

1 Monday, 4 June 2018
2 (10.00 am)
3 SIR MARTIN MOORE-BICK: Good morning, everyone, and welcome
4 to this stage of our proceedings.
5 This week we're going to hear opening statements,
6 first from counsel to the inquiry and then from counsel
7 for the various core participants, or at least those who
8 wish to make one.
9 Before I invite Mr Millett to address us, I just
10 need to have a quick word with the lady shorthand
11 writers. (Pause)
12 Mr Millett, you may have heard that exchange with
13 the shorthand writers; they would like a break during
14 the morning, so could I invite you to find a time that
15 is convenient to you between about 11.15 and 11.30 when
16 we can all leave the room for a few minutes.
17 Thank you very much.
18 Opening statement by COUNSEL TO THE INQUIRY
19 MR MILLETT: Mr Chairman, Mr and Madam Assessors.
20 Grenfell Tower is a residential high-rise block of
21 flats built in 1974. It is located in the Lancaster
22 West Estate in North Kensington W11.
23 In the early hours of Wednesday, 14 June 2017,
24 a fire broke out within the kitchen of flat 16 on the
25 fourth floor of Grenfell Tower. The fire soon broke out

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1 of the flat, which was on the east elevation, and took
2 hold in the exterior cladding on the building, through
3 which it spread rapidly upwards, around and back into
4 the building.
5 Within a matter of hours, the majority of the tower
6 was substantially destroyed by fire, with the tragic
7 loss of 71 lives on that night. It bears repeating that
8 the fire at Grenfell Tower was the largest loss of human
9 life to fire in the United Kingdom since the Piper Alpha
10 disaster of July 1988 and the worst loss of life to fire
11 in domestic premises since the Second World War.
12 On 15 June 2017, the Prime Minister announced
13 a public inquiry into the causes of and circumstances
14 surrounding the fire. On 15 August 2017, and after
15 public consultation conducted by the chairman
16 personally, the terms of reference were approved by the
17 Prime Minister as the sponsoring minister and the
18 inquiry was at that point formally established.
19 On 21 May this year, the inquiry opened with seven
20 days of commemorations of the 71 lives of those who died
21 in the fire at Grenfell Tower, and also of the life of
22 Maria del Pilar Burton, or Pily, who died in January
23 this year. We have all heard and been deeply moved by
24 the stories of the families left behind by their loved
25 ones who perished at Grenfell and of the lives that were

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1 lost.
2 Today is Day 8 of the hearings of Phase 1 of the
3 public inquiry, when we turn to opening statements by
4 counsel. I plan to address you for today, followed by
5 counsel for the core participants, or CPs as I will
6 refer to them, beginning with the Metropolitan Police
7 Service and then following the order circulated among
8 the CPs last Friday.
9 Although my opening statement will be concerned with
10 much technical and other expert evidence, the
11 fundamental question which lies at the heart of our work
12 is how, in London, in 2017, a domestic fire developed so
13 quickly and so catastrophically that an entire high-rise
14 block was engulfed, and how it was that 71 people lost
15 their lives in a matter of hours, leaving families and
16 friends in shock, grief and bewilderment; leaving
17 hundreds without a home, their possessions destroyed,
18 their precious mementos in ashes, their families
19 shattered, their community devastated, their lives
20 permanently scarred, and for an inheritance, an abiding
21 sense of injustice, betrayal and marginalisation,
22 leading to an overwhelming question: why?
23 This inquiry was established under, and is
24 proceeding under, the Inquiries Act 2005 and under the
25 Inquiry Rules 2006. It is the largest public inquiry

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1 ever established, at least in terms of numbers of CPs,
2 and the issues are wide-ranging and complex. The
3 inquiry is also having to proceed at speed -- as fast as
4 it reasonably can -- in light of the obvious risks to
5 public safety posed by exterior fires on residential
6 tower blocks.
7 The inquiry must also be conducted alongside the
8 police's continuing criminal investigation. The
9 parallel progress of the inquiry and the criminal
10 investigation gives rise to particular challenges, not
11 least the need to ensure that the inquiry's obligation
12 to pursue its own full and fair investigation does not
13 prejudice the police's work and vice versa. The inquiry
14 has been very careful to avoid such a problem and it is
15 grateful for the continued co-operation it has received,
16 and continues to receive, from the police.
17 I start by introducing the inquiry team. I am the
18 lead counsel to this inquiry and I am part of a large
19 team whom I shall introduce shortly. One of the primary
20 roles of counsel to the inquiry is to assist with the
21 assimilation and presentation of the evidence and the
22 questioning of the witnesses and experts to the inquiry
23 from whom we shall hear during the course of our work.
24 In essence, our job is to help the chairman and the
25 assessors, and the other panel members in due course in

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<p>1 Phase 2, to lay bare the truth about what happened in 2 order to answer the questions in the terms of reference. 3 We have a duty to be independent, objective, fair-minded 4 and rigorous. 5 With me today are my inquiry team of Queen's 6 Counsel: Bernard Richmond QC, who is in the live stream 7 room today, Kate Grange QC and Andrew Kinnier QC, plus a 8 supporting team of junior barristers: Bilal Rawat, 9 Rose Grogan, Hannah Curtain, Alex Ustych, 10 Chloe Campbell, Samantha Jones, Zeenat Islam, 11 Emma Hynes, Rachel Sullivan, Shanthi Sivakumaran, 12 Scarlett Milligan and Daniel Laking. 13 We are all supported by Caroline Featherstone, the 14 inquiry solicitor, and her team, comprising 15 Cathy Kennedy, Shafi Nasser, Ross Howarth, Julia Dickens 16 Holly Waldron, Thomas Wood, Anna Venturino and 17 Victoria O'Brien. 18 In all its work, the inquiry is supported by its 19 secretary, Mark Fisher. Dileeni Daniel-Selvaratnam is 20 the deputy secretary and head of external affairs. Her 21 team includes Jim Narey and George Austin-Webster. 22 Julian Fletcher is currently taking over from 23 Amanda Jeffery in charge of operational and policy 24 matters, and that team includes Tom Blackburn and 25 Paul Edens.</p> <p style="text-align: center;">Page 5</p>	<p>1 Allison Munroe and Phillip Dale. 2 For bereaved, survivors and residents, also the 3 group of 10 solicitors, which we call 4 G10: Leslie Thomas QC, Thalia Maragh and Jamie Burton. 5 For bereaved, survivors and residents, the group of 6 three solicitors (G3): Sam Stein QC, Pete Weatherby QC, 7 Mark Henderson and Fiona Murphy. 8 For bereaved, survivors and residents: Imran Khan 9 Partners. 10 For Mr Behailu Kebede, the tenant of flat 16: Rajiv 11 Menon QC. 12 For the Royal Borough of Kensington and 13 Chelsea: James Maxwell-Scott QC and Katherine Sage. 14 For the TMO: James Ageros QC. 15 For Arconic: Stephen Hockman QC. 16 For PSB UK: Shoosmiths. 17 For CS Stokes: James Leonard. 18 For Celotex: Charles Gibson QC. 19 For the MHCLG: Jason Beer QC. 20 For the Mayor: Anne Studd QC. 21 For the FBU: Martin Seaward. 22 For the FOA: Louis Browne QC. 23 Rydon, CEP, Max Fordham, Thames Water, Cadent Gas 24 and Whirlpool Corporation have put in written 25 submissions but have told us they do not wish to address</p> <p style="text-align: center;">Page 7</p>
<p>1 I should also mention that behind the scenes we have 2 a large document review team headed by barristers 3 Samantha Jones, Scarlett Milligan and Daniel Laking and 4 comprising 10 junior barristers and 15 paralegals, 5 constantly at work. 6 So far as the numbers of core participants are 7 concerned, I should update you. 8 There are 533 individuals, of whom 21 are children 9 under the age of 18. The names of the children have not 10 been published, and there are two CPs who have been 11 anonymised as "CCC" and "DDD". 12 There are 29 organisations, of which 19 are 13 commercial, eight are public bodies and two are trades 14 unions. 15 Representing and present on behalf of the various 16 CPs or groups of CPs today are: 17 For the police: Jeremy Johnson QC and Amy Clarke. 18 For the London Fire Brigade, or LFB: Stephen Walsh 19 QC and Sarah Lefevre. 20 For bereaved, survivors and residents, the group of 21 four solicitors (G4): Danny Friedman QC 22 Stephanie Barwise QC, Liz Davies, Raj Desai and 23 Jesse Nichols. 24 For bereaved, survivors and residents, the group of 25 10 solicitors (G10): Michael Mansfield QC,</p> <p style="text-align: center;">Page 6</p>	<p>1 you. 2 I have been asked to read Harley Facades's written 3 opening into the record at the end of my opening and 4 I will do that. 5 What now follows in my opening statement is intended 6 by way of broad introduction to cover some seven things: 7 1. The nature and the scope of the Phase 1 issues. 8 2. The programme for Phase 1 issues and associated 9 points. 10 3. An update on the progress of the expert evidence 11 of Phase 1. 12 4. The necessary background to the fire, comprising 13 the building and the basic elements of the 2016 14 refurbishment, the active and passive fire safety 15 systems relevant to Grenfell Tower and the principal 16 events of the night, in each case to the extent that 17 these issues are clear from the evidence which has 18 already emerged. 19 5. The response of the emergency services. 20 6. Emerging themes. 21 7. Phase 2. 22 Much of what I'm going to say today will be very 23 familiar to the core participants. One of the benefits 24 of CP status is that you get confidential access to the 25 material that the inquiry has obtained and discloses</p> <p style="text-align: center;">Page 8</p>

<p>1 before the public gets to see it. Our job is to lay 2 bare the truth not only to the CPs, but also to the 3 general public, so while my opening will contain little 4 that is new to the CPs, much of it will be new to the 5 public. 6 I now turn to the nature and scope of the Phase 1 7 issues. 8 In his opening statement on 14 September 2017, the 9 chairman indicated that Phase 1 would concentrate on 10 what happened on the night of 14 June 2017, and would 11 seek to establish where and how the fire occurred, how 12 it spread so rapidly to the whole of the building and 13 how the interior of the building became progressively 14 affected by the development and spread of smoke. 15 The chairman indicated that he intended to publish 16 an interim report at the end of Phase 1 with such 17 recommendations as it was possible to make at that 18 stage. 19 In detail, the issues for Phase 1 are, by reference 20 to the updated list of issues which is on the inquiry's 21 website: 22 Paragraph 3(a): 23 "What modifications were made to the inside of the 24 building?" 25 Paragraph 11(a) and (b):</p> <p style="text-align: center;">Page 9</p>	<p>1 and other services during and immediately after the 2 fire, including the establishment of radio communication 3 channels; 4 "(iv) the application of any 'stay-put' policy and 5 any change to a 'get out and stay out' policy; 6 "(v) The methods of rescuing individual residents." 7 And as far as relevant to those issues: 8 Paragraph 1(a) of the list of issues: 9 "What was [the building's] design, construction and 10 composition?" 11 Paragraph 4(b) of the list of issues: 12 "What was the design, manufacture, composition and 13 method of fixing of the exterior cladding to the 14 building (and other aspects of the refurbishment)? 15 Paragraph 5(a): 16 "What were the fire resistance, prevention, 17 mitigation, evacuation and other fire safety measures 18 ... in place at the time of the fire?" 19 And paragraph 5(i): 20 "In what ways was the building intended to be 21 resistant to the spread of the fire?" 22 Insofar as they are relevant to the spread of the 23 fire and smoke throughout the building, we will also be 24 considering at Phase 1 paragraph 9(a) of the list of 25 issues:</p> <p style="text-align: center;">Page 11</p>
<p>1 "(a) What was the cause and seat of the fire? 2 "(b) How did the fire progress and what contribution 3 to its progress was made by 4 "(i) the construction of the exterior walls and 5 surfaces, openings to them and internal structures 6 abutting them. 7 "(ii) the internal structure and condition of the 8 building (including, for example, stairwells, shafts, 9 vents, cavities, fire-stopping, and pipework), or 10 "(iii) other factors, including the effectiveness or 11 lack of effectiveness of fire safety measures?" 12 Paragraph 12(a), (b), (c) and (d): 13 "(a) What plans and strategies did the fire and 14 rescue service have for dealing with a major fire in 15 a high-rise residential building? 16 "(b) What training and equipment did fire officers 17 have for dealing with a major fire in a high-rise 18 residential building? 19 "(c) Did the fire service have adequate access to 20 the building? 21 "(d) What actions were taken on the night of 22 14 June 2017 to fight the fire, including: 23 "(i) First calls and responses; 24 "(ii) Assembly of strategy, command and control; 25 "(iii) Coordination with occupants of Grenfell Tower</p> <p style="text-align: center;">Page 10</p>	<p>1 "What advice was given to residents about fire 2 precautions?" 3 Paragraph 9(b): 4 "How was that advice communicated and by whom?" 5 And paragraph 9(h): 6 "Were there any evacuation plans in place and, if 7 so, what were they?" 8 This means that the focus of Phase 1 will be the 9 events of the night of 14 June 2017 and, in particular, 10 the state of the building at the time of the fire, 11 including the existing fire safety and prevention 12 measures at Grenfell Tower; where and how the fire 13 started; the development of the fire and smoke; how the 14 fire and smoke spread from its original seat to other 15 parts of the building; the chain of events before the 16 fire was finally extinguished; and the circumstances of 17 the residents and others present in the tower, including 18 those who evacuated the tower. 19 As the chairman has said in the past, it would be 20 sensible to retain a significant degree of flexibility 21 in relation to the scope of the different phases. 22 I will return to the question of scope when I come to 23 the particular issues of firefighting and evacuation on 24 the night of the fire. 25 There are, of course, many other questions which</p> <p style="text-align: center;">Page 12</p>

