born. She was bubbly and cheeky and always willing to meet a challenge. Jessica loved to make her family happy and was a selfless and caring girl. She enjoyed cooking, especially baking cakes. She always offered her father the chance to try what she had made, and if he was cooking, she would always want to be involved.[219]

32.129 Jessica also loved to go out, either with her family or her friends. She liked to try out different food at different restaurants, but also enjoyed shopping. Melanie remembered how her sister always managed to keep up with the latest trends and hairstyles.[220]

32.130 Adriana described how Jessica especially enjoyed lazy Sundays with her mum, watching movies under the duvet and eating popcorn. Despite this, she also found time to join in many after-school activities such as swimming. Her father described her as a "busy bee".[221]

32.131 Melanie said that her sister was full of joy and laughter. She remembered listening to Jessica singing and called her a "real diva".[222]

32.132 Jessica was looking forward to turning 13 and having a party with her friends.[223] She was already planning her Quinceañera, which is a traditional coming-of-age party held when a girl turns 15. Jessica said that she wanted to wear a beautiful yellow dress.[224] Jessica had begun to make plans for her future. Her family miss her terribly.[225]

The Belkadi/Hamdan Family (Flat 175)

32.133 Omar Belkadi, Farah Hamdan and their daughters, Malak and Leena Belkadi, lived in Flat 175 with Omar and Farah's third daughter who survived the fire.

32.134 Omar was born on 1 August 1984 in Morocco. He was 32 years old. He worked at a pizza restaurant.[226] Farah was born on 23 February 1986 in London. She was 31 years old. She was a teacher.[227] Malak was born on 26 September 2008 at St Mary's Hospital, London. She was eight years old when she died. Leena was born on 14 December 2016 at St Mary's Hospital, London. She was six months old when she died.

218 Adriana Ramirez witness statement [IWS00001116] p. 1.
219 Commemoration hearing 25 May 2018 [CH5/53/18].
220 Commemoration hearing 25 May 2018 [CH5/53/18].
221 Commemoration hearing 25 May 2018 [CH5/53/18].
222 Commemoration hearing 25 May 2018 [CH5/53/18].
223 Commemoration hearing 25 May 2018 [CH5/53/18].
224 Commemoration hearing 25 May 2018 [CH5/53/6-10].
225 Commemoration hearing 25 May 2018 [CH5/53/18].
226 Commemoration hearing 30 May 2018 [CH7/31/2-3].
227 Commemoration hearing 30 May 2018 [CH7/27/19-20].

32.135 On 30 May 2018, Farah's father, El Alami Hamdan, gave a commemoration for Omar, Farah, Malak and Leena.

32.136 El Alami Hamdan said that his daughter Farah had lived in West London all her life.[228] A good student at school,[229] she was a respectful person to whom family was very important.[230] Farah went on to become a teacher.[231]

32.137 Farah enjoyed holidays with her family, particularly to Morocco, where Omar's family lived. She was pleased that as part of these trips her children would learn to speak Arabic.[232] Her father described Farah as the best mother to her girls;[233] she was always fair with them.[234]

32.138 El Alami Hamdan spoke fondly of how much Farah and Omar loved each other,[235] and reflected that Omar's parents themselves were very good people.[236] Farah and Omar had a "magic" wedding, and El Alami Hamdan was very proud of their union.[237] He had a really good bond with his daughter. His bond with Omar was also strong. Omar called him "Uncle"[238] and, in turn, El Alami Hamdan thought of Omar as his son. Omar would do anything for him.[239]

32.139 Omar was someone with a reputation for honesty and integrity within the community.[240] He was popular at work, and when he used to deliver pizza, he always got a tip. El Alami Hamdan reflected that "everyone loved him".[241]

32.140 Malak, Leena and their sister knew El Alami Hamdan as "Jiddi", meaning Grandpa.[242] He loved being a grandfather and thought of the girls as his children.[243] He spoke of how Malak was always smiling.[244] She used to go to karate lessons with her sister on Saturday mornings and on Sundays they would go to the mosque to study Arabic.[245] The family would enjoy their main meal together in the evenings, after which the children were allowed to enjoy some sweets or crisps.[246]

32.141 El Alami Hamdan last saw his daughter on the afternoon of 13 June 2017 as he was on the way to the mosque. Leena was in a buggy and they were on the way to collect Malak and her sister from school. He had played peek-a-boo with Leena and hugged his daughter. [247]

Mary Mendy and Khadija Saye (Flat 173)

32.142 Mary Mendy and her daughter, Khadija Saye, lived in Flat 173. Mary was born on 11 June 1963 in Long Street, Gambia and was 54 years old. Khadija was born on 30 July 1992 in Hammersmith. She was 24 years old.

228 Commemoration hearing 30 May 2018 [CH7/27/4-6].
229 Commemoration hearing 30 May 2018 [CH7/27/19].
230 Commemoration hearing 30 May 2018 [CH7/28/6-12]; [CH5/28/15].
231 Commemoration hearing 30 May 2018 [CH7/27/19-20].
232 Commemoration hearing 30 May 2018 [CH7/27/25-28/5].
233 Commemoration hearing 30 May 2018 [CH7/28/10-12].
234 Commemoration hearing 30 May 2018 [CH7/31/23].
235 Commemoration hearing 30 May 2018 [CH7/29/16-19].
236 Commemoration hearing 30 May 2018 [CH7/29/21-22].
237 Commemoration hearing 30 May 2018 [CH7/30/4-8].
238 Commemoration hearing 30 May 2018 [CH7/30/15-20].
239 Commemoration hearing 30 May 2018 [CH7/31/15-19].
240 Commemoration hearing 30 May 2018 [CH7/32/8-13].
241 Commemoration hearing 30 May 2018 [CH7/31/11-13].
242 Commemoration hearing 30 May 2018 [CH7/33/23-24].
243 Commemoration hearing 30 May 2018 [CH7/33/25-34/1].
244 Commemoration hearing 30 May 2018 [CH7/32/21-24].
245 Commemoration hearing 30 May 2018 [CH7/33/1-4].
246 Commemoration hearing 30 May 2018 [CH7/33/15-18].
247 Commemoration hearing 30 May 2018 [CH7/34/2-13].

32.143 Mary and Khadija's friends and family gave commemorations for them on 21 and 22 May 2018.

32.144 Mary moved to the United Kingdom in the 1980s.[248] Her cousin Ambrose recalled how the two of them worked together for around 18 months when Mary first arrived in the country.[249] Mary was the first of six siblings to settle in the United Kingdom.[250] In 1992, her daughter Khadija was born and her niece Marion Telfer moved to live with them. They moved into Grenfell Tower in about 1993.[251]

32.145 Mary enjoyed sightseeing around London with her eldest brother, Pa Sarr, but liked reminders of her home country too. She was a very good cook and used to make Gambian food for her family members when they came to see or stay with her.[252]

32.146 Family members remembered Mary as the best aunt and sister they could have asked for; she was warm and kind, and was always there to provide support for them.[253] Her cousin Clarrie Mendy described Mary's smile as "like sunshine"[254] and Mary as well-loved within her community, in part due to her "Christian nature".[255] As a carer, Mary worked to help those less fortunate than herself, and she frequently travelled to Gambia and offered donations to hospitals and other organisations.[256]

32.147 The day Khadija was born was the proudest day of Mary's life.[257] At 14, Khadija won a scholarship to Rugby School and was recognised as an excellent student.[258] Her father, Mohammadou Saye, recalled that growing up, Khadija's burning passion was for photography. It gave her great happiness and satisfaction. After school, Khadija went on to study the subject at the University for Creative Arts in Farnham.[259]

32.148 Khadija was developing an exciting career in photography and exhibited her work at the Venice Biennale in May 2017. In preparation for the festival, Khadija was interviewed and filmed by the BBC. We were shown part of the footage, in which she spoke of how her work had developed over the years. She explained that her photography explored her British-Gambian identity and the duality she felt from this and her family's different faiths (her mother was a Christian, and her father is a Muslim). The film revealed that several people had sought to purchase Khadija's work at the festival.[260]

32.149 At the commemoration, Damel Carayol, a relative of Mary and Khadija, presented the Inquiry with a painting of Grenfell Tower.[261] It was hung on the wall of the main hearing room at the start of the Phase 1 hearings, where it remains as a permanent reminder to all present of the horrors of the night and its aftermath.

Victoria King and Alexandra Atala (Flat 172)

32.150 Victoria (Vicky) King lived in Flat 172 with her daughter Alexandra Atala. Born on 12 June 1946, she was 71 years old. Alexandra Atala, born on 24 April 1977, was 40 years old.

248 Commemoration hearing 21 May 2018 [CH1/51/5-7].
249 Commemoration hearing 22 May 2018 [CH2/50/7-8].
250 Commemoration hearing 22 May 2018 [CH2/39/17-18].
251 Commemoration hearing 21 May 2018 [CH1/51/18-20].
252 Commemoration hearing 22 May 2018 [CH2/40/1-5].
253 Commemoration hearing 21 May 2018 [CH1/52/2-5].
254 Commemoration hearing 22 May 2018 [CH2/44/24].
255 Commemoration hearing 22 May 2018 [CH2/56/12-18].
256 Commemoration hearing 21 May 2018 [CH1/52/9-10].
257 Commemoration hearing 21 May 2018 [CH1/51/7-9].
258 Commemoration hearing 22 May 2018 [CH2/56/19-20].
259 Commemoration hearing 21 May 2018 [CH1/53/14-17].
260 Commemoration hearing 21 May 2018 [CH1/55/3].
261 Commemoration hearing 22 May 2018 [CH2/59/11-12].

32.151 On 24 May 2018, Penny Pearce, Vicky's sister, gave a short commemoration for them.[262]

32.152 At one time Penny had lost touch with her sister Vicky and niece Alexandra, but was able to re-establish contact with the help of the Salvation Army.[263] It meant a great deal to the family to be reunited.[264]

32.153 Vicky and Alexandra had a very close relationship and stayed together throughout their lives.[265] The family shared pictures of Vicky and Alexandra at different stages in their lives when they looked very happy.[266]

6 Floor 19

Mohamednur Tuccu, Amal Ahmedin and Amaya Tuccu Ahmedin (Flat 166)

32.154 Amal Ahmedin and Amaya Tuccu Ahmedin lived in Flat 166. Amaya's father Mohamednur Tuccu was also at the flat on the night. Amal was born on 1 January 1982 in Sudan and was 35 years old. Mohamednur was born 24 May 1973 in London. He was 44 years old. Amaya was born on 25 February 2014 in London. She was 3 years old at the time of her death.

32.155 On 24 May 2018, Winta Afewerki,[267] Feruza Afewerki, Amal's sisters,[268] and Ibrahim Toukou, Mohamednur's brother[269] presented their commemorations.

32.156 Feruza explained that Amal had four sisters: herself, Fatima Ahmedin, Winta Afewerki and Hawa Ahmedin.[270] Winta praised her sister's capacity to love, which she described as "unmatchable".[271] She and Amal had shared a room growing up and she recalled that, if she had nightmares as a child, Amal would hold on to her and squeeze them out for her.[272]

32.157 Amal loved to have a good time and to surround herself with positive, amazing people.[273] She lived each day as if it was her last, and was the life of the party.[274] She did not judge others and she would help anyone regardless of their background.[275] She learned five languages so that she would be able to communicate with as many people as possible, and because she loved making new friends.[276]

32.158 Mohamednur had eight siblings. They grew up in a small city in Eritrea. Mohamednur's brother described him as a very funny person; he loved to entertain others, and did whatever he thought might make them happy, including singing and making up jokes. As a child he used to perform for the local children, sometimes making a screen with curtains and a light.[277]

262 Commemoration hearing 24 May 2018 [CH4/8/1-8].
263 Commemoration hearing 24 May 2018 [CH4/9/1-8].
264 Commemoration hearing 24 May 2018 [CH4/9/9-10].
265 Commemoration hearing 24 May 2018 [CH4/9/10-11].
266 Commemoration hearing 24 May 2018 [CH4/9/14-15].
267 Commemoration hearing 24 May 2018 [CH4/11/2-3].
268 Commemoration hearing 24 May 2018 [CH4/13/15-19].
269 Commemoration hearing 24 May 2018 [CH4/16/7].
270 Commemoration hearing 24 May 2018 [CH4/10/16-19].
271 Commemoration hearing 24 May 2018 [CH4/11/7].
272 Commemoration hearing 24 May 2018 [CH4/11/14-16].
273 Commemoration hearing 24 May 2018 [CH4/11/11-12].
274 Commemoration hearing 24 May 2018 [CH4/14/15-16].
275 Commemoration hearing 24 May 2018 [CH4/11/7-10].
276 Commemoration hearing 24 May 2018 [CH4/14/24-15/2].
277 Commemoration hearing 24 May 2018 [CH4/16/2].

32.159 Mohamednur moved to the United Kingdom in around 1991. He studied Genetics at Queen Mary University and Informatics at the University of Westminster. As well as his ability to entertain, Mohamednur was known for being well-mannered and kind.[278]

32.160 Despite living in different countries, Mohamednur remained close to his parents and family and spoke to them regularly. His mother was especially pleased when Mohamednur and Amal brought Amaya to Eritrea.[279] Mohamednur was also close to Amal's family; Winta recalled how he would treat her like a little sister, buying Amal's sisters gifts when they came round, and talking to them as if they were his friends.[280]

32.161 Amal and Mohamednur adored their daughter, Amaya. She was the first baby in their respective families and was surrounded by love from all her relatives.[281] Winta remembered how Amaya's infectious laugh would make her whole body shake and she would jump up and down. Amaya loved to play with anyone, young or old, and had a cheeky side to her. She was an intelligent child, and the family were enjoying seeing her personality develop as she grew older; it was already very clear that she was her mother's daughter.[282]

32.162 Amaya loved music, singing and dancing. When she saw someone busking in the street she would often stop and break into dance. She especially loved to sing along to the "Frozen" soundtrack at the top of her lungs.[283]

Amna Mahmud Idris

32.163 Amna Idris did not live in Grenfell Tower. She was visiting her cousin Amal Ahmedin at the time of the fire. Amna was born on 1 January 1990 in Eritrea. She was 27 years old.

32.164 Her husband, Ibrahim Abdulkerim, spoke about Amna at the commemoration hearing on 24 May 2018.[284] Amna had moved to Sudan from Eritrea in 2010. She met Ibrahim while in Sudan and they married there in January 2012.[285] They lived together for some years before being separated when Ibrahim moved to London. In March 2016, Amna was able to join Ibrahim in the United Kingdom where they were very happy together.[286]

32.165 Amna especially loved the arts and her ambition was to become an art designer. Amna also enjoyed reading and walking and like her cousin, Amal, was always willing to help those around her.[287]

Maria del Pilar (Pily) Burton (Flat 165)

32.166 Maria del Pilar Burton was born in the town of Ferrol, Galicia, Spain.[288] Known to all as Pily, she lived in Flat 165 with her husband Nicholas Burton. They both survived the fire on 14 June 2017. Pily died on 29 January 2018.[289]

278 Commemoration hearing 24 May 2018 [CH4/16/2].
279 Commemoration hearing 24 May 2018 [CH4/16/2].
280 Commemoration hearing 24 May 2018 [CH4/12/12-15].
281 Commemoration hearing 24 May 2018 [CH4/12/5-11].
282 Commemoration hearing 24 May 2018 [CH4/12/16-20].
283 Commemoration hearing 24 May 2018 [CH4/15/10-16].
284 Commemoration hearing 24 May 2018 [CH4/16/8-16].
285 Commemoration hearing 24 May 2018 [CH4/16/16-18].
286 Commemoration hearing 24 May 2018 [CH4/17/5-8].
287 Commemoration hearing 24 May 2018 [CH4/16/21-25].
288 Commemoration hearing 22 May 2018 [CH2/20/5-7].
289 Pily Burton is not counted among those who died as a direct result of the fire. Nonetheless, she is much missed and was commemorated as a member of the Grenfell Tower community by her husband Nicholas Burton.

32.167 On 22 May 2018, Nicholas Burton delivered his commemoration for Pily.[290]

32.168 Pily was an only child, but when she was growing up, her parents cared for two boys, Mani and Jose Maria, whom they brought up as her brothers.[291] When Pily was a teenager, she moved with her parents to London, settling into a large house in North Kensington.[292] Pily was a very outgoing young person, a trait that persisted throughout her life. She quickly learnt to speak English without a Spanish accent, in addition to being able to speak Portuguese, Italian and French.[293]

32.169 After leaving school, Pily entered the catering industry and at the age of 17 met her first husband. Soon after, she fell pregnant and gave birth to her son, Victor.[294] Pily and her husband divorced and in the early 1970s, she moved into Grenfell Tower.[295]

32.170 Pily and Nicholas met in 1983 at a discotheque while he was studying in the sixth form.[296] She was friendly and flamboyant, an excellent dancer with a magnetic personality.[297] As he put it, Nicholas moved into Pily's flat in Grenfell Tower, "sock by sock". They were together for 16 years before marrying in 2000.[298]

32.171 Their home was a colourful place, full of music, food and friends.[299] Pily and her family loved traditional Galician music but she especially loved reggae.[300] Food was of paramount importance to Pily and she enjoyed cooking for friends and family; her paella was internationally known and sought-after.[301] Pily also had a passion for fashion and was a flamboyant and colourful dresser with a sense of style which others would often praise.[302]

32.172 Pily spent many years working as a contract manager in the NHS. In her final job she worked at St Charles Hospital with responsibility for the porters, domestic and catering staff. Pily was loved and respected by those she worked with because she looked after everyone.[303]

32.173 Family was extremely important to Pily and she was a proud mother, grandmother and great-grandmother. She cared for both of her parents before they died.[304] The death of her brother, Jose Maria, in a road accident shortly after the loss of her parents affected her very deeply.[305]

32.174 After a wonderful trip round France, Switzerland and Italy, Pily was diagnosed with dementia and she had to leave work in 2015.[306] After escaping the fire at Grenfell Tower, her condition deteriorated and she suffered a severe stroke in early January 2018. Having waited to see her son, Victor, she died on 29 January 2018 with Nicholas by her side.[307]

290 Commemoration hearing 22 May 2018 [CH2/17/15].
291 Commemoration hearing 22 May 2018 [CH2/20/16-21].
292 Commemoration hearing 22 May 2018 [CH2/20/22-24].
293 Commemoration hearing 22 May 2018 [CH2/21/1-4].
294 Commemoration hearing 22 May 2018 [CH2/21/8].
295 Commemoration hearing 22 May 2018 [CH2/19/24-20/1].
296 Commemoration hearing 22 May 2018 [CH2/19/13-16].
297 Commemoration hearing 22 May 2018 [CH2/19/17-22].
298 Commemoration hearing 22 May 2018 [CH2/21/13-18].
299 Commemoration hearing 22 May 2018 [CH2/21/19-23].
300 Commemoration hearing 22 May 2018 [CH2/22/11-15].
301 Commemoration hearing 22 May 2018 [CH2/22/25-23/1].
302 Commemoration hearing 22 May 2018 [CH2/23/23-24].
303 Commemoration hearing 22 May 2018 [CH2/24/16-24].
304 Commemoration hearing 22 May 2018 [CH2/25/1-11].
305 Commemoration hearing 22 May 2018 [CH2/25/14-16].
306 Commemoration hearing 22 May 2018 [CH2/25/23-26/15].
307 Commemoration hearing 22 May 2018 [CH2/29/16-19].

32.175 Pily was remembered as a magnetic,[308] talkative and gregarious person with an enthusiasm for life. It was said that the song she sang most often, "Three Little Birds" by Bob Marley and the Wailers, encapsulated her approach to the world:

> "Don't worry about a thing, cause every little thing gonna be all right."[309]

Majorie Vital and Ernie Vital (Flat 162)

32.176 Majorie Vital lived in Flat 162. Her son Ernie Vital was staying with her on 13 June 2017.

32.177 Majorie, born on 14 November 1948, was 68 years old. Ernie, born on 11 January 1967, was 50 years old.[310]

32.178 On 23 May 2018, two commemorations were presented on behalf of the family of Majorie and Ernie Vital: first, a commemoration written by Paula Bellot, Majorie's sister and Ernie's aunt, and secondly, a video commemoration from Majorie's other son, who did not wish to be named during the commemoration hearings.

32.179 Majorie was born the fourth of nine siblings in Soufrière, Dominica.[311] Her parents moved to the United Kingdom when Majorie was seven,[312] leaving the children with their grandparents, so Majorie took on a maternal role within the family caring for her younger siblings. Paula recalled how Majorie would comb and braid her hair for her and how she even sewed Paula's school uniform.[313]

32.180 Majorie was a quiet but strict person and a good cook. She took on the responsibility of cooking for her whole family when her grandmother was out at work.[314] She enjoyed Home Economics lessons at school and often cooked a meal to practise what she had learned that day.[315]

32.181 Majorie had her first child aged 15 and left school at 16. She was pregnant with her second son when she travelled to London.[316] Initially she lived with her parents in North Kensington, before moving to her flat in Grenfell Tower where she lived for the rest of her life.[317] She was proud of her home and her family used to tease her about it, calling it "Majorie's Tower".[318] Majorie worked very hard on behalf of her family; she continued to make clothes throughout her life, using her early talents as a seamstress to her advantage.[319]

32.182 Ernie lived for his mother, to whom he was very close; his brother said that "Ernie's umbilical cord was never cut". The family had many moments of happiness; Majorie's son could remember walking towards Grenfell Tower at around Christmas one year and seeing the star on top of their Christmas tree through the window from the road.[320]

308 Commemoration hearing 22 May 2018 [CH2/19/21].
309 Commemoration hearing 22 May 2018 [CH2/30/6-9].
310 Commemoration hearing 23 May 2018 [CH3/34/19].
311 Commemoration hearing 23 May 2018 [CH3/30/18-22].
312 Commemoration hearing 23 May 2018 [CH3/30/22-25].
313 Commemoration hearing 23 May 2018 [CH3/30/25-31/1].
314 Commemoration hearing 23 May 2018 [CH3/31/6-9].
315 Commemoration hearing 23 May 2018 [CH3/31/9-10].
316 Commemoration hearing 23 May 2018 [CH3/32/3-6].
317 Commemoration hearing 23 May 2018 [CH3/32/7-10].
318 Commemoration hearing 23 May 2018 [CH3/32/10-13].
319 Commemoration hearing 23 May 2018 [CH3/34/19].
320 Commemoration hearing 23 May 2018 [CH3/34/19].

