

OPUS 2

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Grenfell Tower Inquiry

Day 19

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1 Monday, 13 July 2020
 2 (10.00 am)
 3 SIR MARTIN MOORE-BICK: Good morning, everyone. Welcome to
 4 today's hearing. Today we're going to hear from the
 5 last of the Exova witnesses. So could you ask
 6 Dr Pearson to come, please.
 7 DR TONY PEARSON (affirmed)
 8 SIR MARTIN MOORE-BICK: Thank you very much, Dr Pearson.
 9 Would you like to sit down, make yourself comfortable.
 10 Yes, Ms Grange.
 11 Questions from COUNSEL TO THE INQUIRY
 12 MS GRANGE: Good morning, Dr Pearson. Thank you very much
 13 for attending today to give your evidence. It's very
 14 much appreciated.
 15 If you have difficulty understanding anything I'm
 16 asking you in the course of my questions, please can you
 17 ask me to repeat it or put the point in a different way.
 18 If you feel you need a break at any point, please just
 19 let us know.
 20 Also, please try and keep your voice up, so that the
 21 transcriber sitting to your right can hear you.
 22 You have made one statement to the Inquiry. Can
 23 I please take you to it. It's also in a folder on the
 24 desk in front of you. It's a witness statement dated
 25 16 October 2019, and we find that at {EXO00001753}. If

1

1 we can go to the last page on page 7 {EXO00001753/7} of
 2 that, is that your signature there?
 3 A. It is.
 4 Q. Thank you. Have you read the statement recently?
 5 A. Yes, I have.
 6 Q. Can you confirm that the contents are true?
 7 A. I can. To the best of my knowledge, yes, they are.
 8 Q. Thank you.
 9 Now, I want to start with asking you some questions
 10 about your background and your experience.
 11 Can we look at paragraph 2.1 of your witness
 12 statement. This is on page 1 {EXO00001753}. So there
 13 you tell us in the first part of that that you studied
 14 mechanical engineering at the Swiss Federal Institute of
 15 Technology in Zurich. Do you see that there?
 16 A. Yes. Yes.
 17 Q. Later in the paragraph, you say that you went on to
 18 undertake a PhD in fire behaviour, which was
 19 co-supervised by the University of Poitiers in France --
 20 A. Yes.
 21 Q. -- and Professor Dougal Drysdale at the University of
 22 Edinburgh; is that correct?
 23 A. Correct, yes.
 24 Q. So is it right that you have extensive academic
 25 knowledge of fire behaviour?

2

1 A. I like to think so, yes.
 2 Q. We know that you were working at Exova from 2008, and in
 3 the autumn of 2013, you became a senior consultant at
 4 Exova; is that right?
 5 A. Correct, yes.
 6 Q. Can you help us as to what that means, a senior
 7 consultant, as to the hierarchy of positions within
 8 Exova?
 9 A. The basic grading, assuming that you join the company
 10 with no or very limited practical experience, you would
 11 start off as a graduate, so somebody who is not expected
 12 to be capable of working unsupervised. A consultant is
 13 then the next grade, somebody who is trusted to be
 14 a project manager on a relatively simple project, and
 15 author reports and do the technical work themselves.
 16 A senior consultant is then the minimum grade for
 17 reviewing other people's work or for managing a more
 18 complicated project or for leading negotiations with
 19 Building Control.
 20 Q. Yes.
 21 A. Beyond that, there was then principal consultant, which
 22 was somebody with many years' experience, and the
 23 hierarchy wasn't entirely consistent after that, due to
 24 the policy changing over the years, and people who had
 25 got grades under one policy then not changing their

3

1 grades when the policy changed. So the general rule was
 2 then the office managers were associates --
 3 Q. Yes.
 4 A. -- and above that there was a general manager.
 5 Q. One of the office managers at the time was Terry Ashton;
 6 is that right?
 7 A. I can't remember at what point --
 8 Q. At associate level.
 9 A. -- in time the transfer occurred. In 2012, I think he
 10 was still office manager.
 11 Q. Yes.
 12 A. At some point he stepped down from that role and handed
 13 it over to Andrew Willmott.
 14 Q. Yes.
 15 A. So certainly the earlier phase of my career -- for the
 16 first two weeks I was line managed by somebody else who
 17 then left the company, but after that, and it must have
 18 been June 2012, Terry Ashton was immediate line manager.
 19 After, he stepped down from the role of office manager
 20 and he was still an associate, still in the office.
 21 Q. Yes.
 22 A. But it was then Andrew Willmott who took over the line
 23 management.
 24 Q. Would that have been during the time when you were still
 25 having some, albeit limited, involvement in the Grenfell

4

1 project? 2015, for example, by that point.
 2 A. It must have been thereabouts. As I say, I do not
 3 recall the exact date of the transition.
 4 Q. Just to be clear, you were based throughout in the
 5 London office; is that correct?
 6 A. Correct, correct.
 7 Q. We know from your statement at paragraph 2.1 that you
 8 also served as an on-call firefighter in the local
 9 brigade while you were in Zurich.
 10 A. No, that was not in Zurich, it was one in Switzerland.
 11 Q. Sorry, in Switzerland, yes --
 12 A. I studied in Zurich; I did not live in Zurich.
 13 Q. I see.
 14 A. It was a small town 10 miles up the river from Basel.
 15 Q. That's where you --
 16 A. That's where I was a firefighter, yes.
 17 Q. Great, yes.
 18 You say that parallel to your work as a fire safety
 19 consultant since you have been in the UK, you joined
 20 Surrey Fire and Rescue Service in 2011 --
 21 A. Correct.
 22 Q. -- to serve as an on-call firefighter --
 23 A. Correct.
 24 Q. -- is that correct? Do you still --
 25 A. I do, yes.

5

1 Q. -- perform that role?
 2 A. I'm still an active on-call firefighter.
 3 Q. So is it right that you have got considerable first-hand
 4 experience of the behaviour of fires through that
 5 experience?
 6 A. A certain amount. I mean, thankfully we have less
 7 serious fires nowadays than you did 20, 30 years ago, so
 8 I don't have the experience that somebody may have had
 9 in the 1940s, 1950s and 1960s, particularly not with the
 10 change of rules for furniture in domestic premises. So
 11 I don't want to exaggerate my experience. But I have
 12 been in burning buildings under breathing apparatus
 13 before, yes.
 14 Q. We know that you left Exova in January 2016 and you tell
 15 us in your statement that you left and you became the
 16 fire engineering manager with the International Fire
 17 Consultants Limited; is that correct?
 18 A. That's my current grade; I started off at International
 19 Fire Consultants as a senior consultant.
 20 Q. So you are still there?
 21 A. I am still with International Fire Consultants, yes.
 22 Q. Great.
 23 Now, just thinking back to your time on the Grenfell
 24 project, when you were at Exova, were you carrying out
 25 regular continuing professional development, CPD? Was

6

1 that part of the regime within Exova?
 2 A. At the time there was very little formal CPD within
 3 Exova. They had a regime of regular training days and
 4 encouraging people to visit external seminars
 5 and whatever training appeared relevant at the time.
 6 The training budget was somewhat cut in 2008 during the
 7 recession, and, yeah, the reinstatement of that budget
 8 was rather a slow process, should we say.
 9 Q. I see.
 10 Can you recall anything that you did specific to
 11 external fire spread, any particular courses or CPD that
 12 might have been relevant to that --
 13 A. No.
 14 Q. -- around that time?
 15 A. No.
 16 Q. No.
 17 Then prior to the Grenfell project, what experience
 18 did you personally have of overcladding projects as
 19 a fire safety engineer?
 20 A. Anything to do with external wall, you know, design
 21 materials, I tended to pass over to colleagues in the
 22 certification division, so it's not something that
 23 I myself ever really gained a lot of experience with.
 24 I did work on a number of projects where questions rose
 25 up on external walls, and over time you do learn some

7

1 things.
 2 Q. Yes.
 3 A. And, you know, pick up on some of the requirements. But
 4 if somebody had sent a set of detailed drawings to me
 5 and said, "Can you please assess these", I would have
 6 passed them on to a colleague with much more specialised
 7 knowledge and experience in the field.
 8 Q. Those colleagues in the certification division, were
 9 they also based in London, within Exova's offices there?
 10 A. No. Because -- I mean, some of them were based in
 11 Warrington. Some of them, because they did a lot of
 12 work on site, actually were, as far as I understood,
 13 officially based at home.
 14 Q. Yes.
 15 A. So those in the south east of England, although they
 16 weren't notionally attached to the London office, they
 17 probably spent more time in London than in any other
 18 office.
 19 Q. Right.
 20 A. But they tended to be at the other end of a telephone
 21 call than somebody you would see face-to-face on
 22 a day-to-day basis.
 23 Q. Did you personally have any experience of residential
 24 high-rise overcladding projects before you worked on the
 25 Grenfell project?

8

1 A. Not that I can recall .
 2 Q. Now, I just want to then move to --
 3 A. I mean, if I can qualify that: there were new-build
 4 projects on residential high-rise where obviously the
 5 same technical requirements and standards for external
 6 walls apply. The refurbishment projects that I can
 7 recall in high-rise buildings were non-residential. So
 8 I've worked on high-rise residential, I've worked on
 9 refurbishment of residential, I've worked on
 10 refurbishment of high-rise, but I think Grenfell Tower
 11 was the first one that brought all three together in one
 12 project.
 13 Q. I see, that's helpful, thank you.
 14 I want to ask you a little bit about your knowledge
 15 of international façade fires .
 16 As part of your work as a senior consultant in the
 17 fire engineering team at Exova, did you read industry
 18 journals at the time?
 19 A. Probably not as much as I should. There was --
 20 obviously I did spend some time reading, yes.
 21 Q. I believe there is a journal called Fire Protection
 22 Engineering, did that ever cross your --
 23 A. That's not something I would have read regularly .
 24 Q. Do you know whether that journal covered large
 25 international fire outbreaks?