<p>1 have been raised by the BSRs -- or bereaved, survivors 2 and residents -- in their written opening submissions, 3 which we've received: 4 How the building came to be as it was? 5 How come the rainscreen and insulation contained 6 combustible materials? 7 Was the relevant product literature accurate and 8 reliable? 9 Was the testing regime robust and reliable? 10 What did the professionals know and do in respect of 11 the cladding and the active and passive fire safety 12 systems more generally in the building? 13 How did so many people sign this building off as 14 safe? 15 Was saving money put before saving lives? 16 To those who were bereaved or survived the fire, 17 these questions are vitally important; however, before 18 we can start to answer these questions as fully and as 19 exhaustively as possible, our investigation must start 20 with the events on the night of 14 June, as we will in 21 this Phase 1. Once those events have been examined and 22 the chairman has made his fact findings, Phase 2 will 23 deal with the vital questions as to why the fire 24 happened and who was responsible. 25 You might ask: why does the inquiry need to hear so</p> <p style="text-align: center;">Page 13</p>	<p>1 missed something of an opportunity to advance the 2 inquiry's knowledge on vital questions. 3 I will come back to what we should do about it later 4 in this opening. 5 In terms of how and to what extent the inquiry will 6 play a role in discharging the state's responsibility 7 under article 2 of the European Convention on Human 8 Rights, you, the chairman, addressed that matter in your 9 previous rulings of 20 December 2017 and 21 March 2018. 10 As you made clear, there is considerable force in the 11 submission that this inquiry should do all it can to 12 make findings of the kind made, for example, by 13 Lord Cullen in the Piper Alpha report, which may be 14 sufficient to meet the requirements of an investigation 15 that complies with article 2. 16 The inquiry has not made an independent assessment 17 of the number of people who died in the fire. Details 18 of the deceased have been agreed and provided by the 19 police and the coroner. This number stands at 71. 20 Although Pily Burton survived the fire, she sadly 21 died in January 2018 and the inquiry honoured her memory 22 at the commemoration hearings alongside those who died 23 in June 2017. 24 We welcome the offers of assistance which have been 25 made by the legal representatives of the deceased to</p> <p style="text-align: center;">Page 15</p>
<p>1 much technical and seemingly obscure detail? I would 2 answer that the detail is essential because only 3 a thorough examination of the detail can answer all of 4 the questions and allow the world and future generations 5 to understand exactly where the responsibility for such 6 a devastating tragedy lay, and its importance in knowing 7 how to prevent it again. 8 The inquiry is grateful for the assistance that has 9 been provided by all the CPs thus far. It is, however, 10 right to say that the inquiry reasonably anticipated 11 that CPs who were directly involved in the minutiae of 12 the refurbishment and who know how the building came to 13 be as it was, and in particular the active and passive 14 fire prevention measures in place, would have used the 15 opportunity presented by the opening statements to set 16 out their knowledge in detail. It would have been of 17 particular assistance to the inquiry if some of these 18 CPs had positively engaged with the Phase 1 issues and, 19 crucially, the preliminary opinions of the inquiry 20 experts on Phase 1 issues as to the active and passive 21 fire safety features of the building and the potential 22 candidates for the cause, exit and spread of the fire. 23 We may, of course, hear more when these CPs' counsel, or 24 some of them, come to address you later this week. At 25 the moment all I need to note is that some CPs have</p> <p style="text-align: center;">Page 14</p>	<p>1 provide support to the inquiry team in obtaining and 2 presenting the evidence that is required for that 3 particular task. We remain hopeful that it will prove 4 possible to make sufficient findings of fact about 5 where, when and how the deceased came about their deaths 6 without imposing an unreasonable burden on all those 7 involved or any undue delay to the progress of the 8 inquiry. 9 I turn now to the Phase 1 programme, sitting 10 arrangements and programming. 11 First of all, sitting arrangements. 12 The inquiry will sit here at Holborn Bars on four 13 days a week, Monday to Thursday, starting at 10 am and 14 ending at 4.30 pm. There will be a break for one hour 15 for lunch and/or prayers and a short break in the 16 morning and afternoon. 17 That is the general proposal. It may be that, 18 exceptionally, circumstances will require us to sit 19 earlier or later, have longer breaks, perhaps, or sit 20 some or all of a Friday. This week we are going to 21 break at 12.45 for prayers and for lunch for those who 22 wish to take it. 23 The inquiry hearings will be live-streamed to the 24 inquiry website and to the Notting Hill Methodist 25 Church, as they have been before. An official</p> <p style="text-align: center;">Page 16</p>

<p>1 transcript will be taken of each day and will be made 2 available on the inquiry's website each evening. 3 The rooms on this floor here at Holborn Bars, which 4 is the second floor, have all now been made available 5 for the purposes of those attending the hearings. All 6 are clearly marked, but please do ask the ushers or 7 inquiry team if you would like some help. 8 We have two break-out rooms for the bereaved, 9 survivors and residents and their legal teams at the end 10 of the corridor, and you can watch the proceedings from 11 one of those rooms if you would like some time away from 12 the main hearing room in here. The other room will be 13 a quiet space away from the proceedings. 14 We also have a prayer room and two waiting rooms for 15 those who are going to be giving evidence to the 16 inquiry. 17 The final room will be used by the NHS and Hestia 18 outreach and counselling teams who some of you may 19 recognise from the commemoration hearings that we've 20 had. They will be identified by their blue NHS lanyards 21 or green and orange scarves. 22 The Holborn Bars fire alarm is routinely tested at 23 4.45 pm every Wednesday. It is clear when the alarm 24 sounds that this is a test, but we will rise in plenty 25 of time before that happens this Wednesday to allow</p> <p style="text-align: center;">Page 17</p>	<p>1 ending on Friday, 15 June -- there will be no sittings. 2 This is to allow the bereaved and the survivors and the 3 Grenfell community at large the time and the space in 4 which to remember and to reflect upon their lost ones at 5 the distressing time of the first anniversary of the 6 fire. 7 In the period 18 to 20 June, Monday to Wednesday, 8 certain of the inquiry's Phase 1 experts -- namely 9 Dr Lane, Professor Nic Daeid and Professor Bisby -- will 10 make oral and visual presentations, likely in that 11 order. I should emphasise that these presentations are 12 for the purposes of setting the context for the evidence 13 to be called in Phase 1 and, in particular, in order to 14 explain the physical features and layout of the 15 building. They will give their formal evidence and 16 answer questions later in the Phase 1 process. 17 On Thursday, 21 June it is hoped the chairman will 18 start receiving factual evidence, and the present 19 intention is to begin with the evidence relevant to the 20 flat of fire origin -- namely flat 16 on the fourth 21 floor of Grenfell Tower -- and the circumstances 22 surrounding the initial outbreak of fire. 23 It is estimated that no more than one day would be 24 needed to hear that evidence. Our intention is to read 25 the evidence of the occupants of flat 16 into the</p> <p style="text-align: center;">Page 19</p>
<p>1 people time to leave the building. We are not expecting 2 any other fire alarm tests today or this week. If the 3 alarm does sound, we will evacuate immediately. The 4 security team and the ushers here, along with the DeVere 5 staff on site, will be on hand to help everyone leave 6 the building safely. 7 Can I now turn to the Phase 1 programme. 8 The programme for Phase 1 will proceed as follows: 9 From 4 to 7 June, this week, we have oral opening 10 statements. I'm going to open for today and it probably 11 won't be all day. 12 The following two days have been allocated to 13 counsel for the bereaved, survivors and residents, core 14 participants, to be divided up between them as they see 15 fit. Counsel for the various groups of bereaved, 16 survivors and residents have distributed the issues 17 between themselves in order to achieve a minimum of 18 overlap and to maximise the efficient use of time. 19 The remaining day or so will be allocated to counsel 20 for the remaining CPs who have chosen to address the 21 inquiry at this stage. 22 All counsel who are to speak have helpfully provided 23 the inquiry with written submissions and those have been 24 circulated among the CPs. 25 Next week -- the week commencing Monday, 11 June and</p> <p style="text-align: center;">Page 18</p>	<p>1 inquiry record at this stage, and then, if necessary, 2 call Mr Kebede, who was the tenant, in September with 3 all the other bereaved, survivors and residents who will 4 be giving oral evidence. 5 I'll come back to say a little bit more about that 6 in due course. 7 On Monday, 25 June, the present intention is to call 8 firefighter witnesses and to do so in a broadly 9 chronological order of arrival on the night, starting 10 with the crew of the first appliances on the scene. The 11 first firefighter will be Watch Manager Mike Dowden. 12 The inquiry will aim to complete the evidence from the 13 LFB firefighters, if possible, by Wednesday, 14 1 August 2018. 15 The inquiry estimates that a total of some 52 16 firefighter witnesses will be called to give oral 17 evidence. That number includes numerous firefighters 18 who undertook active firefighting and search and rescue, 19 LFB control room staff, and commanders at various stages 20 who were responsible for the decisions taken at various 21 points on the night. The inquiry will give careful 22 consideration to the need to call additional live 23 evidence from LFB witnesses as the evidence progresses. 24 The inquiry has also identified some 74 LFB 25 witnesses whose written witness statements, or at least</p> <p style="text-align: center;">Page 20</p>

<p>1 the relevant extracts from those statements, we 2 presently intend to read into the record. This list is 3 necessarily provisional and it may be supplemented as 4 the Phase 1 hearings proceed. The inquiry circulated 5 a provisional list and order of such witnesses in 6 mid-May to all core participants and it has kept updated 7 the list as matters have progressed.</p> <p>8 The inquiry has also asked for evidence from the 9 police and from the London Ambulance Service regarding 10 their respective roles and experiences on the night. If 11 this evidence is to be called then the inquiry 12 anticipates that it will be on Thursday, 2 August.</p> <p>13 So far as August is concerned, there will be no oral 14 evidence taken during that month, after 2 August. 15 However, the month can, and I hope will, be valuably 16 used in programming the timing of the evidence that we 17 are going to call from the bereaved, survivors and 18 residents.</p> <p>19 When we come to September, on the provisional 20 assumption -- and it is provisional -- that we conclude 21 the oral evidence of the firefighters on 2 August, we 22 will resume hearings on Wednesday, 5 September with any 23 further Phase 1 witnesses we can programme in before we 24 start with the first of the BSR witnesses. We have 25 picked that date to allow the BSRs -- bereaved,</p> <p style="text-align: center;">Page 21</p>	<p>1 Following the end of the oral evidence, there will 2 then be a break of 14 days or so, following which the 3 hearings would resume on Wednesday, 31 October 2018 with 4 closing oral statements over five days. The chairman 5 has not yet decided whether to invite written closing 6 statements and that question will be kept under review.</p> <p>7 I now turn to give an update on the progress of 8 expert evidence.</p> <p>9 As part of Phase 1, the inquiry and the core 10 participants have had the benefit of detailed 11 preliminary reports from a number of the inquiry's 12 experts. Those expert reports have been available to 13 core participants for a number of weeks, subject to 14 conditions of confidentiality. Now that the Phase 1 15 hearings have commenced, those expert reports will be 16 made available today on the inquiry's website.</p> <p>17 In particular, the following reports have been 18 prepared for Phase 1 and disclosed to core participants:</p> <p>19 A report from Mr Colin Todd -- he has reviewed the 20 relevant regulatory regime as it applied to 21 Grenfell Tower.</p> <p>22 A report from Professor Niamh Nic Daeid -- she has 23 considered the cause and origin of the fire.</p> <p>24 A report from Professor Luke Bisby -- he has 25 considered the ignition of the facade materials and</p> <p style="text-align: center;">Page 23</p>
<p>1 survivors and residents -- time to get their children 2 back to school that week. The chairman will hear their 3 evidence throughout September 2018.</p> <p>4 As matters currently stand, the inquiry has received 5 a total of 135 written witness statements from bereaved, 6 survivors and residents; 60 from survivors who escaped 7 the tower and 75 from other witnesses, including 8 bereaved, residents who were not present and observers.</p> <p>9 As soon as possible, the inquiry will provide details as 10 to which bereaved, survivors and residents who have 11 provided written statements will be called to give oral 12 evidence and in what order. We would hope to be able to 13 complete the bereaved, survivors and residents' 14 evidence, as I say, by the end of September, but this 15 time frame is necessarily provisional.</p> <p>16 After the bereaved, survivors and residents have 17 given their Phase 1 oral evidence, it may be necessary 18 to allow a further week or so of hearings to accommodate 19 any further factual evidence, including from the police 20 and the London Ambulance services.</p> <p>21 Depending on how long the hearing of the factual 22 evidence takes to complete, the inquiry would aim to 23 start hearing the expert evidence on or around Monday, 24 1 October 2018 over a period -- provisionally, again -- 25 of eight to ten days, up to about 16 October 2018.</p> <p style="text-align: center;">Page 22</p>	<p>1 reviewed the available evidence regarding the spread of 2 the fire across the exterior of the tower.</p> <p>3 We have a report from Dr Barbara Lane -- she has 4 covered a broad range of issues relating to fire safety 5 engineering, including identification of the active and 6 passive fire safety measures in the building and the 7 extent to which they failed on the night.</p> <p>8 We have a report from Professor Jose Torero -- he 9 has considered the ignition of the facade materials, the 10 fire spread to and on the exterior of the tower and the 11 spread of fire and smoke within the tower.</p> <p>12 These preliminary expert reports reflect 13 a significant amount of synthesis of the Phase 1 14 evidence already gathered. They will provide a vital 15 forensic focus for the inquiry's ongoing investigation. 16 As I will outline later in this opening, they identify 17 a number of important lines of inquiry, particularly as 18 to how the building performed on the night and the 19 aspects of the building which may have led to such 20 significant spread of fire and smoke.</p> <p>21 I must also emphasise that the experts' reports are 22 preliminary and, in many reports, a work in progress. 23 As the experts themselves are at pains to stress, at 24 this early stage, and before all the evidence has been 25 heard, their reports can only provide provisional views</p> <p style="text-align: center;">Page 24</p>

<p>1 and identify further lines of inquiry. All of the 2 experts will be carefully considering the evidence as it 3 develops during the course of Phase 1. If necessary, 4 the experts will serve supplemental reports in advance 5 of the experts' oral evidence, to the extent that the 6 evidence they have heard or read affects their written 7 opinions which they have so far expressed. They can 8 also provide updating evidence when they come to give 9 oral evidence in, we hope, October. It is at that point 10 that their evidence will be thoroughly tested. Core 11 participants, members of the public and the media are 12 therefore urged to treat their opinions thus far 13 expressed as necessarily provisional until that point. 14 It should also be emphasised that the expert 15 opinions are just that: they are expressions of their 16 expert opinions. It will be for you, Mr Chairman, to 17 decide what findings you should make in your Phase 1 18 report, having heard all of the factual evidence as well 19 as hearing from the experts in person. 20 Some of the core participants have highlighted 21 certain differences of view or differences of emphasis 22 as between the inquiry's expert opinions on certain 23 matters. That there are such differences is wholly 24 unsurprising given the complexity of some of the 25 technical issues and given the fact that the experts</p> <p style="text-align: center;">Page 25</p>	<p>1 Professor David Purser is a toxicologist and 2 an expert in fire toxicity and human behaviour. He has 3 been instructed by the inquiry to provide a report for 4 Phase 1 on three matters: 5 1. The production of toxic gases and consequences 6 to occupants of different generic fire scenarios and 7 conditions occurring in fires similar to those likely to 8 have occurred at different stages and locations during 9 the Grenfell Tower fire. 10 2. The likely causes of incapacitation and death at 11 Grenfell Tower, including those whose bodies were 12 consumed by the fire. 13 3. The possible toxicity performance of materials 14 present in Grenfell Tower. 15 It is hoped that his Phase 1 report will be 16 available to core participants in early September. 17 Both of these new experts will be giving oral 18 evidence in October when Phase 1 turns to consider the 19 detailed expert evidence relevant to this phase of its 20 work. 21 I now turn to the necessary background to the fire. 22 I start with the building. 23 Grenfell Tower stands in the Lancaster West Estate, 24 which is located in the Royal Borough of Kensington and 25 Chelsea. The Lancaster West Estate scheme was designed</p> <p style="text-align: center;">Page 27</p>
<p>1 have different areas of expertise and different 2 backgrounds. 3 We consider that it is in the public interest to 4 receive a range of professional views from relevant 5 experts, and the inquiry welcomes that in order better 6 to understand the shape of many of the technical issues 7 it has to consider. 8 In addition to the list of Phase 1 experts that 9 I have already identified, there are two other experts 10 from whom we will be hearing evidence at this phase of 11 the inquiry. 12 First, Dr Duncan Glover. He is a forensic 13 electrical engineer. He specialises in issues 14 pertaining to electrical engineering, particularly as 15 they relate to failure analysis of electrical systems, 16 subsystems and components, including the causes of 17 electrical fires. The inquiry's forensic electrical 18 examination work started in November 2017. The 19 painstaking preliminary work has now been completed, so 20 Dr Glover can now consider issues concerning the wiring 21 of flat 16, as well as the electrical appliances within 22 the flat. Once he has had the opportunity to digest the 23 voluminous material relevant to that part of the 24 investigation, Dr Glover's report will then be 25 circulated during the course of Phase 1.</p> <p style="text-align: center;">Page 26</p>	<p>1 by Clifford Wearden & Associates in the late 1960s. 2 Phase 1 was approved in 1970, and construction of 3 Grenfell Tower, by contractors AE Symes of Leyton in 4 London, commenced in 1972. The building was completed 5 in 1974. 6 Grenfell Tower is owned by the Local Authority, the 7 Royal Borough of Kensington and Chelsea, or RBKC. RBKC 8 is an inner London borough of royal status. It is the 9 smallest borough in London and the second smallest 10 district in England, but it is one of the most densely 11 populated in the United Kingdom. 12 Grenfell Tower was part of RBKC's provision of 13 social housing in the borough. At the time of the fire, 14 the tower was home to a mix of social housing tenants, 15 private tenants and leaseholders. 16 The management of social housing in the borough was 17 devolved to Kensington and Chelsea TMO, or the TMO, 18 a tenant management organisation, in 1996, under the 19 then "right to manage" legislation. 20 Grenfell Tower comprises, in all, 25 storeys, ground 21 to level 23, plus a plant floor at roof level. It is 22 around 67 metres high and it originally contained 120 23 one- and two-bedroom flats, six dwellings per floor, on 24 20 of the 25 storeys, including the ground, with the 25 other four being used for non-residential purposes.</p> <p style="text-align: center;">Page 28</p>