32.183 He remembered spending lots of time watching television with Ernie as children, and described how the band Earth, Wind and Fire reminded him of his brother. Ernie was a lively, engaging and expressive person who loved to dance. When he danced, his brother said, the universe flowed through him.[321]

Debbie Lamprell (Flat 161)

32.184 Deborah (Debbie) Lamprell lived in Flat 161. She was born on 3 August 1971 in Walthamstow, London and was 45 years old.

32.185 On 22 May 2018, Michael Volpe, of Holland Park Opera, delivered a commemoration on behalf of Debbie's mother, Miriam Lamprell.[322] It included a video recording from a memorial service held at Holland Park Opera, where Debbie worked as a safety officer.[323]

32.186 Debbie was an only child and grew up in Highams Park.[324] Her mother recalled that she was always extremely popular and loved other people's company.[325] The large park opposite their home was the perfect place for Debbie and her friends to play and Debbie would grumble at having to be the first person to go home, just because she lived so close.[326]

32.187 Debbie's parents encouraged her to do a variety of things, such as Sunday school, ballet and tap lessons, learning the guitar and taking trips to the theatre.[327] However, it was sport that Debbie adored: in particular, she played tennis and snooker and loved watching darts, snooker, drag racing and, as a Spurs fan, football.[328]

32.188 Debbie lived at home until she was 31.[329] Her mother recalled how Debbie had "worshipped" her dad, and that she was his "treasure" in return.[330] When her father passed away in 2010 it was difficult for both her and her mother, but the loss brought them closer together.[331] They were always in contact and Miriam would often stay with Debbie for up to a week at a time. Debbie would text her mother each night to let her know she was home safely.[332]

32.189 Debbie was an integral part of the team at Holland Park Opera. She was well-loved by staff, performers and patrons not just because she looked after them, but because she was always interested in them and their lives.[333] Holland Park Opera laid a stone at the theatre in Debbie's memory.[334]

32.190 Debbie's kindness touched the lives of many people; her mother believes that she was so positive not because of money or material things, but because she had her freedom, she did what she wanted to do and she loved people.[335]

321 Commemoration hearing 23 May 2018 [CH3/34/19].
322 Commemoration hearing 22 May 2018 [CH2/7/22-25].
323 Commemoration hearing 22 May 2018 [CH2/17/7].
324 Commemoration hearing 22 May 2018 [CH2/8/5-14].
325 Commemoration hearing 22 May 2018 [CH2/8/17-18].
326 Commemoration hearing 22 May 2018 [CH2/9/2-4].
327 Commemoration hearing 22 May 2018 [CH2/9/25-10/7].
328 Commemoration hearing 22 May 2018 [CH2/10/8-10].
329 Commemoration hearing 22 May 2018 [CH2/8/9-10].
330 Commemoration hearing 22 May 2018 [CH2/10/15-17].
331 Commemoration hearing 22 May 2018 [CH2/12/12-17].
332 Commemoration hearing 22 May 2018 [CH2/13/2-3].
333 Commemoration hearing 22 May 2018 [CH2/14/22-15/2].
334 Commemoration hearing 22 May 2018 [CH2/15/2-4].
335 Commemoration hearing 22 May 2018 [CH2/15/24-16/5].

Gary Maunders

32.191 Gary Maunders was visiting Debbie Lamprell on 14 June 2017. He was born on 4 January 1960 in London, the eldest of four children. He had lived in North Kensington all his life. He was 57 years old.

32.192 On 23 May 2018, Gary's former partner, Ana Pumar, and his nieces, Kenita and Channel Spence, presented their commemorations. A commemoration on behalf of his sister, Tammie Maunders, was presented on 30 May 2018.[336]

32.193 Tammie addressed her brother directly, telling him: "I hope you're with Dad, still nagging his ear off like you always did."[337] Gary was a great family man. Tammie said that their mum had always supported him and had his back and Tammie herself loved the bond he shared with her own children. She remembered Gary's funny ways and stories[338] and his love of Marvin Gaye.[339]

32.194 Ana and Gary had two children together.[340] She recalled how their early years as a couple were filled with happiness and laughter.[341] Gary was a devoted and loving father,[342] who considered his children to be his greatest achievement in life.[343] He was physically and verbally very affectionate to his children, and they knew how much he loved them as a result.[344] Gary was the life and soul of everything he did and everywhere he went.[345] He was a devoted Manchester United fan[346] with a great sense of humour.[347]

32.195 Gary's nieces remembered their uncle as a man with values and a huge character. They spoke of how involved he had been in their lives when they were growing up and the bonds he formed with the next generation of the family. A talented footballer in his youth, Gary became a painter and decorator. He was outgoing and quick-witted. His nieces remembered how they were sometimes on the receiving end of Gary's jokes. They shared memories of how the entire family would spend Christmas together and the family tradition of sitting around the kitchen table playing cards together. They fondly recalled how Gary took pride in his appearance and never liked to see a crease in his clothing. He would take great care to dress smartly and used to joke, "I've still got it, ain't I?" Similarly, he took great care to keep his home neat and tidy.[348]

32.196 In their video commemoration, Gary's nieces interviewed his mother. She and Gary had been very close and spoke every day. Gary's mother said that he would make sure that everyone around him was always laughing; she felt that "you could never be sad, not when he was around".[349]

336 Commemoration hearing 30 May 2018 [CH7/65/2].
337 Commemoration hearing 30 May 2018 [CH7/65/15-16].
338 Commemoration hearing 30 May 2018 [CH7/66/5].
339 Commemoration hearing 30 May 2018 [CH7/66/23].
340 Commemoration hearing 23 May 2018 [CH3/26/22].
341 Commemoration hearing 23 May 2018 [CH3/27/1-2].
342 Commemoration hearing 23 May 2018 [CH3/27/17-18].
343 Commemoration hearing 23 May 2018 [CH3/27/16-17].
344 Commemoration hearing 23 May 2018 [CH3/27/20-22].
345 Commemoration hearing 23 May 2018 [CH3/27/7].
346 Commemoration hearing 23 May 2018 [CH3/27/4-6].
347 Commemoration hearing 23 May 2018 [CH3/27/9].
348 Commemoration hearing 23 May 2018 [CH3/28/17].
349 Commemoration hearing 23 May 2018 [CH3/28/17].

7 Floor 18

Berkti and Biruk Haftom (Flat 155)

32.197 Berkti Haftom and her son, Biruk lived in Flat 155 with Berkti's partner, Michele Chiapetto. He was out on the night of the fire. Berkti's lodger, Yehualashet Enyew, survived the fire.[350]

32.198 Berkti was born on 2 November 1987 in Asmara, Eritrea. She was 29 years old. Biruk, was born on 27 April 2005. He was 12 years old.

32.199 A commemoration for Berkti and Biruk was given on behalf of their family on 29 May 2018. Berkti was one of eleven children growing up in Eritrea.[351] She was very young when she gave birth to her son Nahome and had to flee Eritrea as a result of the war in 1998.[352] Berkti's mother raised Nahome in Eritrea from the age of two.[353] Berkti settled in London, where her son Biruk was born.[354] She had a strong work ethic and most recently had worked in catering in the NHS.[355] Berkti's sisters, Negeste, Salam and Asiema also settled in the United Kingdom, where they became once again a close and loving family supporting each other.[356]

32.200 Berkti remained close to Nahome and spoke to him at least twice a week on the telephone whilst he was growing up. She sent money home to pay for his schooling, and Nahome recalled what a nice voice his mother had.[357] After Berkti's mother died in 2016, she was hoping to bring Nahome to London to live with her, but the plan never came to fruition.[358]

32.201 Biruk spent most of his life living in Grenfell Tower. He went to the nursery school in Clarendon Walk and to school nearby.[359] His aunts, Berkti's sisters, remember him playing with Lego cars, and how on occasions he would throw them all over the flat where they would all trip over them.[360] He was close to all his aunts and would call each of them "mummy", greeting them with a smile and a hug when they came to pick him up from nursery school.[361]

32.202 Biruk was described as having empathy for others, wise beyond his years and a very happy and contented little child.[362] He often talked of his brother, Nahome, and asked his mother if Nahome could come to live with them.[363] His family described him as a promising boy close to his cousins and with lots of friends. Biruk dreamed of being a professional footballer, and he supported Chelsea.[364] Biruk's aunts used to laugh because Biruk was "very British"; he did not like Eritrean food, and instead loved chicken and chips.[365]

32.203 Berkti was pregnant at the time of the fire.[366] Biruk was delighted that his mother was pregnant and was looking forward to having another sibling.[367]

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350 Semre witness statement [IWS00000954] p. 2.
351 Commemoration hearing 29 May 2018 [CH6/56/24].
352 Commemoration hearing 29 May 2018 [CH6/51/14-16]; [CH6/52/7-9].
353 Commemoration hearing 29 May 2018 [CH6/52/7].
354 Commemoration hearing 29 May 2018 [CH6/51/21-22].
355 Commemoration hearing 29 May 2018 [CH6/59/5-15].
356 Commemoration hearing 29 May 2018 [CH6/58/6-9].
357 Commemoration hearing 29 May 2018 [CH6/54/8-11].
358 Commemoration hearing 29 May 2018 [CH6/52/12-14].
359 Commemoration hearing 29 May 2018 [CH6/59/1-2].
360 Commemoration hearing 29 May 2018 [CH6/60/12-17].
361 Commemoration hearing 29 May 2018 [CH6/60/17-19].
362 Commemoration hearing 29 May 2018 [CH6/60/22-23].
363 Commemoration hearing 29 May 2018 [CH6/61/5-7].
364 Commemoration hearing 29 May 2018 [CH6/51/25]; [CH6/61/16-17].
365 Commemoration hearing 29 May 2018 [CH6/61/20-21].
366 Commemoration hearing 29 May 2018 [CH6/56/7].
367 Commemoration hearing 29 May 2018 [CH6/60/7-8].

Hamid Kani (Flat 154)

32.204 Hamid Kani lived in Flat 154. He was born on 24 January 1956 and was 61 years old.

32.205 On 29 May 2018, Masoud Shahabeddin read a commemoration for his cousin Hamid on behalf of their family.[368]

32.206 Hamid was born and brought up in Tehran, Iran, the youngest of four children. The baby of the family, he was adored by his mother and two older sisters and by all accounts he could wrap them around his little finger.[369]

32.207 Masoud described his cousin as someone who loved to make people laugh. Hamid was a real extrovert who enjoyed being surrounded by other people. His father was a shopkeeper and Masoud recalled the times when, growing up, he and Hamid would be left in charge of the shop whilst Hamid's father went out to buy more stock. Somehow, Hamid always tricked Masoud into doing all the work in the shop.[370]

32.208 The two cousins came to London in the 1970s to study. Once here, Hamid began to explore his love of the arts, acting and music. He went on to have a major role in the 1980s in comedies which were critical satires of the regime in Iran. The videos of these comedies became very popular in Iran and led to Hamid being blacklisted for some time by the Iranian government. He later changed careers, becoming a chef and sharing his love of cooking with customers in restaurants in London for many years.[371]

32.209 Although London was Hamid's adopted home,[372] he always looked forward to his annual visit to Tehran to see his family, all of whom were very important to him.[373] Knowing his love of Iran, Hamid's family ensured he was buried in his home country.[374]

32.210 Hamid was a happy and easy-going man. He used to say:

> "Everything's going to be all right in the end, and if it's not all right yet, it's because it's not the end".[375]

32.211 Masoud Shahabeddin told us that Hamid will always be remembered for his humour, his warmth, his smile, his love of family and his compassion for others.[376]

Isaac Paulos (Flat 153)

32.212 Isaac Paulos lived in Grenfell Tower with his mother Genet Shawo, his father Paulos Tekle, and his younger brother. He was born on 22 September 2011 at Chelsea and Westminster Hospital, London. He was 5 years old.

368 Commemoration hearing 29 May 2018 [CH6/69/8-10].
369 Commemoration hearing 29 May 2018 [CH6/69/19-23].
370 Commemoration hearing 29 May 2018 [CH6/69/23-70/4].
371 Commemoration hearing 29 May 2018 [CH6/70/13-19].
372 Commemoration hearing 29 May 2018 [CH6/70/24-25].
373 Commemoration hearing 29 May 2018 [CH6/71/14-15].
374 Commemoration hearing 29 May 2018 [CH6/72/3].
375 Commemoration hearing 29 May 2018 [CH6/71/3-6].
376 Commemoration hearing 29 May 2018 [CH6/70/4-6].

32.213 On 29 May 2018, Paulos Tekle[377] together with a relative, Nardos,[378] delivered a commemoration for Isaac. There was also a video tribute which featured other family members, including Isaac's mother Genet.[379] Isaac's cousin Helen recited a poem she had written.[380]

32.214 Paulos explained that, in Amharic, Isaac meant "joy" and "love". Isaac was his "spitting image" and they were very close.[381] Isaac would always be the first person to welcome Paulos through the door when he got home. He would jump into his arms and give him a big hug.[382] Teachers commented that Isaac "adored his dad", and was proud that he spoke the same language as his mother. He referred to Ethiopia as "my country". Although Genet would say that Isaac was a Chelsea supporter, he was really an Arsenal fan like his father.[383] Isaac was also close to his brother, who was only two years younger than him.[384]

32.215 Isaac was a talented boy[385] who loved Taekwondo, swimming, and football. He enjoyed school and would not leave his seat without finishing his homework.[386] Teachers recalled that he was especially gifted at maths and reading. He was the child who stood out in his year group, not only because of his intellectual capacity, but also his emotional maturity that could have taken him far in life.[387]

32.216 Isaac was very popular and loved spending time with his friends.[388] Nardos remembered how, when visiting her family, Isaac never wanted to leave their house. Isaac and her brother would always come up with plans to trick their parents into letting Isaac stay longer.[389] He used to make everyone laugh.

32.217 Judith Rashed, Isaac's teacher, read from Isaac's work: "I like to play outside and with the capes … and I know how to go on the tunnel and the climbing frame… My favourite toys are cars." With his friends, Isaac enjoyed playing "It", football, and "Duck, Duck, Goose". He was either going to be Professor Isaac or a footballer. His parents and teachers reflected that, either way, Isaac had a bright future ahead of him. He was very special.[390]

Sakina Afrasehabi and Fatemeh Afrasiabi (Flat 151)

32.218 Sakina Afrasehabi was born on 4 April 1952 in Iran. She was 65 years old. She lived in Flat 151 in Grenfell Tower.[391] Her sister, Fatemeh Afrasiabi, was born on 15 November 1957 in Iran. She was 59 years old. Fatemeh was staying with her sister on the night of 13 June 2017.

32.219 Sakina's children gave commemorations for their mother on 29 May 2018 and 30 May 2018. On that day there was also a video commemoration for Fatemeh featuring her friends and family presented by her son, Mohammad Samimi.

377 Commemoration hearing 29 May 2018 [CH6/40/18].
378 Commemoration hearing 29 May 2018 [CH6/45/11].
379 Commemoration hearing 29 May 2018 [CH6/48/8].
380 Commemoration hearing 29 May 2018 [CH6/47/2-48/5].
381 Commemoration hearing 29 May 2018 [CH6/40/21-24].
382 Commemoration hearing 29 May 2018 [CH6/48/8].
383 Commemoration hearing 29 May 2018 [CH6/48/8].
384 Commemoration hearing 29 May 2018 [CH6/40/24-25].
385 Commemoration hearing 29 May 2018 [CH6/45/2].
386 Commemoration hearing 29 May 2018 [CH6/45/21-24].
387 Commemoration hearing 29 May 2018 [CH6/48/8].
388 Commemoration hearing 29 May 2018 [CH6/48/8].
389 Commemoration hearing 29 May 2018 [CH6/46/2-5].
390 Commemoration hearing 29 May 2018 [CH6/48/8].
391 Mona Aghlani witness statement [IWS00000774] p. 1.

32.220 Nazanin Aghlani recalled that her mother, Sakina, had a happy childhood in Iran. One of six children, she was a bit of a tomboy with a mischievous sense of humour. As an adult she was able to travel in Europe.[392] Both Sakina and Fatemeh lived through the revolution and Iran-Iraq war in Iran, times where they faced bombings. Ultimately the family fled to Shiraz, a rural area of Iran, where they settled for some time and both sisters had children.[393]

32.221 Fatemeh's children spoke of the challenges the family faced in Shiraz. They were displaced and when their father found it difficult to find work, their hardworking mother would sometimes support the whole family from her income as a tailoress.[394]

32.222 Fatemeh loved her children very much and would do anything for them. Her daughter Masoumeh remembered her mother buying her a doll as a present when she was a little girl. She would sleep with the doll next to her because it made her remember the smile her mother wore when she gave it to her.[395]

32.223 Sakina moved to the United Kingdom in 1997 and saw it as a new beginning.[396] Her children recalled that as well as being kind and softly spoken,[397] she was a very charitable person who gave to those in need.[398] On one occasion, Sakina was visiting a friend's neighbour on a visit to Iran, when she noticed the family did not have a working fridge. She purchased one for them as well as several other household goods.[399]

32.224 Sakina was an excellent cook, and her daughter, Nazanin, spoke of her many "secret recipes".[400] Nazanin and her sister Mona especially enjoyed their mother's fish stew, an Iranian delicacy. Sakina also cooked for her neighbours in Grenfell Tower, and she soon became very popular.[401] Her daughter, Shiva, described her as "everyone's grandma".[402] Nazanin recalled that initially their mother was not pleased to be living in Grenfell Tower, but after redecorating her flat and settling in, she came to enjoy the height of the building, even purchasing binoculars so that everyone could enjoy the view.[403]

32.225 Shiva described how close Sakina was to her sister, Fatemeh, who had also moved to the United Kingdom. The two sisters were always together. Sakina had even bought a special seat which she had placed in front of her large windows so that they could sit together, chatting, enjoying snacks and looking out across London. Her mother described it as being better than any TV show.[404]

32.226 Fatemeh loved creativity and the arts; she was an excellent painter, but also used to make decorative flowers and dolls. Fatemeh's daughter, Raheleh, recalled many happy hours spent making things with her mother in the evenings. Fatemeh encouraged her grandchildren to be expressive and creative. Her granddaughters would draw designs for new Barbie Doll outfits, which Fatemeh would then make for them. Fatemeh's daughter, Sara, said that her mother had a beautiful voice and used to sing at home whilst doing the chores.[405]

392 Commemoration hearing 30 May 2018 [CH7/39/5-13].
393 Commemoration hearing 30 May 2018 [CH7/39/16-21].
394 Commemoration hearing 30 May 2018 [CH7/53/12].
395 Commemoration hearing 30 May 2018 [CH7/53/12].
396 Commemoration hearing 30 May 2018 [CH7/40/2-5].
397 Commemoration hearing 29 May 2018 [CH6/66/5].
398 Commemoration hearing 30 May 2018 [CH7/45/2-4].
399 Commemoration hearing 30 May 2018 [CH7/45/4-11].
400 Commemoration hearing 30 May 2018 [CH7/44/4-5].
401 Commemoration hearing 30 May 2018 [CH7/44/7-13].
402 Commemoration hearing 29 May 2018 [CH6/66/23/17-24].
403 Commemoration hearing 30 May 2018 [CH7/42/12-43/23].
404 Commemoration hearing 29 May 2018 [CH6/65/17-23].
405 Commemoration hearing 30 May 2018 [CH7/53/12].

32.227 Sakina and Fatemeh had a large and loving family who spoke fondly of their memories of them both.

8 Floor 17

Vincent Chiejina (Flat 144)

32.228 Vincent Chiejina lived in Flat 144. He was born on 1 June 1957 in Nigeria and was 60 years old. A video commemoration prepared by his sister, Obi Chiejina, was shown on 25 May 2018.

32.229 Vincent spent his early years in Nigeria before travelling to the United Kingdom with his mother Mary and his sister Maria.[406]

32.230 As a teenager he enjoyed science fiction and was an avid fan of Star Trek, making sure to watch it every Saturday. At school in Ramsgate, he excelled at mathematics and went on to study Electrical and Electronic Engineering at Sheffield University in the 1970s.[407]

32.231 Obi spoke of Vincent's kind nature, remembering that when she broke her leg as a child he went out and bought her a big bar of chocolate, but unfortunately of the wrong kind! He used to look after his sisters when their mother had to work as a nurse at night. He made them brush their teeth and tucked them in nicely.[408]

32.232 These acts of kindness permeated all aspects of Vincent's life. He was someone who was good at looking after people who were vulnerable. He would never reject anyone and was adept at spotting ways in which others needed support, quietly making them feel good about themselves. Vincent was a member of the 50+ Open Age group in North Kensington and was particularly good at making new members feel welcome. When any new person came into the room, wherever he was Vincent would stand up and offer his chair to them to ensure they felt included.[409]

32.233 Because of, and in spite of, his own vulnerabilities, Vincent was "ahead of the curve"; he made sure he guided other people to their paths. For that, his family thanked him.[410]

Khadija Khalloufi (Flat 143)

32.234 Khadija Khalloufi lived in Grenfell Tower with her husband Sabah Abdullah. She was born on 6 September 1964 and was 52 years old.