9

1 A. As I say, not having read it regularly, I wouldn't
 2 really have noticed.
 3 I certainly was aware that external wall
 4 construction is a potential route for fire spread
 5 between buildings. I mean, there is obviously
 6 Lakanal House, where it's a known phenomenon there, that
 7 the refurbishment and the -- or the materials used
 8 during the refurbishment were part of an issue .
 9 Fairly close to the forefront of my mind would have
 10 been a fire on the outskirts of Paris in 2003 where
 11 there were similar issues, and I knew that those two
 12 fires weren't isolated cases, although I probably --
 13 they were probably the two that were at the forefront of
 14 my mind if you asked me to name any.
 15 Q. Yes.
 16 You used the words there, "I certainly was aware
 17 that external wall construction is a potential route for
 18 fire spread between buildings". There's a specific set
 19 of requirements, aren't there, about space separation
 20 that are dealt with in the Building Regulations?
 21 A. Correct, yes.
 22 Q. Were you more generally aware, not just of those space
 23 separation issues, but of the potential for rapid
 24 external fire spread up an existing building?
 25 A. Yes, specifically citing the example of Lakanal House

10

1 and that 2003 fire in Paris, absolutely .
 2 Q. So as at 31 March 2015 -- I pick that date because we're
 3 going to come to an email that you drafted later in my
 4 questioning, that's relevant to this -- were you aware
 5 that there had been a number of substantial fires in
 6 high-rise residential buildings with cladding on
 7 external walls?
 8 A. Yes.
 9 Q. Yes.
 10 You have mentioned the Lakanal House fire. Did you
 11 know, for example, about the fire at Knowsley Heights in
 12 Liverpool in 1991?
 13 A. That wasn't one that will have been at the forefront of
 14 my mind, because I lived abroad when it happened. As
 15 I say, I was more familiar with this one in the
 16 outskirts of Paris, because I happened to be living in
 17 France at the time, than anything that happened in the
 18 UK specifically while I was living abroad.
 19 Q. Or a fire at Garnock Court in Irvine in 1999?
 20 A. Again, because I was living abroad at the time, as much
 21 as I had heard that fires had occurred, that one wasn't
 22 at the forefront of my mind.
 23 Q. I understand, yes.
 24 Were you aware of a spate of fires in the United
 25 Arab Emirates, and in Dubai in particular?

11

1 A. Probably not in 2015. It's probably later when I became
 2 aware of quite how frequent there had been occurrences
 3 of fires of this nature.
 4 Q. So, for example, the Al Tayer Tower in April 2012 or the
 5 Tamweel Tower in November 2012; you weren't aware of
 6 those specific --
 7 A. Certainly the names don't ring any bells .
 8 Q. Were you aware of a fire in France in Mermoz Tower in
 9 Roubaix in France in May 2012?
 10 A. Doesn't ring any bells .
 11 Q. What about moving forward in time to the fire in the
 12 Lacrosse Building in Melbourne, Australia, in
 13 November 2014, was that something that you were aware
 14 of?
 15 A. I've got a vague recollection of hearing something of
 16 a fire in Melbourne, but I certainly didn't pay a lot of
 17 attention to it .
 18 Q. Obviously you have said you had some general awareness
 19 of the issues. Did you think that these international
 20 fires, and indeed some domestic ones, were relevant to
 21 projects involving composite metal materials and
 22 external insulation? Was that an awareness that you had
 23 at the time?
 24 A. I certainly had an awareness that -- of the need to
 25 specify the appropriate materials. I mean, as for metal

12

1 composites -- I'm jumping to something here but maybe to
2 give something in context -- when I wrote that email
3 that I'm assuming you're going to refer to about the
4 question of cavity barriers or firestops, I was not
5 aware that metal polymer composite rainscreen panels
6 existed on the market. I just assumed that these panels
7 were either metal or glass.

8 Q. I see. So your awareness of other cladding fires hadn't
9 resulted in an awareness that some of those fires had
10 involved composite metal panels with a different --

11 A. Correct.

12 Q. -- composition core?

13 A. Correct.

14 Q. I understand.

15 Were you aware that external wall systems needed
16 heightened vigilance in terms of the risks that could be
17 posed by them?

18 A. Yes.

19 Q. Now, were you also aware that there had been guidance
20 produced by the BRE, the British Research Establishment,
21 concerning the hazards posed by external wall cladding
22 systems in 1988, 2003 and 2013 in terms of BR 135? Were
23 you aware of that?

24 A. Distinction here between 2012 and 2015: my awareness
25 throughout the periods while Exova was working on the

13

1 project, my awareness grew. I read Approved Document B
2 from cover to cover at the start of my employment at
3 Exova. External walls weren't a subject I occupied
4 myself with, you know, to a great degree. So although
5 I was aware that there were requirements --

6 Q. Yes.

7 A. -- in 2012, I wasn't really -- I hadn't memorised, shall
8 we say, what those requirements specifically were.

9 Q. Yes.

10 A. Round about 2014, we then had a number of queries come
11 in from various directions about suitability of
12 materials, most of them driven by insurers rather than
13 by building regulators, and obviously from that moment
14 onwards, my awareness did increase.

15 But, again, had anybody asked me can I please
16 confirm whether such and such a design is appropriate,
17 as I said before, I would have passed that on to my
18 colleagues, rather than relying on my own knowledge of
19 the subject.

20 Q. Yes, yes.

21 So we know that BR 135 is referred to in
22 paragraph 12.7 of ADB.

23 A. Correct.

24 Q. Let's just look at the second edition of that, this is
25 the 2003 edition. If we can go to this at

14

1 {BRE00005554/2}. So this is "Fire performance of
2 external thermal insulation for walls of multi-storey
3 buildings".

4 Do you think you had read this by the time you were
5 working on the Grenfell project?

6 A. No. Categorically I hadn't.

7 Q. Okay, fine.

8 Did you know in general terms that this guidance
9 drew attention to the possibility of rapid fire spread
10 in external cladding systems?

11 A. As I say, not having read it, I didn't know what its
12 contents were.

13 Q. Yes.

14 A. I would say when I first read Approved Document B, I'll
15 have obviously seen the reference to BR 135.

16 Q. Yes.

17 A. But because it wasn't a subject that I really got very
18 involved with, I didn't spend a lot of time trying to
19 work out what exactly --

20 Q. No, I understand.

21 A. -- the technical specifications in BR 135 are and how
22 they differ from the -- what tends to be referred to as
23 the linear route.

24 Q. I follow entirely.

25 I am just going to take you to a few passages in it

15

1 because, nevertheless, even if you haven't read the
2 specific document, I'm just interested to know whether
3 you were aware of the general risks, warnings, that this
4 document was giving, so if you just bear with me on
5 that.

6 A. Yeah, of course.

7 Q. Let's start by looking at page 8 {BRE00005554/8}, and
8 I want to look at the bottom paragraph. It states
9 there:

10 "This guide provides a basis upon which the external
11 fire performance of external cladding systems can be
12 assessed. It does not specify where this performance
13 standard should be adopted; this is a matter for
14 regulators and specifiers. However, the performance
15 standard set out could be adopted where the implications
16 of rapid fire spread by way of the external cladding
17 system are considered to be unacceptable, such as tall
18 buildings (above 18 m) that may be out of the reach of
19 conventional firefighting techniques, and areas where
20 people sleep, when external fire spread may present an
21 unacceptable risk to the occupants."

22 So just pausing there, thinking back to 2012/2013,
23 when you first were working on the Grenfell project,
24 were you aware in general that guidance was drawing this
25 distinction between low-rise buildings and high-rise

16

1 buildings above 18 metres?

2 A. Yes, I was.

3 Q. So you were aware of that?

4 A. Yes.

5 Q. Okay.

6 We're just going to look at a number of warnings
7 that this guidance gives about the potential route for
8 fire spread through multistorey buildings. If we look
9 at page 10 {BRE00005554/10}, under item 3, there is
10 a section there, a subparagraph, can you see,
11 "Cavities"?

12 A. Yes, yes.

13 Q. So it says there:

14 "Cavities may be incorporated within an external
15 cladding system or may be formed by the delamination or
16 differential movement of the system in a fire. If
17 flames become confined or restricted by entering
18 cavities within the external cladding system, they will
19 become elongated as they seek oxygen and fuel to support
20 the combustion process. This process can lead to flame
21 extension of five to ten times that of the original
22 flame lengths regardless of the materials used to line
23 the cavities. This may enable fire to spread rapidly,
24 unseen, through the external cladding system, if
25 appropriate fire barriers have not been provided ..."