<p>1 After the most recent refurbishment it contained 129 2 flats. 3 I am now going to introduce you to some detail about 4 the building. 5 This is where Grenfell Tower stands within London, 6 just to the west of Marylebone and to the north of 7 Hammersmith and Shepherd's Bush. 8 If you go to the next, please. 9 That is a plan view of the locality, and just 10 pausing there, you can see Grenfell Tower in the middle 11 with, to the south, three walkways. If you start to 12 rotate to the east, you can see Hurstway Walk to the 13 west, Testerton Walk in the middle and there, just 14 coming into view to the east, is the third walkway, 15 Barandon Walk. The name is just appearing. 16 To the east we have Treadgold House, sitting on the 17 east side of Grenfell Road, and to the northeast of that 18 you'll see there the Kensington Leisure Centre. To the 19 northeast of the building and running to the northeast 20 is Kensington Aldridge Academy, and to the immediate 21 east of the building we have Lancaster Green. You can 22 see the A40 running away there to the west and the 23 London tube line, with Latimer Road station to the 24 southwest of the building. 25 If we just pause there, you can see that we're</p> <p style="text-align: center;">Page 29</p>	<p>1 columns, and on the south face, if you pan to the south, 2 you can see there are three internal vertical columns. 3 The west and east faces had two vertical columns and the 4 south and north faces had three. Those columns formed 5 an important architectural feature in the geometry of 6 each of the facades, and we will be coming to look at 7 those in a little bit more detail shortly today. 8 If you go to the next section, please. 9 So far as access to the tower is concerned, you can 10 see there that the main access, the principal access 11 route, is Grenfell Road, running from the south to the 12 north, and you can see that it performs a left-hand turn 13 running to the east as it tucks in under the roof of the 14 walkway before turning right to bring you immediately 15 outside Grenfell Tower. That was the route that the 16 evidence suggests was taken by the initial pumps 17 arriving on the night of the fire to attend to the 18 incident. 19 There are two other approaches in blue there: 20 Silchester Road, which comes in under the railway tunnel 21 from west to east and then goes south, and Station Walk. 22 Those were not vehicle access routes, at least 23 primarily. 24 If you just again rotate, please, around to the west 25 of the tower, everybody can get a good view of what the</p> <p style="text-align: center;">Page 31</p>
<p>1 looking at the east face and the north face, and 2 Lancaster Green lies immediately to the building's east. 3 If you pan in just a little bit, please, to the 4 building, you will also see a little bit more detail of 5 the green, which you can see is bedecked with trees, and 6 just to the south and to the southeast of the building, 7 in its southeast corner, is a covered area, sometimes 8 known as "the garages" or the "walkway roof", as the 9 evidence will sometimes refer to it, which sits at the 10 north end of Barandon Walk and Testerton Walk. 11 If you just pan on round to the north, please, you 12 can see running to the north of the building from west 13 to east is a pedestrian walkway which then cuts down 14 southwards, skirting Lancaster Green, Kensington 15 Aldridge Academy always to the north. 16 If you move round to the west side of the building, 17 you can see coming into view what isn't in fact on this 18 model but is a green area with trees, and that is 19 a playground, and as we'll see in a moment, access to 20 the playground is from the ground floor nursery. 21 If you just please move on round to the west and 22 then just take me to the southwest corner, I'll just 23 point out a feature of the building which is important. 24 Just pausing there, you can see there that on the west 25 face, within the face of the building are two vertical</p> <p style="text-align: center;">Page 30</p>	<p>1 principal access route and the secondary access routes 2 were. 3 Thank you. 4 Could you please go to the next section. 5 Bollards. Bollards feature a little bit in this 6 story and we thought it right to identify where they 7 were. There are fixed bollards to the southwest of the 8 building and there are retractable bollards identified 9 in those two locations. If you could just please pan in 10 on those so we see the detail. They were bollards which 11 would otherwise, if up, have restricted access to the 12 building on the night, but they were retractable and we 13 will investigate the retraction of those bollards and 14 the time at which they were retracted. 15 If you could please go to the next section. 16 Water supply. Here we have identified on the model 17 where the water supply for the Fire Brigade was to be 18 found. There are four sources of water. These are 19 hydrants. If you could pan in a little bit there, 20 you'll see that there are two to the west of the 21 Aldridge Academy and then one underneath or just 22 underneath the covered walkway to the southeast of the 23 tower in red, just next to the trees there. If you 24 could please pan in on that as best you can, you may be 25 able to get a little bit more detail. That was the</p> <p style="text-align: center;">Page 32</p>

<p>1 principal fire hydrant utilised on arrival by the LFB, 2 as we understand it, on the night of the fire. Then 3 there is a fourth hydrant to the southwest of the 4 building indicated there on the right-hand-most side, 5 indicated in red. 6 If you could just pan around again to the west, you 7 can see the 360-degree view of the building in relation 8 to the fire hydrants. 9 (Pause) 10 Again, I should, when we come to it, note the point 11 that the fire hydrant there to the southwest of the 12 building was close to the dry rising main inlet, which 13 is, as we'll see, to be found on the south of the tower 14 at ground level, just to the left of the main entrance 15 door. 16 I think that will do. Could we please go to the 17 next section, which is lifts. 18 This is a plan view on the right of where the lifts 19 or lift shafts are to be found in the building, and you 20 can see on plan view there they are indicated in red 21 squares. 22 So the lift lobbies lie to the east of the lifts in 23 all cases and the lift shafts run up from the ground 24 floor up to the lift motor room, as you can see from the 25 3D diagram there.</p> <p style="text-align: center;">Page 33</p>	<p>1 stairs to bring you out of the exit into the open air 2 through the main entrance to the building. 3 If I can just ask you to pause there, would you just 4 identify where the dry rising main inlet is to be found. 5 Yes, it's there to the left of the main entrance. Thank 6 you. 7 Could we now please turn to the next section, which 8 is drawings. We start with the ground floor, if we may. 9 Now, this is the ground floor layout. You can see 10 the entrance there to the south and then, moving 11 clockwise, going to the west, we have the community room 12 and then the nursery on the west face and the whole of 13 the north face. Then moving round in a clockwise 14 direction onto the east face, we have the east windows 15 of the nursery and then a refuse chamber, a staircase 16 and a transformer chamber, and then in the far southeast 17 corner, we have the staircase which we've just seen on 18 the previous part of the model. 19 Could we please see the first floor. 20 This is the first floor layout plan. Again, moving 21 in a clockwise direction, we start with flat 2, 22 occupying the southwest corner, flat 3 on the west, 23 flat 4 on the northwest, flat 5 in the northeast and 24 then, on the east side there, a community meeting room. 25 Then the next floor.</p> <p style="text-align: center;">Page 35</p>
<p>1 As I say, you can see the north compass just 2 disappearing from view behind the red lift shaft on the 3 model, and the lift shafts, as I say, were located to 4 the east of the lift lobbies in all cases. 5 We'll come to see this in a little bit more graphic 6 detail in just a moment. Before we do, could you please 7 go to the next section. 8 Flat 16 and the route out of flat 16. Could you 9 just pause there for a moment. You can see the geometry 10 of the staircase approach to and from flat 16. Flat 16, 11 as I said, lies on the east elevation occupying 12 essentially the northeast corner of the building on the 13 fourth floor, and there are a number of staircases which 14 one has to go down in order to get out of the building. 15 If I can just go into plan view to start with and then 16 we'll come back to the 3D view in a moment. 17 That is the plan view, and so in order to exit 18 flat 16, the occupants would have had to have left the 19 front door, which you see there on the right, and then 20 gone right, and then immediately left, through the lift 21 lobby, left into the stair door, and then left again 22 down the stairs, and then right and down the stairs, and 23 then again down several more flights of stairs to bring 24 one out to level 2, where there is a landing or 25 mezzanine, and then down again several more flights of</p> <p style="text-align: center;">Page 34</p>	<p>1 This is the second floor layout plan. Again, 2 starting in the south, moving clockwise, we have flat 6 3 in the southwest corner, and then the boxing club, which 4 occupies the rest of the west side, the whole of the 5 north side and part of the east side. 6 If you could please then go to the third floor 7 layout plan, which we now have, again moving in 8 a clockwise direction, we have from the south flat 8, 9, 9 10 and 7. Those were new flats as a result of the 2016 10 refurbishment. Four flats only on that floor, somewhat 11 larger than the flats that we see from floor 4 to 12 floor 23. 13 If you could please turn next to the fourth floor. 14 As I say, this is the fourth floor layout plan which was 15 the same replicated up the building. I will this time 16 start on the east face with flat 11, being the lowest of 17 the numbers, the six numbers. You have flat 11 on the 18 east side, flat 12 on the southeast, flat 13 on the 19 southwest, flat 14 on the west, flat 15 on the northwest 20 and flat 16 on the northeast. 21 Again, if we can, just looking at the plan, you'll 22 see that there in the middle are the lift shaft squares 23 and the two lefts there on the east side of the lift 24 lobby, and on the west side of the lift lobby we have 25 the door which goes down the stairs, the stairwell. If</p> <p style="text-align: center;">Page 36</p>

<p>1 you could just identify that with the mouse, that would 2 be helpful. You'll see it again in just a moment 3 a little bit more graphically, but to give you a plan 4 view, that is where the lifts are, that is where the 5 door is to the stairs. Just to the north of that is the 6 refuse room and refuse shoot. 7 If you could please now go to the next section. 8 This is a 3D model of the plans that we've just 9 seen, and I think I can take these quickly. The 10 intention here is to provide a 3D idea of the various 11 features inside the building. 12 So we start with the building core walls there in 13 grey. The AOV, the automatic opening vents for smoke, 14 has a control box there in yellow, which you can just 15 see there in the main entrance hall on the west wall 16 just to the north of the grey door. There will be some 17 evidence about that control box in due course. 18 Moving on down the key, you can see in green there 19 the ground floor lift doors and, moving on further down 20 the key, I think that's probably all we need to show you 21 from that floor. 22 If we move to the next floor, floor 1, you can see 23 the stairs on the southeast of the building to the 24 bottom left-hand corner of the picture, which we saw 25 before, and leading to the landing there, which then</p> <p style="text-align: center;">Page 37</p>	<p>1 I understand exactly where the bridgehead is located, 2 and it is in the lift lobby there on the second floor, 3 right in the centre of the building. 4 If you could then please turn to the next floor, 5 this is floor 3, with the four large flats. Again, 6 you've got the party walls there in brown, so that 7 divides off the four flats on the third floor. The 8 building core walls there. We have the dry riser outlet 9 again there in the southwest corner of the lift lobby. 10 We have the lift doors shown in green. We have the 11 stair door there, again. And I don't think we 12 illuminated it, but the AOV, the automatic opening 13 vents, there on the wall, the smoke vents, and I think 14 that's all we need from that plan. 15 Then if we go to the fourth floor, first of all if 16 we could look at flat 16 in plan, occupying the 17 northeast corner of the building, you can see, as we 18 will come to in much greater detail when we come to the 19 evidence of the occupants, but you can see the flat 20 front doors of all of the flats on that floor in yellow, 21 the flat 16 front door in yellow there to the north or 22 east corner of the lift lobby, and you go in and there 23 is immediately opposite you a bedroom, if we can just 24 identify that with the cursor there. Next to it 25 a second bedroom. The hallway then runs down past the</p> <p style="text-align: center;">Page 39</p>
<p>1 comes into the lift lobby. 2 Features there are we have the building core walls 3 there in grey. We have the dry riser, which is the dry 4 riser outlet, which is where the London Fire Brigade 5 plug their hoses into. You can see it there, just to 6 the left of the lifts, to the southwest of the lift 7 lobby, and that is replicated on all floors up the 8 building. So it's there. It's important to remember 9 where that is in comparison with various flats. 10 We have the flat front doors, which are just coming 11 into view there in yellow; the lift doors, in green 12 again; and the stair door, which is opposite the lift 13 just there. 14 If you go to the next level, please, floor 2, this 15 is where the boxing club is, which is the big space to 16 the north and west of the building core. The building 17 core is there in grey. There is a dry riser there as 18 well, which is just illuminated there. We have the 19 stair door as well, which I think, although it is 20 illuminated, isn't showing up -- there it -- is. The 21 stair doors which bring one down, and in turquoise or 22 very bright blue we have the bridgehead. 23 Now, there will be much evidence about the 24 bridgehead, where it was located and its various times 25 of movement during the night. It is important that</p> <p style="text-align: center;">Page 38</p>	<p>1 lavatory and bathroom on the right into an L-shaped 2 living room in the northeast corner, which is then 3 divided off from the kitchen by what are sliding doors, 4 and that is the kitchen space of flat 16 of 5 Grenfell Tower where the cursor is now. 6 If you can now move then into a slightly more angled 7 view so that you can see the other main features for the 8 moment, we can see the AOV on the walls there, just 9 between the doors to flat 16 and flat 17. We can see 10 the dry riser outlet tucked away there in the southwest 11 corner of the lift lobby. We've got the lift doors 12 there in green and the stair door there in purple or 13 pink, brightly illuminated. 14 Just dwell on that for a moment, if you would, 15 please. You can see the route now very easily from 16 flat 16 and indeed all the other flats on that floor, 17 and indeed all other floors, which take you to the stair 18 door, and there will be much evidence about that. 19 In blue illuminated now, out of the yellow front 20 doors, is the blue route or route in blue which people 21 would have to take from their individual flats to the 22 stair door. 23 If you could now go finally, please, to floor 23. 24 This is exactly the same layout and exactly the same 25 features, except that you will note, and there is some</p> <p style="text-align: center;">Page 40</p>

1 evidence, that on the landing of floor 23 was a metal
 2 gate impeding access to the 24th floor and the roof
 3 plant.
 4 Thank you very much.
 5 There were also in the building various CCTV
 6 cameras. We didn't show them on the model because there
 7 is still a little bit of doubt about where precisely
 8 they are located. It may not matter. We have five in
 9 the main entrance, one outside the boxing club over the
 10 stairs there, one in the lobby on level 7 and one in one
 11 of the lifts.
 12 Mr Chairman, I'm going to move on now to some detail
 13 about the construction of the building, but I'm looking
 14 at the clock and the transcribers have been galloping to
 15 keep up with me for the last hour. I wonder whether now
 16 may be an appropriate moment for the transcribers'
 17 break.
 18 SIR MARTIN MOORE-BICK: Yes. Thank you very much. Would
 19 10 minutes be about right?
 20 MR MILLETT: Yes, certainly, Mr Chairman.
 21 SIR MARTIN MOORE-BICK: Then I'll rise for 10 minutes.
 22 MR MILLETT: Thank you.
 23 (11.14 am)
 24 (A short break)
 25 (11.30 am)