32.235 On 25 May 2018, Sabah Abdullah introduced a video commemoration that he had prepared for his wife. On 30 May 2018, a commemoration was read on behalf of her brother, Karim Khalloufi.[411]

32.236 Khadija was the eldest of seven siblings and grew up in Mohammedia in Morocco.[412] Her younger siblings thought of Khadija as a second mother because of her big heart and impressive sense of responsibility.[413] After finishing her schooling she obtained a degree in

406 Commemoration hearing 25 May 2018 [CH5/4/15].
407 Commemoration hearing 25 May 2018 [CH5/4/15].
408 Commemoration hearing 25 May 2018 [CH5/4/15].
409 Commemoration hearing 25 May 2018 [CH5/4/15].
410 Commemoration hearing 25 May 2018 [CH5/4/15].
411 Commemoration hearing 30 May 2018 [CH7/55/6].
412 Commemoration hearing 30 May 2018 [CH7/55/20-21].
413 Commemoration hearing 30 May 2018 [CH7/56/6-9].

accountancy and commerce in Casablanca before taking a job as manager of a pharmacy in Mohammedia.[414]

32.237 Khadija had ambitions to travel and work abroad and after several years moved to live with her uncle in Holland, before settling in London.[415] She found her first few years in the United Kingdom a challenge, not least because of the language barrier.[416] It was at a centre which assisted immigrants to integrate into society by offering them studies in English that Khadija met her future husband, Sabah Abdullah, who was originally from Iraq.[417]

32.238 Sabah fondly remembered how Khadija would look after everyone. His two children thought of her as their own mother; to them, he said, she was more than an angel. Khadija also supported Sabah's mother when she was unwell, often cooking and caring for her. He shared video footage showing Khadija painting their home in Grenfell Tower. Khadija would not let Sabah do it, because she thought he was too clumsy.[418]

32.239 Khadija and Sabah travelled regularly to see her family and friends across Europe.[419] She made sure she visited her family in Morocco two or three times a year.[420] Her brother Karim recalled that, despite being a strong, independent woman, Khadija never ceased to help her family emotionally or financially, and worked hard to support them in whatever way she could.[421] Sabah described Khadija as someone who would make everyone around her feel comfortable and who loved to make others laugh. She was a unique person.[422]

Kamru Miah, Rabeya Begum, Mohammed Hamid, Mohammed Hanif and Husna Begum (Flat 142)

32.240 Kamru Miah, Rabeya Begum, Mohammed Hamid, Mohammed Hanif and Husna Begum lived in Flat 142. Kamru and Rabeya's oldest son, Mohammed Hakim, lived nearby in London, but his wife Farhana lived with his family in Flat 142. She was not present on the night of the fire.[423]

32.241 Kamru Miah was born on 12 August 1937 in Sylhet, Bangladesh. He was 79 years old. He moved to the United Kingdom in 1963. Kamru was a retired baker and Tandoori chef.[424] Rabeya Begum was born on 15 November 1952 in Bangladesh. She was 64 years old. She came to London after marrying Kamru and was a housewife raising the couple's four children.[425]

32.242 Mohammed Hamid, born on 19 January 1989, was 28 years old. Mohammed Hanif, born on 20 February 1991, was 26 years old. Husna Begum, born on 4 February 1995, was 22 years old.

32.243 On 24 May 2018, Mohammed Hakim gave a commemoration for his parents and three siblings. He explained that his father had moved from Bangladesh to London in 1963 in the hope of a better life.[426] There was nothing more important to Kamru than his family and his

414 Commemoration hearing 30 May 2018 [CH7/56/17-23].
415 Commemoration hearing 30 May 2018 [CH7/57/5-16].
416 Commemoration hearing 30 May 2018 [CH7/57/17-20].
417 Commemoration hearing 25 May 2018 [CH5/52/1].
418 Commemoration hearing 25 May 2018 [CH5/52/1].
419 Commemoration hearing 25 May 2018 [CH5/52/1].
420 Commemoration hearing 30 May 2018 [CH7/59/21-25].
421 Commemoration hearing 30 May 2018 [CH7/60/14-18].
422 Commemoration hearing 25 May 2018 [CH5/52/1].
423 Hakim first witness statement [IWS00000019] pp. 1-3.
424 Commemoration hearing 24 May 2018 [CH4/20/7-11].
425 Commemoration hearing 24 May 2018 [CH4/23/7-9].
426 Commemoration hearing 24 May 2018 [CH4/20/7-10].

religion.[427] He gave his children the best of everything and liked to take them to parks around Chelsea and the neighbouring area while they were growing up. On those trips he would always buy his children more ice cream than they could eat.[428]

32.244 Kamru was someone with a heart of gold who made everyone his friend. He had a gentle and sweet nature, was well-respected by his family and in his community, and would always help anyone in need.[429] He especially loved both nature programmes and action movies; James Bond films were a particular favourite, especially those featuring Sean Connery or Roger Moore.[430]

32.245 Hakim recalled how his father was not only good to his children, but also to his wife, Rabeya,[431] who in turn was loyal and loving to Kamru, not leaving his side when he fell ill.[432]

32.246 Hakim described Rabeya as a generous, caring and loving mother.[433] She was the person the children would run to after a fall and who would "kiss everything better" and "scare away the monsters from under our bed with a giggle". Hakim and his siblings always felt safe with Rabeya.[434] As adults they would go to her for advice and wisdom and she was always able to give them individual attention and care.[435]

32.247 Rabeya was also a fantastic cook, who would add her magic touch to each dish she created. Hakim's favourite was lamb curry and he told us that his mum would make it the best. She filled the flat with her laughter and jokes, and had a beaming smile that could put anyone at their ease.[436]

32.248 Speaking of his brother Hamid, Hakim recalled favourite moments from their childhood, from looking for ants and building them fortresses with moss and sticks to riding in their cousin's car together as teenagers. Hamid had a fun-loving personality and was a fascinating person to talk to.[437]

32.249 Hamid was his mother's friend and his father's guardian angel. He cared for Kamru following his strokes[438] and always took the time to make sure his mother was OK and to laugh with her. He cared deeply for all his family; his brothers were his best friends, and his sister Husna was his buddy. He could make them all laugh for hours.[439] Hamid was a loyal friend with a lion heart. To Hakim, it sometimes felt like Hamid was the older brother because of the wise advice he offered.[440]

32.250 Hakim also told us how he benefited from the friendly advice of his younger brother, Hanif.[441] Hanif had a gentle and kind approach to those around him and like his mother he quickly

427 Commemoration hearing 24 May 2018 [CH4/21/5-7].
428 Commemoration hearing 24 May 2018 [CH4/21/13-18].
429 Commemoration hearing 24 May 2018 [CH4/22/2-12].
430 Commemoration hearing 24 May 2018 [CH4/21/19-22/1].
431 Commemoration hearing 24 May 2018 [CH4/21/5].
432 Commemoration hearing 24 May 2018 [CH4/24/6-8].
433 Commemoration hearing 24 May 2018 [CH4/23/10-11].
434 Commemoration hearing 24 May 2018 [CH4/23/13-18].
435 Commemoration hearing 24 May 2018 [CH4/23/18-19].
436 Commemoration hearing 24 May 2018 [CH4/23/21-24/4].
437 Commemoration hearing 24 May 2018 [CH4/24/21-25/2].
438 Commemoration hearing 24 May 2018 [CH4/25/3-9].
439 Commemoration hearing 24 May 2018 [CH4/25/11-15].
440 Commemoration hearing 24 May 2018 [CH4/25/17-23].
441 Commemoration hearing 24 May 2018 [CH4/26/14-16].

made others feel comfortable and at their ease.[442] Hanif was passionately committed to his faith and to God, which shone through in his commitment to helping others in need.[443]

32.251 Hanif was also very creative: he had a talent for drawing and particularly loved animation. He often spent time making beautiful images for his family. Not only did he love creating his own animations, he enjoyed watching Marvel and sci-fi films. He also enjoyed playing PlayStation, sometimes with his brothers.[444]

32.252 Husna was the youngest of the siblings. Hakim recalled bringing her home from the hospital after she was born and holding her in his arms; he was full of joy at having a baby sister.[445] He described Husna as the epitome of adventure and spirit; one of her ambitions was to travel and see the world.[446] She learned about the world around her through studying history, but also enjoyed creative writing.[447] She had a cheeky sense of humour, just like her parents and brothers.[448]

32.253 Husna was a thoughtful friend and sister, never forgetting an anniversary or birthday.[449] Like her mother she was an excellent cook. She could always get a new recipe right first time and if anyone ever ate her food, they would always ask for more.[450] Hakim said that Husna was the best sister anyone could ask for.[451]

32.254 Hakim ended his commemoration by explaining how proud he is that his family remained so close in their final moments: his siblings stood by his elderly parents, rather than attempting to escape themselves. His family were the bravest amongst everyone he knows.[452]

9 Floor 16

Joseph Daniels (Flat 135)

32.255 Joseph Daniels moved into Flat 135 with his family in 1983. He was born on 10 February 1948 and was 69 years old. In June 2017, Joseph Daniels shared Flat 135 with his son Samuel who was his carer.[453]

32.256 Samuel Daniels gave a short commemoration for his father on 21 May 2018. He said that Grenfell Tower had been his father's only home since he moved to London in 1982.[454]

Sheila (Flat 132)

32.257 Sheila lived alone in Flat 132 on floor 16 of Grenfell Tower. She was born on 17 September 1932 and was 84 years old.

32.258 Sheila's family did not wish to give a commemoration in May 2018.

442 Commemoration hearing 24 May 2018 [CH4/26/11-16].
443 Commemoration hearing 24 May 2018 [CH4/26/17-18].
444 Commemoration hearing 24 May 2018 [CH4/26/19-25].
445 Commemoration hearing 24 May 2018 [CH4/27/21-25].
446 Commemoration hearing 24 May 2018 [CH4/27/9-11].
447 Commemoration hearing 24 May 2018 [CH4/27/12-13].
448 Commemoration hearing 24 May 2018 [CH4/27/19-21].
449 Commemoration hearing 24 May 2018 [CH4/27/18-19].
450 Commemoration hearing 24 May 2018 [CH4/27/13-17].
451 Commemoration hearing 24 May 2018 [CH4/28/1-2].
452 Commemoration hearing 24 May 2018 [CH4/28/9-21].
453 Daniels first witness statement [IWS00000608] pp. 1-5.
454 Commemoration hearing 21 May 2018 [CH1/49/14-15].

10 Floor 15

Steven Power (Flat 122)

32.259 Steven Power lived in Flat 122 on floor 15 with his children, Bobby and Rebecca, and their three dogs, Stevie, Diva and Jess.[455] Known as Steve, he was born on 18 August 1953 in London.[456] He was 63 years old.

32.260 On 25 May 2018, Steve's former partner, Claudia Davis, and his daughter, Sherrie Power, gave a commemoration on behalf of his family.[457]

32.261 Steve's family originated from Waterford in Ireland.[458] However, he grew up in Ladbroke Grove and by June 2017 had lived in Grenfell Tower for 32 years.[459] He was a retired driver and a keen DJ.[460] He had five children: Wayne Power-Davis, Craig Power, Sherrie Power, Bobby Ross and Rebecca Ross.[461]

32.262 Steve's love of music was a dominant factor in his life. His daughter Sherrie remembered how friends and family would often come round to listen to music, eat good food and enjoy themselves.[462] Steve exposed his children to a wide variety of music. When DJ'ing he would shout things such as "rewind" and "Rastafari", which led his children to tell him he was a West Indian man trapped in an Irishman's body.[463]

32.263 Steve also loved to fish. He would fish along the canal in Ladbroke Grove and always took his radio and a flask of Tetleys with him, because he believed that that was the only tea anyone should drink. He loved to tell stories of the fish he had caught and his front room was filled with photographs of his catches over the years.[464]

32.264 Steve enjoyed playing jokes. Sherrie recalled how he particularly loved winding up his friend JJ with her.[465] Despite his pranks, Steve was a genuine man with a good heart.[466] In addition to his children, Steve considered his dogs to be part of the family. He was given Diva by a friend because her previous owners had not treated her properly. Steve took it upon himself to look after Diva. As a result of his care all three dogs were extremely friendly and liked to socialise with people. He even became known locally as "the man with the dogs".[467]

32.265 Sherrie described her father as "just high on life" and nothing short of a character: someone about whom everyone always had a story to tell.[468] She said that Steve was like Marmite; he was outspoken and direct and would fight for his family and what he believed was right.[469] Sherrie had no doubt that, if Steve were here, he would be chairman of Grenfell United:

> "He was a man of the people, especially for the neighbours and residents of Grenfell."[470]

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455 Ross witness statement [IWS00001036] p. 5.
456 Commemoration hearing 25 May 2018 [CH5/106/19].
457 Commemoration hearing 25 May 2018 [CH5/104/20-24].
458 Commemoration hearing 25 May 2018 [CH5/106/19-22].
459 Commemoration hearing 25 May 2018 [CH5/111/16-18].
460 Commemoration hearing 25 May 2018 [CH5/107/3-8].
461 Commemoration hearing 25 May 2018 [CH5/104/20-24].
462 Commemoration hearing 25 May 2018 [CH5/107/9-13].
463 Commemoration hearing 25 May 2018 [CH5/107/17-24].
464 Commemoration hearing 25 May 2018 [CH5/110/9-23].
465 Commemoration hearing 25 May 2018 [CH5/108/9-12].
466 Commemoration hearing 25 May 2018 [CH5/112/2-3].
467 Commemoration hearing 25 May 2018 [CH5/109/11-22].
468 Commemoration hearing 25 May 2018 [CH5/108/9]; [CH5/109/24-110/2].
469 Commemoration hearing 25 May 2018 [CH5/108/17-109/10]; [CH5/112/1-2].
470 Commemoration hearing 25 May 2018 [CH5/111/22-112/10].

11 Floor 14

Zainab Deen and Jeremiah Deen (Flat 115)

32.266 Zainab Deen lived in Flat 115 with her son, Jeremiah. She was born on 25 May 1985 in Sierra Leone.[471] She was 32 years old. Jeremiah was born on 4 December 2014 at Chelsea and Westminster Hospital, London.[472]

32.267 On 23 May 2018 a commemoration for Zainab and Jeremiah was read on behalf of Zainab's parents, Zainu and Hannah.[473]

32.268 Zainab grew up in Freetown, the capital of Sierra Leone; her ambitions were to travel abroad and to become a pop star.[474] She achieved the former after she finished school and moved to the United Kingdom aged 16.[475]

32.269 The family described how Zainab "had it all": she had a lively personality and a great sense of humour, enjoyed by all who met her. She was a smart, warm, outgoing and caring person. Zainab came from a loving family, in which she had a special place as her grandparents' first grandchild.[476]

32.270 In a message to his daughter, Zainu told her that he was so proud to be able to call her his daughter and that the family were grateful for the brief time they had had with her.[477]

32.271 Zainab's son, Jeremiah, was two and a half years old at the time of the fire. He attended Clare Garden Nursery and was loved by all.[478] The family recalled how he was overprotected by his mother, who treasured and adored him.[479]

32.272 Jeremiah loved to explore and go on adventures and enjoyed playing football. He was a very loving and handsome little boy, who was full of life and brought his family much happiness.[480]

32.273 Zainab and Jeremiah's family said how glad they are that Zainab and Jeremiah are together and that they are sure Zainab will continue to keep Jeremiah safe, just as she protected him in life.[481]

Mohammad Alhajali (Flat 112)

32.274 Mohammad Alhajali lived in Flat 112 with his brother, Omar Alhaj Ali, and their childhood friend, Mahmoud Al-Karad.[482]

32.275 Mohammad was born on 27 November 1993 in Damascus, Syria. He was 23 years old. In June 2017 he was working while also studying engineering at university.[483]

471 Commemoration hearing 23 May 2018 [CH3/18/23].
472 Commemoration hearing 23 May 2018 [CH3/19/20-22].
473 Commemoration hearing 23 May 2018 [CH3/17/19-18/7].
474 Commemoration hearing 23 May 2018 [CH3/18/24-19/2].
475 Commemoration hearing 23 May 2018 [CH3/19/2-3].
476 Commemoration hearing 23 May 2018 [CH3/19/3-11].
477 Commemoration hearing 23 May 2018 [CH3/19/12-18].
478 Commemoration hearing 23 May 2018 [CH3/19/19-25].
479 Commemoration hearing 23 May 2018 [CH3/19/25-20/1].
480 Commemoration hearing 23 May 2018 [CH3/20/1-9].
481 Commemoration hearing 23 May 2018 [CH3/20/9-14].
482 Al-Karad witness statement [IWS00000821] p. 1; Alhaj Ali witness statement [IWS00000781] p. 1.
483 Commemoration hearing 29 May 2018 [CH6/75/17-19].

32.276 On 29 May 2018, Mohammad's brother Hashem Alhajali,[484] his friend Mahmoud Al-Karad[485] and Mohammad's father, Nidal Alhajali,[486] gave a commemoration on behalf of Mohammad's entire family.

32.277 Mohammad grew up in Daraa, a small city in the south of Syria. He was the second eldest of five children. He had two brothers, Omar and Hashem, and two sisters, Kenda and Sham.[487] Mohammad's father, Nidal, remembered how, even from a young age, Mohammad would naturally think of others. When he received his pocket money, he would buy four lollipops and give one to each of his siblings, rather than having any himself.[488]

32.278 Mohammad's brother, Hashem, spoke of how Mohammad always loved to be grown up. Even as a child he would want to wear suits to be like their father. Sometimes he would even put his father's suit on, despite it being far too big for him.[489]

32.279 Mohammad left Syria with his brother Omar and arrived in the UK in 2014.[490] Omar explained that he and Mohammad were only a year apart in age and had one of those rare relationships where they could share absolutely everything.[491] Mohammad was close to his other family members as well. He spoke to his family in Syria every day, telling his sisters that he loved London, but that it was very cold compared to Syria.[492]

32.280 Mahmoud described Mohammad as good-natured, ambitious and a perfectionist. He hoped to become an engineer and build a life for his family in the United Kingdom.[493]

32.281 To that end he was engaged to be married to Amal Al Huthaifi, whom he had met at work. Amal recalled how Mohammad and his huge smile had made her look forward to going to work and how he had a real presence in any room he entered. Mohammad always supported and encouraged her. Even now, if she feels she cannot accomplish something, she thinks of Mohammad and knows that he would tell her she can do anything she wants.[494]

32.282 Mohammad's family's tribute to him painted a picture of a sociable, fun-loving and thoughtful person who was a big part of each of their lives. His mother, Heam, said of her son:

> "He was distinguished in every way… his smile never leaves me."[495]

Denis Murphy (Flat 111)

32.283 Denis Murphy lived alone in Flat 111. He was born on 10 October 1960 at Queen Charlotte's Hospital in Hammersmith. He was 56 years old.

32.284 On 21 May 2018, Denis's sister, Anne Murphy, gave a commemoration on behalf of his family.[496]

32.285 Denis's mother was also called Anne. He was the eldest of her four children. As well as his sister, Denis had two brothers, Mick and Tim.

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484 Commemoration hearing 29 May 2018 [CH6/73/2274/1].
485 Commemoration hearing 29 May 2018 [CH6/75/2-3].
486 Commemoration hearing 29 May 2018 [CH6/77/9-10].
487 Commemoration hearing 29 May 2018 [CH6/77/17-78/2].
488 Commemoration hearing 29 May 2018 [CH6/78/8-13].
489 Commemoration hearing 29 May 2018 [CH6/74/22].
490 Alhaj Ali witness statement [IWS00000781] p. 1.
491 Commemoration hearing 29 May 2018 [CH6/74/22].
492 Commemoration hearing 29 May 2018 [CH6/74/22].
493 Commemoration hearing 29 May 2018 [CH6/75/14-22].
494 Commemoration hearing 29 May 2018 [CH6/74/22].
495 Commemoration hearing 29 May 2018 [CH6/74/22].
496 Commemoration hearing 21 May 2018 [CH1/22/14-29/9].

32.286 The family lived in North Kensington until 1968. They then moved to Dorking and subsequently Gravesend. The family returned to West London in 1977.[497] At school, Denis excelled in history and maths, but his true passion was for sports, in particular football, cross-country and distance running. He ran for his school and district and won many medals and trophies.[498]

32.287 Anne recounted how Denis's running skills came in handy outside school too. Once, when Denis was just 10, his brother Mick lost his bus fare. Denis gave Mick his bus money and then ran the five mile journey home.[499] To his siblings, Denis was a caring big brother. As their father was not in their lives, Denis took on additional responsibility in the family. He had had a very strong set of values, which he not only adhered to himself, but instilled in his siblings, including good manners, respect for others, to help and care for others and to love each other. Anne felt that Denis had nurtured and taught his siblings to become the adults they are today.[500]

32.288 Denis had left school by the time the family moved back to West London. He had trials with Crystal Palace and Charlton Athletic football clubs but did not become a professional footballer. He worked as a painter and decorator until his health forced him to retire.[501]

32.289 Aged 22, Denis met his future wife, Tracey and in 1984 they moved into Grenfell Tower. Their only child, Peter, was born in 1989. The family lived in Mitcham and Tooting while Peter was young. After Denis and Tracey amicably separated, he moved back to Grenfell Tower in 1997, where he remained for the next 20 years.[502]

32.290 Denis was extremely close to his family; he would talk to or visit his mother daily and he would speak to his son and his siblings at least once a week. His sister Anne recalled how he would always end his calls to her with "Love you, sis".[503]

32.291 Denis's keen interest in sports continued into adulthood. He played Sunday League football into his thirties and though health problems stopped him playing sport in later life,[504] he continued to help out at his local boxing club.[505] Denis was an avid Chelsea supporter and even travelled to Europe several times to see them play. He had many light-hearted debates with his son Peter about their respective clubs and he always took great delight in Chelsea beating Peter's team, Tottenham.[506]

32.292 Many people around Denis benefited from his caring nature. Not only was he considered the "heart" of the Murphy family,[507] always putting others first and regularly carrying out errands for his elderly mother who lived nearby,[508] but he also carried out voluntary work within the local community. He worked with adults with learning disabilities, supporting them to take part in activities in the community.[509] To his family Denis was their hero; there was no better role model.[510]

497 Commemoration hearing 21 May 2018 [CH1/22/24-24/5].
498 Commemoration hearing 21 May 2018 [CH1/23/3-13].
499 Commemoration hearing 21 May 2018 [CH1/23/14-18].
500 Commemoration hearing 21 May 2018 [CH1/23/19-24/2].
501 Commemoration hearing 21 May 2018 [CH1/24/3-14].
502 Commemoration hearing 21 May 2018 [CH1/24/20-25/7].
503 Commemoration hearing 21 May 2018 [CH1/27/11-18].
504 Commemoration hearing 21 May 2018 [CH1/24/11-14].
505 Commemoration hearing 21 May 2018 [CH1/27/3-5].
506 Commemoration hearing 21 May 2018 [CH1/26/19-27/2].
507 Commemoration hearing 21 May 2018 [CH1/25/16].
508 Commemoration hearing 21 May 2018 [CH1/27/7-10].
509 Commemoration hearing 21 May 2018 [CH1/24/15-19].
510 Commemoration hearing 21 May 2018 [CH1/28/7-9].