17

1 Do you see that there?

2 A. Yes.

3 Q. Now, just breaking that down, were you aware of the
4 phenomenon of flame elongation --

5 A. Yes, I was.

6 Q. -- within a cavity?

7 A. Yes, I was.

8 Q. Were you aware of that regardless of the materials used
9 to line the cavities?

10 A. Absolutely.

11 Q. So you were aware of the potential for unseen rapid
12 fire spread --

13 A. Yes, oh, yes, yes.

14 Q. -- if appropriate barriers hadn't been employed?

15 A. Yes.

16 Q. Then if we can stay on that page, under item 5, in the
17 last section, there is a heading "Fire Service
18 intervention", and it says there:

19 "Where the external cladding system is not
20 significantly contributing to the spread of fire from
21 one storey to the [that seems to be a typo], then
22 intervention by emergency services should prevent
23 continued fire propagation by way of the building
24 envelope."

25 But then it says this:

18

1 "However, where the external cladding system is

2 contributing to the fire propagation rate, the potential
3 exists for the fire to affect multiple storeys
4 simultaneously, thus making firefighting more
5 difficult."

6 So, again, on that last point there, were you aware
7 of the potential for external fire to affect multiple
8 storeys simultaneously?

9 A. That's precisely the situation that occurred at
10 Lakanal House or that fire in 2003 on the outskirts of
11 Paris, so absolutely.

12 Q. Yes, thank you.

13 Then if we can go on to page 17 {BRE00005554/17}
14 within this document, under the heading "System-specific
15 details", in the second-to-last paragraph, it says
16 there:

17 "Once the fire is within the cavity, it may
18 propagate unseen through the system if adequate fire
19 barriers are not employed. This may result in
20 significant risk of system collapse or fire break out at
21 significant distances from the fire origin."

22 So, again, focusing on that last sentence, was that
23 something that you were aware of, this significant risk
24 of system collapse or break-out significant distances
25 from the fire of origin?

19

1 A. Inasmuch as I was aware that that risk exists wherever
2 there's cavities rather than specifically in external
3 walls.

4 Q. Yes.

5 A. Yes, and a cavity in an external wall in that context is
6 basically the same issue as the cavity anywhere.

7 Q. Yes, I see, yes.

8 Then at the top of page 18 {BRE00005554/18}, just
9 over the page, in the top paragraph, in the
10 second-to-last and the last sentence, I want to focus on
11 the bit that talks about metal panels. So it says
12 there:

13 "Metal panels such as aluminium may fall from the
14 system if the strength of the fixings is affected by the
15 local fire source. They may also melt, generating
16 molten metal debris if exposed directly to the sustained
17 flame envelope."

18 Do you see that there?

19 A. Yes.

20 Q. Just looking at those two sentences separately, were you
21 aware of the potential for metal panels falling from the
22 system?

23 A. Yes.

24 Q. What about the melting and the generation of molten
25 metal debris if those panels were exposed directly to

20

1 the sustained flame?
2 A. Obviously, you know, particularly aluminium with its low
3 melting point would melt if attacked by flames, would
4 melt quite rapidly. I had no knowledge of molten metal
5 flowing any significant distance.

6 Q. Yes.

7 A. Images I had in my mind were more of the fixings failing
8 and panels becoming detached, and therefore large pieces
9 of -- I don't know if "shrapnel" is the right word, but
10 certainly small or large pieces of, as I was assuming,
11 solid metal rather than melted metal, not that I would
12 want to be hit by either.

13 Q. I follow, yes.

14 Now, the version of this BRE guidance, this BR 135
15 guidance, which was available for the majority of the
16 period of the Grenfell Tower refurbishment, was set out
17 in the 2013, the third edition of BR 135. Can we bring
18 that up. That's at {CEL00003364}.

19 Now, can you recall -- so this is the third edition
20 there, we can see, slightly grainy, after the title, by
21 Sarah Colwell and Tony Baker.

22 Do you recall reading this at any time when you were
23 involved in the Grenfell Tower --

24 A. Not while I was involved in working on the project, only
25 after, after I had left Exova.

21

1 Q. Again, I just want to look at some of the warnings that
2 were within this document, just to see if you were aware
3 of the principles.

4 Can we go to page 11 {CEL00003364/11} in this
5 document, and at paragraph 2.1 in the third paragraph,
6 it's drawing attention to potentially conflicting
7 requirements in terms of thermal performance versus fire
8 performance, and it says this:

9 "These potentially conflicting requirements are
10 highlighted in the area of innovative materials and
11 designs, which are being driven by the need to construct
12 more energy-efficient and sustainable buildings. In
13 order to meet these design challenges, the range of new
14 and innovative materials and designs of systems being
15 offered as potential solutions has also increased the
16 volumes of potentially combustible materials being used
17 in external cladding applications. In addition, these
18 external wall cladding systems, while still widely used
19 for refurbishment applications on masonry structures,
20 are increasingly being applied to new-build scenarios
21 utilising lightweight framing solutions for the wall
22 system."

23 Do you see that there?

24 A. Yes.

25 Q. Now, again, just taking a number of points from that,

22

1 were you aware of there being the development of
2 innovative materials driven by the need to construct
3 more energy efficient and sustainable buildings?

4 A. I wasn't -- I mean, yeah, how innovative is innovative?

5 I wasn't keeping abreast of the developments. This
6 paragraph mentions the challenge of improving energy
7 efficiency and potential conflict there between the fact
8 that some of the most effective insulators are also
9 combustible. I was aware of that potential conflict.

10 Q. Yes.

11 A. Now, whether, you know ... how much the word
12 "innovative" really would have connected to any of my
13 thoughts, I'm not quite sure.

14 Q. Yes. Could I put it this way, and building on to the
15 next point: were you aware that increased volumes of
16 potentially combustible materials were being used in
17 external cladding applications?

18 A. I was aware that insulating materials that were not of
19 limited combustibility were being used. I don't know
20 about any awareness of their increasing. I mean, had
21 I thought about it, well, yeah, it seems logical that,
22 with the concerns about global warming, well, of course
23 we're adding more insulation to buildings and, as
24 a logical consequence, we will be using more insulating
25 materials.

23

1 Q. Yes, but just thinking back at the time, you said you
2 had an awareness that more insulating materials were
3 being used that were not of limited combustibility. How
4 did you gain that awareness? What was that from?

5 A. Difficult to say, retrospectively.

6 Q. Was it an awareness of BS 8414 testing having been done
7 on full systems?

8 A. No, I mean, most of it will have been sitting in design
9 team meetings with project teams where obviously it's
10 not just my part of the project that focuses on --
11 obviously part of that meeting will look at fire safety
12 and other parts, and so there will be discussions about
13 material selections. As I say, I can't recall any
14 specific conversation with any particular person on any
15 particular project.

16 Q. Yes, yes.

17 A. Other than I know that buildings need insulation, ever
18 since the oil crisis in the 1970s, if not before, and
19 I was certainly aware that some of the insulating
20 materials that are used are not of limited
21 combustibility. Exactly how that awareness generated,
22 I can't really recall.

23 Q. Yes, okay.

24 Moving on within this third edition of BR 135, if we
25 can go to page 19 {CEL00003364/19} and pick it up at

24

1 paragraph 6.3.2 there on the right-hand side. If we
2 pick up the fourth line, it talks about:
3 "... there is potential for the fire to propagate
4 throughout the system if adequate fire barriers are not
5 installed."

6 Then it says:

7 "Since a cavity is likely to be present behind the
8 insulation boards in LFS ..."

9 I think that's lightweight frame systems, is that
10 right?

11 A. Yes.

12 Q. "... it is important that this potential is recognised,
13 and adequate fire-stopping is provided, using fire
14 barriers or fire-stopping details to maintain the
15 system's stability in the case of fire."

16 So it's really drawing quite significant attention
17 to the importance of this firestopping or cavity
18 barriers within these cavities.

19 A. Yes, yes.

20 Q. Again, was that something that you had an awareness of
21 at the time?

22 A. Absolutely, and this is one of the frustrating things:
23 it's the hidden items of construction that very often
24 are the most important and the ones that are easiest to
25 neglect and bodge.

25

1 Q. Can we go on to page 22 {CEL00003364/22} of this, and
2 look at paragraph 6.4.1. That starts at the bottom of
3 that page, if we could just move down. The heading is
4 "Performance of materials in fire", and there is
5 a subheading "Insulation", and it says this:

6 "As it can be difficult to prevent fire entering
7 the cavity and spreading in these systems, the selection
8 of the insulation materials used and the design of the
9 fire barriers to close these cavities are particularly
10 important."

11 Pausing there, were you aware at the time you were
12 working on the Grenfell project how important it was to
13 make sure the selection of the insulation materials was
14 adequate?

15 A. In general terms. I mean, again, I didn't spend a lot
16 of time immersing myself in questions about detailed
17 design of external wall systems. So the general
18 requirements and the risks generally speaking, yes.
19 It's not something, specifically in the context of
20 external walls, that I spent a lot of time thinking
21 about.

22 Q. Just picking it up one sentence further on, it says:

23 "Once the fire enters the cavity, the surface of the
24 insulation materials is exposed to the fire source. The
25 fire is contained within a narrow cavity, which will

26

1 encourage elongation of the flame front, and so increase
2 the potential for propagation of the flames through the
3 cavity. It is therefore essential to provide suitable
4 fire barriers to protect these systems."

5 So, again, were you aware of this phenomenon that,
6 once the fire has entered the cavity, the surface of the
7 insulation is then exposed to the fire source and then
8 that narrow cavity can be a source of fire spread?

9 A. Again, generally in the context of cavities, yes.

10 I don't know that I had spent a lot of time thinking
11 about the issue specifically in the context of external
12 walls, but I was very much aware of the issues of
13 cavities generally speaking.