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1 SIR MARTIN MOORE-BICK: Mr Millett, before you resume, could
 2 I just say: I'm sorry that it's rather crowded at the
 3 back of the room, but I hope you'll understand that we
 4 wanted to enable as many people as possible to be here
 5 in the hearing room to see and hear what's going on, so
 6 please bear with us, we're doing our best.
 7 The other thing is that I know it's rather warm in
 8 here. Now, I've asked people whether we can turn up the
 9 air conditioning or do anything to reduce the
 10 temperature and I'm told we're doing all we can, but can
 11 I just make it clear that if you want to take off your
 12 jacket or anything else to make yourself more
 13 comfortable, please feel free to do so. We're doing our
 14 best, as I say. I'm sorry we can't do much more.
 15 Yes, Mr Millett.
 16 MR MILLETT: Thank you, Mr Chairman.
 17 In terms of its original construction, here is
 18 a picture of the building before the latest
 19 refurbishment works which were planned in 2012 and
 20 completed in July 2016.
 21 Note, please, first of all, the concrete structure,
 22 and you can see, again, as I said before, the three
 23 central and corner columns on the north and south
 24 facades, three there in the centre and the two columns
 25 on each of the corners. The east and west faces have

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1 the two columns centrally running top to bottom.
 2 We also have running horizontally across the
 3 building concrete spandrels -- these are the spandrels
 4 there where my cursor is -- and note, if you can, the
 5 detail of the original windows with these white sandwich
 6 panels between the windows.
 7 The building had a reinforced concrete core, it had
 8 reinforced concrete floors, it had perimeter reinforced
 9 concrete columns, and on the exterior of the building
 10 were, as you can see, horizontal concrete panels. The
 11 windows were sliding aluminium frames and the infill
 12 panels or sandwich panels -- we use the words
 13 interchangeably sometimes -- are there. On the concrete
 14 columns, precast biscuits, as they were called, were
 15 used as permanent facing for the columns.
 16 The building had a layout we've seen now which is
 17 familiar: flat 1 on the east facade running in
 18 a clockwise direction around to flat 6 in the northeast,
 19 and again you can see from this plan the lift lobby with
 20 the lifts again on the west side and the stair door on
 21 the east side.
 22 Noting, please, six flats per floor. They number
 23 from the centre of the east facade clockwise around to
 24 number 6. Flat 16 is on the northeast corner.
 25 To work out which flat numbers are on a given floor,

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1 you add 3 -- the number 3 -- to the first number or
 2 first two numbers of the flat. So, for example, flat 16
 3 is on the fourth floor -- adding 3 to the 1 in 16, gives
 4 you 4 -- and it's the sixth flat, flat 6, on the fourth
 5 floor. Flat 26 is on the fifth floor, flat 6, and flat
 6 195 is on the 22nd floor, flat 5. On the plan, you can
 7 see that whichever floor you are on, the flat where the
 8 last number is 6 is always in the northeast corner: so
 9 16, 26, 36, et cetera.
 10 Just note on the plan for the time being the lobby,
 11 the stairs, the lifts and the stairwell door. As I've
 12 said before, those are going to become very important in
 13 terms of the detail.
 14 Turning to the 2016 refurbishment.
 15 In terms of the history of the building, the most
 16 significant development in terms of the state of the
 17 building on the night of the fire is the 2012 to 2016
 18 refurbishment. It's described in detail in section 4 of
 19 Dr Lane's report.
 20 This, on the screen, is an image of the building
 21 taken after the refurbishment works were completed.
 22 It's taken from figure 8.32 of Dr Lane's report.
 23 If you would note the columns on the north, east,
 24 south and west faces have been overlaid, and you can see
 25 the cladding running up the columns here where the

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<p>1 cursor is running, and you can see that the corners have 2 also been overclad. The spandrels running horizontally 3 below the windows and above the windows have been 4 overclad, and the sandwich panels or infill panels have 5 been replaced with new sandwich panels. So have the 6 windows. We will be examining the new windows in 7 a moment.</p> <p>8 Now, this was a substantial refurbishment. Planning 9 permission was sought first in 2012 and an initial lead 10 contractor, Leadbitter, was appointed. However, after 11 a further procurement process, Rydon Maintenance Limited 12 was eventually appointed the design and build contractor 13 in June 2014.</p> <p>14 The architect for the 2012 to 2016 refurbishment was 15 Studio E. The employer's agent and quantity surveyor 16 was Artelia Projects UK Limited. Specialist fire 17 engineering advice was provided by Exova Warringtonfire.</p> <p>18 The client for the refurbishment works was KCTMO. 19 The refurbishment works were funded by RBKC and the 20 funds were released in May 2012. The Department of 21 Building Control at RBKC acted as building control 22 authority and they conducted a number of inspection 23 visits between August 2014 and July 2016. The building 24 certificate for completion of these works was signed by 25 RBKC on 7 July 2016.</p> <p style="text-align: center;">Page 45</p>	<p>1 Dr Lane and Professor Bisby are going to introduce 2 the important aspects of the physical building in their 3 presentation the week after next. That will include 4 an explanation of how the new facade system was 5 configured.</p> <p>6 In terms of the key features of this system, I start 7 with the rainscreen outer layer that we saw a moment ago 8 from the photograph of the building. This was 9 a Reynobond 55 PE -- polyethylene -- cassette system 10 aluminium composite panel, or ACP. This consisted, as 11 we can see from this picture, of a 3-millimetre thick 12 core of polyethylene, which is there on the picture in 13 black, bonded between two 0.5-millimetre thick pieces of 14 aluminium skin. And you can see the aluminium skin and 15 the polyethylene -- or PE -- core on both of these 16 pictures.</p> <p>17 Now, polyethylene is a combustible synthetic 18 thermoplastic polymer which melts and drips upon 19 exposure to heat and which can also flow whilst burning. 20 It has a high calorific value as compared with other 21 common construction materials and it will provide a fuel 22 source for a growing and spreading fire. It melts at 23 130 to 135 degrees centigrade and it ignites at 24 377 degrees centigrade or so.</p> <p>25 These aluminium composite panels -- ACPs -- covered</p> <p style="text-align: center;">Page 47</p>
<p>1 The refurbishment work affected both the outside and 2 the inside of the building. It incorporated the 3 overcladding of every storey of the existing building 4 with a cladding system comprising, among other things, 5 exterior insulation and a rainscreen, an aluminium 6 rainscreen, or ACP, as we will hear. The cladding 7 subcontractor was Harley Facades, a company formerly 8 known as Harley Curtain Wall Limited.</p> <p>9 Additionally, there was a full refurbishment 10 internally of the very lowest floors of the tower, 11 between ground and level 3 inclusive, including 12 structural works. That included the creation of the 13 nine new flats in these lower levels that we've seen 14 from the model that we looked at earlier this morning.</p> <p>15 There were also building services works within every 16 floor and within every flat within the tower. The 17 mechanical and electrical engineer was Max Fordham and 18 the services contractor was JS Wright.</p> <p>19 These internal building services works included the 20 fitting of a new heating system to all areas. It 21 included the provision of a new boosted cold water 22 distribution system, and also the refurbishment and 23 extension of the smoke control and environmental 24 ventilation system, together with some alterations to 25 the dry riser system.</p> <p style="text-align: center;">Page 46</p>	<p>1 the face of the building, where they were hung onto 2 rails as spandrel panels moving horizontally, and were 3 also present on the columns of the buildings, as we've 4 seen.</p> <p>5 There were also fins of APC around the top of the 6 building, as you can see there where the cursor is, 7 which created an architectural crown.</p> <p>8 Now, this ACP rainscreen outer layer was on the 9 exterior of the building between levels 4 and 23. It 10 was manufactured by Arconic Architectural Products and 11 it was fabricated for specific use at Grenfell Tower by 12 CEP Architectural Facades, who cut it and shaped it for 13 application on the building.</p> <p>14 According to Arconic's opening submissions, they 15 accept that this product was not of limited 16 combustibility for the purposes of the building 17 regulations, and their position is that this should have 18 been obvious to any construction professional.</p> <p>19 Behind the main ACP spandrel panels were two layers 20 of combustible polyisocyanurate -- or PIR -- polymer 21 foam insulation attached directly to the building.</p> <p>22 Now, depending on its location on the building, that 23 PIR insulation was of two alternative kinds: it was 24 either Celotex PIR RS5000 or it was Kingspan K15, which 25 is phenolic.</p> <p style="text-align: center;">Page 48</p>

<p>1 As to Celotex, you can see here from this picture 2 how it was applied behind or as part of the spandrel 3 structure. Note to the right of the polymer foam 4 insulation board is indicated the aluminium cladding 5 rail. You can see the detail of that just there running 6 up and down in the black. I have my cursor on it. 7 There is the aluminium cladding rail there on the right 8 side, and to the left side also another aluminium 9 cladding rail. That was onto which the cassettes were 10 to be hung. As I say, behind it you can see the polymer 11 foam insulation, and note also the exposed cut edge. 12 As to Kingspan, you can see it there. 13 So far as Celotex is concerned -- we'll go back to 14 it there -- the RS5000 was also used as insulation on 15 the vertical columns that ascended the building on each 16 of the faces, two each on the east and west and three 17 each on the north and south. And here we see the 18 insulation in situ on the columns. You can see that 19 it's Celotex. 20 Now, PIR has an ignition point of 306 to 377 degrees 21 centigrade but a low thermal inertia. Now, as 22 Professor Bisby explains, what this means is that PIR 23 has a comparatively low time to ignition and it can 24 support rapid fire spread of adjacent materials because 25 it effectively insulates the cavity from heat loss.</p> <p style="text-align: center;">Page 49</p>	<p>1 In pink here we have the column ACP panels, which were 2 Celotex RS5000, as I've said. 3 Here is a photograph after the fire of the exterior 4 of the cladding system. Note again the same features. 5 The spandrel section ACM or ACP rainscreen cassettes. 6 You can see them there still in place. Here are the 7 column ACM or ACP rainscreen cassettes moving up the 8 column side of the building. There are two window 9 infill panels and, as I said just a moment ago, the 10 kitchen extractor fan which is mounted within the window 11 infill panel there at the top left-hand side of the 12 window looking in from outside, or the right-hand side 13 of the window looking out from within. 14 This next slide shows the key features of the 15 cladding. It's taken from Dr Lane's report. It's 16 figure 8.8 in section 8 of that report. It helps to 17 explain in more detail the make-up of the new facade 18 system, including the insulation behind the ACP 19 rainscreen panels and the location of the cavity 20 barriers in the facade. And looking at the detail of it 21 here, you can see the various features: you've got the 22 original concrete spandrel panels running along 23 horizontally there where the cursor is, and then you've 24 got the rainscreen cavity insulation behind these rails 25 here and various different metal angles for cladding</p> <p style="text-align: center;">Page 51</p>
<p>1 As to Kingspan K15 (phenolic), I should say that it 2 seems that this accounted for a relatively small 3 percentage of the cladding surface area compared to the 4 Celotex RS5000 product and further investigations are 5 continuing by the inquiry team. 6 Present in the facade system were also a number of 7 open cavities, some of which were significant in terms 8 of their size and their location. This is a topic to 9 which I will return later in my opening address when 10 I summarise the main hypotheses which are beginning now 11 to emerge from the expert evidence. 12 However, it should be noted that some cavity 13 barriers had been installed in the facade system, both 14 in the horizontal and in the vertical orientation. 15 These figures here, on the next slide and the one 16 after, which are from Professor Bisby's report, show the 17 key features on the exterior of the rainscreen cladding. 18 On this first slide, which is Professor Bisby's figure 8 19 in his report, you can see the ACP spandrel panels in 20 blue -- there they are, the spandrels running 21 horizontally above and below the window sets and the 22 sandwich panels -- you can see the sandwich panels or 23 window infill panels there in yellow, and on the 24 left-hand side there's a small one there which we'll 25 come to in a moment; that contains the extractor fan.</p> <p style="text-align: center;">Page 50</p>	<p>1 fixings in green. You've got those on the column there 2 and you've got the U-shaped cladding rails running 3 horizontally there across the spandrel. You've got 4 vertical full fill cavity barriers within the column 5 there, and various other features over which the column 6 rainscreen cladding panel was affixed, and you can see 7 that on the column there where the cursor is, and you 8 can also see it here on the other side. The upper 9 diagram shows how the spandrel cladding panels were hung 10 onto cladding rails, which you cannot see other than in 11 exposed form there. 12 You also have something we'll come to in a moment in 13 blue, but I would ask you to note it, which is the EPDM 14 polymer membrane there, which was the damp proof course 15 which will be looked at in some more detail by me and 16 particularly by Dr Lane when she comes to give her 17 presentation. 18 It's important also to say something about the new 19 windows which were installed as part of the main 20 refurbishment of the tower between 2012 and 2016. 21 New windows were installed on every floor and the 22 refurbishment effectively moved the new window frames 23 outwards so that they sat no longer flush with the 24 concrete as they had been, but flush within the new 25 cladding system. This is helpfully illustrated in</p> <p style="text-align: center;">Page 52</p>

<p>1 figure 8.24 of Dr Lane's report. 2 This is a photograph taken which shows the windows 3 being reduced in size than the original windows. The 4 changes created a gap which you can see between the 5 concrete and the facade system, and you can see that the 6 gap was filled there with EPDM, a polymer product. You 7 can also see from this that the windows had been moved 8 outwards to sit within the cladding system. 9 And then the gap, as we'll see in a moment, was 10 covered with uPVC, or unplasticised polyvinyl chloride, 11 a solid combustible plastic. 12 That is what the windows looked like after 13 completion of the refurbishment. You can see the new 14 window jamb in yellow on the vertical sides of each of 15 the sides of the window. You can see a new windowsill 16 in uPVC finish, and the window header also had a uPVC 17 finish. 18 Then sitting in front of the window frame, running 19 along the ceiling, was the original purlboard ceiling 20 filler strip. I'll come back to purlboard in just 21 a moment, but just note it there at the window header 22 for the time being. 23 So far as uPVC is concerned, it is combustible and 24 it deforms at relatively low temperatures: 75 to 25 100 degrees.</p> <p style="text-align: center;">Page 53</p>	<p>1 the perimeter of the ceilings, which we've just seen, 2 was a strip of original insulation board which was left 3 in place during the refurbishment works. It's believed 4 to be a polyurethane foam called purlboard. 5 Polyurethane -- or PU -- is a rigid combustible plastic 6 with an ignition temperature of 356 degrees centigrade. 7 And there it is on this slide. 8 In kitchens in the tower, there were kitchen vent 9 panels. These were incorporated as part of the window 10 set. The ventilation fan was set within an insulating 11 core panel, which was also combustible, possibly 12 Styrofoam or expanded polystyrene of another kind. This 13 slide here is taken from Dr Lane's figure 9.20 in 14 section 9 of her report. 15 These features of the kitchen windows are helpfully 16 illustrated by this slide, which is 9.19 of Dr Lane's 17 report. This is a picture taken in flat 13 of 18 Grenfell Tower, which is on floor 4 but on the opposite 19 side of the tower to flat 16. This is exactly what the 20 kitchen window set in flat 16 would have looked like 21 before the fire. 22 In terms of the history of the building, there are 23 two other major works which were carried out at the 24 tower which were separate from the 2012 to 2016 25 refurbishment which are of key relevance to our</p> <p style="text-align: center;">Page 55</p>
<p>1 Now, the uPVC appeared to have been glued onto 2 25-millimetre PIR insulation material, manufactured 3 either by Celotex or by Kingspan. They were either 4 Celotex TB4000 or Kingspan Thermapitch TP10. 5 Now, PIR I've already mentioned -- polyisocyanurate, 6 a rigid plastic foam -- is combustible. This particular 7 product was much thinner than that which was used for 8 the cladding affixed to the external concrete. 9 Behind the insulation was a damp-proof course, which 10 we've seen now already, of EPDM, which stands for 11 ethylene propylene diene monomer, which was fitted as 12 a weather-proof seal. It is combustible. 13 The new window infill panels, which we can now see 14 on this slide, were a product, it appears, called 15 Aluglaze. These are the white panels on the building 16 post-refurbishment. Like the windows, these were also 17 set flush within the cladding system. Aluglaze is 18 a product comprising an insulating core of 19 25 millimetres of Styrofoam, which is expanded 20 polystyrene -- and you can see it on this slide in blue, 21 it's the blue insulation filler -- sandwiched between 22 aluminium panels of 1.5 millimetres thickness. 23 Styrofoam is combustible; it ignites at 356 degrees 24 centigrade. 25 Internally, above the windows and in a band around</p> <p style="text-align: center;">Page 54</p>	<p>1 investigation into the condition of the building on the 2 night of the fire. 3 Those major works are, first, the flat entrance fire 4 door replacement works, which took place in 2011 from 5 levels 4 to 23 inclusive. This was a programme of works 6 which were intended to replace 106 flat entrance doors 7 with fire doors which complied with relevant fire safety 8 standards. 9 Secondly, the gas supply works which took place 10 between October 2016 and June 2017. This new tenant gas 11 supply was required because of corrosion within one of 12 the existing gas risers, which had led to a small gas 13 leak in September 2016. The gasworks were unfinished at 14 the time of the fire in June 2017. 15 Dr Lane will be giving a detailed presentation about 16 the history of the building, including the major 17 refurbishment works and the building more generally, in 18 her presentation the week after next to set the scene 19 for Phase 1. 20 I now come to the next section of this introduction, 21 which is the active and passive fire safety systems 22 relevant to Grenfell Tower. 23 In her detailed Phase 1 report, Dr Lane identified 24 the active and passive fire safety systems which were 25 present in the tower at the time of the fire. Her oral</p> <p style="text-align: center;">Page 56</p>