12 Floor 11

Ali Yawar Jafari (Flat 86)

32.293 Ali Yawar Jafari moved into Flat 86 with his wife Fatima, and daughters Maria and Nadia Jafari in 2003.

32.294 He was born on 1 January 1936 in Kandahar, Afghanistan and was 81 years old. The family built a happy life in London and Ali enjoyed living here.[511]

32.295 On 23 May 2018, Fatima and her children shared their memories of Ali Yawar in a video commemoration.[512] His daughter, Maria, and son, Hamid, also spoke of the impact of the loss of their father.[513]

32.296 Fatima said Ali Yawar was the "love of my life". Nadia, Maria and Hamid described their father as a calm and gentle man. Maria, in particular, remembered that he would never refuse his children anything when they were growing up. He was happiest when his family were together. Mealtimes were a big part of family life and were often filled with laughter.[514]

32.297 Ali Yawar loved travelling; he visited Iran and Germany and took a holiday in America with his son Hamid in 2012. Together with his wife Fatima he was able to make the Hajj pilgrimage to Mecca. Fatima recalled how, the day after the fire, she met a couple who told her that Ali had brought their son, who had had cancer at the time, some holy water and dates from that trip. They told her they had always remembered his kindness.[515]

32.298 Ali Yawar was also fond of animals and gardening. Fatima remembered one occasion where he saw a pigeon with string tied around its legs. He waited for days to catch it and cut the string off. He told his family that he was pleased the pigeon was now free to go wherever it wanted.[516]

32.299 Ali Yawar was someone who could communicate with everyone, despite language barriers, because of his kindness and generosity towards others. He would always put others before himself. He had a particularly close bond with his grandson and Hamid told us that, when he holds his son now, he thinks of his father.[517]

32.300 The family are proud of Ali Yawar's desire to wake and warn his neighbours on the night of the fire and Hamid explained that they are glad that every year people around the world will remember him and know that he was a good person.[518]

Abdeslam Sebbar (Flat 81)

32.301 Abdeslam Sebbar lived alone in Flat 81 Grenfell Tower. He was born on 11 September 1939 and was 77 years old.

32.302 His family did not wish to give a commemoration for him in May 2018.

511 Commemoration hearing 23 May 2018 [CH3/22/25].
512 Commemoration hearing 23 May 2018 [CH3/22/25].
513 Commemoration hearing 23 May 2018 [CH3/22/10-24/20].
514 Commemoration hearing 23 May 2018 [CH3/22/25].
515 Commemoration hearing 23 May 2018 [CH3/22/25].
516 Commemoration hearing 23 May 2018 [CH3/22/25].
517 Commemoration hearing 23 May 2018 [CH3/22/25].
518 Commemoration hearing 23 May 2018 [CH3/22/25].

Part V
Recommendations

Chapter 33
Recommendations

1 Introduction

33.1 Phase 1 of the Inquiry has been concerned with investigating the cause of the fire, its subsequent development and the steps taken by the LFB and the other emergency services in response to it. In the course of it I have touched on the training given to the firefighters and CROs in relation to responding to fires in high-rise buildings and other incidents of a kind that may generate a significant number of calls from people seeking advice and assistance. Phase 2 will involve a more detailed examination of certain aspects of the management of the LFB (in particular its understanding of modern methods of construction and of the way in which some of the materials currently in use behave when exposed to fire) and the steps that were taken to train its officers to respond to fires in high-rise buildings. However, the evidence put before me in Phase 1 is already sufficient to demonstrate that a number of improvements can be made both in the way in which high-rise residential buildings are designed, constructed, approved and managed and in the way in which fire and rescue services respond to fires in such buildings.

33.2 The core participants and the experts who gave evidence in Phase 1 have suggested many steps which in their view can and should be taken to improve the safety of those who live in high-rise buildings and should therefore form the subject of immediate recommendations. However, they exhibited a wide divergence of views. It is important that any recommendations I make at this, or indeed any other, stage should be based firmly on the facts that have emerged from the evidence obtained by the Inquiry in the course of its investigations. I also think it important that they command the support of those who have experience of the matters to which they relate. Recommendations that are not grounded in the facts are of no value and recommendations that do not command the support of those who are experts in the field are likely to be ignored and, if not ignored, risk giving rise to adverse unintended consequences.

33.3 The recommendations set out below are therefore based entirely on the evidence I have heard in relation to the particular issues that were investigated in Phase 1 and on the findings and conclusions I have been able to reach in this report. They do not attempt to anticipate the evidence to be called in Phase 2 or the conclusions that may be drawn from it, and when deciding what recommendations should be made at this stage I have had regard in particular to their capacity for making a significant contribution to the safety of those who live in high-rise buildings. I am grateful to those of the core participants who made submissions on this subject, all of which I have considered carefully before making my recommendations. I refer to some of them in more detail in later paragraphs.

33.4 In England and Wales, high-rise buildings have conventionally been defined for the purposes of fire safety as buildings over 18 metres in height. In Scotland, however, the regulations have recently been changed so that the requirements relating to high-rise buildings apply to buildings over 11 metres in height. It is for consideration whether the position in England should now also be changed and, if so, what height should be adopted for that purpose. However, that question was not the subject of examination in Phase 1 and it is therefore not possible for me to make a recommendation about it at this stage. It is, however, a matter which will be examined in Phase 2.

33.5 When considering steps that might be taken to improve safety in relation to high-rise buildings generally it is important not to lose sight of certain matters. The first is that, although not unprecedented, fires of the kind that occurred at Grenfell Tower are rare. The widespread use of combustible rainscreen cladding panels and insulation on the exterior of buildings and the introduction of new kinds of building materials in external walls may have increased the risk of similar fires, but improvements in the regulations relating to fire safety and the requirements for testing and certification of materials, which will be a particular focus of attention in Phase 2, should be capable of mitigating that risk in the future. Effective compartmentation is likely to remain at the heart of fire safety strategy and will probably continue to provide a safe basis for responding to the vast majority of fires in high-rise buildings. However, in the case of some high-rise buildings it will be necessary for building owners and fire and rescue services to provide a greater range of responses, including full or partial evacuation. Appropriate steps must therefore be taken to enable alternative evacuation strategies to be implemented effectively.

2 Use of combustible materials

33.6 It is clear that the use of combustible materials in the external wall of Grenfell Tower, principally in the form of the ACM rainscreen cladding, but also in the form of combustible insulation, was the reason why the fire spread so quickly to the whole of the building. Surveys undertaken since the fire have established that external wall materials similar to those used on Grenfell Tower have been used on over 400 other high-rise residential buildings around the country. From the evidence put before me in Phase 1, two very important matters have come to light: first, that in its origin the fire at Grenfell Tower was no more than a typical kitchen fire; second, that the fire was able to spread into the cladding as a result of the proximity of combustible materials to the kitchen windows. It is not possible to say whether the same or a similar combination of design and materials is to be found on any other buildings, but it would be sensible for those responsible for high-rise buildings with similar cladding systems, if they have not already done so, to check whether the same or a similar combination exists. However, even if they do not, fires can occur in a wide variety of circumstances and in cases where the exterior walls of the building include combustible materials of a similar kind, might gain access to it by a variety of different routes. It is not surprising, therefore, that people living in such buildings are concerned for their safety. It is unnecessary for me to recommend that panels with polyethylene cores on the exterior of high-rise buildings be removed as soon as possible and replaced with materials of limited combustibility because it is accepted that that must be done. It is essential that it be done as quickly as possible and concern has been voiced publicly, most recently by the House of Commons Communities and Local Government Select Committee, about the apparently slow rate of progress in carrying out the work.[1] In the light of what has been learnt in Phase 1 about the behaviour of ACM panels with polyethylene cores when exposed to fire, I wish to add my voice to that of the committee in expressing the view that the programme of remedial work should be pursued as vigorously as possible. In view of the part played by the architectural crown in the spread of the fire at Grenfell Tower, particular attention must be paid to decorative features composed of combustible materials.

33.7 It has been suggested by certain core participants that I should recommend that no materials be permitted for use in the external walls of high-rise buildings that are not of Euro class A1 (the highest classification of reaction to fire in accordance with BS EN 13501-1). That is a matter on which views differ, however, and following a consultation the government has already prohibited the use on certain types of new buildings of materials whose classification

[1] https://publications.parliament.uk/pa/cm201719/cmselect/cmcomloc/2546/254602.htm

of reaction to fire is lower than A2s1, d0. Having regard to the outcome of that consultation, and in the absence of any examination of the competing views, I do not think it appropriate at this stage for me to recommend any change to the regulations in this respect. Nor, for similar reasons, do I think it appropriate for me to recommend an immediate moratorium on the use of materials of Euro class A2 pending the outcome of Phase 2 of the Inquiry, despite the submissions pressed upon me by some of the core participants.

3 Testing and certification of materials

33.8 The regulation of the use of materials and products by reference to their fire classification depends to a large extent on the efficacy of the testing requirements and how they are interpreted by professionals. Early in Phase 2, the Inquiry will investigate the methods of testing and certifying materials for use in high-rise buildings. It will also investigate whether a prescriptive regime is the most effective way in which to ensure the safety of those who live and work in high-rise buildings and whether the current guidance on how to comply with the Building Regulations is sufficiently clear and reliable. None of those questions have been examined in Phase 1 and at this stage, therefore, I am not in a position to make any recommendations about any of those matters.

4 Fire and rescue services: knowledge and understanding of materials used in high-rise buildings

33.9 Although some senior officers within the LFB were aware of the dangers of cladding fires in high-rise buildings, the majority, particularly at the more junior levels, were unaware of them and were not trained to recognise the nature of the fire that occurred at Grenfell Tower. Moreover, the LFB was unaware of the combustible nature of the materials used in the cladding of Grenfell Tower and was therefore not in a position to formulate a contingency plan for a fire of this kind.

33.10 A sound understanding of the materials used in the construction of any high-rise building is essential if the fire and rescue service is to be properly prepared to carry out its function in relation to that building. The risk of fire of the kind that occurred at Grenfell Tower may be low, but knowledge is the key to proper planning and effective training. **I therefore recommend**:

a. that the owner and manager of every high-rise residential building be required by law to provide their local fire and rescue service with information about the design of its external walls together with details of the materials of which they are constructed and to inform the fire and rescue service of any material changes made to them;

b. that all fire and rescue services ensure that their personnel at all levels understand the risk of fire taking hold in the external walls of high-rise buildings and know how to recognise it when it occurs.

5 Section 7(2)(d) of the Fire and Rescue Services Act 2004

33.11 Section 7(2)(d) imposes a general duty on fire and rescue authorities to make arrangements for obtaining information needed for the purposes of extinguishing fires and protecting life and property. The LFB appears to have thought that it required nothing more than sending crews to inspect individual buildings in accordance with Appendix 1 to PN633. However,

this essential duty is not circumscribed in that way. Moreover, crews who visited Grenfell Tower during its refurbishment were not trained to carry out the inspections properly: see Chapter 27, paragraphs 24-27. **I therefore recommend**:

a. that the LFB review, and revise as appropriate, Appendix 1 to PN633 to ensure that it fully reflects the principles in GRA 3.2;

b. that the LFB ensure that all officers of the rank of Crew Manager and above are trained in carrying out the requirements of PN633 relating to the inspection of high-rise buildings.

6 Plans

33.12 No plans of the internal layout of the building were available to the LFB until the later stages of the fire. However, because each floor of the building above floor 3 was laid out in the same way, the LFB was not unduly hampered in its attempt to fight the fire and rescue occupants by the absence of those plans. In another case, however, the lack of floor plans might easily have far more serious consequences. It should be a simple matter for the owners or managers of high-rise buildings to provide their local fire and rescue services with current versions of such plans. **I therefore recommend** that the owner and manager of every high-rise residential building be required by law:

a. to provide their local fire and rescue services with up-to-date plans in both paper and electronic form of every floor of the building identifying the location of key fire safety systems;

b. to ensure that the building contains a premises information box, the contents of which must include a copy of the up-to-date floor plans and information about the nature of any lift intended for use by the fire and rescue services.

I also recommend, insofar as it is not already the case, that all fire and rescue services be equipped to receive and store electronic plans and to make them available to incident commanders and control room managers.

7 Lifts

33.13 When the firefighters attended the fire at Grenfell Tower they were unable to operate the mechanism that should have allowed them to take control of the lifts. Why that was so is not yet known, but it meant that they were unable to make use of the lifts in carrying out firefighting and search and rescue operations. It also meant that the occupants of the tower were able to make use of the lifts in trying to escape, in some cases with fatal consequences. The ability of fire and rescue services to take control of firefighting or fire lifts in a high-rise building is often key to successful operations. **I therefore recommend**:

a. that the owner and manager of every high-rise residential building be required by law to carry out regular inspections of any lifts that are designed to be used by firefighters in an emergency and to report the results of such inspections to their local fire and rescue service at monthly intervals;

b. that the owner and manager of every high-rise residential building be required by law to carry out regular tests of the mechanism which allows firefighters to take control of the lifts and to inform their local fire and rescue service at monthly intervals that they have done so.

8 Communication between the control room and the incident commander

33.14 The evidence shows that although both national policy and the LFB's policies call for a free flow of information between the control room and the incident commander, in practice that does not occur, at least when one or the other (or both) are operating under significant pressure. **I therefore recommend**:

a. that the LFB review its policies on communications between the control room and the incident commander;

b. that all officers who may be expected to act as incident commanders (i.e. all those above the rank of Crew Manager) receive training directed to the specific requirements of communication with the control room;

c. that all CROs of Assistant Operations Manager rank and above receive training directed to the specific requirements of communication with the incident commander;

d. that a dedicated communication link be provided between the senior officer in the control room and the incident commander.

9 Emergency calls

33.15 Even allowing for the fact that the control room was operating under great pressure, it is clear that in many cases CROs failed to handle FSG calls in an appropriate or effective way. **I therefore recommend**:

a. that the LFB's policies be amended to draw a clearer distinction between callers seeking advice and callers who believe they are trapped and need rescuing;

b. that the LFB provide regular and more effective refresher training to CROs at all levels, including supervisors;

c. that all fire and rescue services develop policies for handling a large number of FSG calls simultaneously;

d. that electronic systems be developed to record FSG information in the control room and display it simultaneously at the bridgehead and in any command units;

e. that policies be developed for managing a transition from "stay put" to "get out";

f. that control room staff receive training directed specifically to handling such a change of advice and conveying it effectively to callers.

33.16 The handling of emergency calls by other fire and rescue services was hampered by their lack of information about the nature of the incident and the way in which it had developed. Those who respond to emergency calls on behalf of the LFB need to have as much information as possible about the incident in order to be able to give appropriate advice. **I therefore recommend** that steps be taken to investigate methods by which assisting control rooms can obtain access to the information available to the host control room.

33.17 On occasions, MetCC operators and LAS CROs handled calls from people in the tower seeking FSG advice. Sometimes they gave advice that was not consistent with the advice that the LFB was giving or should have been giving in accordance with its policies. **I therefore recommend** that the LAS and the MPS review their protocols and policies to ensure that their operators can identify FSG calls (as defined by the LFB) and pass them to the LFB as soon as possible.

10 Command and control

33.18 The evidence of the way in which firefighters were deployed indicates that those in command exercised insufficient control over their actions to ensure that resources were used efficiently. Too often firefighters or junior officers acted on their own initiative, resulting in confusion and duplication of effort. In many cases instructions to crews deployed into the building were not carried out because firefighters came across people needing help and departed from their instructions in order to carry out what they regarded as a more important task. **I therefore recommend**:

a. that the LFB develop policies and training to ensure better control of deployments and the use of resources;

b. that the LFB develop policies and training to ensure that better information is obtained from crews returning from deployments and that the information is recorded in a form that enables it to be made available immediately to the incident commander (and thereafter to the command units and the control room).

33.19 LFB policies recognise that regular communication between the control room and the incident commander and between the incident commander and the bridgehead are essential to successful firefighting and rescue operations, particularly when dealing with large-scale incidents. However, at Grenfell Tower there was no regular communication between the control room and the incident commander or between the incident commander and the bridgehead. **I therefore recommend** that the LFB develop a communication system to enable direct communication between the control room and the incident commander and improve the means of communication between the incident commander and the bridgehead.

33.20 The methods used for transmitting from the control room to the bridgehead information about people needing rescue were disorganised and the line of communication was too extended. The arrangements for receiving and recording that information at the bridgehead were prone to failure and there was little, if any, means of capturing and transmitting to the control room information about the results of deployments to specific flats. **I therefore recommend** that the LFB investigate the use of modern communication techniques to provide a direct line of communication between the control room and the bridgehead, allowing information to be transmitted directly between the control room and the bridgehead and providing an integrated system of recording FSG information and the results of deployments.

11 Equipment

33.21 Some of the equipment in use by the LFB, in particular the radio equipment, was unreliable or in some cases failed to work at all. **I therefore recommend**:

a. that the LFB urgently take steps to obtain equipment that enables firefighters wearing helmets and breathing apparatus to communicate with the bridgehead effectively, including when operating in high-rise buildings;

b. that urgent steps be taken to ensure that the command support system is fully operative on all command units and that crews are trained in its use.

12 Evacuation

33.22 There were no plans in place for evacuating Grenfell Tower should the need arise. **I therefore recommend**:

a. that the government develop national guidelines for carrying out partial or total evacuations of high-rise residential buildings, such guidelines to include the means of protecting fire exit routes and procedures for evacuating persons who are unable to use the stairs in an emergency, or who may require assistance (such as disabled people, older people and young children);

b. that fire and rescue services develop policies for partial and total evacuation of high-rise residential buildings and training to support them;

c. that the owner and manager of every high-rise residential building be required by law to draw up and keep under regular review evacuation plans, copies of which are to be provided in electronic and paper form to their local fire and rescue service and placed in an information box on the premises;

d. that all high-rise residential buildings (both those already in existence and those built in the future) be equipped with facilities for use by the fire and rescue services enabling them to send an evacuation signal to the whole or a selected part of the building by means of sounders or similar devices;

e. that the owner and manager of every high-rise residential building be required by law to prepare personal emergency evacuation plans (PEEPs) for all residents whose ability to self-evacuate may be compromised (such as persons with reduced mobility or cognition);

f. that the owner and manager of every high-rise residential building be required by law to include up-to-date information about persons with reduced mobility and their associated PEEPs in the premises information box;

g. that all fire and rescue services be equipped with smoke hoods to assist in the evacuation of occupants through smoke-filled exit routes.

13 Personal fire protection

33.23 It has been suggested by some core participants that every flat and every public space in a high-rise residential building should be equipped with a fire extinguisher and that a fire blanket should be present in every kitchen. It has also been suggested that hose reels and fire buckets containing water or sand should be kept in the public parts of all such buildings.

33.24 On the face of it there is much to be said in favour of householders obtaining fire blankets and fire extinguishers for their own use and if they live in high-rise buildings a strong argument can be made that such equipment, if appropriately used, may provide protection not only to the occupants of the flat in which a fire occurs but to the occupants of the building as a whole. However, the view of many is that people should not be encouraged to fight fires themselves but should leave the building as quickly as possible and call the fire and rescue service. None of the experts supported the provision of fire extinguishers, hose reels or fire

buckets, which, in my view, provide obvious potential for misuse. The government publishes advice on fire safety in the home and neither the evidence nor the scope of the investigations in Phase 1 provides a basis for the suggested recommendation.

14 Sprinkler systems

33.25 The coroner who conducted the inquests arising out of the Lakanal House fire heard evidence about the installation of sprinklers and recommended that the government encourage housing providers responsible for high-rise buildings containing multiple domestic premises to consider fitting them. It is not surprising, therefore, that some core participants have urged me to go a step further and to recommend that such systems be installed in all existing high-rise residential buildings.

33.26 Sprinkler systems no doubt have a very valuable part to play in the overall scheme of fire safety measures, but whether such a system would be likely to have suppressed the fire in Flat 16 or prevented it from escaping into the cladding before the firefighters could extinguish it is not something that was investigated in Phase 1. I have therefore heard no evidence about the use of sprinklers generally, their effectiveness under different conditions, or about the cost and disruption that would be caused by installing them in existing buildings. In those circumstances I cannot make any recommendation at this stage about the installation of sprinklers in existing buildings, although the government's response to previous recommendations will form an important part of the investigation to be carried out at Phase 2.

15 Internal signage

33.27 The landings in the staircase at Grenfell Tower were not clearly marked with the relevant floor number and where floor numbers were marked they did not reflect the additional floors created during the refurbishment. As a result, firefighters were unable to identify floors clearly when carrying out firefighting or search and rescue operations within the building. **I therefore recommend** that in all high-rise buildings floor numbers be clearly marked on each landing within the stairways and in a prominent place in all lobbies in such a way as to be visible both in normal conditions and in low lighting or smoky conditions.

33.28 The evidence put before me in Phase 1 indicates that many occupants of Grenfell Tower were unable to read or understand the fire safety instructions placed in the lobbies throughout the building. Such information is important because it helps to save lives. In the case of Grenfell Tower, fire safety advice was prominently displayed in the lobbies, but it was written only in English, despite the fact that many of the occupants were unable to read English easily or at all. These considerations apply to residential buildings of all kinds containing separate dwellings. **I therefore recommend** that the owner and manager of every residential building containing separate dwellings (whether or not it is a high-rise building) be required by law to provide fire safety instructions (including instructions for evacuation) in a form that the occupants of the building can reasonably be expected to understand, taking into account the nature of the building and their knowledge of the occupants.

16 Fire doors

33.29 In Phase 2, the Inquiry will investigate the extent to which at the time of the fire the entrance doors to the flats in Grenfell Tower complied with the relevant legislative requirements and, to the extent that they did not, will investigate the reasons for that failure. However, it has already become apparent from the evidence obtained in Phase 1 that ineffective fire doors allowed smoke and toxic gases to spread through the building more quickly than should have

been possible. One important reason why fire doors failed to perform their essential function was the absence of effective self-closing devices, some of which were broken or had been disabled or removed. Fire doors play an essential role in preventing or inhibiting the spread of smoke and toxic gases and in preserving effective compartmentation of buildings. In many cases they are critical to saving life. **I therefore recommend**:

a. that the owner and manager of every residential building containing separate dwellings (whether or not they are high-rise buildings) carry out an urgent inspection of all fire doors to ensure that they comply with applicable legislative standards;

b. that the owner and manager of every residential building containing separate dwellings (whether or not they are high-rise buildings) be required by law to carry out checks at not less than three-monthly intervals to ensure that all fire doors are fitted with effective self-closing devices in working order.

33.30 Effective fire doors are particularly important in those high-rise buildings that are exposed to an increased risk of fire because the external walls currently incorporate unsafe cladding. Among the experts, views differ about the desirability of requiring existing fire doors to be brought up to modern standards and if necessary be replaced with doors that comply with the requirements currently in force in relation to new buildings. However, the importance of fire doors in maintaining compartmentation and protecting parts of the building other than that in which a fire has occurred is plain and in my view justifies the expense that would inevitably be incurred. **I therefore recommend** that all those who have responsibility in whatever capacity for the condition of the entrance doors to individual flats in high-rise residential buildings, whose external walls incorporate unsafe cladding, be required by law to ensure that such doors comply with current standards.