14 Q. Yes.

15 Then if we can look in the right-hand column under
16 6.4.1 -- we might have to go back up to the top of that
17 page -- under the heading "External panels and
18 finishes", at the end of that paragraph we get another
19 reiteration:

20 "Metal panels may fall from the system if the
21 strength of the fixings is affected by the local fire
22 source. They may also melt, generating molten metal
23 debris if exposed directly to the sustained flame
24 envelope or other combustible materials in the system."

25 Do you see that?

27

1 A. Mm-hm.

2 Q. I think that's a development from the last piece of
3 guidance.

4 So, again, were you aware that there could be
5 an awful lot of interaction going on in the external
6 wall as between, you know, the insulation, the metal
7 panels, if there is sustained flaming in the envelope?

8 A. It -- well, again, in the context of cavities generally,
9 it's sort of something I could have worked out for
10 myself. I mean, also, to repeat what I said earlier, my
11 awareness of issues relating to external walls rather
12 evolved over the period 2012 to 2015, and by 2015 my
13 awareness was rather greater than it was in 2012.

14 Q. Yes. Just to be clear, you hadn't read this guidance --

15 A. I hadn't read that guidance, no.

16 Q. -- 2015? No?

17 A. Had I read it there and then, I would not have been
18 surprised at anything that's written there --

19 Q. No.

20 A. -- if that's an appropriate way of putting it.

21 Q. Yes.

22 Then just one final thing I wanted to look at in
23 this third edition under 6.4.1, this last paragraph
24 beginning "Combustible panels". If we can read that
25 together, it says:

28

1 "Combustible panels are typically based on vinyl or
2 glass-reinforced plastic, although various new products
3 are being developed in this area, some of which also
4 contain insulation materials. These products generally
5 have good surface spread of flame characteristics to
6 prevent rapid fire spread across the surface of the
7 system, but once the panels become involved in the fire,
8 they have the potential to generate falling debris, add
9 to the overall fire load, and provide a route for fire
10 to propagate up the outside of the building."

11 So, again, I think you said earlier that you weren't
12 aware at the time of the development of composite
13 panels; is that right?

14 A. I think distinction needs to be drawn here between the
15 sorts of composite panels that one typically finds on
16 low-rise buildings, cheaply constructed portal frames
17 and the like. A structural sandwich panel or a sandwich
18 panel which is serving both to provide the structural
19 rigidity and insulation, they are a firefighter's
20 absolute nightmare, and I am very, very aware of those
21 and the risks posed with those.

22 Rainscreen cladding obviously is a slightly
23 different application. I was not aware of products on
24 the market that were, you know, metal composite sandwich
25 panels for that particular application.

29

1 Q. Yes.

2 A. So, yes, I was aware that if you put a metal composite
3 on an external wall, it creates risks, and therefore one
4 must question the wisdom of putting such panels on the
5 external walls of high-rise buildings, but I really was
6 thinking more in the context of the insulation rather
7 than the rainscreen.

8 Q. Yes. Yes, okay.

9 Just thinking back now to Approved Document B.
10 I mean, you said you had read it at the outset of your
11 engagement with Exova. Were you aware in 2012/2013 that
12 Approved Document B also expressly warned in
13 section 12.5 that the use of combustible materials in
14 the cladding system and extensive cavities may present
15 a risk in tall buildings? Were you specifically aware
16 of that?

17 A. I'm not sure it's at the forefront of my mind. Yes,
18 I will have read it, and I was aware that materials on
19 the external walls of high-rise buildings need to be
20 correctly specified so as not to create unacceptable
21 risks. Not sure it was at the forefront of my mind,
22 I have to say.

23 Q. Yes, I understand.

24 Were you also aware of a report from
25 Exova Warringtonfire Australia on fire safety

30

1 engineering design of combustible façades from
2 December 2011?

3 A. Nope.

4 Q. Okay, thanks.

5 Just to recap, by March 2015, were you aware that
6 cladding façades on high-rise buildings posed serious
7 fire hazards for the safety of the occupants of such
8 buildings?

9 A. Yes.

10 Q. And were you aware that it's essential to have regard to
11 those risks when assessing whether the cladding complies
12 with requirement B4, that the external walls of
13 a building shall adequately resist the spread of fire
14 over the walls?

15 A. That's fair to say that, yes.

16 Q. We have touched already on the different kinds of
17 cladding panels that were available in the UK around
18 this time and your awareness.

19 Did you have an awareness of composite metal panels
20 in general being used for rainscreen façades?

21 A. Not for rainscreen façades, no.

22 Q. Does it follow, then, that you didn't have an awareness
23 of composite metal panels with a PE, polyethylene, core
24 being used?

25 A. Again, not for that application. So if we're talking

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1 about a single-storey refrigeration warehouse, yes. Not
2 for this application.

3 Q. What did you know about polyethylene at the time?

4 A. It is a thermoset polymer, so it tends to melt and run
5 away rather than just -- you know, in comparison with,
6 say, perspex, which tends to char and burn, polyethylene
7 will melt and burn, but it certainly burns quite nicely,
8 and if you create a foam of it, well, that will
9 obviously allow more air to get into it and rather
10 accelerate the combustion.

11 Q. At the time, were you aware that PE was highly
12 combustible --

13 A. Yes.

14 Q. -- and that any panels containing such cores would
15 exacerbate the spread of fire over external walls?

16 A. Had I imagined that such products existed --

17 Q. Yes, I understand.

18 A. -- I would have worked out that there is a great risk
19 there, yes.

20 Q. Does it also follow from your answers that, because you
21 weren't aware that these products existed, you also
22 weren't aware that some of these cladding panels were
23 available with FR, fire resistant, cores, which could be
24 expected to perform better than other thermoplastic
25 course, for example?

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1 A. If somebody had told me -- I mean, it's a logical
 2 conclusion that, yes, I was aware that plastics existed
 3 with fire retardants and, of course, their performance
 4 is -- I'm not going to say good, but probably would be
 5 less bad.
 6 Q. But it was not something you were specifically aware of,
 7 saying, "Well, this product manufacturer" --
 8 A. No.
 9 Q. -- "has a range of cores available and does an FR core"?
 10 A. No, no.
 11 Q. Okay, yes.
 12 So moving to your role at Grenfell Tower, is it
 13 right that, prior to that, you had been Exova's lead
 14 consultant on the KALC, the Kensington Academy and
 15 Leisure project?
 16 A. For the latter phases of that project, not initially .
 17 Q. Yes, yes. From around autumn 2013; is that right?
 18 A. Must have been thereabouts, yes. I can't remember the
 19 exact date of the handover, but it must have been
 20 thereabouts.
 21 Q. Yes. I think that's what you say at paragraph 3.5
 22 {EX000001753/2} of your statement, yes.
 23 Is it right that, in relation to the Grenfell Tower
 24 project, your role involved reviewing issue 2 of the
 25 outline fire safety strategy that had been written by

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1 Mr Ashton?
 2 A. I think saying "my role was" is possibly
 3 a misinterpretation of the situation. I didn't have any
 4 formal designated role within the team for
 5 Grenfell Tower.
 6 Q. Yes.
 7 A. It was more ad hoc provision of assistance to Mr Ashton,
 8 who was the lead on that project.
 9 Q. Yes, I see.
 10 Is it also right that you were called upon to review
 11 emails of a technical nature on an ad hoc basis --
 12 A. Correct, yes.
 13 Q. -- from time to time? We will look at that in more
 14 detail later.
 15 Now, in terms of your role as a fire safety
 16 engineer, can I just take you to a publication we looked
 17 at with Mr Ashton. This was the Fire Industry
 18 Association guidance note which addressed the scope of
 19 works for the fire engineer. This is at {INQ00011219}.
 20 Now, in fairness to you, this document wasn't
 21 produced until May 2015, so it postdates your key pieces
 22 of involvement in the Grenfell project.
 23 A. Yeah.
 24 Q. I'm just interested to know, first of all, when it came
 25 out, were you familiar with this document? Have you

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1 read it?
 2 A. I must have heard of its existence. I can't remember at
 3 what point I first read it. It probably wasn't
 4 immediately.
 5 Q. I see. It doesn't sound like you're hugely familiar
 6 with it.
 7 A. I am in the meantime, but it's more due to having read
 8 it subsequently, after having left Exova, rather than --
 9 Q. I see. I see.
 10 Would you agree that this guidance note reflects
 11 good practice in the construction industry before and
 12 after 2012, so that what it's saying about the scope of
 13 works for the fire engineer is reflective of what would
 14 be regarded as good practice?
 15 A. Generally, yes. One thing to bear in mind with this
 16 document, it is aimed at clients advising what they
 17 should specify the fire engineer to do, rather than
 18 aimed at the fire engineer, telling the fire engineer
 19 what to do.
 20 Q. I see.
 21 If we can go within it, at the top of page 4
 22 {INQ00011219/3}, where it deals with the "General"
 23 section, we can see there that it states a couple of
 24 paragraphs about the fire engineer's role. I just want
 25 to ask you about this. So it says there:

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1 "The fire engineer's overall role will be to provide
 2 advice in relation to the fire safety aspects of the
 3 design in order to provide reasonable confidence that
 4 the design that is developed, as well as the completed
 5 building, should achieve an acceptable standard of fire
 6 safety, comply with the client's objectives and meet all
 7 relevant legal fire safety requirements."
 8 I appreciate that's just a very general overview,
 9 but would you agree with that summary?
 10 A. That's certainly what we're trying to -- the services
 11 we're trying to offer a client, yes.
 12 Q. Yes. In the next paragraph, it says this:
 13 "The fire engineer should co-ordinate with the
 14 design team in order to ensure that the other members of
 15 the team are aware of any fire safety design issues
 16 relevant to their responsibilities within the project."
 17 Again, would you agree with that as a summary of the
 18 role of a fire engineer?
 19 A. Again, looking at it from the perspective of: this is
 20 a document aimed at potential clients, yes, it's what
 21 should happen. The degree to which the co-ordination
 22 occurs is very often dictated by the project managers
 23 and the client. Some clients are more proactive than
 24 others, and at times it can be quite frustrating if
 25 a project is poorly managed, whereas then others, if

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1 anything, you then get roped into lots and lots of work
 2 where actually there's nothing I can provide of benefit,
 3 you're just wasting your money asking me to sit in
 4 a meeting, and obviously the entire spectrum between
 5 those two extremes.
 6 Q. Yes.
 7 A. So, you know, yes, obviously, it is much more productive
 8 and obviously much more pleasant to work with a project
 9 team that invites you in for a very proactive
 10 co-ordination, but the degree to which that
 11 co-ordination occurs will very much vary from project to
 12 project.
 13 Q. Yes.
 14 A. And precisely one of the reasons for this document, as
 15 I understand it, was to make clients aware of this need
 16 for co-ordination and how deeply they should involve
 17 a fire safety engineer in the team.
 18 Q. Yes. I follow all of that.
 19 Would you agree, though, that the mindset of the
 20 fire engineer ought to be to co-ordinate with the design
 21 team, that should be the expectation and the intention
 22 at the outset?
 23 A. Co-ordinate with the team, not co-ordinate the team.
 24 Q. No, co-ordinate with the design team, absolutely.
 25 A. I'm providing advice; I'm not ramming that advice down

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1 the client's throat.
 2 Q. Okay.
 3 Would you agree that, in carrying out that
 4 co-ordination and working with the design team, your
 5 role is to try and ensure that the other members of the
 6 team are aware of any fire safety design issues relevant
 7 to their responsibilities within the project?
 8 A. Yes.
 9 Q. You are there to try and educate them and alert them?
 10 A. Yes, yes.
 11 Q. Now, just before we come to some more detailed
 12 examination of what you did on the Grenfell project, who
 13 did you understand the client to be on the project when
 14 you worked on it?
 15 A. I had no understanding whatsoever. My understanding of
 16 the arrangements with KALC were somewhat confused.
 17 Pre-construction, as I understand it, the client was the
 18 Royal Borough of Kensington and Chelsea, who employed
 19 Studio E, and we were then a subcontractor to Studio E.
 20 Post or during the construction phase, we were then
 21 employed directly by the contractor.
 22 Q. Sorry, are you describing the KALC --
 23 A. KALC, precisely.
 24 Q. Yes.
 25 A. In absence of any information to the contrary, I had

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1 just assumed that the same arrangements were in place
 2 for Grenfell Tower.
 3 Q. I see.
 4 So, I mean, first of all, when you were involved in
 5 the Grenfell project, let's take when you reviewed
 6 issue 2 of the fire strategy and then when you gave the
 7 advice to Mr Ashton in March 2015 --
 8 A. Yes.
 9 Q. -- did you have any active awareness at that time of who
 10 your client was? Did you engage --
 11 A. As I say, I just, by default, assumed that our client
 12 was Studio E and their client was the Royal Borough of
 13 Kensington and Chelsea.
 14 Q. I see, yes.
 15 A. Which in the meantime I know was completely wrong.
 16 Q. Right, yes.
 17 Okay, so moving on, then, to the specific work you
 18 did, I want to look at three main topics now: I want to
 19 look at the peer review process within Exova, then we
 20 will look at your review of issue 2 of the outline fire
 21 safety strategy, and then I'm going to look at the
 22 ad hoc advice which you were involved in, including in
 23 2015. So I want to take those three topics in turn.
 24 So in terms of the peer review process, I want to
 25 discuss with you the process by which team members at

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1 Exova review each others' work.
 2 If we can start with technical emails or technical
 3 advice. Let's look at paragraph 3.7 of your witness
 4 statement. This is at [EX000001753/3].
 5 Four lines down in that paragraph -- you're talking
 6 about a specific instance where you were asked to
 7 appraise some layouts, and then four lines down, you
 8 say:
 9 "As a general rule at Exova, technical advice would
 10 not be sent to external clients without two people
 11 considering the advice; it was therefore not uncommon
 12 for Mr Ashton to discuss technical queries with me or
 13 other Senior Consultants."
 14 Do you see that there?
 15 A. Yes.
 16 Q. To your knowledge, while you were working at Exova, was
 17 that practice of having two people considering technical
 18 advice ever formalised in a written policy or procedure
 19 within Exova?
 20 A. I -- yes, there was the -- a procedure for creating
 21 technical -- written technical work, which I did read
 22 when it was first produced. I didn't memorise it to the
 23 point where I could say one way or the other whether it
 24 specifically related to the more informal communications
 25 or whether it was --

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1 Q. Yes.
 2 A. -- to reports. This requirement to get any emails
 3 counter-reviewed, this was something that was drummed
 4 into us verbally quite regularly in the office. I mean,
 5 it was made quite clear to us. And Terry Ashton, to his
 6 credit, was leading by example, and usually any email
 7 that he sent out, yeah, he would get -- although he was
 8 the most senior person in the office, he would as
 9 a general rule get somebody to double check it and,
 10 you know, "Is what I'm saying correct?"
 11 Q. Yes, okay.
 12 A. Probably leading by example is the stronger way of
 13 enforcing a policy than any written document.
 14 Q. Now, just to look at something else you say in your
 15 statement about this. At paragraph 4.5 of your
 16 statement on page 6 {EX000001753/6}, you also say in the
 17 last three lines, just picking it up:
 18 "... it was not uncommon for Mr Ashton to discuss
 19 technical matters with other staff, as all e-mail
 20 containing technical information had to be approved by
 21 at least two people, and this might explain my
 22 involvement."
 23 So you have reiterated the point there again.
 24 How did you understand the term "technical
 25 information" or "technical matters" to apply in this

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1 situation? What would count as a piece of technical
 2 advice deserving of a second review?
 3 A. Pretty much anything to do with the design of
 4 a building, contrasted to arrangements for the logistics
 5 of a meeting and dates for -- and locations for
 6 meetings, or contractual issues, you know, scopes of
 7 work, and then probably also minutes of meetings.
 8 I mean, if the reviewer wasn't in the meeting, how do
 9 they know whether the minutes are accurate or not?
 10 Q. But it sounds like you applied quite an expansive
 11 definition of when something was a technical --
 12 A. Yes, yes.
 13 Q. Yes.
 14 A. And if in doubt, err on the side of caution.
 15 Q. I just want to go to Mr Ashton's statement at this point
 16 at paragraph 5.31. This is at {EX000001621/19}.
 17 Now, he is discussing an email that we're going to
 18 come to later, the email of 31 March 2015, but for
 19 current purposes I just want to focus on the fact that
 20 he appears to have sent an email to Mr Crawford of
 21 Studio E before receiving an email from you on that
 22 topic in which you were giving advice.
 23 A. Yeah.
 24 Q. So he had sent an email, and then some time after he
 25 received an email from you.

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1 Would you say that this is an instance where it was
 2 contrary to the standard practice for Mr Ashton to
 3 respond to the query without another person checking the
 4 advice?
 5 A. Not knowing the full circumstances in which that
 6 email -- or he wrote his email, I couldn't say, but
 7 certainly appearances are that, yes, this would be
 8 a non-following of that general policy.
 9 Q. Yes. We're going to come to look at this in more
 10 detail.
 11 Can we look at another example that you refer to.
 12 This is at paragraph 3.7 of your witness statement, so
 13 {EX000001753/3}. There you say this:
 14 "I have a vague recollection about being asked to
 15 appraise the layout of the entrance area of the boxing
 16 gym in Grenfell Tower and its connection to the rest of
 17 the building, and particularly the requirement for fire
 18 doors - possibly I was asked by Mr Ashton to review an
 19 e-mail he had drafted."
 20 Then that's where we looked earlier that you go on
 21 and explain that, as a general rule, it would have the
 22 second level review.
 23 I just want to ask you about that. I don't want to
 24 discuss the specifics of the advice you were giving, but
 25 ask you a bit more generally about what you recall about

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1 the checking process that would happen in these
 2 circumstances.
 3 Using this as an example, how much information would
 4 you expect to be given, for example, before you would
 5 appraise the layout of an entrance area in a building
 6 like Grenfell Tower?
 7 A. Oh, grief.
 8 Q. Would you expect to be given additional information, or
 9 would you expect to be able to deal with it on the face
 10 of the emails that --
 11 A. It really depends on where we are in the design process.
 12 So, you know, you may have an early concept design, even
 13 feasibility study, in which case it's some very rough
 14 sketch lines on a piece of paper. Later, you know, as
 15 the design develops, you will have more information. So
 16 the information you're given really depends on the
 17 context.
 18 Q. Would you say that it was the practice within Exova, if
 19 necessary, to ask for contextual information around
 20 issues --
 21 A. Oh, yes.
 22 Q. -- so you knew the basis on which you were advising?
 23 A. Yes. If you look at something and say, "Hang on,
 24 I don't quite get how this fits in", or there are
 25 situations, "Well, this is a classic case of where