<p>1 presentation will cover that topic in terms of 2 identifying what those active and passive measures were. 3 They are summarised helpfully in a table, table A, of 4 section 2 of her report. 5 In terms of passive systems, those included the 6 single stair, the lobbies and the fire doors, all of 7 which were required to be fire-rated to particular 8 standards in accordance with the building regulations. 9 Note also compartmentation, fire stopping and cavity 10 barriers as elements in her list of passive fire safety 11 systems. 12 The flat entrance doors and the doors between the 13 lobbies and the stairs were both important elements of 14 the lobby enclosure and both of which were required to 15 meet specific fire safety standards. 16 In terms of active systems within the building, some 17 key features are as follows: 18 1. All flats were provided with smoke alarms 19 individually. To that end, it should be noted that 20 there was no whole-building alarm system, nor was that 21 required under the relevant regulatory regime. 22 2. A smoke control system had been provided in the 23 lobbies which was designed to isolate all lobbies except 24 the floor where any fire was initially detected. 25 3. The lifts had some features -- some --</p> <p style="text-align: center;">Page 57</p>	<p>1 I now turn to the events of the night 2 of 14 June 2017. 3 It is Dr Lane's preliminary opinion as follows: 4 "5.1.1. The events that unfolded at Grenfell Tower 5 on 14 June 2017 rapidly became unprecedented. 6 "5.1.2. Rather than a fire within one internal 7 compartment, a major fire in the building envelope 8 occurred and this itself was on multiple storeys and 9 across multiple compartments. Additionally, there were 10 very many post-flashover fires internally, in multiple 11 compartments, on multiple storeys. 12 "5.1.3. The building envelope itself was therefore 13 a major hazard on the night of the fire. The active and 14 passive fire protection measures within the 15 Grenfell Tower were required to mitigate 16 an extraordinary event, and as a result the consequences 17 were catastrophic." 18 Turning to the fire within flat 16. 19 Professor Nic Daeid's clear preliminary view is that 20 the fire started in the kitchen of flat 16 on the fourth 21 floor. That view is shared by the forensic examiners 22 retained by the police who carried out an examination of 23 flat 16 in the immediate aftermath of the fire. 24 This on the screen is a floor plan of flat 16, which 25 includes the kitchen in the bottom right-hand corner.</p> <p style="text-align: center;">Page 59</p>
<p>1 consistent with a fire lift, which should have enabled 2 the fire service to control the lift in particular ways 3 in the event of a fire. 4 4. The lobbies were fitted with dry risers, as 5 we've seen from the model; in other words, empty pipes 6 which can be externally connected to a pressurised water 7 source by firefighters and which can then be used to 8 plug hoses into on each floor in the event of a fire. 9 Examples of these dry risers can be seen in the 10 following pictures from Dr Lane's report. These are 11 taken from figure 14.69 of Dr Lane's report within 12 section 14. 13 Just looking at them, on the top left-hand corner 14 we've got the ground level inlet -- that, as I said 15 before, was next to the main entrance of the building to 16 its left -- and then the various outlets from the dry 17 rising main, level 1, 2, 3, 4, and there's an example 18 from higher up the building, level 9. 19 As I will outline later on in this opening, Dr Lane 20 has evaluated the performance of these active and 21 passive safety systems on the night of the fire and she 22 will be giving oral evidence on those matters in the 23 latter part of Phase 1 once we have heard the evidence 24 from the firefighters, the survivors of the fire and the 25 bereaved.</p> <p style="text-align: center;">Page 58</p>	<p>1 This is taken from Professor Nic Daeid's report, 2 figure 12. 3 We know that the flat is on the northeast corner. 4 We have the front entrance there at the bottom of the 5 picture. We have a storage cupboard to the left as you 6 go in and then the hallway. Crossing the hallway, 7 moving north, you go into bedroom 1. Bedroom 1 was 8 occupied by a lady called Almaz Kinfu. Next to it was 9 a second bedroom occupied by a lady called 10 Elsa Afeworki. 11 Moving down the hallway, to the right there is 12 a bathroom and, beyond that, a lavatory. Then, at the 13 end of the hall, to the left you enter the living room, 14 which is an L-shaped room which has sliding doors to the 15 south, and then in the far southeast corner of the flat, 16 the kitchen. The kitchen is divided from the living 17 room itself by sliding doors. 18 This further floor plan here on this next slide 19 shows the kitchen in more detail, including the location 20 of a number of appliances or features of the kitchen. 21 This is now looking at the kitchen from north to 22 south -- south at the top, north at the bottom if you 23 will -- and you can see the exterior column of the 24 building in the top left corner of the diagram, and the 25 window in blue on the very far left running top to</p> <p style="text-align: center;">Page 60</p>

<p>1 bottom. That's the window set which shows you the 2 approximate position of the extractor fan and the rest 3 of the kitchen window. Note particularly that the 4 kitchen window abuts the column. 5 From the door, on the bottom right-hand side of the 6 slide, the door opens from left to right and you enter 7 straight into the kitchen from the hallway. Immediately 8 opposite you there is a microwave, to the left of that 9 a sink and then a washing machine, and then a cooker and 10 then, next to the cooker, nearer the window, the tall 11 fridge freezer. There is then a gap where unknown 12 materials were, and there will be some evidence about 13 that, we anticipate. 14 Then you have the window and the approximate 15 position of the extractor fan -- remembering what we saw 16 earlier about precisely where the extractor fan was 17 positioned within a combustible panel -- and then the 18 assumed position of an old freezer and a small fridge, 19 the small fridge perhaps on top of the old freezer. 20 Precisely how these were laid out will be the 21 subject of further evidence about flat 16 which is to 22 come. 23 In Professor Nic Daeid's view, the evidence thus far 24 suggests that it is more likely than not that the area 25 of origin of the fire was in or around the tall fridge</p> <p style="text-align: center;">Page 61</p>	<p>1 until 12.45, or we can pause now and I can complete the 2 rest of my address after the prayer and lunch 3 adjournment. 4 SIR MARTIN MOORE-BICK: Well, it would make more sense, 5 wouldn't it, for you to carry on and see the photographs 6 and videos at this point? 7 MR MILLETT: Yes, very well. 8 SIR MARTIN MOORE-BICK: Shall I rise for a couple 9 of minutes? 10 MR MILLETT: Would you, Mr Chairman? 11 SIR MARTIN MOORE-BICK: I'll be close by and I'll just rise 12 for long enough for people to decide whether they wish 13 to leave or not, and as soon as we're ready to continue, 14 the usher will get me. 15 MR MILLETT: Very good. Shall we say 5 minutes? 16 SIR MARTIN MOORE-BICK: If it needs 5 minutes, 5 minutes. 17 MR MILLETT: Thank you very much. 18 (12.12 pm) 19 (A short break) 20 (12.18 pm) 21 SIR MARTIN MOORE-BICK: Yes, Mr Millett. 22 MR MILLETT: Thank you, Mr Chairman. 23 The first call to the London Fire Brigade was made 24 at 00.54 am by Mr Behailu Kebede, who was the tenant of 25 flat 16. We will be shortly hearing his call, which</p> <p style="text-align: center;">Page 63</p>
<p>1 freezer in the southeastern part of the kitchen within 2 flat 16. The area of origin includes the area between 3 the tall fridge freezer and the window. The 4 fridge freezer was a Hotpoint FF175BP made by 5 Whirlpool Corporation. 6 That area in the flat can be seen in the following 7 figure from Professor Nic Daeid's report, which is 8 marked by the red line on the left of this sketch plan 9 in a curved area between the window and the tall 10 fridge freezer. 11 Now, Mr Chairman, I've reached this point a little 12 bit earlier than I was otherwise going to. The reason 13 I've stopped short is this. 14 I am now going to be showing some still photographs 15 and then a lengthy video piece of some 12 minutes 16 showing the building on fire on the night. Now, anybody 17 who thinks they might find these images distressing -- 18 as they might -- should leave the room, and I was going 19 to suggest that we take perhaps a short break now and 20 come to it. The video itself is not immediately 21 following, but there are pictures which people might 22 find distressing. 23 So, Mr Chairman, I'm in your hands. We can rise for 24 5 minutes to allow people to leave the room or the live 25 stream rooms if they wish to and then we can continue</p> <p style="text-align: center;">Page 62</p>	<p>1 lasted about 1 minute and 36 seconds, as part of the 2 video. We will be receiving evidence from him and from 3 other occupants of the flat who were present in the flat 4 on the night of the fire. 5 At the moment, there are some question marks about 6 whether Mr Kebede's health enables him to attend to give 7 oral evidence to the inquiry at this time in addition to 8 his various written witness statements. We propose at 9 this stage to read his written evidence into the record 10 and then to call him to give oral evidence in September 11 if necessary and if his health permits it. 12 I should also mention, Mr Chairman, that on Friday 13 evening the inquiry received a lengthy written witness 14 statement from Mr Kebede produced at the invitation of 15 the inquiry which we are urgently considering. 16 We have disclosed the statements for Almaz Kinfu and 17 Elsa Afeworki, both those that they did for the police 18 and those that they did for the inquiry, and our present 19 intention, subject to anything new emerging, is to read 20 those statements into the record but not to call them to 21 give oral evidence. 22 In terms of how the events on the night unfolded, 23 I am about to identify some key points in the time-line 24 about which we have some confidence. However, I must 25 stress that all times at the moment remain provisional</p> <p style="text-align: center;">Page 64</p>

<p>1 and will need to be investigated further and confirmed 2 by the factual evidence as it emerges. 3 Following Mr Kebede's call at 00.54 hours, at 4 00.55 hours, three pumps were dispatched by the LFB in 5 response. These were G272 and G271 from North 6 Kensington fire station, and G331 from Kensington fire 7 station. There were a total of 16 firefighters on their 8 way. 9 At 00.59 a fourth appliance or pump or fire 10 engine -- the terms are interchangeable -- was 11 dispatched from Hammersmith, which was G362, with 12 a further four firefighters on it. It had been 13 dispatched because it had been determined that this was 14 a high-rise incident. 15 We will be hearing and reading evidence from 16 firefighters who initially attended the fire, and we 17 will be examining in some detail the thermal imaging 18 camera footage taken by the firefighters attending 19 within flat 16 at the start of the fire and examining in 20 detail its particular timing. 21 The initial incident commander was firefighter 22 Mike Dowden from North Kensington. He set up the 23 bridgehead on level 2, two floors below the fire floor, 24 as the witnesses will say was usual practice. 25 Evidence is beginning to emerge that the first crew</p> <p style="text-align: center;">Page 65</p>	<p>1 covering of the window reveals and penetrating the 2 combustible materials around the window frames before 3 igniting the facade materials. 4 The first firefighters did not get to and did not 5 open the kitchen door inside flat 16 for the first time 6 until 1.14 am and were not fighting the fire within the 7 kitchen until 1.18 am or so. 8 By this stage, it is probable that the fire had 9 already taken hold of the exterior cladding, with 10 melting and burning material dripping from that 11 cladding. If we can please have slide 33. Thank you 12 very much. Here is a photograph taken of the fire in 13 the cladding, and you'll note that the capture of that 14 photograph is between 01.09.26 and 01.09.36. It comes 15 from Professor Bisby's report at figure 60. You can see 16 that Professor Bisby has identified that at this stage 17 flames were extending from the window on the exterior 18 and that there was a regular flow of falling, burning 19 material. 20 Precisely what happened in the kitchen to get the 21 fire to the combustible materials around the window set 22 and to ignite them is not yet known. 23 The science of the heat and fire spread which would 24 permit ignition of these materials is covered in detail 25 in Professor Torero's Phase 1 report. It will be</p> <p style="text-align: center;">Page 67</p>
<p>1 at the scene discovered that the firefighter switch for 2 the lifts, which would give the London Fire Brigade sole 3 control over the lifts, was not operational. The dry 4 riser was charged at the external point with water and 5 the evidence of the first crews in attendance suggests 6 that hoses were plugged into the dry riser outlet on the 7 fourth floor, but we will have to explore precisely the 8 detail. 9 Based on the thermal imaging cameras carried by the 10 firefighter crews, the firefighters arrived at flat 16 11 at around 1.07. We will be exploring with those 12 firefighters in more detail when they give evidence 13 precisely what times they arrived on the floor at the 14 door and what they did, and what they saw as they fought 15 the fire in the kitchen of flat 16. 16 As Professor Nic Daeid summarises it in her report, 17 although the area of origin is likely to have been in or 18 around the tall fridge freezer within the kitchen of 19 flat 16, the precise cause of the fire and its exact 20 point of ignition is not at this stage known. 21 What the evidence does suggest at this stage is, 22 first, that it is more likely than not that the fire had 23 an accidental cause as opposed to being a deliberate 24 act. Secondly, the initial fire grew hot enough to 25 escape from flat 16, possibly by deforming the uPVC</p> <p style="text-align: center;">Page 66</p>	<p>1 explored with him in detail when he gives evidence. 2 The inquiry will use its very best endeavours to 3 assist the chairman to determine the cause and origin of 4 this catastrophic fire that consumed the tower. In many 5 respects, however, the cause and origin may not be of 6 primary importance. While that is a question the 7 inquiry will strive to answer, an even more pressing 8 question from the perspective of the public interest and 9 public safety lies in the question of how the fire 10 penetrated the exterior envelope of the building and 11 thereafter spread so rapidly and so ferociously up and 12 around the exterior and back into the building. 13 In terms of flame spread and the key points of the 14 chronology of the night, the inquiry and the experts 15 have been assisted by a significant amount of video 16 footage provided by members of the public to the police 17 in the days after the fire. There are also other 18 sources of media from the night of the fire, including 19 footage from body-worn cameras of police officers and 20 from CCTV located outside the tower. 21 The inquiry's experts have been analysing that 22 available footage. They have been able to examine 23 precisely how the fire spread across the building and 24 over what time period. 25 I'm now going to play you a video montage which</p> <p style="text-align: center;">Page 68</p>