17 Co-operation between emergency services

33.31 A point of concern that has emerged from the evidence heard in Phase 1 is that the emergency services failed to co-ordinate with each other and share information as intended, particularly during the early phases of the incident. Most seriously, each declared a Major Incident without immediately informing the others that it had done so. These failures represent weaknesses in the arrangements under which Category 1 Responders are to work together in response to a serious incident. **I therefore recommend** that the Joint Doctrine be amended to make it clear:

a. that each emergency service must communicate the declaration of a Major Incident to all other Category 1 Responders as soon as possible;

b. that on the declaration of a Major Incident clear lines of communication must be established as soon as possible between the control rooms of the individual emergency services;

c. that a single point of contact should be designated within each control room to facilitate such communication;

d. that a "METHANE" message should be sent as soon as possible by the emergency service declaring a Major Incident.

33.32 The MPS and the LAS have access to each other's CAD logs but neither was accessible to the LFB. Co-operation between the emergency services would be improved if the LFB had access to the CAD logs of the MPS and LAS. **I therefore recommend** that steps be taken to investigate the compatibility of the LFB systems with those of the MPS and the LAS with a view to enabling all three emergency services' systems to read each other's messages.

33.33 Although an NPAS helicopter was deployed to observe the development of the fire, the pictures it transmitted could not be viewed by the LFB because the encryption was incompatible with its receiving equipment. Incident commanders and CROs responding to emergency calls might have been assisted by seeing those pictures and in any event they should be available to fire and rescue services as a matter of routine. **I therefore recommend** that steps be taken to ensure that the airborne datalink system on every NPAS helicopter observing an incident which involves one of the other emergency services defaults to the National Emergency Service user encryption.

33.34 Many people had difficulty in establishing the whereabouts of friends and relatives who had been taken to hospital after escaping from the building. It is important that in the aftermath of a disaster people are able to ascertain as quickly as possible where their loved ones are and are able to make contact with them. **I therefore recommend** that the LFB, the MPS, the LAS and the London local authorities all investigate ways of improving the collection of information about survivors and making it available more rapidly to those wishing to make contact with them.

18 Other matters

33.35 Some of the core participants suggested that I should make recommendations on a range of other matters, including amendments to the Regulatory Reform (Fire Safety) Order 2005 to ensure that it applies to the external walls of residential buildings and the testing and certification of building materials. Although they are all matters of potential importance, none of them were examined in the course of Phase 1 and cannot therefore be the subject of recommendations in this report.

Part VI
Looking ahead to Phase 2

Chapter 34
Looking Ahead to Phase 2

1 Introduction

34.1 Having completed Phase 1 of the Inquiry it is useful to look ahead briefly to Phase 2 to identify some areas that will be of particular interest and importance and some that will not now call for investigation to the degree previously thought likely. Most of the questions on which attention will be focused closely relate to the building itself, but it is appropriate to begin with a reminder that important work remains to be done in order to complete the Inquiry's findings about the circumstances in which the deceased lost their lives.

2 The deceased

34.2 At the beginning of the Inquiry I expressed the hope that I would be able in due course to make sufficient findings about those who died and the circumstances in which they met their deaths to make it unnecessary for the coroner to resume the investigations which she opened in 2017. I had hoped to be able to make findings in this report in relation to all those matters, save for the wider circumstances that would in any event be the subject of investigation in Phase 2. However, although it has been possible for me to find many of the relevant facts, it has become clear that some aspects of the circumstances in which the deceased met their deaths require a more detailed examination of the evidence than has yet been possible. Within Phase 2 there will therefore be an examination of the evidence relating to the circumstances in which the deceased met their deaths generally with a view to making the findings which the coroner requires.

3 The remaining scope of Phase 2

34.3 I decided to begin the Inquiry with an investigation of the events which occurred during the night of the fire because only a detailed understanding of what had happened would enable me to identify effectively those aspects of the design, construction and management of the building that were primarily responsible for the disaster. As a result of the investigations carried out in Phase 1 it has become clear that some aspects of the building played a more significant role than others in bringing about the events which occurred on 14 June 2017.

34.4 Since the primary cause of the rapid spread of fire up, around and down the building was the use of ACM rainscreen panels with a polyethylene core, to which the use of combustible insulation contributed, the principal focus of Phase 2 will be on the decisions which led to the installation of a highly combustible cladding system on a high-rise residential building and the wider background against which they were taken. However, a number of other matters have emerged from the evidence gathered in Phase 1 which, although not yet fully explored (and therefore not capable of being the subject of findings at this stage), also give rise to significant concern and call for more detailed investigation. I identify below some of those that I consider particularly important, but must emphasise that it is not an exhaustive list.

4 Matters of particular concern

The London Fire Brigade

34.5 In the preceding chapters of this report I have referred to a number of respects in which the performance of the LFB fell below the standards set by its own policies or national guidance. In the case of the control room, there were signal failures to comply with policies that had been recently introduced or modified in response to criticisms of its performance in connection with the Lakanal House fire, giving rise to justified concern that the LFB as an institution had failed to learn or put into practice the lessons of that event. The need for regular active communication between the control room and the incident ground to exchange information about the development of the fire, although required by policies PN633 and PN790, appears to have been routinely ignored. There appears to have been a failure properly to understand the risk of cladding fires in high-rise buildings, despite the fact that by 2017 many buildings of a similar kind in other countries had suffered fires in cladding, some of which had been well publicised. Although some senior officers in the LFB had become aware of the risk, as appears from the *Tall Building Facades* presentation, there had been no attempt to disseminate the information to potential incident commanders and no attempt to equip them with the knowledge or skills needed to recognise and respond to such fires. Questions have also been raised about the LFB's understanding of the nature of the obligation imposed by section 7(2)(d) of the 2004 Act and its approach to discharging it. In that context, as in many others, there appears to have been a significant divergence between policy and practice.

34.6 These and other shortcomings described earlier in this report raise far-reaching questions about the LFB as an organisation. Some may question whether its training is adequate in the light of experience; others may question whether it is capable of learning from its mistakes. No conclusion can be reached on questions of that kind at this stage because there has been no examination of the way in which the LFB is managed and no opportunity to question those who are responsible at the highest level for its operations about these apparent shortcomings. However, they are matters of the greatest importance to all who live and work in the capital and will be an important aspect of Phase 2 of the investigation.

Testing and certification of materials

34.7 In the light of the expert evidence, in particular Dr Barbara Lane's supplemental report, there are already grounds for thinking that the current regime for testing the combustibility of materials and cladding systems, particularly those chosen for use in high-rise buildings, may be neither as rigorous nor as effectively enforced as it should be. Doubts have also arisen about the reliability of the certification of certain materials for use in high-rise buildings. Grave concern inevitably arises simply from the fact that it was possible for highly combustible materials to be used for the purposes of refurbishing and cladding a building like Grenfell Tower. How that was possible is a question that may be relevant to many aspects of the construction industry, including manufacturers of products currently widely available on the market. Pending further investigation it would clearly be sensible for anyone who is responsible for the fire safety of an existing building or who is considering the use of products on high-rise buildings to scrutinise the information about them provided by the manufacturers and exercise considerable care to ensure that they meet the required standards. These concerns extend to the adequacy of the regulations themselves, the quality of the official statutory and non-statutory guidance currently available, the effectiveness of the tests currently in use, the

arrangements for certifying the compliance of materials with combustibility criteria and the manner in which materials are marketed. They are questions that will lie at the heart of the Inquiry's investigations in Phase 2.

Design and choice of materials

34.8 A number of aspects of the design of the refurbishment and the choice of materials will need to be examined. The choice of ACM panels with a polyethylene core, the choice of combustible insulation and XPS window infill panels, a design which incorporated many vertical channels and the decision to incorporate an architectural crown composed of ACM fins, all of which made a major contribution to the extent of the fire, are just examples. An examination of the relevant building regulations and the guidance to the construction industry published by the government in support of them will form an important part of this aspect of the Inquiry's work.

Fire doors

34.9 In her supplemental report Dr Lane drew attention to serious questions that arise in relation to the fire doors throughout the tower, both the entrance doors to individual flats opening into the lobbies and the doors opening from the lobbies into the stairs. In Phase 2 it will be necessary to investigate whether those doors complied with the regulations and guidance applicable at the time they were installed, whether they were able to provide appropriate protection against the spread of fire and smoke and if not, why that was so. There is evidence that in many cases self-closing devices were broken or had been disconnected, rendering the doors useless if left open in an emergency. It will be necessary to investigate how that situation came about and why it was allowed to continue.

Window arrangements

34.10 As part of the refurbishment the windows were moved outwards so that they no longer sat flush with the original concrete wall but flush with the new cladding system. That alteration, together with the materials used in creating the window surrounds, created certain weaknesses to which Dr Lane and Professor José Torero drew attention. In particular, the use of uPVC in close proximity to combustible insulation and other materials of a combustible nature made it possible for the fire to escape into the cladding from its original location in the kitchen of Flat 16. The design of the window arrangements will therefore be another important focus of investigation in Phase 2.

Lifts

34.11 The lifts in Grenfell Tower appear to have been designed as "fire lifts" and lacked some of the protective features such as a secondary power supply, water ingress protection, or FD60 performance for the lift landing doors which would be present in "firefighting lifts".[1] They did, however, include a "fireman's switch", which should have enabled the firefighters to take control of them and prevent further use by the occupants of the building. In the event, the firefighters were unable to take control of the lifts, but they were able to use them in their normal mode of operation to take crew and equipment up to the bridgehead on floor 2.[2] It does not appear, therefore, that their inability to take control of the lifts significantly affected their operations, but the lifts remained available for use by occupants, as described earlier, in

1 Dr Lane explained the difference between a "firefighter lift" and a "fire lift" at p. 116 in her presentation on 18 June 2018. Refer also to [BLAS0000033] p. 7, 10 Figs. L1 and L2.

2 Dr Lane supplemental report [BLAS0000019] p. 25 19.5.71.

some cases with fatal consequences. Given the importance of such equipment to safety in a high-rise building, it is necessary in Phase 2 to investigate whether the lifts were appropriately maintained and, in particular, why the fireman's switch apparently did not work properly on this occasion.

Smoke extraction system

34.12 Suggestions have been made that the smoke extraction system failed to operate in accordance with its design and even contributed to the spread of smoke between different floors of the building. Systems of this kind are an integral part of the fire safety measures in most, if not all, high-rise buildings. Although the system at the tower was designed to operate on only one floor and was not intended to deal with smoke extraction on multiple floors at the same time, it is important to understand whether, in this case, it was capable of operating in accordance with its design and whether it did so. These questions will therefore form part of the investigation in Phase 2.

The warnings of the local community and the authorities' response to the disaster

34.13 From the outset members of the local community have said that they warned the TMO on many occasions about fire hazards, both those arising from the refurbishment and more generally. There is a strong feeling among them that their voices were ignored and that if attention had been paid to them the disaster could have been avoided. There is also a strong view in many quarters that in their response to the disaster the authorities failed the community by not providing adequate support in the days immediately following the fire. These are both important matters for further investigation in Phase 2, not least because they reflect what is said to be a general lack of concern on the part of the authorities for the residents of the tower and the wider community.

5 Matters no longer requiring investigation

Stairs

34.14 A question was raised about the width of the stairs, given that they provided the sole means of access to the upper floors of the tower for firefighters as well as the sole means of escape for the occupants. However, the stairs appear to have complied with requirements of the legislation in force at the time of their construction and the expert evidence supports the conclusion that they had sufficient capacity to enable all the occupants of the building to escape within a reasonable time. This aspect of the building will not, therefore, be the subject of further investigation in Phase 2.

Gas

34.15 It was thought at one time that the supply of gas to the tower might have played a significant part in the outbreak and development of the fire, but as a result of the investigation carried out in Phase 1 it has become clear that that was not the case. Although the supply of gas allowed fires within individual flats to continue to burn until it was shut off at 23.40 that day, its contribution to the fire which consumed the tower appears to have been minimal. However, some works associated with the installation of the new gas riser were incomplete and may have contributed to the spread of smoke. In those circumstances it will be necessary at Phase 2 to consider whether the installation of the gas services complied with the relevant regulatory regime, but the focus of those investigations can be relatively narrow.

Electricity

34.16 There was a widespread suspicion, based on events that were said to have occurred in 2013, that the fire had been caused by a surge in the supply of electrical power to the building. In the event, no evidence has emerged to support that suspicion and I am confident that the true cause of the initial outbreak of fire has been correctly identified in Chapter 21. As a result, I do not think it necessary to undertake any further investigation into that aspect of the matter.

Appendices

Appendix 1

Terms of Reference – 15 August 2017

The Inquiry's Terms of Reference are:

1. To examine the circumstances surrounding the fire at Grenfell Tower on 14 June 2017, including:

    a. the immediate cause or causes of the fire and the means by which it spread to the whole of the building;

    b. the design and construction of the building and the decisions relating to its modification, refurbishment and management;

    c. the scope and adequacy of building regulations, fire regulations and other legislation, guidance and industry practice relating to the design, construction, equipping and management of high-rise residential buildings;

    d. whether such regulations, legislation, guidance and industry practice were complied with in the case of Grenfell Tower and the fire safety measures adopted in relation to it;

    e. the arrangements made by the local authority or other responsible bodies for receiving and acting upon information either obtained from local residents or available from other sources (including information derived from fires in other buildings) relating to the risk of fire at Grenfell Tower, and the action taken in response to such information;

    f. the fire prevention and fire safety measures in place at Grenfell Tower on 14 June 2017;

    g. the response of the London Fire Brigade to the fire; and

    h. the response of central and local government in the days immediately following the fire.

2. To report its findings to the Prime Minister as soon as possible and to make recommendations.

Appendix 2
List of Witnesses

List of FF witnesses

FF (called) witnesses

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
1	Thomas Abell, FF	MET000080558	MET00005699	MET00013034	02.07.18
			MET00005700		
2	Yvonne Adams, CRO	MET00007762			23.11.18
3	Marc Aston-O'Donovan, FF	MET00008002	MET00005465	MET00013035	31.07.18
				MET00013036	
4	David Badillo, FF	MET00010080	MET00005347	MET00015603	29.06.18
		MET00012654	MET00005348	MET00015637	
5	Christopher Batcheldor, CM	MET00007511	MET00005388		02.08.18
6	Charles Batterbee, CM	MET00012871	MET00005674	MET00015732	28.06.18
			MET00005675	MET00015731	
7	Stuart Beale, WM	MET00007512	MET00005358		02.08.18
		MET00012994			
8	Scott Bell, FF	MET00012995	MET00005686	MET00017022	11.09.18
9	Harry Bettinson, FF	MET00007879	MET00005727	MET00015786	19.07.18
		MET00007943		MET00015787	
				MET00015788	
				MET00015789	
10	Rob Brown, Crew Commander (Surrey FRS)	MET00010868		MET00018263	19.11.18
		MET00010786			
11	Daniel Brown, FF	MET00010867	MET00005251		28 and 29.06.18
			MET00005252		
12	Raoul Codd, CM	MET00012539	MET00005624		10.09.18
13	Shaun Coltress, WM	MET00010911	MET00005656	MET00015903	19.09.18
14	Gareth Cook, SM	MET00012779	MET00005717	MET00015779	24.07.18
		MET00007882			
15	Charles Cornelius, FF	MET00012663	MET00005590	MET00015734	06.09.18

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
16	Dany Cotton, Commissioner	MET00012492	MET00015756	MET00015754	27.09.18
				MET00015755	
				MET00015756	
				MET00015757	
				MET00015758	
				MET00015759	
				MET00015760	
				MET00015761	
17	Sharon Darby, CRO	MET00013961			01 and 02.08.18
18	Nicholas Davis, GM	LFB00004829			02.10.18
19	Louisa De Silvo, WM	MET00010913	MET00005634	MET00015813	25 and 26.07.18
		MET00013233		MET00015814	
				MET00015815	
				MET00015816	
				MET00015817	
				MET00015818	
				MET00015819	
				MET00015820	
				MET00015821	
				MET00015823	
				MET00015824	
20	Oliver Desforges, FF	MET00008013	MET00005706		31.07.18
21	Nigel Dilley, GM (Essex FRS)	LFB00024396		LFB00024419	19.11.18
22	Christopher Dorgu, FF	MET000086037	MET00005314		09.07.18
		MET00015663			
23	Michael Dowden, WM	MET00010915	MET00005453	MET00015597	26, 27 and 28.06.18
			MET00005454	MET00015608	
24	Peter Duddy, CRO	MET00007787			13.09.18
25	Daniel Egan, SM	MET00007515	MET00005263	MET00015598	03 and 04.07.18
				MET00015634	
				MET00015636	
				MET00015639	
				MET00015642	
26	Adrian Fenton, DAC	MET000080569	MET00005290	MET00017094	17.07.18
		MET00019921		MET00017390	
				MET00023231	
				MET00023232	
27	Agnel Fernandes, FF	MET000083292	MET00005645	MET00013053	10.09.18
				MET00015611	
28	Katie Foster, FF	MET00010084	MET00005736	MET00015807	10.09.18
29	Heidi Fox, CRO	MET00007764			23.11.18

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
30	Thomas Furnell, WM	MET00008022	MET00005316	MET00017033	11.09.18
				MET00017035	
				MET00017036	
31	Ben Gallagher, CM	MET00010083	MET00005536		10.09.18
		MET00040215	MET00005537		
32	Martin Gillam, FF	MET00008025	MET00005696		23.07.18
			MET00005697		
33	Thomas Goodall, GM	MET000083296	MET00005435	MET00015923	03.09.18
			MET00015923	MET00015924	
				MET00015925	
				MET00015926	
				MET00015927	
				MET00015928	
				MET00015929	
				MET00015930	
				MET00015931	
				MET00015932	
				MET00015933	
				MET00015934	
				MET00015935	
				MET00015936	
34	Angie Gotts, CRO	MET00007694			17.09.18
35	Patrick Goulbourne, GM	MET00010759		MET00015873	12.09.18
		MET00013111		MET00015874	
				MET00015875	
36	Norman Harrison, WM	MET00007885	MET00005271		19.09.18
		MET00007886	MET00015872		
		MET00023341			
37	Peter Herrera, FF	MET00010876 LFB00032237 (Rule 9)	MET00005520		06.09.18
38	Richard Hippel, FF	MET000083300	MET00005209	MET00013057	19.07.18
				MET00015593	
39	Martin Hoare, CM	MET00008027	MET00005424	MET00015844	10.09.18
				MET00015845	
				MET00015846	
40	Christine Howson, CRO	MET00007763			23.11.18
41	Aisha Jabin, CRO (North West FRS)	MET00008028			17.09.18
42	Adam Johnson, FF	MET00010082	MET00005575	MET00015691	19.09.18

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
43	Peter Johnson, WM	MET00013235	MET00005344	MET00016970	04 and 05.09.18
				MET00016971	
				MET00016972	
				MET00016974	
				MET00016975	
				MET00016997	
				MET00016998	
				MET00016999	
				MET00017000	
				MET00017001	
				MET00017002	
				MET00017004	
				MET00017005	
				MET00017006	
				MET00017007	
				MET00017008	
				MET00017598	
44	Elliot Juggins, FF	MET00010879	MET00005735	MET00015772	11.09.18
45	Raymond Keane, FF	MET00007782	MET00005593	MET00013058	18.07.18
46	Jason King, FF	MET00010813	MET00005663	MET00015796	04.09.18
				MET00015797	
				MET00015798	
				MET00015800	
				MET00015801	
				MET00015802	
47	Daniel Kipling, SM	MET00012557	MET00005635	MET00015750	04.09.18
			MET00015749		
48	Sharon Lancaster, CRO (Essex FRS)	MET00018755			19.11.18
49	Gregory Lawson, FF	MET00010815	MET00005326	MET00016881	10.09.18
				MET00016882	
				MET00016883	
50	Matthew Leaver, WM	MET00007781 MET00007857 MET00012838 MET00012839	MET00005757	270 exhibited photos which have been disclosed but not formally read into the record - do we want to read in now? Leaver was not referred to any of these in oral evidence	11.09.18

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
51	Brett Loft, SM	MET00007518	MET00005294	MET00015594	05.09.18
				MET00015595	
				MET00015600	
				MET00015601	
				MET00015602	
				MET00015604	
				MET00015605	
				MET00015607	
				MET00015614	
				MET00015617	
				MET00015619	
				MET00015620	
				MET00015621	
				MET00015627	
				MET00015628	
				MET00015632	
				MET00015633	
				MET00015635	
				MET00015638	
				MET00015640	
				MET00015643	
				MET00015644	
				MET00015645	
				MET00015647	
52	Zoe Martin, CRO (Kent FRS)	MET00012678			19.11.18
53	Benjamin McAlonen, CM	MET00012679	MET00005406	MET00015729	06.09.18
			MET00015729		
54	Nicke Merrion, FF	MET000086060	MET00005470	MET00015865	06.09.18
			MET00005471		
55	Daniel Meyrick, WM	MET00007760	MET00005459		10.07.18
			MET00005460		
56	Gary Moore, FF	MET00007761			04.09.18
57	Alan Moore, WM	MET00010819	MET00005208	MET00013060	04.09.18
				MET00013061	
58	Daniel Morrison, CM	MET000080586	MET00005414	MET00015753	12.09.18

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
59	Michael Mulholland, SM	MET00007865	MET00005218	MET00018713 to MET00018751 inclusive	01.08.18
		MET00018756	MET00005219		
			MET00005220		
			MET00005221		
			MET00005222		
			MET00005223		
			MET00005224		
			MET00005225		
			MET00005226		
60	Desmond Murphy, FF	MET00010820	MET00005350	MET00013062	06.09.18
				MET00013063	
				MET00013064	
61	Nicholas Myatt, SM	MET00007783	MET00005231	MET00013067	03 and 04.09.18
		MET00007860		MET00013069	
				MET00013070	
				MET00015612	
62	Alexandra Norman, OM	MET000080589	MET00005199		13.09.18
63	Justin O'Beirne, FF	MET000083321	MET00005337	MET00013071	02 and 03.07.18
			MET00005338	MET00013074	
				MET00013076	
				MET00013076	
				MET00013077	
				MET00013078	
				MET00013080	
				MET00015596	
				MET00015624	
				MET00015625	
				MET00015629	
64	Stephen O'Donoghue, FF	MET000080591	MET00005339	MET00013081	23.07.18
65	John O'Hanlon, FF	MET000080592	MET00005407	MET00015806	04.07.18
66	Brien O'Keeffe, WM	MET00010762	LFB00001970	LFB00001929	05, 06 and 09.07.18
		MET00013967	MET00005284	LFB00001961	