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1 unforeseen consequences -- can you please give me a bit
 2 more background context", absolutely, I would ask for
 3 the additional information, you know, where I felt that
 4 there was something I either didn't understand or there
 5 may be, you know, hidden risks lurking somewhere else.
 6 Q. Yes.
 7 A. And we all get the, "Never mind that, you have got
 8 a bigger problem over here that you need to pay
 9 attention to", obviously that occasionally happens.
 10 Q. Yes, because I'm interested, on the Grenfell project,
 11 for example, if we go back one paragraph to the page
 12 before {EXO00001753/2}, at paragraph 3.6, on the bottom
 13 of that page, you have explained there:
 14 "Because my colleagues were working on the Grenfell
 15 Tower refurbishment, as well as the close proximity of
 16 that project to KALC, I became aware of some isolated
 17 bits of information regarding the Grenfell Tower
 18 refurbishment."
 19 You see that there?
 20 A. Mm-hm.
 21 Q. So can you explain, in circumstances where you're only
 22 aware of isolated bits of information, how you were able
 23 to carry out the reviewing process competently?
 24 A. Where I was asked to review something, well, yes,
 25 I would make sure that I had got all the information

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1 that I felt I needed. There's -- there are situations
 2 where you're in an open-plan office, you're doing
 3 something and someone somewhere else is discussing
 4 something, you know, you will hear of details about the
 5 project which have got no relevance to what you're then
 6 later going to be asked to do at all.
 7 Q. Yes.
 8 A. Then there's the -- you're asked to do a specific task,
 9 well, in that case, obviously, you do ask for all the
 10 information that you think you might need.
 11 Q. Okay, yes.
 12 So moving on, then, to the question of reviewing
 13 a report as distinct from, say, a technical piece of
 14 advice.
 15 I think we know this from other witnesses, but it's
 16 right, isn't it, that at the time you were working on
 17 the Grenfell project, Exova wasn't certified under
 18 ISO 9001?
 19 A. I thought we were, but --
 20 Q. I think others have said you were working towards it and
 21 you gained it at some point.
 22 A. I can't remember the details now. I mean, certainly
 23 there were lots of discussions about ISO 9000
 24 certification and policies were written. Where we were
 25 in that certification process, I don't know.

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1 Q. Yes. Okay.
 2 At Exova, was there a documented procedure
 3 established which defined the controls that were needed
 4 to approve a report prior to issue?
 5 A. Thinking back and not having refreshed my memory of
 6 those -- what the procedures were, I couldn't tell you
 7 what the specific contents were and --
 8 Q. Yes.
 9 A. There certainly was a procedure on report generation.
 10 Q. Yes.
 11 A. The exact details of its contents I can no longer
 12 recall.
 13 Q. Yes. And you can't recall whether that was a written
 14 procedure or if it was something --
 15 A. It was written.
 16 Q. It was written? I see.
 17 A. There was a whole suite of written policies and
 18 procedures, but I cannot recall the details.
 19 Q. Yes.
 20 What about the reviewing and updating of, say,
 21 fire strategy reports? Was there a formal procedure
 22 that would be relevant to that?
 23 A. Again, I can't recall how much detail was captured in
 24 the policies.
 25 Q. Now, you have helpfully explained for us in your witness

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1 statement -- if we go to paragraph 3.9 on page 3
 2 {EXO00001753/3} of your statement, here you have
 3 described the process of reviewing a report, and you
 4 have said, picking it up in the first line, that it:
 5 "... involves comparing what is written in the
 6 report with any floor plans provided and ensuring (i)
 7 that the report is factually correct; (ii) that it
 8 correlates with the plans; (iii) that the approach taken
 9 is appropriate, eg that the design is based on the
 10 appropriate design code(s), or any fire engineering
 11 analyses are based on sound principles; (iv) that it is
 12 correct where the report says that there is compliance
 13 with the cited design code(s); and (v) that the facts,
 14 logic and mathematics of any fire engineering analyses
 15 are correct."
 16 Do you see that there?
 17 A. (Witness nods).
 18 Q. Now, was that your understanding of the standard review
 19 process for reports issued by Exova?
 20 A. I didn't in my mind really make any distinction between
 21 a procedure for reviewing a standard report and
 22 procedure reviewing, you know, any other document or
 23 something ... something less formal.
 24 Q. Right.
 25 A. Bearing in mind that if you give incorrect information

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1 in an informal email, it can have just as grave
 2 consequences as making a mistake in a report.
 3 Q. Yes. Yes.
 4 The process you have described there of
 5 peer reviewing a report, do you think that that was
 6 commonly understood within Exova?
 7 A. Erm ... yeah, I see no reason why it wouldn't have been.
 8 Q. Is it possible that the process that was followed for
 9 peer reviewing a report may have differed as between
 10 different Exova employees? Were you aware that people
 11 were doing different things at the time?
 12 A. What do you mean by process? I mean, in terms of some
 13 people will print the hard copy out and scribble notes
 14 on a hard copy; some people will review it on screen.
 15 But ...
 16 Q. No, it's more about the detail and whether you're,
 17 for example, just checking for obvious errors, or
 18 whether you're doing what you describe here, which is
 19 a more thorough check to see whether the report is
 20 correct.
 21 A. Certainly my understanding was that the understanding
 22 was fairly universal that, you know, you are checking
 23 all the detail. I mean, at the end of the day, we need
 24 to make sure that the documents we're producing are
 25 correct, and we all know that occasionally when you're

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1 authoring a document, you make omissions, make mistakes,
 2 and therefore that it needs to get a double check -- be
 3 double checked. So certainly my understanding was that
 4 everybody had a -- was -- an appreciation for the
 5 importance of the review process and the need to be
 6 thorough with it.
 7 Q. Yes. Was there any commonly understood procedure for
 8 making amendments to reports?
 9 A. In the sense that if the reviewer finds something in
 10 a report they disagree with, you would then discuss the
 11 matter on hand with the author until you come to
 12 a consensus about what the contents should be. The
 13 process via which that happens, well, that will ... that
 14 will vary from person to person. Some people found it
 15 a lot easier to work off hard copies with handwritten
 16 notes. Other people were using tracked changes on
 17 an electronic document.
 18 So the techniques and the processes changed, but the
 19 basic rule -- I think it's an unwritten rule rather than
 20 a written one, but if the reviewer disagrees with the
 21 author, you work together to find a consensus as to what
 22 the wording should be.
 23 Q. Yes.
 24 A. And it doesn't go out -- the report doesn't get issued
 25 until you reach that consensus.

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1 Q. Yes, yes.
 2 So how would you commonly have gone about notifying
 3 the author of any suggestions or amendments? How would
 4 you do that?
 5 A. Depends on circumstances. At the time it tended to
 6 be -- I certainly worked a lot more on hard copies when
 7 reviewing than electronically. I mean, my techniques
 8 have evolved over the years anyway.
 9 Q. Yes, yes.
 10 A. And it, you know, depends. If I'm reviewing something
 11 that was authored by one of the -- you know, the
 12 Warrington or the Manchester office, obviously my
 13 communication media would be very different --
 14 Q. Yes.
 15 A. -- from reviewing something authored by someone in
 16 London. The communication would be very different if
 17 I'm reviewing something that one of the more senior
 18 members of staff did than it would be for a graduate
 19 writing their first report where you're expecting it to
 20 be full of mistakes.
 21 Q. Yes.
 22 If you did have suggestions or amendments, would
 23 they usually be discussed with the original author?
 24 A. Yes.
 25 Q. Yes.

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1 A. Yes.
 2 Q. Would those amendments usually need to be approved by
 3 the author, the original author --
 4 A. Yes.
 5 Q. -- before the report issued?
 6 A. Yes, yes.
 7 Q. You have talked about sometimes you might get
 8 a disagreement and you would have to resolve that; was
 9 there any kind of policy or procedure within Exova that
 10 you had to follow for doing that?
 11 A. Again, I can't remember what the details were of the
 12 written procedures.
 13 Q. Yes.
 14 If we look at paragraph 3.14 of Dr Barker's witness
 15 statement -- this is at {EXO00001603/4} -- she's
 16 indicated there in those first few lines:
 17 "Ordinarily, if I had any comments on the draft
 18 report, I would provide my comments by way of a
 19 manuscript mark-up and would discuss any queries with
 20 the author."
 21 Do you see that there?
 22 A. Mm-hm.
 23 Q. I think you were explaining that sometimes that might be
 24 what you would do: print out a hard copy, make any
 25 comments in manuscript and then discuss them.

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1 Would you say that that description there was the
 2 standard Exova review process at around the time of the
 3 Grenfell project?
 4 A. I wouldn't say there really was a standard because,
 5 again, if you're taking two extreme examples, if you
 6 have got a report written by a graduate who hasn't yet
 7 really developed the skills for writing a report, well,
 8 you may end up having to completely restructure it,
 9 which is a lot easier to do in electronic format or
 10 possibly saying, "Do this, this, and this and we revisit
 11 it"; whereas if it's then something that is, you know,
 12 almost perfect, give or take a few editorial and
 13 punctuation marks, there it might be easier to do it on
 14 paper. It really depends on -- you choose your tools
 15 depending on the exact task at hand, which will vary
 16 from one report to another.

17 Q. Yes, okay.

18 Just before we leave this process, just a few more
 19 questions.

20 Going back to paragraph 3.9(iii) of your statement,
 21 on page 3 {EX000001753/3}. So we looked at that list
 22 that you have set out there, and in the third line you
 23 have, in the third point, that the approach taken is
 24 appropriate, for example that the design is based on the
 25 appropriate design codes or any fire engineering

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1 analyses.