<p>1 Professor Luke Bisby has put together from footage sent 2 to the Met by members of the public. It starts with 3 Mr Kebede's initial 999 call and it shows the very early 4 development of the fire up the east face of the building 5 up to 01.36 am. The video lasts about 12 minutes. 6 I should again repeat the warning that the video 7 contains graphic scenes of the building on fire. It 8 also contains a bit of soundtrack and some people may 9 find it distressing. So if anybody has had second 10 thoughts after our first warning and a break, I would 11 suggest that those who don't want to see and hear this 12 video leave the room at this point. 13 Now, Professor Bisby, when he comes to do his 14 presentation the week after next, will be talking us 15 through this video in more detail and will highlight 16 certain particular features of the first phase of the 17 fire spread which he considers significant. 18 May we please play the video. 19 (Video played) 20 MR MILLETT: Mr Chairman, I think its probably now 21 an appropriate time to break for the prayers and lunch. 22 SIR MARTIN MOORE-BICK: Yes. 23 Mr Millett, you and I and many others in the room 24 have seen that footage or parts of it many times, but 25 it's truly shocking, isn't it, every time you see it?</p> <p style="text-align: center;">Page 69</p>	<p>1 free to get up and leave now. I'm quite happy to wait 2 a minute or two while you do so. 3 I don't see any sign of movement, so I think, 4 Mr Millett, you can carry on. 5 MR MILLETT: Mr Chairman, thank you very much. 6 In terms of the other key points in the chronology, 7 including the LFB response, the LFB provided us very 8 recently with a very detailed time-line report for the 9 first hour after the first attendances of the pumps at 10 Grenfell Tower, which runs from that point until 2 am 11 also. That time-line is in a document which was 12 disclosed to core participants pretty well immediately 13 last week. It is a heavily caveated report and great 14 caution should be taken with the times and the events in 15 it, save where indicated. 16 I should just make it clear that, although it is, we 17 find, an extremely helpful document, it is not 18 an inquiry document. 19 From our own work, we can identify the following 20 particularly important time points in the night with 21 some degree of confidence, although, of course, the 22 accuracy of these time points does depend on how the 23 evidence emerges. 24 After the first attendance of the first four pumps, 25 at 1.13 the LFB -- and specifically firefighter</p> <p style="text-align: center;">Page 71</p>
<p>1 It strikes you in a very similar way very strongly. 2 All right, thank you. We'll break there and resume 3 at 2 o'clock, please. Thank you very much. 4 (12.45 pm) 5 (The short adjournment) 6 (2.05 pm) 7 SIR MARTIN MOORE-BICK: Yes, Mr Millett. 8 MR MILLETT: Thank you, Mr Chairman. 9 Mr Chairman, before I continue, I should just say 10 that I am about to go through the key points in the 11 chronology of the night, and there is a series of 12 photographs of the building on fire during the course of 13 my presentation which now continues to follow. 14 I did get around some representatives of the core 15 participants during the lunch break, but I fear not 16 enough, so I'm going to have to repeat, I'm afraid, the 17 trigger warning now. 18 There are images which we are going to look at which 19 some may find distressing. They're not a video and 20 there's no more sound, but they are still photographs of 21 the building on fire. So if anybody thinks they might 22 feel that these are distressing then I think now would 23 be the time for them to leave. 24 SIR MARTIN MOORE-BICK: Yes. Well, if anyone feels 25 uncomfortable about seeing these photographs, do feel</p> <p style="text-align: center;">Page 70</p>	<p>1 Mike Dowden, who was watch manager B from G271 pump from 2 North Kensington -- made the first request for 3 a hydraulic platform and "make pumps six"; in other 4 words, increase the attendance of fire engines attending 5 the scene. And as I've said before, the reference to 6 pumps is the number of fire engines at the scene or 7 requested. "Make pumps six" is to increase the number 8 of fire engines from four to six. Firefighter Dowden 9 was the first Incident Commander at the scene. 10 At 1.14 am, the order for the hydraulic platform was 11 changed to a high-reach ladder or aerial appliance. 12 There is some evidence, to be explored in detail, 13 that also at 1.14, and so after pumps have been made up 14 to six, the first firefighter crew opened the kitchen 15 door of flat 16 for the first time. 16 By 1.15 am, a hose stream was being applied to the 17 east elevation, and at this point burning debris was 18 continuing to fall down, the fire by now having spread 19 to level 5, floor 5. 20 At 1.19, the LFB called for "make pumps eight", 21 increasing requested attendance from six to eight. 22 There is some evidence, to be explored in detail, 23 that the first firefighter crew actually got into the 24 flat 16 kitchen at about 1.20 am, after pumps had been 25 made up to eight, and attempted to extinguish the fire</p> <p style="text-align: center;">Page 72</p>

<p>1 within the kitchen. 2 At 1.24 am, the LFB called to "make pumps 10". 3 By 1.26 am, the fire had spread vertically up the 4 right-hand column on the east face, a climb of some 19 5 storeys -- about 50 metres -- in the 12 minutes or so 6 since the fire took hold of the cladding at 1.14 at the 7 latest. According to Dr Lane's preliminary report, 8 about 20 flats were exposed to the flame front by this 9 point. 10 At 1.27 am, the LFB called to "make pumps 15", plus 11 now two aerial appliances. 12 By 1.29, the fire had reached the very top of the 13 east facade. 14 Here is figure 90 from Professor Bisby's report, 15 which is an annotated extract, as the slide says, from 16 the CCTV footage from the southwest camera. Correcting 17 the time stamp, it gives 1.29, and you can see there the 18 fire having reached the very top of the east elevation 19 in the northeast corner of the building. 20 At around the same time, 1.29, the LFB called to 21 "make pumps 20" and for two fire and rescue units, or 22 FRUs. 23 At 1.31, the LFB called to "make pumps 25". 24 At 1.36 am, the fire was spreading in two opposite 25 directions laterally on the east elevation of the: tower</p> <p style="text-align: center;">Page 73</p>	<p>1 southwards across the east facade, and this photograph, 2 as the purple arrow shows, is taken from the east and 3 shows how the fire right up and down the north elevation 4 had taken hold, and also, on the top few floors, how the 5 fire had moved from column B5 in a southwards direction 6 towards the southeast column of the building above 7 level 17. 8 By this time, as you can see, there were multiple 9 internal fires on the east face. According to Dr Lane's 10 preliminary calculations, some 26 flats were exposed to 11 the flame front at this time. 12 At 2.04 am, the LFB called to "make pumps 40", plus 13 four aerial appliances. A 40-pump fire is a very rare 14 occurrence indeed. Commissioner Dany Cotton, who has 15 provided a witness statement to the inquiry, will say 16 that the last one was in 2012 and the one before that 17 was in 1973. 18 At 2.06 am, the LFB called a major incident which 19 implemented the Gold, Silver and Bronze command 20 structure. 21 At 2.08 am, the fire was progressing, as we can see 22 from this picture, diagonally across the top of the east 23 face and diagonally across the north face. 24 By 2.10 am, some 34 flats were exposed to the flame 25 front by Dr Lane's current provisional estimates.</p> <p style="text-align: center;">Page 75</p>
<p>1 towards the northeast corner and towards the southeast 2 corner. 3 You can see from this slide now exhibited that there 4 were multiple internal fires by this point in the 5 northeast part of the building. You will also see that 6 the fire has spread southwards towards the southeast 7 corner beyond the column marked B5. That column is the 8 column which abuts the kitchen to flat 16. 9 At 1.40, Station Manager Andrew Walton from Kingston 10 arrives to take command as Incident Commander. 11 At or at some point before 1.50 am, 12 Station Manager Walton took over from Watch Manager 13 Mike Dowden, who had been Incident Commander from 14 arrival of the first pumps until that point. We will be 15 exploring as best we can what happened at handover from 16 Incident Commander Dowden to Incident Commander Walton. 17 By 1.42 am, the fire had spread to the north 18 elevation via the top of the northeast corner column, 19 and here is a photograph taken at some distance from the 20 north, as is shown by the purple arrow on the plan to 21 the left of the photograph which shows where the fire 22 was on the building at that time. 23 By 1.52, the fire on the exterior of the north 24 elevation was well developed. Not only was it spreading 25 across the north facade, but it was also spreading</p> <p style="text-align: center;">Page 74</p>	<p>1 At about 2.15 am, DAC McLoughlin takes over as 2 Incident Commander from Mr Walton, and one minute later 3 calls for 10 FRUs, fire and rescue units. We will be 4 exploring the roles and the precise order of command as 5 between Station Manager Walton and DAC McLoughlin and 6 Group Manager Welch in the period between 1.50 to 2.15. 7 By 2.22, the fire had passed around the southeast 8 corner column of the tower at its topmost parts and was 9 now beginning to spread downwards across the south face. 10 By 2.23 am, some 53 flats were exposed to the flame 11 fronts by Dr Lane's current provisional estimates. 12 By 2.30 am, the whole of the east face of the tower 13 was reported to be fully involved in the fire. 14 At 2.32 am, the LFB called "make aerials four". 15 At 2.44 am, Assistant Commissioner Roe took over 16 from Deputy Assistant Commissioner McLoughlin as 17 Incident Commander. 18 At 2.47 am, Assistant Commissioner Roe took the 19 decision to change the Fire Survival Guidance formally 20 from "stay put" to "advise people to make efforts to 21 leave the building". 22 Based on a preliminary analysis of the CCTV cameras 23 in the lobby of the tower, by this time -- 2.47 am -- it 24 would appear that around 187 occupants, or 64 per cent, 25 had evacuated the tower, leaving some 107 people still</p> <p style="text-align: center;">Page 76</p>

<p>1 within the building. After the stay-put guidance was 2 formally changed, the CCTV footage suggests that 3 a further 36 additional occupants evacuated from 4 Grenfell Tower. 5 By about 2.49 am, the fire had started to attack the 6 top of the west face at the northwest corner and then 7 started spreading across and down that face. 8 By 3.08 am, the fire was spreading laterally across 9 the west face, as you can see from this picture. 10 By 3.09, only a minute or so later, some 70 flats 11 were exposed to the flame front, or had been. 12 By 3.48 am, large parts of the south face were now 13 alight. This photograph is taken from the southeast 14 corner of the building, as the purple arrow shows. You 15 can see there on the left the structure of the roof 16 structure at Barandon Walk and the fire on the south 17 face in the diagonal pattern. 18 By 4.03 am, the two flame fronts wrapping around the 19 building had converged at level 23 of the southwest top 20 corner of the building. By this time, some 98 flats 21 were exposed or had been exposed to the flame front, 22 according to Dr Lane. 23 At 4.43, multiple internal fires were raging around 24 the building. By that time, some 106 flats had been 25 exposed to the flame front.</p> <p style="text-align: center;">Page 77</p>	<p>1 and to outline some of the key lines of inquiry which we 2 will be pursuing in this Phase 1 of the inquiry's work. 3 I should emphasise that what follows is not intended 4 to be an exclusive list of topics that we will be 5 covering. The expert evidence that we have already 6 served is already extremely voluminous and it would be 7 impossible to capture in my opening now all of the 8 detailed issues which are likely to arise. 9 What I do want to do is to outline some of the most 10 significant aspects of the evidence to date and the key 11 questions which will have to be examined during this 12 part of the inquiry's work. 13 First of all, cause and origin. 14 In terms of cause and origin of the fire, as I have 15 already outlined, the available evidence currently 16 suggests that the origin of the fire was in or around 17 the tall fridge freezer in the kitchen of flat 16. The 18 evidence also suggests that it is more likely than not 19 that the fire had an accidental cause. However, vital 20 expert work in this area is continuing and, in 21 particular, in the field of forensic electrical 22 engineering. 23 As I've already indicated, the inquiry's preliminary 24 forensic electrical engineering work started in November 25 last year. It is hoped that Dr Duncan Glover's</p> <p style="text-align: center;">Page 79</p>
<p>1 At 4.47, what we believe to be the third-last 2 evacuee from the tower evacuated. 3 At 6.05 am, the second-last evacuee evacuated. 4 At 8.07 am, the last occupant of the tower 5 evacuated. 6 At 13.02 on 14 June, Assistant Commissioner Ellis 7 took over as Incident Commander. 8 At 19.55 pm on 14 June, Assistant Commissioner Ellis 9 declared that there was no longer any saveable life in 10 the building. 11 As part of the factual evidence that you will hear 12 in Phase 1, we will be trying to piece together a much 13 more detailed chronology of the events on that night. 14 To that end, the evidence of the bereaved, the survivors 15 and the residents will be crucial in helping us to 16 understand the conditions in and around the tower on 17 that night and, particularly, the conditions within 18 individual flats, in the lobbies and on the stairs, 19 which were so critical in terms of the individuals' 20 ability to escape. 21 I now turn to themes which are emerging and key 22 lines of inquiry for Phase 1. 23 In this final section of our opening I want to 24 outline some of the preliminary themes which are 25 emerging, both from the factual and the expert evidence,</p> <p style="text-align: center;">Page 78</p>	<p>1 examination of the wiring in flat 16's kitchen and the 2 electrical appliances within the kitchen will help to 3 narrow down the area of origin, and also to identify the 4 cause of the fire. This type of forensic examination is 5 inevitably painstaking and the inquiry will provide 6 an update as to progress as soon as it can. 7 As I've already said, it's hoped that a report from 8 Dr Glover will be available during the course of Phase 1 9 and in good time before October. 10 The inquiry has also taken steps to obtain further 11 factual evidence from the occupants of flat 16. All 12 three of the occupants of flat 16 have co-operated with 13 the inquiry and they have provided the inquiry with 14 supplemental statements which address key areas over and 15 above those that they provided to the police in the 16 statements which have already been disclosed. 17 Mr Kebede, whose call you have already heard and who 18 was the principal tenant of flat 16, has given eight 19 statements to the police, including one very recently, 20 which we are still preparing for disclosure to core 21 participants. Only just last Friday evening, he 22 helpfully provided the inquiry with a statement as well, 23 an inquiry statement. He will be called to give oral 24 evidence, if necessary and if he is fit to do so, 25 in September, a point I made earlier this morning.</p> <p style="text-align: center;">Page 80</p>