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
67	Andrew O'Loughlin, DAC	MET00012563	MET00005213	MET00015702	24 and 25.09.18
				MET00015703	
				MET00015705	
				MET00015706	
				MET00015707	
				MET00015708	
				MET00015709	
				MET00015710	
				MET00015711	
				MET00015713	
				MET00015704	
68	David O'Neill, GM	MET00010758	MET00005281	MET00015762	02.10.18
69	Jason Oliff, SM	MET00012791	MET00005247	MET00016906	16.07.18
				MET00016908	
				MET00016909	
				MET00016910	
				MET00016911	
				MET00016912	
70	Theresa Orchard, FF	MET000086069	MET00005610	MET00017360	10.09.18
71	Antony Peckham, WM	MET00007889	MET00005420		26.07.18
72	Debbie Real, CRO	MET00007696		MET00013083	17.09.18
				MET00013082	
73	Dean Ricketts, WM	LFB00004825			02.10.18
74	Dean Roberts, FF	MET00007890	MET00005669		23.07.18
75	Andrew Roe, AC	MET00007520	MET00005405	MET00005404	25 and 26.09.18
		MET00007521			
		MET00007522			
		MET00010065			
76	Sarah Russell, CRO	MET00007698			19.11.18
77	Paul Sadler, WM	MET00012481	MET00005565	MET00015641	25.07.18
		MET00012684		MET00016967	
78	Christopher Secrett, CM	MET00010105	MET00005384	MET00013086	04 and 05.07.18
		MET00039598	MET00039593	MET00015646	
			MET00039594	MET00039593	
				MET00039594	
79	Joanne Smith, SOM	MET00007766			11 and 12.07.18
80	Jamal Stern, CM	MET00012483	MET00005493	MET00016890	19.07.18
		MET00039568		MET00016891	
				MET00016890	
				MET00016893	
				MET00018457	
				MET00018458	

	Witness Name	Statement Reference	Contemporaneous Note Reference	Exhibit Reference	Date of Oral Evidence
81	Nikki Upton, FF	MET00007524	MET00005625	MET00015868	06.09.18
		MET00019974	MET00005626	MET00015869	
82	Andrew Walton, SM	LFB00023365	MET00005712	MET00005713	20.09.18
		MET00010828	MET00005714	MET00015725	
		MET00018460	MET00005715	MET00018455	
			MET00005716	MET00018456	
			MET00015724		
83	Paul Watson, WM	MET00008044	MET00005273	MET00015606	24.07.18
84	Richard Welch, GM	MET00007525	FOA00000002		18.09.18
		MET00013007			
85	Jon Wharnsby, FF	MET000083336	MET00005379		06.09.18
86	Glynn Williams, WM	MET00008045	MET00013095	MET00013093	30 and 31.07.18
				MET00013096	
				MET00015613	
87	Peter Wolfenden, SM	MET00017428		MET00017596	11.09.18
				MET00017597	
88	Michael Wood, FF	MET00010928	MET00005469	MET00015860	12.09.18
				MET00015862	
				MET00015863	

FF (read) witnesses

	Witness Name	Statement/ Contemporaneous Note Reference
1	Dean Abbess, FF	MET00005477
2	Terry Abnett, FF (Surrey FRS)	MET00013108
3	Zade Alassad, FF	MET00012991
4	Jon Aldridge, FF	MET00010864
		MET00005726
		MET00016915
5	Daniel Alie, SM	MET00012772
6	Andrew Alliston, FF	MET00012459
7	Melchizedek Anderson, CM	MET00012652
8	Stephen Apter, Deputy Commissioner	MET00012532
9	Wayne Archer, FF	MET00008001
10	Nathan Ashe, WM	MET0012653
11	Gregory Ashman, GM	MET00007509
		MET00012533
12	Thomas Atkins, CM	MET00010103
13	Ian Barritt, CM	MET000083284
14	Nicholas Barton, FF	MET00007942
		MET00005214
15	John Barwis, WM	MET00007510

	Witness Name	Statement/ Contemporaneous Note Reference
16	Gerard Basson, OM (North West FRS)	MET00008003
17	Jessamine Bate, FF	MET00017072
18	Caili Beckham, Call Operator (Surrey FRS Control Room)	MET00010784
19	Mark Beer, FF	MET00086031
20	Enrico Beltrami, FF	MET00008004
21	Richard Benaicha, FF	MET00012774
22	James Berry, WM	MET00012657
23	Daniel Bills, FF	MET00005490
24	Gemma Bloxham, FF	MET00010866
25	Stephen Boulton, FF	MET000080564
26	William Boulton, FF	MET00013222
27	Brian Bradshaw, Control Room Operator (NWFC)	MET00008005
28	Benjamin Broderick, FF	MET00012658
29	Mark Brodrick, FF	MET00016789
30	Andrew Brooks, FF	MET00005262
31	Gary Brooks, WM	MET000080565
32	Russell Brown, FF	MET00010910
33	Stewart Brown, WM	MET00013965
34	Thomas Bundey, FF	MET00012537
35	Russell Butler, FF	MET00007880
36	Geoffrey Campbell, FF	MET00010788
37	Andy Cane, GM	MET00007881
38	Alexander Cardy, WM	MET00010085
39	David Carroll, WM	MET000083285
40	Paul Charity, CM	MET00010790
41	Robert Chart, FF	MET00005230
42	Chris Cheesman, FF	MET00039905
		MET00005485
43	Stuart Chessun, CM	MET00013236
44	Neil Chisholm, GM	MET00007513
45	Helen Christmas, WM	MET00014999
46	Peter Clark, WM	MET00017071
47	Adam Clarke, CM	MET00015004
		MET00005340
48	Carl Clarke, FF	MET00012462
49	Sam Coaker, OM	MET00007767
50	Steven Collins, WM	MET00010086
51	Luke Cook, FF	MET00012855
52	Matthew Cook, GM	MET00007948
53	Peter Cracknell, FF	MET00010912
54	Paula Craig, Team Leader (North West FRS)	MET00008008
55	Adam Crinion, SOM	MET00008009

	Witness Name	Statement/ Contemporaneous Note Reference
56	Timothy Cutbill, CM	MET00010872
57	James Cuthbert, FF	MET00012878
58	Dan Daly, AC	MET00012857
59	Tristan Daoud, FF	MET00008010
60	David Davies, CM	MET000010793
61	Ian Davis, FF	MET00010794
62	David DeCosta, FF	MET00005452
63	Alex De St Aubin, FF	MET00012464
64	Joe Dean, FF	MET00008012
65	Patrick Delaney, WM	MET00005235
		LFB00024415
66	Michael Denny, CM	MET00013232
67	Aldo Diana, CM	MET00018800
68	Devani Dillesh, FF	MET00007951
69	Anthony-Mawusi Doe, FF	MET00010797
70	Thomas Dotchin, FF	MET00012542
71	Benjamin Dotchin, FF	MET00010072
72	Stephen Dounias, FF	MET00010914
73	Colin Dowdall, FF	MET00013231
74	Lee Drawbridge, DAC	MET00010104
75	Stephen Dudeney, GM	MET00007514
		MET000010873
76	Steven Duncan, FF	MET00010874
77	Robert Dwyer, FF	MET00012781
78	Jonathan Earl, FF	MET00012782
		MET00005478
79	Craig Eden, CM	MET00008019
80	Craig Edwards, FF	MET00013224
81	Scott Elliott, FF	MET00012544
82	Dominic Ellis, AC	MET00007693
83	Grant Evans, CM	MET00012466
84	Richard Evans, CM	MET00010089
85	David Farr, SM	MET00013112
86	Dominic Fearnley, CM	MET00008020
87	Benjamin Felton, FF	MET00012467
88	Nicholas Ferguson, FF	MET00015669
89	Brian Flanagan, FF	MET00007765
90	James Flin, SM	MET00012998
		MET00017084
		MET00017099
		MET00018818
91	Albert Folivi, FF	MET000086041

	Witness Name	Statement/ Contemporaneous Note Reference
92	Piers Foster, FF	MET00086042
93	Keeley Foster, GM	MET00013963
94	Neill Franklin, FF	MET00008021
95	David Friend, FF	MET00012470
96	Jason Frisby, SM	MET00010800
97	Christopher Frost, CM	MET00083294
98	Timothy Frost, GM	MET00010802
99	James Geapin, FF	MET00010099
100	Robbie Gentry, FF	MET00019991
101	David George, SM	MET00007768
102	Paul Godber, WM	MET00012546
103	Luke Goddard, FF	MET00010804
104	Ennio Gonnella, FF	MET00012785
105	Russell Gonzalez, FF	MET00012861
106	John Graham, GM	MET00017432
		MET00005257
		MET00017432
108	Simon Grant, FF	MET00007883
109	Paul Gray, CM	MET00010806
110	Neil Green, FF	MET00083297
111	Matthew Gregory, WM	MET00012877
112	Edward Haines, FF	MET00012547
113	Russell Hall, FF	MET00012548
114	Christian Hall, WM	MET00010808
115	Charles Hanks, SM	LFB00032724
116	Alan Hanlon, FF	MET00012549
117	Nicholas Harding, SM	MET00012550
118	Matthew Harold, FF	MET00010073
119	Daniel Harriman, CM	MET00007867
120	Andrew Harris, FF	MET00007884
121	Duane Harris, FF	MET00010809
122	Paul Harris, FF	MET000083298
123	Stephen Hayward, FF	MET00012552
124	Scott Hayward, POM	MET00007894
125	Matthew Hayward, WM	MET00012551
126	Oliver Henley, FF	MET00010810
127	David Hill, FF	MET000083299
128	Jordan Hill, FF	MET00010919
129	Gary Hiscock, FF	MET00010877
130	Benjamin Holehouse, FF	MET00012672
131	Kylei Holmes-Lewis, FF	MET00015005
132	Martin Hooper, FF	MET00010920

	Witness Name	Statement/ Contemporaneous Note Reference
133	Paul Howard, FF	MET00010087
134	Alan Hudson, FF	MET00012673
135	Tyrone Jackdeo, FF	MET000012999
136	Marcus Johnson, CM	MET00010921
137	Pam Jones, CRO	LFB00032090
138	Ian Jones, FF	MET00017431
		MET00005264
139	John Joseph, FF	MET00005568
140	Nicholas Kalirai, FF	MET00005622
141	Edric Kennedy-MacFoy, CM	MET00010761
		MET00010760
142	Mark Kentfield, WM	MET00005353
		MET00023051
143	Daniel Knapman, FF	MET00010814
144	Richard Knight, FF	MET00083307
145	Christopher Lang, FF	MET00012674
146	Dean Lawrence, FF	MET00012873
147	Steve Leader, GM	MET00016791
148	Terence Lowe, FF	MET00007969
149	Marcus Lundquist, FF	MET00007888
150	Damian Magee, CM	MET00010882
151	Abdul Malik, FF	MET00008032
152	Paul Marks, CM	MET00017068
153	Katrina Marshall, Fire Control Operator (Essex FRS Control Room)	MET00012848
154	Peter May, AOM	MET00007895
		MET00015882
155	Jamie Mayne, CM	MET00008033
156	Andrew McArthur, FF	MET00012680
157	Kyle McClelland, FF	MET00010924
158	Jacqueline McConochie, SM	MET00017430
159	Andrew McKay, WM	MET00010077
160	Richard McShee, CM	MET00012789
161	Paul Meyrick, WM	MET00010818
162	Richard Mills, AC	MET00013119
163	Steven Mills, FF	MET000080584
164	Niki Mitchell, FF	MET00005483
		MET00039859
165	Richard Mitchell, FF	MET000086063
166	Graham Moore, FF	MET00012477
167	Ian Moore, FF	MET00010081
168	James Morcos, FF	MET00005585
169	Amanda Morrison, WM	MET000086066

	Witness Name	Statement/ Contemporaneous Note Reference
170	Sean Murphy, CM	MET000080587
171	Patrick Murray, FF	MET00010925
172	Dean Nelson, FF	MET00010926
173	Anthony Nelson, FF	MET00007785
174	Steven Ngo, FF	MET00010887
175	Mark Niblett, WM	MET00005299
		MET00010888
176	Ricky Nuttall, FF	MET00012561
177	Constantine Nwagwu, FF	MET00012562
178	Denis O'Brien, FF	MET00010889
179	Sean Oakley, FF	MET00010890
180	Rick Ogden, DAC	MET00007657
		MET00010891
181	Earnest Okoh, FF	MET000080593
182	Vanessa Osborne, Fire Control Operator (Essex FRS Control Room)	MET00012849
183	Helen Oulton, Control Room Operator (North West FRS)	MET000080595
184	Steve Page, FF	MET00012870
185	Jonathan Parker, WM	MET00012566
186	Anthony Parkin, WM	MET00012567
187	Christopher Payton, SM	MET00010821
188	Richard Peacock, FF	MET00010079
189	Andrew Pearcy, CM	MET00010075
190	Daniel Pegram, FF	MET000080597
191	Christopher Perez, FF	MET00017426
192	Jeanette Pike, Control Operator (Merseyside FRS)	MET00013002
193	Sue Pimblett, Team Leader (North West FRS)	MET00008034
194	Lawrence Pitt, FF	MET000080599
195	Michael Pole, FF	MET00005540
		MET00039672
196	Natalie Pomponi, Team Leader (North West FRS)	MET000080600
197	Daniel Poullais, CM	MET00012682
198	James Power, FF	MET00007786
199	Suzanne Pursey, FF	MET00010893
200	Carl Ramsay, CM	MET00012569
201	Kate Ranson, AOM	MET00007864
202	Charlie Rawlings, CM	MET00005588
203	Tom Reddington, FF	MET00005476
204	David Reed, FF	MET00007697
		MET00017346
		MET00017353
		MET00005514
205	Christopher Reynolds, FF	MET00010894

	Witness Name	Statement/ Contemporaneous Note Reference
206	Lewis Rice, FF	MET00008038
207	Terence Roots, FF	MET00012876
208	Harvey Sanders, FF	MET00012482
209	Mitch Samson, CM (Kent FRS Control Room)	MET00012796
210	Jonathan Saunders, FF	MET00012797
211	Neil Saunders, FF	MET000080602
212	Nicholas Saunders, SM	MET00013234
213	Michael Skorzewski, FF	MET00012570
214	Matthew Sephton, FF	MET00010895
		MET00016948
215	Thomas Sharp, CM	MET00010074
216	Graeme Shaw, FF	MET00012798
217	Alan Sime, FF	MET00010896
218	John Simpson, GM	MET00008040
219	Mandeep Singh, FF	MET000083327
		MET00013089
220	Parvinder Singh, FF	MET00005204
221	Michael Smith, FF	MET00017069
222	Steven Somers, FF	MET00015001
223	Methusael Sonson, FF	MET00010824
224	Julian Spooner, GM	MET000086071
		MET00005259
225	Laurence Stavely, FF	MET00005250
226	Martin Stevenson, CM	MET00012860
227	John Stewart, WM	MET000083329
228	Rodney Stuart, FF	MET00005429
229	Bryan Swaddling, WM	MET00019066
		MET00019952
230	Matthew Tanner, FF	MET00010826
231	Michael Terry, Fire Control Officer (Essex FRS)	MET00007758
232	Marc Thorpe, FF	MET00005430
233	Guy Tillotson, CM	MET000080603
234	Adrian Toppin, FF	MET00012854
235	Paul Trew, GM	MET000086073
236	Leslie Tucker, FF	MET000080604
237	Phillip Turcsi, WM	MET00010899
238	Adrian Tyldesley, FF	MET000083333
239	Andrew Vango, FF	MET00012688
240	Richard Vanstone, WM	MET00010827
241	Simon Vincent, CM	MET00016790
242	Steven Vydelingum, WM	MET00012572

	Witness Name	Statement/ Contemporaneous Note Reference
243	Rod Wainwright, SM	MET00014998
		MET00005356
		MET00017078
244	David Watts, WM	MET00012689
245	Tom Welch, FF	MET000080606
246	Antony Welden, FF	MET00012574
247	Stephen West, GM	MET00017073
248	Russ White, Senior Fire Control Operator (Essex FRS Control Room)	MET00012847
249	Nicholas Whiting, FF	MET00013957
250	Leon Whitley, FF	MET00005613
251	Philip Wigley, CM	MET00010927
252	Vincent Williams, FF	MET00010829
253	Andrew Williams, SM	MET00013008
254	Adam Wilson, FF	MET000083337
255	James Wolfenden, FF	MET00010831
256	Joe Worley, FF	MET00007891
257	Michael Worman, FF	MET00012575
258	Andrew Wright, FF	MET00010076
259	Carrie Wright, FF	MET00010096
260	John Wright, FF	MET000083339
261	Richard Wybrow, FF	MET000086079
262	Gregory Yeoman, CM	MET00007862
		MET00005309

List of BSR witnesses

BSR (called) witnesses

	Witness Name	Statement Reference	Exhibit Reference	Date of Oral Evidence
1	Omar Alhaj Ali	(IWS1) IWS00000781	(OM/1) IWS00000780	16.10.2018
		(IWS2) IWS00001052		
2	Rashida Ali	IWS00000003	(RA/1-6) IWS00000003	05.11.2018
3	Maria de Fatima Alves	IWS00000443	(MA/1-2) IWS00000441	03.10.2018
4	Manuel Miguel Ferreira Alves	IWS00000538	(MMFA/1-3) IWS00000536	04.10.2018
5	Sid-Ali Atmani	IWS00000070		05.11.2018
6	Nicholas Trevanion Burton	IWS000000064	(NTB/1) IWS00000063	06.11.2018
			(NTB/2) IWS00000065	
7	Hiwot Dagnachew	IWS00000845		09.10.2018
8	Samuel Daniels	IWS00000608		10.10.2018
9	Alemishet Demissie	IWS00000860		01.11.2018
10	Petra Doulova	IWS00000835	(PD/1) IWS00000832	17.10.2018
			(PD/2) IWS00000833	
11	Natasha Elcock	(IWS1) IWS00000310	(NE/1-5) IWS00000306	08.11.2018
		(IWS2) IWS00001186		
12	Richard Fletcher	IWS00000913		11.10.2018
13	Helen Gebremeskel	(IWS1) IWS00000933	(HG/1) IWS00001140	06.11.2018
		(IWS2) IWS00001141	(HG/2) IWS00001139	
			(HG/3) IWS00001142	
14	Marcio Gomes	(IWS1) IWS00001078	(MG/1) IWS00000623	09.11.2018
		(IWS2) IWS00001184	(MG/2) IWS00000621	
15	Nadia Jafari	IWS00000683	(NJ/1) IWS00000681	08.10.2018
16	Maher Khoudair	IWS00000182		09.10.2018
17	Chia-Yuan (Naomi) Li	(IWS1) IWS00000515	(NL/1) IWS00000520	29.10.2018
		(IWS2) IWS00001152	(NL/2) IWS00000513	
		(IWS3) IWS00001231	(NL/3) IWS00000516	
			(NL/4) IWS00000514	
			(NL/5) IWS00000517	
			(NL/6) IWS00000512	
			(NL/7) IWS00000518	
18	Branislav Lukic	IWS00000770	(BL/1-3) IWS00000770	10.10.2018
19	Sener Macit	(IWS1) IWS00000069		01.11.2018
		(IWS2) IWS00001156		
20	Munira Mahmud	IWS00000776	(MM/1) IWS00000777	08.10.2018
21	Meron Mekonnen	IWS00000912	(MM/1(a)) IWS00000449	09.10.2018
			(MM/1(b)) IWS00000451	
			(MM/1(c)) IWS00000452	
			(MM/1(d)) IWS00000453	

	Witness Name	Statement Reference	Exhibit Reference	Date of Oral Evidence
22	Shekeb (Farhad) Neda	(IWS1) IWS00000886		18.10.2018
		(IWS2) IWS00001134		
23	Flora (Shakila) Neda	(IWS1) IWS00000887		18.10.2018
		(IWS2) IWS00001133		
24	Rosemary Olabisi Oyewole	IWS00000852		15.10.2018
25	Hoang Khanh Quang	(English) IWS00000080	(HKQ/1) IWS00000081	05.11.2018
		(Chinese) IWS00001170		
26	Antonio Roncolato	(IWS1) IWS00000894	(AR/1-12) IWS00000892	03.10.2018
		(IWS2) IWS00000922	(AR/13) IWS00000924	
		(IWS3) IWS00001109	(AR/14) IWS00000923	
27	Roy Smith	(IWS1) IWS00000771	(RS/1) IWS00000931	31.10.2018
		(IWS2) IWS00001169		
28	Elizabeth Sobieszczak	IWS00001105		07.11.2018
29	Oluwaseun Talabi	IWS00000851		16.10.2018
30	Paulos Woldesilassie Tekle	(IWS1) IWS00001051	(PT/1-7) IWS00001051	30.10.2018
31	Mariko Toyoshima-Lewis	(IWS1) IWS00000304	(MTL/1) IWS00000907	11.10.2018
		(IWS2) IWS00001092	(MTL/2(1)) IWS00000909	
			(MTL/2(2)) IWS00000911	
			(MTL/2(3)) IWS00000905	
			(MTL/2(4)) IWS00000910	
			(MTL/3(a)) IWS00000906	
			(MTL/3(b)) IWS00000908	
32	Jose Vieiro	IWS00001122		17.10.2018
33	Hanan Wahabi	(IWS1) IWS00000074		08.11.2018
		(IWS2) IWS00001146		
34	Hamid Wahbi	IWS00001157		29.10.2018
35	Rabia Yahya	(IWS1) IWS00000498		30.10.2018
		(IWS2) IWS00001144		

BSR (read) witnesses

	Witness Name	Statement Reference	Exhibit Reference
1	Mustafa Siraag Abdu	IWS00000307	(MA/1-3) IWS00000308
2	Raby Abdulrahman	IWS00000881	
3	Habibrahman Abdulrahman	IWS00000883	
4	Lotfrahman Habibrahman (Massi) Abdulrahman	(IWS1) IWS00000882	
		(IWS2) IWS00001132	
5	Abraham Abebe	IWS00000847	
6	Karen Aboud	(IWS1) IWS00000130	(KA/1-7) IWS00000130
		(IWS2) IWS00001123	
7	Maryam Yusuf Adam	(IWS1) IWS00000128	
		(IWS2) IWS00001204	