2 Thinking back to your work on the Grenfell project,
 3 can you explain what the appropriate design codes would
 4 have been? What would be the main codes you would be
 5 looking to when reviewing a fire strategy for a building
 6 like Grenfell Tower?

7 A. Well, for a mixed-use building with effectively public
 8 assembly and a block of flats, Approved Document B.
 9 I mean, basically Approved Document B is the default.
 10 For blocks of flats, BS 9991 would be an alternative
 11 option, but because that is just blocks of flats rather
 12 than mixed-use buildings, it's not the appropriate code.
 13 Similarly, BS 9999 is then just the commercial, so it's
 14 not appropriate for that.

15 There are some buildings to which Approved
 16 Document B is not applicable -- hospitals, schools --
 17 but Approved Document B is the default and it is
 18 a fairly, shall we say, primitive code, which is why
 19 it's so widely applicable. So ... and also at times
 20 it's the easiest to use.

21 Q. Yes.

22 A. So it's the default to which you fall back to if nothing
 23 else appears appropriate.

24 Q. Yes.

25 Did you consider at the time that the

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1 CDM Regulations, the Construction (Design and
 2 Management) Regulations, were relevant to any review of
 3 a fire strategy for a building like Grenfell Tower?
 4 A. Oh, I mean, my appreciation of the CDM Regulations has
 5 evolved over time. I couldn't recall how much
 6 appreciation I had for them in 2012, and if I did, it
 7 was probably in two contexts: one is fire safety during
 8 the construction phase, and then designing things so
 9 that they are maintainable, if I can put it that way.
 10 I'm not sure I would have had a wider view of it than
 11 that, particularly as obviously the CDM Regulations have
 12 evolved themselves during the period that we're looking
 13 at.

14 Q. Yes.

15 By preparing a fire strategy at the time -- so let
 16 us think back to, let's say, 2013 when you reviewed
 17 Mr Ashton's fire strategy -- did you consider that you
 18 fell within the definition of a designer within the
 19 meaning of the CDM Regulations at the time?

20 A. I can't recall how well evolved my understanding of the
 21 CDM Regulations were at the time.

22 Q. Yes.

23 A. I mean, yes, we are designers. As I say, how developed
 24 my understanding was at the time, I couldn't tell you.
 25 I just cannot recall.

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1 Q. Is it possible that, at the time, that wasn't something
 2 that you had an awareness of?

3 A. I don't think I had given it much thought, put it that
 4 way.

5 MS GRANGE: Mr Chairman, I'm going to come on to a different
 6 topic. That might be a good moment for a break.

7 SIR MARTIN MOORE-BICK: Is that a good time?

8 MS GRANGE: Yes, perhaps until 11.30, if that's okay.

9 SIR MARTIN MOORE-BICK: Dr Pearson, we are going to have
 10 a break now until 11.30. I'm going to ask you to go
 11 with the usher in a moment. But please, while you're
 12 out of the room, don't talk to anyone about your
 13 evidence, and we will resume again, as I say, at 11.30.

14 For the benefit of those watching, if anyone wonders
 15 why we have quite such generous breaks, I can say that
 16 one reason is to enable counsel to consider and deal
 17 with questions that may be coming in from lawyers who
 18 are watching proceedings from other locations.

19 All right. Would you like to go with the usher,
 20 please. Thank you.

21 (Pause)

22 11.30, please. Thank you.

23 (11.13 am)

24 (A short break)

25 (11.30 am)

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1 SIR MARTIN MOORE-BICK: Yes, well, I see you're back with us
 2 already Dr Pearson. Are you ready to go on?
 3 THE WITNESS: Yes, I am.
 4 SIR MARTIN MOORE-BICK: Good, thank you very much.
 5 Yes, Ms Grange.
 6 MS GRANGE: Yes, thank you.
 7 I just want to pick up, then, on what knowledge you
 8 had of the fee proposal and scope of work for the
 9 Grenfell project.
 10 Were you aware of the fee proposal and the scope of
 11 work for the consultancy services at Grenfell Tower that
 12 Exova had agreed to do prior to getting involved in any
 13 detail on the project?
 14 A. I don't think I ever read it until the aftermath while
 15 preparing for my hearing here.
 16 Q. Yes. Can we just bring that up for a moment. This is
 17 {TMO10003885}, so this is the fee proposal that was sent
 18 to Studio E on 9 May 2012. Then on page 2
 19 {TMO10003885/2}, we see at the top of the page,
 20 "Proposed Scope of Work":
 21 "The planned fire safety work would be undertaken
 22 using the relevant design codes and will facilitate the
 23 progression of the design from RIBA Stage C to RIBA
 24 Stage F."
 25 Do you see that there?

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1 A. Mm-hm.
 2 Q. Is that common, that Exova would undertake to facilitate
 3 the design work according to those RIBA stages?
 4 A. No, actually. Our work more often was punctuated by
 5 planning applications, tender submissions, commencement
 6 of work on site. So, actually, for most projects,
 7 I tended not to really think in terms of RIBA stages, as
 8 much as a planning application typically will be done
 9 with a RIBA stage C design, and so, yeah, then you're
 10 developing pre-construction of a D/E, possibly F.
 11 From my recollection, the majority of our fee
 12 proposals were headed pre-planning, post-planning,
 13 rather than RIBA stage, you know, X, Y, Z.
 14 Q. Could I just check: were you aware of what the RIBA
 15 stages were at the time you were working on the project?
 16 A. I was aware of stages sort of A to F. I don't --
 17 because I didn't very often get involved during the
 18 construction stages, my recollection of what the
 19 individual stages were beyond F was rather hazy.
 20 Q. Yes.
 21 A. I had access to a list and so, had anybody asked me to
 22 do anything for a particular RIBA stage, I could have
 23 looked it up and reminded myself what it was.
 24 Q. Yes.
 25 A. But, as I said, most of our work really was -- sorry,

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1 most of my work is at strategic level, which tended to
 2 be completed by the time you got to about RIBA stage E,
 3 sometimes it went into RIBA stage F. Anything beyond
 4 that was then a different department, really.
 5 Q. Right, yes.
 6 We can see, looking on at this fee proposal, that
 7 under RIBA stage C, if you look at the second paragraph
 8 there, it talks about a preliminary fire strategy report
 9 would be produced which summarises the main fire safety
 10 issues for the project; do you see that there?
 11 A. Mm-hm.
 12 Q. Then if we go to the bottom of that page, and look at
 13 RIBA stages D and E, which are dealt with together --
 14 A. Yeah.
 15 Q. -- in the first paragraph there, it states:
 16 "Work undertaken during RIBA Stage C would be
 17 further developed during the approvals stage of the
 18 project where the work would ultimately involve the
 19 creation of a detailed fire strategy for the proposed
 20 development which will be written in line with the
 21 requirements of The Building Regulations 2010."
 22 Do you see that there?
 23 A. Mm-hm.
 24 Q. I just want to ask you about that difference between
 25 a preliminary fire strategy and a detailed

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1 fire strategy.
 2 Was that a distinction that you were familiar with
 3 in terms of your own working on projects?
 4 A. Yes, with the caveat that there's no strict definition
 5 of what level of detail one provides in each.
 6 Typically -- I mean, there is no such thing as a normal
 7 project, because every project's different, but
 8 typically I would be writing an outline strategy at the
 9 pre-planning phase and a full strategy or detailed
 10 strategy post-planning. And obviously as the design
 11 develops, you add a lot more detail in.
 12 Particularly with the pre-planning phase, what
 13 I have found over the years, it's often disadvantageous
 14 to provide a lot of detail because there is a risk of
 15 a client focusing on details and missing the big picture
 16 and getting the fundamentals wrong. So at the
 17 pre-planning stage, let's focus on what's needed there,
 18 get the basic concept right, and then fill in the
 19 details as we go along.
 20 Q. Yes.
 21 A. The actual level of detail will very much depend on the
 22 specific needs of the project. There's nothing -- no
 23 rules written in stone as to what level of detail is
 24 required at any given stage, and it will very much
 25 depend on what information the rest of the design team

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1 has produced.
 2 Q. Yes.
 3 A. It's obviously an iterative process. Usually the
 4 architect will come with a set of preliminary diagrams,
 5 we'll then say, "Well, if you want to do this, the
 6 consequences are such and such". That then goes back to
 7 the architect and mechanical and electrical services
 8 engineer, who will then come with proposals. So it's
 9 almost like a ladder; we're together working our way
 10 towards the detailed design.
 11 Q. Typically -- I fully appreciate every project is
 12 different -- how much difference would there be between
 13 the preliminary fire strategy, say at stage C, and
 14 a detailed strategy, as we've got outlined here? Would
 15 they look like very different documents?
 16 A. It varied greatly from one project to another how
 17 much ... there are some where actually the outline
 18 already contained possibly more detail than needed; some
 19 projects where the detail was, you know, possibly not
 20 that detailed. It really did vary greatly from one
 21 project to another.
 22 Q. Would you expect that detailed fire strategy to include
 23 reference to key drawings?
 24 A. I would expect any strategy to contain references to
 25 drawings. Now, again, what are the key ones and what