<p>1 Mr Kebede lived in flat 16 for some 25 years prior 2 to the fire. He raised the alarm on the night of the 3 fire, including making the first 999 call which you've 4 just heard alerting the Fire Brigade to the fire. He 5 was the only occupant of flat 16 to see the conditions 6 in the kitchen before leaving the flat, and he took on 7 his mobile phone a series of videos from outside the 8 tower which we believe to be the earliest images 9 available, including of the fire breaking out of the 10 flat and taking hold of the facade.</p> <p>11 The witness statements of the two other occupants, 12 Elsa Afeworki and Almaz Kinfu, both those they did for 13 the police and those that they have done for the 14 inquiry, will also be read into the record. They were 15 also occupants of flat 16 on the night of the fire and 16 they escaped.</p> <p>17 It is also hoped that this further factual evidence 18 and that of the firefighters who fought the initial fire 19 within the compartment, within flat 16, will further 20 assist in terms of how the fire started and how it 21 developed and was able to exit into the facade.</p> <p>22 That is the next topic: exit of the far from 23 flat 16.</p> <p>24 In terms of fire spread out of flat 16, the 25 inquiry's experts, including Dr Lane and</p> <p style="text-align: center;">Page 81</p>	<p>1 by the various of the materials that were present in the 2 window framing and the cladding system and to conduct 3 further tests.</p> <p>4 External flame spread.</p> <p>5 As to external flame spread more generally across 6 the building, the inquiry's experts have identified 7 a range of mechanisms which may have affected the fire 8 spread on the night. In section 10 of Dr Lane's report, 9 she has provided a detailed explanation of the materials 10 which were present, both around the windows and in the 11 facade system. She has explained, for example, the 12 extent to which the new windows and the rainscreen 13 system created cavities and voids which were potentially 14 significant in terms of the building's ability to resist 15 the spread of fire.</p> <p>16 She has identified six different possible 17 pathways -- pathways A to F, as she has labelled them -- 18 for fire spread, both around the windows and also 19 through the building envelope.</p> <p>20 In section 6 of Professor Bisby's report, he 21 attempts to explain which features of the building are 22 likely to have affected vertical, downward and 23 horizontal flame spread, all of which appear to have 24 played a significant part in the fire.</p> <p>25 Although he is clear that the presence of ACP</p> <p style="text-align: center;">Page 83</p>
<p>1 Professor Bisby, have identified a number of different 2 possible routes by which flames could have escaped from 3 flat 16 and ignited the facade. At present, the 4 available evidence suggests that the initial fire may 5 have been relatively small and certainly not reached 6 flashover -- in other words, the temperature at which 7 everything in the fire room combusts -- before it spread 8 out of flat 16 and into the cladding.</p> <p>9 At this stage of our investigations, it appears that 10 the most likely route of fire spread out of flat 16 was 11 via parts of the window surrounds, which were penetrated 12 by fire, and combustible materials igniting within those 13 surrounds, before impinging upon exposed polyethylene 14 edges of the ACP rainscreen panels on the exterior.</p> <p>15 Professor Torero has also addressed this in detail 16 in his report. By using first principles of physics, 17 his view is that a fire with characteristics common to 18 any residential fire in a kitchen would have resulted in 19 the loss of strength of the uPVC surrounding the window, 20 exposing the combustible components in the window and 21 leading to ignition of those combustible components of 22 the facade system.</p> <p>23 However, this will be the subject of further 24 investigation, including by the inquiry's experts, who 25 wish to investigate the roles which may have been played</p> <p style="text-align: center;">Page 82</p>	<p>1 rainscreen cladding with a highly combustible 2 polyethylene core was the primary reason for the upward, 3 downward and lateral flame spread, he has actively 4 considered other factors, including the role of the 5 channels and cavities in the facade system and its 6 geometry.</p> <p>7 Professor Torero has also considered this topic. 8 Although he has concluded that the physical details in 9 this particular cladding system may have had an impact 10 on flame spread rates, upward flame spread rates were 11 not particularly fast in comparison with international 12 experience of cladding fires, and that detailing of the 13 facade, as opposed to its material composition, may have 14 had only a minor impact in terms of the evolution of 15 this fire.</p> <p>16 Those investigations are very much ongoing and they 17 will be the subject of further expert investigation.</p> <p>18 There are two particular areas which require further 19 consideration. They are:</p> <p>20 First, the extent to which the architectural crown 21 at the top of the building may have played a significant 22 role in terms of lateral fire spread around the 23 building. Both Professor Bisby and Professor Torero 24 consider that the crown detailing on the building may 25 have been responsible for the lateral fire spread on the</p> <p style="text-align: center;">Page 84</p>

<p>1 building, where the rate of lateral fire spread appears 2 to have been at its fastest. This lateral fire spread 3 appears to result in a significant amount of burning 4 debris falling down the building, igniting the facade 5 system in lower floors of the building. 6 The second area which will require further 7 investigation in particular is the extent to which the 8 combustible PIR insulation, both in the facade itself 9 and around the windows, may also have played a role in 10 terms of the flame spread on the night. 11 In terms of this latter point, Professor Torero has 12 sought to explain some of the complexities that were 13 a feature of this particular cladding system. One of 14 the features of his report is an explanation of the 15 complicated relationship between the ACP rainscreen and 16 the PIR insulation. His view is that the two interact 17 and that the combination of the two is important to 18 understand in terms of flame spread rates. He also 19 addresses the potential for the PIR insulation to burn 20 for a longer time period, which can be critical when 21 defining the capacity of the fire to break back into the 22 building. 23 What is abundantly clear is that the building 24 envelope created an intolerable fire hazard. There was 25 a catastrophic failure of the rainscreen cladding in</p> <p style="text-align: center;">Page 85</p>	<p>1 a number of areas of serious concern. Those include the 2 following: 3 1. Flat front doors. The performance of the flat 4 front doors in terms of (i) their composition, (ii) 5 their ability to resist the spread of fire, and also 6 (iii) their condition and maintenance is a matter for 7 investigation. One particular question we will need to 8 explore is whether the self-closing devices were 9 properly installed and maintained. That is relevant to 10 the question of the smoke conditions in the lobbies and 11 in the single staircase on the night. 12 Professor Torero has also addressed this topic in 13 his report. He has explained that although a fire of 14 considerable severity was progressing across the 15 exterior of the building, he considers it reasonable to 16 have expected the internal compartmentation to have 17 performed on the night because the flats ought to have 18 been capable of withstanding the internal fires in the 19 flats and not leading to a compromise of the lobbies and 20 the stairs. It will therefore be necessary to explore 21 in some detail how the flat front doors performed on the 22 night. 23 2. The firefighting lift. Failure of the lift to 24 perform, as appears to have been intended, as 25 a firefighting lift is a matter of very serious concern.</p> <p style="text-align: center;">Page 87</p>
<p>1 terms of its ability to resist the fire spread across 2 the walls of the building. 3 All of the relevant experts are clear that the 4 consequence was a fire which affected multiple storeys 5 and multiple compartments, with many post-flashover 6 fires occurring internally on multiple compartments and 7 on multiple storeys. 8 I turn next to the performance of the active and 9 passive fire safety systems. 10 As to these, it is important to recognise that the 11 building was designed and maintained in the expectation 12 that nothing other than a single compartment fire would 13 occur and that it could be dealt with by early fire 14 service intervention. The assumptions underlying this 15 design intent and the regulatory framework underpinning 16 those assumptions will be explored in more detail as 17 part of the expert evidence and also at Phase 2. 18 The key point for present purposes is that the 19 active and passive fire safety systems were required to 20 mitigate an extraordinary and unexpected event once 21 compartmentation failed and a whole building fire was 22 inevitable. 23 Dr Lane has made an assessment of how those active 24 and passive fire safety systems performed on the night 25 of the fire. Her investigation has so far highlighted</p> <p style="text-align: center;">Page 86</p>	<p>1 There are a number of indications which suggest that the 2 lift did not have the firefighting features it was 3 intended to and did not operate as the LFB expected it 4 to on the night. That will be the subject of further 5 investigation, including understanding how the lift 6 could have affected firefighting and rescue operations 7 on the night, and also obtaining from the relevant early 8 attendance firefighters what they found when they tried 9 to get the lift to work. 10 3. The water supply or pressure question, and in 11 detail, the question of whether a wet riser fire main 12 would have or should have been provided instead of a dry 13 riser. There is some evidence to suggest that there 14 were difficulties associated with accessing the dry 15 risers and gaining access to water, particularly on 16 higher levels within the tower. Although a wet riser 17 might have suffered from similar difficulties in terms 18 of coping with multiple hoses within the tower, it will 19 be necessary to explore further whether a wet rising 20 main could have enhanced the speed of response to the 21 initial fire and the ability to maintain water pressure 22 higher up the tower. 23 More generally as to water pressure available at 24 Grenfell Tower on the night, the inquiry has instructed 25 a water expert to advise on water supply systems and</p> <p style="text-align: center;">Page 88</p>

<p>1 issues at the tower. He is Dr Ivan Stoianov, who is 2 senior lecturer in water systems engineering at 3 Imperial College in London, and he will be preparing 4 a report on that subject for Phase 2 of the inquiry's 5 work. 6 4. Smoke ventilation. There are questions over the 7 smoke ventilation system and whether it operated as 8 intended. There is also some evidence to suggest that 9 the system didn't operate as it should have on the night 10 and that the fire service attempted to take control of 11 the system but were unable to do so. Whilst it is very 12 important to recognise the limitations of this system, 13 even when it is operational, including the fact that 14 this system was never designed to address smoke control 15 on multiple lobbies as opposed to a single floor, and 16 couldn't be expected to provide complete protection to 17 the single staircase during the fire, nonetheless it 18 will be necessary to explore what the firefighters found 19 on arrival at the scene on the night. It will also be 20 necessary to examine how and the extent to which the 21 system might have been capable of operating to support 22 the fire and rescue efforts or to impede or diminish the 23 spread of smoke on the night. 24 I next turn to additional lines of inquiry. 25 In addition to the lines of inquiry I have already</p> <p style="text-align: center;">Page 89</p>	<p>1 been carried out inside the tower. A specialist gas 2 expert Mr Rodney Hancox, who is director of 3 Gas Distribution Solutions Limited, has been instructed 4 by the inquiry to consider these issues and he will be 5 preparing a report at Phase 2. 6 In terms of our Phase 1 fact-finding, we will want 7 to understand what happened in terms of isolating the 8 gas supply on the night and what evidence there is of 9 any compromise of or breaches to the gas piping inside 10 the building during the fire. 11 I next turn to conditions inside the building and 12 the movement of individuals. 13 Certain patterns are emerging about the conditions 14 inside the building and the movement of persons within 15 it on the night. We already have important information 16 about the place where each of the deceased was found and 17 also about the pattern of evacuations which we have been 18 able to piece together from the CCTV footage in the 19 lobby of the tower. There is also some CCTV footage 20 from inside the tower, in the lift and on the seventh 21 floor lobby, and the pattern of damage to the building 22 also tells us something about the conditions which 23 occurred in different parts of the building on the 24 night. 25 Dr Lane has addressed this in some detail in</p> <p style="text-align: center;">Page 91</p>
<p>1 identified, Dr Lane's report also highlights some other 2 issues with the fire safety systems in the building 3 which will require further investigation: 4 The first is the fire doors to the single staircase. 5 The performance of the fire doors connecting the lift 6 lobbies to the single staircase will have to be examined 7 in detail. This will include the extent to which these 8 doors were able to resist the spread of fire and the 9 extent to which stair doors may have been held open 10 during firefighting or search and rescue operations, 11 including by the presence of firefighting hoses or 12 because of a failure in any self-closing or other 13 closing devices. 14 The second issue for further inquiry is the 15 performance of the single staircase itself and the 16 extent to which it complied with the relevant 17 regulations. That will include examination of its width 18 and the provision for handrails, and whether it impeded 19 the passage of firefighters during operations, 20 especially when wearing breathing apparatus or extended 21 duration breathing apparatus. 22 Thirdly, the gas supplies and installations to the 23 tower. This includes the extent to which the gas 24 supplies were capable of being isolated on the night and 25 the compliance of the gas installation works that had</p> <p style="text-align: center;">Page 90</p>	<p>1 section 20 of her report and Professor Torero has done 2 the same in his report at sections 5.3.2 to 5.3.3. 3 But there are some themes already evident from the 4 information currently available to the inquiry: 5 1. It appears that below level 18, the majority of 6 the deceased were found in the floor where they resided. 7 Above level 18, the majority of the deceased had moved 8 upwards, and many up to level 23. 9 2. On every level of the tower, people escaped away 10 from the sixth flat on each floor, ie the flats which 11 straddled the north and east faces of the building and 12 which were directly above flat 16. No fatalities were 13 recovered from the sixth flat on any floor; in other 14 words, the flats in the northeast corner of the tower. 15 3. Given the movement of persons inside the 16 building, and based on the damage patterns to the inside 17 of the building, it appears likely that the lobbies and 18 stairs, at certain levels and times, may have become 19 particularly affected by heat and smoke, possibly 20 involving a hot zone in the middle of the tower between 21 levels 13 and 16. 22 4. We will want to explore as precisely as we can 23 how the conditions in the lobbies and on the stairs 24 changed as the night progressed. Some of the 25 firefighter evidence suggests that the lobbies and the</p> <p style="text-align: center;">Page 92</p>

<p>1 stairs between levels 6 and 10 began to be particularly 2 compromised with smoke at around 1.38 am. 3 5. The available CCTV evidence from the lift and 4 the seventh floor lobby also supports the contention 5 that between 1.30 am and 1.40 am the conditions in the 6 lower part of the tower began to deteriorate markedly. 7 6. Between 1.59 am and 2.58 am, some lobbies, in 8 particular at level 10, some of the firefighter 9 witnesses have described as "incredibly hot", and the 10 stairs at level 10 is also described as "boiling hot" 11 with thick heavy smoke between levels 7 and 12. 12 7. A preliminary analysis of a number of the 999 13 calls which has been done by Professor Torero suggests 14 that early smoke migration between the 11th and 14th 15 floors may have occurred. 16 8. This is a slide or pictures from 17 Professor Torero's report. He has identified some 18 police helicopter footage which shows that there may 19 have been early passage of smoke through the building at 20 about 2 am, with smoke coming from windows on the south 21 and west facades, on the opposite side of the building 22 to where the fire was spreading on its east face, 23 indicating that internal compartmentation had been 24 breached at both mid-level in the building and around 25 floor 20. What you see on the screen there are</p> <p style="text-align: center;">Page 93</p>	<p>1 soon as it is available. 2 The last topic for further investigation under this 3 heading is helicopters. 4 The inquiry has been made aware of an ongoing IOPC 5 investigation into the use of police helicopters on the 6 night of the fire, including whether that might have 7 encouraged some residents to remain in place or to move 8 to the top of the tower, and whether the operation of 9 the police helicopters could have worsened the fire. We 10 anticipate hearing some factual evidence which may touch 11 upon these issues and we will obviously make sure that 12 the inquiry is apprised of the progress of the IOPC 13 investigation as it develops. 14 I now turn to the emergency services' response and 15 I start with basic issues. 16 From her perspective of a fire safety expert, 17 Dr Lane has also looked at a number of topics which are 18 relevant to the building's responsiveness to 19 firefighting on the night. It is right to emphasise 20 right at the start that Dr Lane is not a firefighter and 21 has never been a firefighter and will leave qualitative 22 questions about the firefighting response to 23 Mr Steve McGuirk in Phase 2. He is the inquiry's 24 firefighter expert. But an assessment of fire safety 25 matters within Grenfell Tower and as to how it behaved</p> <p style="text-align: center;">Page 95</p>
<p>1 figures 49, 50 and 51 of Professor Torero's report, and 2 you can see smoke emanating in all three pictures from 3 a room on that floor, about floor 20. 4 We will want to explore all of these topics in more 5 detail as the evidence develops and try to understand 6 precisely how the conditions in the building developed 7 on the night and how that affected the ability of people 8 to evacuate if they made attempts to do so. 9 We will also be exploring whether any failure of 10 compartmentation inside the building was due to the 11 physical features of the building, including its doors 12 and their closers, or also to human actions on the 13 night, including the actions of the firefighters. 14 The next topic will be toxic gases. 15 Professor Purser, who has been engaged as an inquiry 16 expert, will also be providing expert evidence on 17 toxicity issues, including the extent to which toxic 18 gases inside the tower are likely to have affected 19 individuals' behaviour and led in some cases to their 20 deaths. 21 He will also be providing evidence on the production 22 of toxic gases of some of the materials which have been 23 found within the tower, including the cladding materials 24 and the materials which have been found around the 25 refurbished windows. His report will be provided as</p> <p style="text-align: center;">Page 94</p>	<p>1 on the night necessarily requires consideration of the 2 fire service's response to the incident. 3 Dr Lane has highlighted two particular points: 4 1. The ability of the fire service to carry out 5 external firefighting. Again, the fundamental 6 assumption under the relevant regulatory regime is that 7 all firefighting will be carried out internally. Hence 8 a rising main is provided for that purpose inside the 9 building, in this case a dry riser. But even though 10 there was no requirement to make provision for external 11 firefighting access, she has explored and will continue 12 to explore the extent to which effective external 13 firefighting operations were possible and any factors 14 which hampered those external firefighting efforts on 15 the night. 16 2. The extent to which the fire service itself were 17 able to communicate with individuals within 18 Grenfell Tower on the night and, in particular, the 19 means available to the fire service for doing that once 20 the stay-put policy was formally abandoned at 2.47. It 21 will be necessary to explore what methods of 22 communication were used, what they were, and whether any 23 of them were adopted on the night, and, if so, with what 24 effect. 25 In terms of the evidence about the LFB response on</p> <p style="text-align: center;">Page 96</p>