	Witness Name	Statement Reference	Exhibit Reference
8	Yasin Yusuf Adam	(IWS1) IWS00000185	
		(IWS2) IWS00001205	
9	Feruza Afewerki	IWS00000331	
10	Elsa Mebrahut Afeworki	IWS00000280	(EA/1-3) IWS00000280
11	Shahnaz Afraseyabi	IWS00000767	
12	Mona Aghlani	IWS00000774	
13	Shahrokh Aghlani	(IWS1) IWS00001200	(SA/1) IWS00001203
		(IWS2) IWS00001202	(SA/2) IWS00001201
			(SA/3) IWS00001198
14	Nazanin Aghlani	IWS00001074	
15	Shahid (Shah) Ahmed	IWS00000388	(SA/1-5) IWS00000388
			(SA/6) IWS00000500
16	Zaki Ahmed	IWS00000389	
17	Sayeda Ahmed	IWS00000676	
18	Mohamed Ahmed	IWS00001113	(MA/1-4) IWS00001155
			(MA/5) IWS00000011
			(MA/6) IWS00000012
19	Fadumo Ahmed	IWS00000729	
20	Khalid Ahmed	IWS00000859	
21	Elias Aitequakrim	IWS00001030	(EA/1) IWS00001028
			(EA/2) IWS00001027
			(EA/3) IWS00001026
			(EA/4) IWS00001029
22	Ibtisam Alfawaz	IWS00000026	(IA/01) IWS00000031
			(IA/02) IWS00000029
			(IA/03) IWS00000027
			(IA/04) IWS00000024
			(IA/05) IWS00001174
			(IA/06) IWS00000022
			(IA/07) IWS00000030
			(IA/08) IWS00000028
			(IA/09) IWS00000025
23	Ammar Alkabib	MET00021446	
24	Ahmad Al Sadi	IWS00000645	(AA/1) IWS00000644
			(AA/2) IWS00000647
25	Randa Al-Arasi	IWS00000005	(RAA/1-4) IWS00000005
26	Zohra Al-Assad	IWS00000110	
27	Ahmed Al-Assad	IWS00001158	
28	Rania Al-Douri	IWS00000915	
29	Amal Al-Huthaifi	IWS00000637	
30	Mahmoud Al-Karad	IWS00000821	(MAK/1) IWS00000819
			(MAK/2) IWS00000791
31	Susan Al-Safadi	IWS00000598	(SA-S/1-7) IWS00000599
32	Aesem Alhajali	MET00039851	

	Witness Name	Statement Reference	Exhibit Reference
33	Shukri Ali	IWS00000897	
34	Iman Alkuedi	IWS00000205	
35	Arsiema Alula	IWS00001115	
36	Tiago Alves	IWS00000123	(TA/1 - 4) IWS00000124
37	Ines Tavares Alves	IWS00000436	(ITA/1-6) IWS00000437
38	Ethiopia Assefa	IWS00000891	
39	David Andrew Benjamin	IWS00000876	
40	Elpidio Bonifacio	IWS00001085	(EB/1-2) IWS00001085
41	Christine Bonnett	IWS00000699	(CB/1-3) IWS00000696
42	Aziza Boudafcha	IWS00000015	(AB/2) IWS00001068
43	Fatima Boujettif	IWS00000469	
44	Joseph Bryan	IWS00000553	
45	Alison Burke	IWS00000277	(AB/1) IWS00000277
46	Virgilio (Larry) Castro	IWS00001091	(VC/1) IWS00001091
			(VC/2) IWS00001091
			(VC/3) IWS00001091
47	Amina Chaer-Yemlahi	IWS00000956	
48	Ann Chance	IWS00000783	(AC/1) IWS00000782
49	Lee Jonathan Chapman	IWS00001000	(LC/1) IWS00000740
			(LC/2) IWS00000737
			(LC/3) IWS00000734
			(LC/4) IWS00000730
			(LC/5) IWS00000731
			(LC/6) IWS00000738
			(LC/7) IWS00000739
			(LC/8)IWS00001002
			(LC/9)IWS00001001
			(LC/10) IWS00000999
50	Salah Eddine Chebiouni	IWS00000945	
51	Zakariya Chebiouni	IWS00001076	
52	Ahmed Chellat	IWS00001006	

	Witness Name	Statement Reference	Exhibit Reference
53	Hicham Cherbika	IWS00000038	(HC/01) IWS00000051
			(HC/02) IWS00000048
			(HC/03) IWS00000036
			(HC/04) IWS00000054
			(HC/05) IWS00000055
			(HC/06) IWS00000050
			(HC/07) IWS00000059
			(HC/08) IWS00000049
			(HC/09) IWS00000053
			(HC/10) IWS00000039
			(HC/11) IWS00000046
			(HC/12) IWS00000040
			(HC/13) IWS00000044
			(HC/14) IWS00000047
			(HC/15) IWS00000056
			(HC/17) IWS00000072
			(HC/18) IWS00000073
			(HC/19) IWS00000079
			(HC/20) IWS00000061
			(HC/21) IWS00000057
			(HC/22) IWS00000037
			(HC/23) IWS00000042
			(HC/24) IWS00000041
			(HC/25) IWS00000043
			(HC/26) IWS00000052
			(HC/27) IWS00000058
			(HC/28) IWS00000045
			(HC/29) IWS00000060
54	Hanan Cherbika	IWS00000016	
55	Yousra Cherbika	IWS00001032	(YC/1) IWS00001019
			(YC/2) IWS00001020
			(YC/3) IWS00001021
			(YC/4) IWS00001022
			(YC/5) IWS00001023
56	Michele Chiapetto	IWS00000679	
57	Sawsan Choucair	IWS00001080	
58	Nabil Choucair	IWS00001069	
59	Malak Choucair	IWS00001070	
60	Hisam Choucair	IWS00001197	(HC/1) IWS00001194
			(HC/2) IWS00001195
61	Jose Costa Cotelo	IWS00000984	
62	Edward Daffarn	IWS00000169	(ED/1-26) IWS00000169

	Witness Name	Statement Reference	Exhibit Reference
63	Zoe Dainton	IWS00000806	(ZD/1) IWS00000800
			(ZD/2) IWS00000801
			(ZD/3) IWS00000802
			(ZD/4) IWS00000803
			(ZD/5) IWS00000804
64	Jenny Beatrice Dainton	IWS00000939	(JD/1) IWS00000936
			(JD/2) IWS00000937
65	Francis Kapri Dean	IWS00001048	(FD/1) IWS00001048
			(FD/2) IWS00001004
			(FD/3) IWS00001005
66	Reem Dedrich	IWS00000102	(RD/1) IWS00000097
			(RD/2) IWS00000095
			(RD/3) IWS00000096
			(RD/4) IWS00000099
			(RD/5) IWS00000093
			(RD/6) IWS00000092
			(RD/7) IWS00000100
			(RD/8) IWS00000103
			(RD/9) IWS00000101
			(RD/10) IWS00000098

	Witness Name	Statement Reference	Exhibit Reference
67	Thomas Joseph Michael (Joe) Delaney	IWS00000265	(TJD/1) IWS00000414
			(TJD/3) IWS00000405
			(TJD/4) IWS00000254
			(TJD/5) IWS00000722
			(TJD/6) IWS00000271
			(TJD/7) IWS00000267
			(TJD/8) IWS00000256
			(TJD/9) IWS00000266
			(TJD/10) IWS00000262
			(TJD/11) IWS00000268
			(TJD/12) IWS00000270
			(TJD/13) IWS00001137
			(TJD/14) IWS00000253
			(TJD/15) IWS00000258
			(TJD/16) IWS00000260
			(TJD/17) IWS00000264
			(TJD/18) IWS00000259
			(TJD/19) IWS00000255
			(TJD/20) IWS00000252
			(TJD/21) IWS00000257
			(TJD/22) IWS00000263
			(TJD/23) IWS00000269
			(TJD/24) IWS00000398
			(TJD/25) IWS00000396
			(TJD/26) IWS00000415
			(TJD/27) IWS00000397
			(TJD/28) IWS00000403
			(TJD/29) IWS00000402
			(TJD/30) IWS00000407
			(TJD/31) IWS00000408
			(TJD/32) IWS00000413
			(TJD/33) IWS00000412
			(TJD/34) IWS00000406
			(TJD/35) IWS00000399
			(TJD/36) IWS00000401
			(TJD/37) IWS00000400
			(TJD/38) IWS00000411
			(TJD/39) IWS00000404
			(TJD/40) IWS00000409
			(TJD/41) IWS00000422
			(TJD/42) IWS00000416
			(TJD/43) IWS00000418
			(TJD/44) IWS00000420
			(TJD/45) IWS00000421
			(TJD/46) IWS00000419

	Witness Name	Statement Reference	Exhibit Reference
68	Emanuela Disaró	(IWS1) IWS00000543	
		(IWS2) IWS00001227	
69	Alfie Disson	IWS00000241	
70	Cordelia Disson	IWS00000242	
71	Harriboy (Harry) Disson	IWS00000672	
72	Charles (Charlie) Disson	IWS00000239	
73	Winston Dowarris	IWS00000916	(WD/1) IWS00000916
74	Salah Duale	IWS00000795	
75	Mahad Mahamed Egal	IWS00001010	(ME/1) IWS00001013
			(ME/2) IWS00001009
			(ME/3) IWS00001011
76	Noha El Baghdady	IWS00000671	
77	Mariama El Hassani	IWS00000966	
78	Karema El-Sawy	IWS00000424	
79	Zakaria Kamel El-Sawy	IWS00000427	
80	Karim El-Ansari	IWS00000088	
81	Mouna El-Ogbani	IWS00000844	(ME0/1) IWS00000287
			(ME02) IWS00000285
82	Nadia Elbouti	(IWS1) IWS00000947	(NE/1) IWS00001128
		(IWS2) IWS00001129	(NE/2) IWS00001131
			(NE/4) IWS00001125
			(NE/5) IWS00001127
83	Ahmed Elgwahry	IWS00000988	(EA/1-69) IWS00000988
84	Ferzana Elgwahry	IWS00000995	
85	Thomas Etienne	IWS00001163	(TE/1) IWS00001159
			(TE/2) IWS00001160
			(TE/3) IWS00001161
			(TE/4) IWS00001162
86	Daniel Eudey	IWS00000090	
87	Christos Fairbairn	IWS00001025	(CF/1) IWS00001024
88	Mary Folan	IWS00001088	(MKF/1(a)) IWS00000136
			(MKF/1(b)) IWS00000137
89	John Gerald Folan	IWS00000132	
90	Hime Haymanot Gashaw	IWS00000990	
91	Clarita Ghavimi	IWS00000943	
92	Maria Gil	IWS00000554	(MG/1) IWS00000565
			(MG/2) IWS00000556
			(MG/3) IWS00000566
			(MG/4) IWS00000557
			(MG/5) IWS00000558
			(MG/6) IWS00000559
			(MG/7) IWS00000555
			(MG/8) IWS00000562
			(MG/9) IWS00000563
			(MG/10) IWS00000560

	Witness Name	Statement Reference	Exhibit Reference
93	Turufat Yilma Girma	IWS00000848	(TG/1) IWS00000934
94	Giannino Gottardi	MET00013011	
95	Daniel Griffin	IWS00000173	(DG/1, 2, 3, 6-8, 9) IWS00000173
			(DG/4) IWS00000174
			(DG/5) IWS00000175
96	Mojda Habib	IWS00000917	(MH/1) IWS00000750
97	Ismail Hadgay	IWS00000200	(IH/1) IWS00000199
			(IH/3) IWS00000197
98	Mohammed Abdul Hakim	IWS00000019	(MAH/1) IWS00000017
			(MAH/2) IWS00000018
99	Sharon Haley	IWS00001219	(SH/1) IWS00001222
100	El Alami Hamdan	IWS00000176	
101	Samira Hamdan	IWS00001180	
102	Lina Hamide	IWS00001175	(LH/1-8) IWS00001177
103	Mohamed Hariri	IWS00001094	(MH/1) IWS00001097
			(MH/2) IWS00001098
			(MH/3) IWS00001108
			(MH/4) IWS00001095
			(MH/5) IWS00001099
			(MH/6) IWS00001096
			(MH/7) IWS00001104
			(MH/8) IWS00001100
			(MH/9) IWS00001107
			(MH/10) IWS00001106
104	Hermine Harris	IWS00000087	
105	Helene Hartley	(IWS1) IWS00000492	(HH/1) IWS00001055
		(IWS2) IWS00001054	(HH/2) IWS00001053
106	Makrem Harzi	IWS00000952	
107	Avni Haxhisefa	IWS00000296	(AH/1) IWS00001117
108	Jacqueline Haynes	IWS00000127	
109	Abdesalam Hedioued	IWS00000651	
110	Samira Hemmid	IWS00000311	
111	Eman Hijazi	IWS00000639	
112	Lucy Ho	IWS00000655	(LH/1-2) IWS00000656
113	Van Quang Ho	IWS00000925	
114	Sayeda Ibrahim	IWS00000323	
115	Abu Baker Mohammad Ibrahim	IWS00001238	(AB/1) IWS00001238
116	Erlinda Ignacio	IWS00000830	(EI/1) IWS00000827
			(EI/2) IWS00000828
117	Wesley Ignacio	IWS00000826	(WI/1) IWS00000824
118	Salma Ismael	IWS00000745	

	Witness Name	Statement Reference	Exhibit Reference
119	Sohaila Ismail	IWS00001230	(SI/1) IWS00001233
			(SI/2) IWS00001232
			(SI/3-7) IWS00001233
			(SI/8) IWS00001233
			IWS00001240
			IWS00001240
120	Leanne Mya Jackson Le-Blanc	IWS00000177	
121	Maria Jafari	IWS00000744	
122	Sahar Jamalvatan	IWS00000325	
123	Mahboubeh Jamalvatan	IWS00000078	
124	Sajad Jamalvatan	IWS00000068	(SJ/1) IWS00000068
125	Joseph John	IWS00000062	
126	Simon Jolly	IWS00001216	(SJ/1) IWS00001211
			(SJ/2) IWS00001210
			(SJ/3) IWS00001213
			(SJ/4) IWS00001212
			(SJ/5) IWS00001215
			(SJ/6) IWS00001214
			(SJ/7) IWS00001217
127	Corinne Simone Jones	IWS00000033	(CJ/1) IWS00000035
			(CJ/2) IWS00000032
			(CJ/3) IWS00000034
128	Milad Kareem	IWS00001077	
129	Betty Kasote	IWS00000768	
130	Mesrob Kassemdjian	IWS00000951	(MK/1) IWS00000950
131	Behailu Kebede	IWS00000490	(BEK/1) MET00017055
		(MPS1) MET00007340	(BEK/2) MET00005190
		(MPS2) MET00006339	(BEK/3) MET00012983
		(MPS3) MET00007339	(BEK/4) MET)0012984
		(MPS4) MET00008030	(BEK/5) MET00012985
		(MPS5) MET00008029	(BEK/6) MET00012986
		(MPS6) MET00012893	(BEK/7) MET00012987
		(MPS7) MET00013022	(BEK/8) MET)0012988
		(MPS8) MET00015023	(BEK/9) MET00012989
			(BEK/10) MET00012982
			(BEK/11) MET00017049
			(MH/11) MET00014833
132	Youssef Khalloud	IWS00000473	(YK/1) IWS00000471
133	Rohema Khanom	COR00001147	(RRK/1) MET00040121
			(RRK/2) MET00040119
			(RKK/3) MET00040120
134	Rawan Khdeir	IWS00000204	
135	Walaa Khdeir	IWS00000208	

	Witness Name	Statement Reference	Exhibit Reference
136	Almaz Kinfu	IWS00000457	(AK/1) IWS00000610
		MET00006350	
137	Philip King	(IWS1)IWS00000592	(PK/1) IWS00000593
		(IWS2) IWS00001057	(PK1) IWS00000593
			(PK2) IWS00001067
			(PK3) IWS00001065
			(PK4) IWS00001056
			(PK5) IWS00001059
			(PK6) IWS00001058
			(PK7) IWS00001064
			(PK8) IWS00001066
			(PK9) IWS00001063
			(PK10) IWS00001062
138	Anna Krivsoun	MET00039926	
139	Sharon Laci	IWS00000818	(SL/1) IWS00000808
			(SL/2) IWS00000809
			(SL/3) IWS00000810
			(SL/4) IWS00000811
			(SL/5) IWS00000812
			(SL/6) IWS00000813
			(SL/7) IWS00000814
			(SL/8) IWS00000815
			(SL/9) IWS00000816
140	Mushtaq Lasharie	IWS00000603	(ML/1) IWS00000605
141	Beinazir Lasharie	IWS00000634	
142	Marcia Levi	IWS00000430	
143	David Lewis	IWS00000297	(DL/1) IWS00000303
144	Chin-Hsuan (Lydia) Liao	IWS00000505	LL/1- IWS00000509
		IWS00001191	LL/2 - IWS00000506
			LL/3 - IWS00000508
			LL/4 - IWS00000510
			LL/5 - IWS00000507
			LL/6 - IWS00000503
			LL/7 - IWS00000501
			LL/8 - IWS00000504
			LL/9 - IWS00000502
145	Monica Lokko	IWS00000138	(MK/1) IWS00000141
			(MK/2) IWS00000139
146	Hanife Macit	IWS00000904	(HM/1-3) IWS00000685

	Witness Name	Statement Reference	Exhibit Reference
147	Saira Malik	IWS00001087	(SM/1) IWS00000144
			(SM/2) IWS00000154
			(SM/3) IWS00000143
			(WA/0000) IWS00000147
			(WA/0001) IWS00000145
			(WA/0002) IWS00000147
			(WA0003) IWS00000157
			(WA0004) IWS00000153
			(WA0005) IWS00000146
			(WA0006) IWS00000156
			(WA0008) IWS00000142
			(WA0012) IWS00000151
			(WA0013) IWS00000152
148	Rukeyatu Mamudu	(IWS1) IWS00000067	
		(IWS2) IWS00001221	
149	Nida Mangoba	(IWS1) IWS00001084	
		(IWS2) IWS00001145	
150	Nina Masroh	IWS00000792	
151	Jacqueline McGrath	IWS00000914	
152	Paul Menacer	IWS00001031	
153	Ambrose Mendy	IWS00001075	
154	Clarrie Mendy	IWS00001185	
155	Sarah Mensah	IWS00000590	(SM/1-3) IWS00000652
156	Oscar Millan Gonzalez	IWS00001234	(OMG/1) IWS00000117
			(OMG/2) IWS00000120
157	Jason Miller	IWS00000495	
158	Joanne Minton	IWS00000284	(JM/1-2) IWS00000281
159	Sepideh Minaei Moghaddam	IWS00000392	(SMM/1) IWS00000392
160	Amina Mohamed	IWS00000857	
161	Kim Monte	IWS00000659	
162	Claudia Marina Cedeno Montes	IWS00001229	
163	Alison Moses	IWS00000301	
164	Mohamed Mrimou	IWS00001172	(MM/1) IWS00000196
			(MM/2) IWS00000189
			(MM/3) IWS00000195
			(MM/4) IWS00000188
			(MM/5) IWS00000194
			(MM/6) IWS00000190
			(MM/7) IWS00000191
			(MM/8) IWS00000187
165	Peter John Murphy	IWS00000675	
166	Anne Murphy	IWS00001126	
167	Timothy Murphy	IWS00001049	

	Witness Name	Statement Reference	Exhibit Reference
168	Jamie Murray	IWS00001008	(JM/1) IWS00001012
			(JM/2) IWS00001014
169	Tagwa Mutwali	IWS00000942	
170	Nagawa (Prossy) Nalukwago	(IWS1) IWS00000009	(NPN/1,2,4-6) IWS00000009
		(IWS2) IWS00001118	(NPN/3) IWS00000008
171	Siar Naqshbandi	IWS00000327	
172	Samera Dawlatzai-Naqshbandi	IWS00000328	
173	Reshad Naqshbandi	IWS00000329	
174	Masi Naqshbandi	IWS00000334	
175	Mohammed Aref Neda	IWS00000880	
176	Paul Norbert	IWS00000667	
177	David O'Connell	IWS00000166	(DO/1) IWS00000167
178	Emma O'Connor	IWS00000121	
179	Kerry O'Hara	IWS00000991	
180	Sophia Olliverre	IWS00000463	
181	Lillian Olwa	(IWS1) IWS00000856	
		(IWS2) IWS00001181	
182	Tamora Hurjak Oni	IWS00000896	
183	Gitiara Pahlavani	IWS00000929	
184	Michael Thomas Phillip Paramasavian	IWS00001003	
185	Chiraag Shantilal Patel	IWS00000855	
186	Shantilal Naranbhai Patel	IWS00000798	
187	Andreia Perestrelo	IWS00000349	
188	Mahamad Amin Popal	IWS00000884	
189	Jenny Quang	IWS00000766	
190	Shafika Ragab	IWS00000475	
191	Mohammed Ragab	IWS00000477	
192	Layla Raihani	IWS00000180	(LR/1) IWS00000180
193	Hind Raihani	(IWS1) IWS00000330	
		(IWS2) IWS00001190	
194	Adriana Ramirez	IWS00001116	
195	Cesar Ranito	IWS00000532	(CR/1-4) IWS00000530
196	Isabel Ranito	IWS00000533	
197	Mohammed Rasoul	IWS00000670	(MR/1-5) IWS00000669
198	Rhea Iligan Rojo	IWS00000066	
199	Christopher Roncolato	IWS00000840	(CR/1) IWS00000836
			(CR/2) IWS00000837
			(CR/3) IWS00000838

	Witness Name	Statement Reference	Exhibit Reference
200	Rebecca Ross	IWS00001036	(RSR/1) IWS00001040
			(RSR/2) IWS00001044
			(RSR/3) IWS00001041
			(RSR/4) IWS00001045
			(RSR/5) IWS00001039
			(RSR/6) IWS00001043
			(RSR/7) IWS00001035
			(RSR/8) IWS00001033
			(RSR/9) IWS00001034
			(RR/10) IWS00001046
201	Viviana Rullo	IWS00000161	(VR/1-VR/16) IWS00000163
202	Dawn Ryan	IWS00000250	(DR/1-2) IWS00000247
203	Jean Saalabi	IWS00000648	
204	Rebin Sartib Sabir	(IWS1) IWS00001224	(RS/1) MWP00000027
		(IWS2) IWS00001237	
205	Nasrin Sadat	IWS00000885	
206	Rawda Said	IWS00000920	
207	Salma Said	IWS00000919	
208	Yousif Saig	IWS00000314	IWS00000581
			IWS00000575
			IWS00000580
			IWS00000584
			IWS00000585
			IWS00000574
			IWS00000579
			IWS00000577
			IWS00000583
			IWS00000576
			IWS00000578
			IWS00000586
			IWS00000582
209	Mohammad Samimi	IWS00000298	
210	Virginia Sang	IWS00000773	
211	Solmaz Sattar	IWS00000769	
212	Robert Schwillens	IWS00000854	
213	Mohammed Sebbar	IWS00000903	
214	Negeste Semre	IWS00000954	
215	Alejandro Serrano	IWS00000853	
216	Farah Serroukh	IWS00000784	
217	Bernard Shaw	IWS00000461	
218	Genet Grebremaiam Shawo	IWS00001050	(GS/1-4) IWS00001050
219	Florentyna Sobieszczak	IWS00000831	
220	Michael Sobieszczak	IWS00001111	
221	Channel Spence	IWS00001235	(CS/1) IWS00001235

	Witness Name	Statement Reference	Exhibit Reference
222	Effi Stergiopoulou	IWS00000432	
223	Dougal Steward	IWS00000602	
224	Ivan Costa Suarez	IWS00000986	
225	Dorinda Encarnacion Suarez-Chans	IWS00000985	
226	Rita Tankarian	IWS00000434	
227	Gimja Tekie	IWS00000992	
228	Marion Telfer	(IWS1) IWS00001182	(MT/1-2) IWS00001188
		(IWS2) IWS00001188	
229	Wintom Temesgen	IWS00000382	(WT/1) IWS00000383
230	Nahom Tesfay Gebreegziabher	IWS00001086	
231	Yohannes Tesfaye	IWS00001089	
232	Selamawit Tesgay	IWS00000955	
233	William Thompson	IWS00000158	(WT/1 -WT/5) IWS00000158
234	Ibrahim Toukou	IWS00000335	
235	Loris Trevisan	IWS00000541	
236	Ramiro Urbano	(IWS1) IWS00000496	
		(IWS2) IWS00001207	
237	Vanessa Vieiro	IWS00000874	
238	Walid Wahbi	IWS00000113	(WW/1) IWS00000111
			(WW/4) IWS00000116
239	Hannah West	IWS00000021	
240	Meron Woldeselassie Araya	IWS00001193	(MWA/1-5) IWS00001193
241	Amina Yabajadda	IWS00000785	
242	Ismail Yagci	IWS00000549	(IY/1-6) IWS00000547
243	Hulya Deniz Yagci	IWS00000641	
244	Mohamed Yahya	IWS00000567	(MY/1-2) IWS00000570
245	Khadija Yahya	IWS00000664	(KY/1) IWS00000665
246	Nadia Yousef	IWS00000338	
247	Eamon Zada	IWS00000989	(EZ/1) IWS00000978
			(EZ/2) IWS00000979
			(EZ/3) IWS00000980
			(EZ/2) IWS00000982
248	Adriana Zymberaj	IWS00000878	
249	CCC	IWS00000478	

List of MPS witnesses

MPS (called) witnesses

	Witness Name	Statement Reference	Exhibit Reference	Date of Oral Evidence
1	Neil Jerome	(MPS1) MET00023286	(NAJ/1) MET00023288	12.11.2018 – 13.11.2018
		(MPS2) MET00023694	(NAJ/2) MET00023291	
			(NAJ/3) MET)0023285	
			(NAJ/4) MET00023294	
			(NAJ/5) MET00023293	
			(NAJ/6) MET00023290	
			(NAJ/7) MET00023287	
			(NAJ/8) MET00023292	
			(NAJ/9) MET00023289	
2	Nicholas Thatcher	(MPS1)MET00012582	(NT/1) MET00023282	12.11.2018
		(MPS2) MET00023284	(NT/2) MET00023283	
		(MPS3) MET00023692	INQ00000209	
		(MPS4) MET00018201	MET00023576	

MPS (read) witnesses

	Witness Name	Statement Reference	Exhibit Reference
1	Daniel Baker	MET00023354	
2	James Bourne	MET00007706	
3	John Burrows-Smith	MET00007306	
4	Shawn Chapman	MET00012694	
5	Michael Chattenton	MET00023693	
6	Eddy Clifford	MET00023356	
7	Steven Collins	MET00007907	
8	Rebecca Crowe	MET00013132	
9	Adrian Daniel	MET00012695	
10	Mark Dudley	MET00007710	
11	Francesca Elliott	MET00012954	
12	Andy Fairbrother	MET00012698	
13	Christopher Gillies	MET00007711	
16	Martin Hart	MET00007954	
17	David Heffernon	MET00007832	
18	Sarah Hoyle	COR00000955	
19	Anu Ibraham	MET00012961	(ANI/1) MET00024028
			(ANI/2) MET00024025
			(ANI/3) MET00024029
			(ANI/4) MET00024027
			(ANI/5) MET00024026
20	Alice Jacobs	MET00012699	
21	Tony Jones	MET00007915	(TJJ/1) MET00023663
			(TJJ/2) MET00023662

	Witness Name	Statement Reference	Exhibit Reference
22	Dan Keane	MET00007916	
23	Natasha Langley	MET00007717	
24	Darren Larder	MET00007917	
25	Ian McGowan	MET00007718	
26	Ashley Meek	MET00023353	
27	Iain Nicholls	MET00007720	
28	Anthony Neave	MET00023633	
29	Patrick O'Riordan	MET00013130 (1st witness statement)	
		MET00013136 (2nd witness statement)	
30	Maarku Paajarvi	MET00012705	
31	Ross Parker	MET00013134	
32	Michael Pearce	MET00007606	
33	Graham Price	MET00012967	
34	Joshua Rees	MET00017468 (1st witness statement)	
		MET00017463 (2nd witness statement)	
36	Ian Reeve	MET00023352	(IR/1) MET00023625
			(IR/2) MET00023627
			(IR/3) MET00023626
37	Chris Rigg	MET00012706	
38	Kiran Sangha	MET00007837	
39	Mark Simpson	MET00012581	
40	Steven Spiteri	MET00007610	
41	Rebecca Stead	MET00007925	
42	Charles Stockford	MET00012707	
43	Philip Stone	MET00013129	
44	Tanya Valente	MET00012801	
45	Paul Warnett	MET000080605	
		MET00018082	
46	Chris Watts	MET00023355	
47	Graham Winch	METS00020664 (1st WS)	(GNW/1.1) METS00020665
		MET00039532 (2nd WS)	(GNW/1.2) METS00020666
			(GNW/2) METS00020662
			(GNW/3) METS00020663
			(GNW/4) MET00039533

List of LAS witnesses

LAS (called) witnesses

	Witness Name	Statement Reference	Exhibit Reference	Date of Oral Evidence
1	Paul Woodrow	LAS00000009	(A) LAS00000005	13.11.2018
			(B) LAS00000001	
			(C) LAS00000008	
			(D) LAS00000002	
			(E1)LAS00000003	
			(E2) LAS00000006	
			(E3) LAS00000007	
			(F) LAS000000004	

LAS (read) witnesses

	Witness Name	Statement Reference	Exhibit Reference
1	Graham Barwick	MET00013951	(GCB/1) MET00023193
2	Maria Conyers	MET00013955	(MAC/1) MET00019057
			(MAC/2) MET00019058
			(MAC/3) MET00019054
3	Stuart Chrichton	MET00017535	
4	Jennifer Doidge	MET00016783	
5	Sarah Galka	MET00019945	
6	Andrew Godfrey	MET00014994	(ANG/1) MET00023194
7	Paul Hammond	MET00014408	(PRH/1) MET00023195
8	Mark Hodson	MET00017061	(MH)/1) MET00023339
9	Laurence Ioannou	MET00010862	(LJI/1) MET00019056
			(LJI/2) MET00019059

	Witness Name	Statement Reference	Exhibit Reference
10	Russell Lobjoit	MET00014397	(RSL/1) MET00023199
			(RSL/2) MET00023200
			MET00023201
			MET00023202
			MET00023203
			MET00023204
			MET00023205
			MET00023206
			MET00023207
			MET00023208
			MET00023210
			MET00023211
			MET00023212
			MET00023213
			MET00023214
			MET00023215
			MET00023216
			MET00023217
			MET00023218
			MET00023219
			MET00023220
			MET00023221
			MET00023222
			MET00023223
			MET00023224
			MET00023225
			MET00023226
			(RSL/3) MET00023198
11	Kevin Mansford	MET00015659	(KWM/1) MET00023340
12	Stuart Matthews	MET00013948	(SJM/1) MET00019055
13	Gayna Morris	MET00016785	(GJM/1) MET00023338
14	Mifta Murad	MET00014412	(MMM/1) MET00023227
15	Colin Passey	MET00013950	(CAP/1)MET00019932
16	Colin Pinnington	MET00012651	
17	Ian Sibthorpe	MET00015658	(IPS/1) MET00023228
18	Elizabeth Woodhouse	MET00015657	
19	Simon Woodmore	MET00010781	(SPW/1) MET00019935

List of RBKC and TMO witnesses

RBKC and TMO (called) witnesses

	Witness Name	Witness Organisation	Statement Reference	Exhibit Reference	Date of Oral Evidence
1	Robert Black	TMO	TMO10048961		15.11.2018
2	Teresa Brown	TMO	TMO10048960	TMO00840342	16.11.2018
3	Hash Chamchoun	TMO	TMO10048962		16.11.2018
4	Nickolas Layton	RBKC	(MPS) MET00007967	(NLE/1) MET00018301	15.11.2018
			(IWS) RBK00029034	(NL/1) RBK00029036	
				(NL/2) RBKC00029035	
				(NL/3) RBK00029032	
				(NL/4) RBK00029033	
5	Michael John Scott Rumble	RBKC	(MPS) RBK00028988	(MJSR/1) RBK00029038	15.11.2018
			(IWS) RBK00029037	(MJSR/2) RBK00004396	
				(MJSR/3) RBK00013294	
				(MJSR/4) RBK00029039	
				(MJSR/5) RBK00028838	
6	Graham Webb	TMO	TMO10048963		16.11.2018

RBKC and TMO (read) witnesses

	Witness Name	Witness Organisation	Statement Reference	Exhibit Reference
1	John Allen	RBKC	RBK00035691	(JA/1) RBK00035692
				(JA/2) RBK00035693
				(JA/3) RBK00035694
				(JA/4) RBK00035695
				(JA/5) RBK00035696
				(JA/6) RBK00035697
				(JA/7) RBK00035698
				(JA/8) RBK00035699
				(JA/9) RBK00035700
				(JA/10) RBK00035701
				(JA/11) RBK00035702
				(JA/12) RBK00035703
				(JA/13) RBK00035704
				(JA/14) RBK00035705
				(JA/15) RBK00035706
				(JA/16) RBK00035707
				(JA/17) RBK00035708
				(JA/18) RBK00035709
				(JA/19) RBK00035710
				(JA/20) RBK00035711
				(JA/21) RBK00035712
				(JA/22) RBK00035713

	Witness Name	Witness Organisation	Statement Reference	Exhibit Reference
1	John Allen	RBKC		(JA/23) RBK00035714
				(JA/24) RBK00035715
				(JA/25) RBK00035716
				(JA/26) RBK00035717
				(JA/27) RBK00035718
				(JA/27) RBK00035728
				(JA/28) RBK00035719
				(JA/29) RBK00035720
				(JA/30) RBK00035721
				(JA/31) RBK00035722
				(JA/32) RBK00035723
				(JA/33) RBK00035724
				(JA/34) RBK00035725
				(JA/35) RBK00035726
				(JA/36) RBK00035727
				(JA/38) RBK00035729
				(JA/39) RBK00035730
				(JA/40) RBK00035731
				(JA/41) RBK00035732
				(JA/42) RBK00035733
				(JA/43) RBK00035734
				(JA/44) RBK00035735
				(JA/45) RBK00035736
				(JA/46) RBK00035737
				(JA/47) RBK00035738
				(JA/48) RBK00035739
				(JA/49) RBK00035740
				(JA/50) RBK00035741
				(JA/51) RBK00035742
				(JA/52) RBK00035743
				(JA/53) RBK00035744
				(JA/54) RBK00035745
				(JA/55) RBK00035746
				(JA/56) RBK00035747
				(JA/57) RBK00035748
				(JA/58) RBK00035749
				(JA/59) RBK00035750
				(JA/60) RBK00035751
				(JA/61) RBK00035752
				(JA/62) RBK00035753
				(JA/63)RBK00035754
				(JA/64) RBK00035755
				(JA/65) RBK00035756
				(JA/66) RBK00035757
				(JA/67) RBK00035758

	Witness Name	Witness Organisation	Statement Reference	Exhibit Reference
1	John Allen	RBKC	(IWS2) RBK00035691	(JA/68) RBK00035759
				(JA/69) RBK00035760
				(JA/70) RBK00035761
				(JA/71) RBK00035762
				(JA/72) RBK00035763
				(JA/73) RBK00035764
				(JA/74) RBK00035765
				(JA/75) RBK00035766
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				(JA/82) RBK00035773
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				(JA/95) RBK00035786
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				(JA/97) RBK00035788
				(JA/98) RBK00035789
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				(JA/100) RBK00035791
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				(JA/108) RBK00035799
				(JA/109) RBK00035800
				(JA/110) RBK00035801
				(JA/111) RBK00035802
				(JA/112) RBK00035803

	Witness Name	Witness Organisation	Statement Reference	Exhibit Reference
1	John Allen	RBKC	(IWS2) RBK00035691	(JA/113) RBK00035804
				(JA/114) RBK00035805
				(JA/115) RBK00035806
				(JA/116) RBK00035807
				(JA/117) RBK00035808
				(JA/118) RBK00035809
				(JA/119) RBK00035810
				(JA/120) RBK00035811
				(JA/121) RBK00035812
				(JA/122) RBK00035813
				(JA/123) RBK00035814
				(JA/124) RBK00035815

List of Helicopter Pilot witnesses

Helicopter Pilot (read) witnesses

	Witness Name	Statement Reference	Exhibit Reference
1	Jason Appleton	MET00017487	
2	Colin Barker	MET00007705	
3	Lynne Callaghan	MET00013128	
4	Lucy Creed	MET00013245	
5	David Crisall	MET00015672	
6	Bradley Franklin	MET00021777	MET00018084
7	Scott Glasscock	MET00012957	SPG/1 MET00018156
			SPG/2 MET00018147
			SPG/3 MET00018136
			SPG/4 MET00018152
			SPG/5 MET00018153
			SPG/6 MET00018143
			SPG/7 MET00018137
			SPG/7 MET00018137
			SPG/8 MET00018142
			SPG/9 MET00018140
			SPG/10 MET00018146
			SPG/11 MET00018145
			SPG/12 MET00018160
			SPG/13 MET00018139
			SPG/14 MET00018141
			SPG/15 MET00018151
			SPG/16 MET00018144
			SPG/17 MET00018148
			SPG/18 MET00018138
			SPG/19 MET00018158
			SPG/20 MET00018157
			SPG/21 MET00018149
			SPG/22 MET00018150
			SPG/23 MET00018154
			SPG/24 MET00018159
			SPG/25 MET00018155
			SPG/28 MET00018172
			MET00018168
			MET00018173
			MET00018167
			MET00018177
			MET00018182
			MET00018180
			MET00018179
			MET00018181

	Witness Name	Statement Reference	Exhibit Reference
7	Scott Glasscock	MET00012957	MET00018165
			MET00018161
			MET00018166
			MET00018164
			MET00018171
			MET00018176
			MET00018175
			MET00018169
			MET00018178
			MET00018162
			MET00018170
			MET00018163
			MET00018184
			MET00018183
			MET00018185
			MET00018186
			MET00018188
			MET00018187
			MET00018189
8	Philip Hanson	MET00013123	
9	Simon Hepworth	MET00012959	MET00018761
		MET00018200	
10	Gavin Holmes	MET00007714	
11	Andrew Hutchinson	MET00012960	
12	James John	MET00013238	MET00018762
13	Tony Johnson	MET00012962	
14	Douglas MacDonald	MET00013126	
15	Roisin Morgan	MET00021778	MET00018093
			MET00018094
			MET00018095
			MET00018096
			MET00018097
			MET00018098
			MET00018099
			MET00018100
			MET00018101
			MET00018102
			MET00018103
			MET00018104
			MET00018105
			MET00018106
			MET00018107
			MET00018108
			MET00018109
			MET00018110

	Witness Name	Statement Reference	Exhibit Reference
16	Michelle Helen Pearce	MET00023249	MET00023636
			MET00023635
17	Paul Sochon	MET00021776	MET00021518
			MET00021517
18	Nicholas Spencer	MET00007728	MET00021516
			MET00018086
			MET00018089
19	Shaun Turner	MET00012970	MET00018127
			MET00018131
			MET00018113
			MET00018117 MET00018122 MET00018135
			MET00018124
			MET00018121
			MET00018126
			MET00018118
			MET00018129
			MET00018119
			MET00018116
			MET00018112
			MET00018133
			MET00018130
			MET00018114
			MET00018115 MET00018132 MET00018134
			MET00018123 MET00018128
			MET00018125 MET00018120
20	Paul Watts	MET00012891	MET00018092
		MET00015676	

List of Gas Operative witnesses

Gas Operative (read) witnesses

	Witness Name	Statement Reference	Exhibit Reference
1	Pete Baynard	MET00012826	MET00018454
2	Chris Cuthbert	MET00012824	
3	Tony Day	MET00012830	
4	Dave Edwards	MET00007956	MET00012912
5	James Harrison	MET00012831	
		MET00018804	MET00018311
		CAD00003019	MET00018307
			MET00018304
			MET00018308
			MET00018306
			MET00018305
			MET00018303
			MET00018310
			MET00018309
			MET00018302
6	Ryan Hill	MET00012829	
7	Patrick Kelly	MET00012836	
8	Jason Knightley	MET00007821	
9	Neale Milam	MET00012828	

Glossary

135 ladder	A ladder which is 13.5 metres in length
AC	Assistant Commissioner
ACM	Aluminium Composite Material
ACP	Aluminium Composite Panel
ADB	Approved Document B
ADSU	Automatic Distress Signal Unit
Aerial appliance	A vehicle-mounted ladder with a reach of 32 metres
AFA	Automated Fire Alarm
ALP	Aerial Ladder Platform
AOM	Assistant Operations Manager
AOV	Automatic Opening Vent
Appliance	Fire engine
BA	Breathing Apparatus
BAECP	Breathing Apparatus Entry Control Point
BARIE	Breathing Apparatus Radio Interface Equipment
BCC	Bridge Co-ordination Centre
BECC	Borough Emergency Control Centre
BRE	Building Research Establishment
BSR	Bereaved, Survivors and Residents
CAD	Computer-Aided Dispatch (System)
CCTV	Closed-circuit television
CM	Crew Manager
CN	Firefighter's Contemporaneous Notes
CP/CPs	Core Participant(s)
CRO	Control Room Officer
CSS	Command Support System
CU	Command Unit
DAC	Deputy Assistant Commissioner
DCI	Detective Chief Inspector
DCLG	Department for Communities and Local Government (see MHCLG)

DIVOS	Voice recorder which records 999 calls
DPA	Data Protection Act 2018
DRM	Dry Rising Main
DSE	Dangerous Structures Engineer
DVI	Disaster Victim Identification
ECB	Entry Control Board
ECO	Entry Control Officer
EDBA	Extended Duration Breathing Apparatus
Enforcer	Battering ram used to break down doors
EPDM	Ethylene Propylene Diene Monomer (rubber)
FBU	Fire Brigades Union
FERG	Forensic Examination Reference Group
FF	Firefighter
FRA	Fire risk assessment
FRS	Fire and Rescue Service
FRU	Fire Rescue Unit, an emergency vehicle that carries specialist rescue equipment and is the only emergency vehicle to carry EDBA. It does not carry a ladder or water.
FSG	Fire Survival Guidance
GM	Group Manager
GRA 3.2	Generic Risk Assessment 3.2
Halligan bar	Similar to a crowbar, used to force entry by a door
HART	Hazardous Ambulance Response Team
IC	Incident Commander
ICCS	Integrated Control and Communications System
IEC	Immediate Emergency Care
ITC	Incident Type Code (LFB 999 operations attribute a type code to an incident which creates a pre-determined attendance, i.e. the number of appliances which are despatched)
JESIP	Joint Emergency Services Interoperability Principles
LALO	Local Authority Liaison Officer
LAS	London Ambulance Service
LESLP	London Emergency Services Liaison Panel
LFB	London Fire Brigade
MDT	Mobile Data Terminal

METHANE (message)	Major incident declared, Exact location, Type of incident, Hazards, Access, Number and type of casualties, Emergency services present and required
MHCLG	Ministry of Housing, Communities and Local Government (previously DCLG)
MMA	Modular Management Agreement
MPS	Metropolitan Police Service
NILO	National Inter-Agency Liaison Officer
NPAS	National Police Air Service (Police helicopter)
NPCC	National Police Chiefs' Council
OM	Operations Manager
ORD	Operational Risk Database
ORR	Operational Response Report
ORT	Operational Review Team
OSU	Operation Support Unit
PDA	Pre-determined attendance
PEG	Protective Equipment Group
PIR	Polyisocyanurate
POM	Principal Operations Manager
PPV	Positive Pressure Ventilation
PRC	Performance Review of Command
Pump	Appliance with a 9-metre ladder
Pump ladder	Appliance with a 13.5-metre ladder
RBKC	Royal Borough of Kensington and Chelsea
RCCB	Residual Current Circuit Breaker
RfC/RFC	Request for Change
RIF	Reference Information File (999 call guidance for operator)
RLR	Recognised Legal Representative
RSO	Resource Support Officer
RVP	Rendezvous Point
SAI	Senior Accident Investigator
SDBA	Standard Duration Breathing Apparatus
SIL	Short Incident Log
SM	Station Manager
SOM	Senior Operations Manager

Tally	A piece of equipment which contains a record of the name and rank of a firefighter and the amount of air in their BA cylinder. It is given by the firefighter to the ECO at the point of entry and is retrieved by the firefighter on exit.
TCG	Tactical Co-ordination Group
TCM	Tactical Co-ordination Meeting
TIC	Thermal Imaging Camera
TMO/KCTMO	Tenant Management Organisation (Kensington and Chelsea Tenant Management Organisation)
TSG	Territorial Support Group (a specialist unit of the MPS)
Turntable ladder	A vehicle with a ladder which has a reach of 32 metres. It has a detachable cage which can contain three people
uPVC	Unplasticised Polyvinyl Chloride
URN	Unique Reference Number
VISION	A system which records the location of an incident and despatches the nearest appropriate resources in response to emergency calls
WM	Watch Manager
XPS	Extruded Polystyrene

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