<p>1 the night, as matters stand as of Friday, we have 2 disclosed to core participants 250 witness statements 3 from LFB firefighters out of a total of 615 disclosed to 4 us by the police. There are a further 11 LFB 5 firefighter statements currently with the Met awaiting 6 non-objection to disclosure to the CPs. These 7 statements were almost all taken by the Met and they 8 include statements not just from firefighters but from 9 the investigation teams, counsellors and a number of 10 exhibit-only statements.</p> <p>11 Of the statements that the inquiry has now disclosed 12 to CPs, as matters stand today we plan to read some 74 13 into the inquiry record so that they are publicly 14 available, but not to call the makers as oral witnesses. 15 We plan to call as oral witnesses some 52 firefighters 16 to speak to their statements and to give further 17 evidence orally and answer questions. But we will keep 18 these numbers under review.</p> <p>19 The firefighter statements taken by the police are 20 a vivid and valuable record of the collective and the 21 individual firefighter experiences on the night. 22 Commissioner Dany Cotton, who was the Commissioner of 23 the London Fire Brigade and a firefighter from the age 24 of 18, was present on the scene from 2.29 am that night. 25 She has described the fire in her detailed statement to</p> <p style="text-align: center;">Page 97</p>	<p>1 strategies presented themselves, and, if not, why not? 2 We intend to examine their evidence rigorously, and 3 there are, as I say, eight basic questions which we will 4 need to explore with those who took decisions, the 5 incident commanders in particular:</p> <ol style="list-style-type: none"> 6 1. What was the LFB policy, if any, for assessing 7 the materials and construction of a high-rise 8 residential block? 9 2. Was that policy applied at Grenfell Tower? 10 3. What, if any, was the policy in case 11 compartmentation in a high-rise block failed? 12 4. When exactly did it become obvious to the 13 incident commanders on the ground at Grenfell Tower that 14 that compartmentation had failed? 15 5. What, if any, change to their strategy did they 16 put in place thereafter, and how? 17 6. Why was the formal stay-put policy maintained 18 until 2.47 am and not revoked earlier? 19 7. What difference that revocation made given the 20 volumes of evacuation before that time. 21 8. How did the change in formal strategy get 22 communicated to residents? <p>23 Now, this, of course, is not an exhaustive list of 24 questions; there are many more. 25 In terms of the evidence from the firefighters</p> <p style="text-align: center;">Page 99</p>
<p>1 the inquiry. You will be hearing her evidence later in 2 this Phase 1, but she explains, and I quote: 3 "I have never seen a building where the whole of it 4 was on fire. Nobody has ever seen that. It was 5 incredible. It was so alien to anything I had ever 6 seen." 7 That was the stated experience of all of the 8 firefighters who attended the fire on the night whose 9 evidence you will hear or read in the weeks to come. 10 Nobody doubts that the fire itself, in terms of scale 11 and spread, was unprecedented and exceptional, in the 12 collective knowledge and experience of the London Fire 13 Brigade and nationally. Whether such a building 14 envelope fire was foreseeable in terms of type, in light 15 of a growing body of evidence about previous cladding 16 fires, and what contingency plans might have been made 17 for it by the LFB, are different questions to which 18 I will return shortly.</p> <p>19 There are, we say, eight questions about the LFB 20 decision-making. We are going to be exploring not only 21 what the firefighters did on the night, but what 22 decisions they made. Those decisions were made by 23 incident commanders. We want to examine when they were 24 made and what the basis for those decisions was in 25 policy and in training, and whether any alternative</p> <p style="text-align: center;">Page 98</p>	<p>1 relevant to Phase 1, those can be distilled into some 18 2 separate subtopics:</p> <ol style="list-style-type: none"> 3 A. The response to the initial fire in the kitchen 4 of flat 16. 5 B. Incident command and control. 6 C. Communications, including (a) communications 7 within the building and (b) communications between 8 incident command and those responsible for directing and 9 carrying out of the firefighting response. 10 D. Control room, its functions and 11 responsibilities, and, in particular, communication of 12 Fire Survival Guidance -- or FSG -- from the control 13 room to occupants of Grenfell Tower. 14 E. FSG and the stay-put policy, including 15 firefighters' understanding of that policy, its 16 application and its withdrawal. 17 F. The quality of the mobile data terminal 18 information, or MDT information. 19 G. Predetermined attendance -- or PDA -- 20 information and policy. 21 H. Access to the fire ground and access to and from 22 the tower, including the effect of falling debris. 23 I. The establishment and operation of the 24 bridgehead during the course of the firefighting 25 response. <p style="text-align: center;">Page 100</p>

<p>1 J. Fire spread.</p> <p>2 K. Smoke spread.</p> <p>3 L. Firefighting itself, including the use of</p> <p>4 ladders, aerial platforms, et cetera.</p> <p>5 M. The use and operation of breathing apparatus.</p> <p>6 N. Search and rescue experiences.</p> <p>7 O. Dry risers, including their use and</p> <p>8 functionality.</p> <p>9 P. Any water pressure-related issues, including any</p> <p>10 previous difficulties encountered fighting fires in</p> <p>11 high-rise buildings, for example Trelick Tower</p> <p>12 in April 2017.</p> <p>13 Q. Training.</p> <p>14 R. The behaviour of the building during the course</p> <p>15 of evacuation.</p> <p>16 All of those topics, separately and together, will</p> <p>17 be examined in detail during Phase 1.</p> <p>18 I now turn to Fire Survival Guidance and stay-put</p> <p>19 advice.</p> <p>20 In terms of Fire Survival Guidance that was given to</p> <p>21 residents of Grenfell Tower on the night of the fire,</p> <p>22 I want to say just a little bit more at this stage. It</p> <p>23 will be necessary to establish precisely what guidance</p> <p>24 residents were given both before and during the fire and</p> <p>25 how that was understood and how it was acted upon. We</p> <p style="text-align: center;">Page 101</p>	<p>1 advice until 2.47 am made all the difference between</p> <p>2 life and death.</p> <p>3 For those who received Fire Survival Guidance, we</p> <p>4 will want to understand precisely what guidance was</p> <p>5 being given to them by LFB control or by others and what</p> <p>6 factors were influencing their decision whether to stay</p> <p>7 in their flats or to attempt to escape. To that end,</p> <p>8 a significant number of 999 call transcripts have been</p> <p>9 disclosed to core participants and many may well be</p> <p>10 relevant to that question.</p> <p>11 One pressing question is whether it was appropriate</p> <p>12 to maintain the formal stay-put strategy, whatever that</p> <p>13 was, until 2.47 am, or whether it could and should have</p> <p>14 been withdrawn sooner. In that regard, evidence</p> <p>15 regarding the conditions in the lobbies and the stairs</p> <p>16 will be crucially important, not least so as to</p> <p>17 understand at what times it would have been possible and</p> <p>18 safe for individuals to escape if they had been advised</p> <p>19 to do so.</p> <p>20 Now, the submissions of the G3 group of bereaved,</p> <p>21 survivors and residents assert at paragraph 68 that it</p> <p>22 is "beyond argument" that many more would have survived</p> <p>23 than did survive if the stay-put policy had been</p> <p>24 abandoned at 1.26 am, or at any rate long before</p> <p>25 2.47 am.</p> <p style="text-align: center;">Page 103</p>
<p>1 have evidence of fire action notices being provided in</p> <p>2 the tower, as is illustrated from this photograph taken</p> <p>3 from Dr Lane's report. The essence of the Fire Survival</p> <p>4 Guidance or the stay-put policy is contained in the</p> <p>5 middle of that notice. We will turn to the language of</p> <p>6 the notice in due course. This particular notice was</p> <p>7 found in the lift lobbies by the lifts.</p> <p>8 We want to understand how residents interpreted this</p> <p>9 sign and other guidance that they were given, and for</p> <p>10 those who left the tower in the early stages of the</p> <p>11 fire, why they did so, notwithstanding this advice.</p> <p>12 I have mentioned earlier that the evidence currently</p> <p>13 suggests that around 187 occupants, about 64 per cent,</p> <p>14 had evacuated the tower by the time the stay-put policy</p> <p>15 was formally abandoned at 2.47 am.</p> <p>16 The evidence also suggests that the rate of</p> <p>17 evacuation substantially slowed from 1.38 am. Before</p> <p>18 that time, 144 people had left the building, and after</p> <p>19 the stay-put guidance was changed an hour later at 2.47</p> <p>20 or so, only 36 people managed to escape the tower.</p> <p>21 It may be that the withdrawal of the the formal</p> <p>22 stay-put guidance at that stage was just that, a mere</p> <p>23 formality, in light of the number of occupants who had</p> <p>24 managed to escape safely before that time. On the other</p> <p>25 hand, it may be that the formal maintenance of that</p> <p style="text-align: center;">Page 102</p>	<p>1 With respect, that is not a proper submission.</p> <p>2 First, it is an assertion made without any evidence and</p> <p>3 before any evidence is called. Secondly, it is very far</p> <p>4 from beyond argument. This is an inquiry to lay bare</p> <p>5 the truth, it is not litigation, and the question as to</p> <p>6 what effect the withdrawal of the formal stay-put policy</p> <p>7 and its timing actually had in fact must be explored in</p> <p>8 the evidence before any conclusions can be reached about</p> <p>9 it.</p> <p>10 As I have already mentioned, we will be hearing from</p> <p>11 all of the incident commanders who were responsible for</p> <p>12 the decision-making on the night, and we will seek to</p> <p>13 understand the factors which they took into account when</p> <p>14 making the decisions they did and the conditions the</p> <p>15 fire service were facing as the situation unfolded in</p> <p>16 front of them. That will involve studying the LFB</p> <p>17 policies in place, the national policies in place and</p> <p>18 whether the incident commanders were trained in those</p> <p>19 policies, and whether that training informed their</p> <p>20 decision-making on the night.</p> <p>21 The inquiry will also consider the liaison between</p> <p>22 the firefighters and the other emergency services and</p> <p>23 the volunteers on the ground, as well as the important</p> <p>24 question of the efficacy of the communications between</p> <p>25 the LFB and the other emergency services, as well as the</p> <p style="text-align: center;">Page 104</p>

<p>1 communications themselves between individual 2 firefighters on the ground on the night. 3 Mr Chairman, finally, before I conclude this opening 4 statement, I should like to provide, if I may, an update 5 on the progress of preparation for Phase 2. 6 In order to provide a framework in which Phase 2 can 7 be managed, the inquiry has updated its provisional list 8 of issues. A copy of this updated list can be found on 9 the inquiry's website. 10 Two points should be noted by core 11 participants: first, this is not and is not intended to 12 be a final list of the issues that will be addressed by 13 the inquiry. Inevitably, the list will be reviewed and 14 revised as the inquiry's investigation proceeds. 15 Secondly, and specifically, the inquiry team has been 16 considering the final report published by 17 Dame Judith Hackitt on 17 May 2017 and her conclusions. 18 We will update the list of issues to reflect any further 19 issues that need to be investigated which flow out of 20 the Hackitt Report and, in particular, we will examine 21 her recommendations. 22 Some 25 or so letters are about to be or have just 23 been sent to the corporate and governmental core 24 participants under rule 9 of the Inquiry Rules 2006. 25 Those letters request written witness statements from</p> <p style="text-align: center;">Page 105</p>	<p>1 chairman's powers of compulsion under section 21 of the 2 Inquiries Act. 3 The inquiry will provide Phase 2 disclosure on 4 a rolling basis between October 2018 and the end 5 of January 2019. It is anticipated that disclosure will 6 be provided on an issue-related basis. 7 Although these precise dates will be confirmed in 8 due course, the chairman, I should say, is minded to 9 propose that, in addition to any supplemental statements 10 that may be sought by the inquiry or provided by 11 particular witnesses, all core participants will provide 12 by 30 March 2019 a statement of response to the issues. 13 This document, which is to be verified by a statement of 14 truth, will contain an individual core participant's 15 response to the issues that directly concern them, as 16 well as any other matters in relation to which they 17 consider that they will be able to assist the inquiry. 18 The aim of the statement of response is essentially 19 three-fold: first, to enable the core participants to 20 set out their precise positions in relation to the 21 issues; secondly, to provide an aid to the efficient 22 case management of Phase 2; and, thirdly, to identify 23 common ground as well as the truly contentious issues. 24 As matters stand, the inquiry anticipates that 25 Phase 2 hearings will not start before April</p> <p style="text-align: center;">Page 107</p>
<p>1 persons from whom we propose to take evidence from those 2 core participants, and those statements have been asked 3 to be served by 4 pm on 28 September 2018. 4 The inquiry has asked that the statements address 5 very specific identified issues by reference to the 6 updated list of issues, as well as any other matters in 7 relation to which a witness may be able to assist the 8 investigation. 9 Where possible, the inquiry has asked for witness 10 statements from identified individuals who in the 11 inquiry's view will be able to give detailed evidence in 12 relation to relevant matters. 13 Given the apparent need to extract a full and clear 14 case out of many of these core participants, rather than 15 our relying on them to make admissions against their 16 interests, we expect these requests to be taken 17 seriously and we will pursue proper, detailed responses 18 with vigour. We hope that core participants will resist 19 the temptation to indulge in a merry-go-round of 20 buck-passing, but will identify exactly their role in 21 the chain of events leading to Grenfell Tower becoming 22 what our experts preliminary consider to be a major 23 hazard. 24 It is hoped that those core participants who receive 25 these invitations will not need to be reminded of the</p> <p style="text-align: center;">Page 106</p>	<p>1 or May 2019, but as its investigation proceeds, the 2 inquiry will confirm a timetable and a start date for 3 Phase 2 as well as further information regarding the 4 structure of Phase 2. 5 Everything that I have said about the programme for 6 Phase 2 will of course have to be subject to any 7 decisions about it that any other panel members may make 8 once they are appointed. 9 Mr Chairman, in conclusion, that, reduced to its 10 basic core elements, is an introduction to and 11 an overview of Phase 1 of this inquiry. 12 I now propose to hand over to the first of the core 13 participants to address you, but that will be tomorrow. 14 I am glad to say we finished a little bit earlier than 15 I was expecting to today. I hope that causes no 16 inconvenience to anybody. 17 I intend to reserve to myself a short slot at the 18 end of all the core participants' oral addresses in 19 order to respond to any points that have arisen which 20 may assist you or them further. 21 So, Mr Chairman, subject to that, that is all 22 I propose to say by way of opening Phase 1 to the 23 inquiry. 24 In the timetable you will have noticed that I have 25 been asked to read Harley Facades's opening statement</p> <p style="text-align: center;">Page 108</p>

1 into the record. I don't intend to lend my voice to the
2 text, but I will take it as read and it will be
3 available from now on the inquiry's website.
4 Mr Chairman, unless I can assist you further or
5 anybody else, that is our opening statement.
6 SIR MARTIN MOORE-BICK: Thank you very much indeed.
7 Now, I think we're going to hear next from
8 Mr Johnson on behalf of the Metropolitan Police.
9 Mr Johnson, you weren't expecting to be on your feet
10 this afternoon, I think; is that right?
11 MR JOHNSON: That's correct.
12 SIR MARTIN MOORE-BICK: And you might find it more
13 convenient to start tomorrow morning?
14 MR JOHNSON: That would be very convenient.
15 SIR MARTIN MOORE-BICK: Yes, all right.
16 Well, we've gone rather shorter than we expected.
17 I don't suppose anyone will mind that too much. So
18 I will rise now and we resume tomorrow here at
19 10 o'clock.
20 Thank you very much.
21 (3.15 pm)
22 (The hearing adjourned until Tuesday, 5 June 2018 at
23 10.00 am)
24 I N D E X
25 Opening statement by COUNSEL TO THE1

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