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1 are the detailed ones, that would very much depend on
 2 the specifics of the project.
 3 Q. Yes.
 4 A. But, I mean, any strategy will be relating to a specific
 5 design.
 6 Q. Yes.
 7 A. And in order to ensure there's no confusion, yeah, yes,
 8 you do need to refer to the drawings, and which
 9 revisions of those drawings, because otherwise you might
 10 find that you're trying to work or describe one
 11 particular iteration of the design, which is not what
 12 the architect thinks you're talking about.
 13 Q. Yes.
 14 Would they typically include key drawings with
 15 annotated overlays supporting the analysis in the text?
 16 So kind of extracts from drawings with some annotations
 17 on. Would you frequently see that in a fire strategy?
 18 A. Again, varies. I mean, particularly in the earlier
 19 stages it tends just to be general arrangement drawings.
 20 The ... you know, if you're getting into the level of
 21 detail of RIBA E, then -- I mean, taking KALC as
 22 an example, which is possibly the atypical one because
 23 we did get engaged by the contractor well beyond the
 24 pre-construction phase, where throughout construction
 25 various complications made themselves apparent, and so

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1 we were then asked lots of detailed questions and all
 2 the relevant documentation obviously for that had to be
 3 included in the --
 4 Q. In the fire strategy.
 5 A. -- in the list of references on which the fire strategy
 6 is based.
 7 Q. Okay.
 8 A. So there is quite a lot of detail in there, specifics to
 9 do with connections between walls and floors and things
 10 like that.
 11 Q. Okay.
 12 A. But that's probably one of the more detailed ones and
 13 an extreme example certainly at one end of the spectrum
 14 rather than the average.
 15 Q. Staying with this page for the moment, looking at the
 16 bottom of it, we see a series of bullet points. It
 17 says:
 18 "The fire safety strategy for the building will
 19 consider the following items ..."
 20 We can see there that the fourth item is:
 21 "Determination of any external fire spread issues
 22 that there may be and the impact this may have on the
 23 architectural design."
 24 Do you see that there?
 25 A. Mm-hm.

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1 Q. Then fifth one:
 2 "Recommendations of compartmentation and structural
 3 fire protection standards ..."
 4 Was it your understanding that a fire strategy
 5 should typically cover those aspects, if relevant?
 6 A. Yeah, they are part of the sort of standard -- the
 7 default scope of work for a fire safety strategy, if
 8 I can put it that way.
 9 Q. Yes.
 10 I think it follows from that whole list that the
 11 fire strategy should be considering B1 through to B5,
 12 the functional requirements.
 13 A. Normally, yes. I mean, any project, the requirements
 14 will depend on specific requirements. I've worked on
 15 projects for buildings abroad and obviously then it's
 16 not B1 to B5, it's whatever the local legislation is.
 17 Q. Yes.
 18 A. But, yeah, normally in the context of design work or
 19 a design project in England, well, yes, then almost
 20 invariably the Building Regulation -- or part B of the
 21 Building Regulations will be at least part of what we're
 22 focusing on, and therefore they will -- it will be
 23 covering discussing requirements B1 to B5.
 24 Q. Moving on, then, to your review of issue 2 of the
 25 outline fire safety strategy, if we can bring that up,

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1 {EX000001758}. This is the first page. We can see it's
2 dated 24 October 2013, and it's issue number 2. Do you
3 see that in the --

4 A. Yes, yes.

5 Q. -- bottom right-hand corner?

6 At the top of page 2 {EX000001758/2}, if we can go
7 on to that, we can see there the previous issue was
8 31 October, so almost a year before, 2012, and this
9 issue 2 is prepared by Terry Ashton and reviewed by you;
10 is that correct?

11 A. Correct, yes.

12 Q. Can you recall approximately how much time you spent on
13 that task of reviewing the report?

14 A. Not from memory, no. I mean, obviously the changes
15 I made -- there was the one paragraph I inserted; beyond
16 that, not a lot. So, you know, we're not talking about
17 hours and hours of work here. But specifically, no,
18 I can't.

19 Q. Okay.

20 Can we look at {EX000001763/2} at the top. Here
21 I think we're seeing an email from Margaret Treanor. Is
22 it right that she was an administrative assistant within
23 Exova?

24 A. I can't say that I particularly like the job title, but
25 that was her official job title, yes.

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1 Q. Oh, I see.

2 A. I don't know what's gone -- yeah.

3 Q. Anyway, she is sending you, at 15.40, "Subject:
4 Grenfell Tower", high importance. This is on
5 24 October:

6 "Hi Tony

7 "Please can you review please for issue today."

8 Do you see that there?

9 A. Yes.

10 Q. This seems to be her emailing you the report.

11 Then you appear to send this on to Terry Ashton at
12 16.13 that day. Can we look at the middle of page 1
13 {EX000001763/1}.

14 A. Yeah.

15 Q. If you look there, there is an email, 16.13, in the
16 middle of that page:

17 "Terry

18 "I have added something (although if you think what
19 I have added is too long and draws too much attention to
20 the issue, feel free to shorten it)."

21 Then you say:

22 "Report with the aforementioned addition and a
23 couple of editorial corrections attached."

24 Do you see that there?

25 A. Yes.

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1 Q. So it would appear from this that you are sending the
2 report at 16.13. Prior to that, we can see that you
3 have sent an email that we'll come back to, at the
4 bottom of that page, at 16.01 -- sorry, Terry Ashton
5 sent an email discussing the "ressy stair", et cetera.
6 We will come back to that in a moment.

7 Based on those timings, in terms of when you have
8 sent the report through and when you got the report, it
9 would appear that it was 33 minutes after you got it
10 that you sent it through.

11 A. Yeah, it certainly wasn't hours. Correct.

12 Q. Yes.

13 Did you feel at the time that that time period was
14 sufficient to peer review the report in accordance with
15 that practice that we saw at paragraph 3.9 of your
16 witness statement?

17 A. I mean, trying to recollect, I just ... I haven't got
18 sufficient of a recollection to really know what my
19 emotions were at the time. I mean, obviously 3.30 in
20 the afternoon doesn't give me a lot of time before end
21 of play to review it. There is a certain amount of
22 urgency there. I'm ... I must have appreciated that
23 urgency at the time, but I've got no specific
24 recollection of what my emotions were at the time.

25 Q. Okay.

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1 Do you remember comparing what was written in the
2 report with the floor plans that had been provided in
3 relation to the project?

4 A. Not specifically. It's something that I always did, so
5 I see no reason why I wouldn't have.

6 Q. Yes.

7 A. And precisely because a -- if you compare this
8 revision 2 of the report with revision 1, one of the key
9 changes was a complete rewriting of the description of
10 the means of escape.

11 Q. Yes, we will come to that.

12 A. And so I think -- and if you just read that without the
13 plans, it's difficult to work out what's going on,
14 because it was a fairly complex design.

15 So I must have done, if for no other purpose than
16 myself understanding what's going on and which stair is
17 which.

18 Q. Just to be clear, prior to being asked to review this
19 report, had you had any involvement in relation to the
20 Grenfell project?

21 A. As I mentioned in my witness statement, there was
22 an episode that I cannot recall in any great detail
23 that --

24 Q. Was this the floor layouts?

25 A. Terry put a set of floor plans in front of me --

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1 Q. Yes.
 2 A. -- and asked me for my views in relation to the
 3 protection of the means of escape from the boxing gym.
 4 Q. Yes.
 5 A. It was something to do with locations or specifications
 6 for doors. I cannot recall the details.
 7 Q. Okay, yes.
 8 A. But it was at that point in time that I became
 9 sensitised to the fact that we have a shared means of
 10 escape between the gym and the flats, which must have
 11 been the reason why this was at the forefront of my mind
 12 while I was reviewing the report.
 13 Q. There are two drawings that are mentioned on page 4 of
 14 the outline strategy. This is {EX000001758/4}.
 15 This is the introduction, and at the end it says
 16 it's based on discussions with the design team, and then
 17 there are fire access and fire strategy drawings and two
 18 are named there.
 19 Do you recall whether you looked at those drawings
 20 as part of your review?
 21 A. I must have done. I've got no specific recollection,
 22 but I struggle to imagine that I would have read the
 23 report without looking at those drawings.
 24 Q. Okay.
 25 Did you ensure during that time that the report was

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1 factually accurate? Was that what you were attempting
 2 to do?
 3 A. That's what I was attempting to do.
 4 Q. Can you recall what you did to ensure that the report
 5 was factually correct? What steps did you take to check
 6 that?
 7 A. Well, possibly, first of all, to not answer the
 8 question, what ... my focus must have been on the parts
 9 of the report that changed rather than the parts of the
 10 report that remained the same.
 11 Q. Yes.
 12 A. That's the only way I can explain some things that
 13 I should have picked up on that I didn't, such --
 14 Q. I see.
 15 A. So the focus must have been on the parts of the report
 16 that have changed and take it on trust that the previous
 17 issue had been entirely correct as far as it -- the
 18 matters to which it pertained.
 19 Q. Yes.
 20 A. So most of the text I was concentrating on, the facts
 21 that were being presented, almost all relate to the
 22 configuration of the layout of the building, so the
 23 checking of those is synonymous with the comparing of
 24 the text and the description with the information in the
 25 drawings.

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1 Q. So does that mean that you were predominantly focused on
 2 the means of escape provisions within that report?
 3 A. I must have been. I must have been.
 4 Q. Now, the other checks that you said you routinely did in
 5 your statement for reviewing this kind of report was to
 6 ensure that the report correlated with the plans. Did
 7 you do that?
 8 A. Yes. Again, obviously -- I say obviously. Again, I've
 9 got no detailed recollection of my actions, but from my
 10 normal process, procedures, I cannot imagine that
 11 I reviewed that report without looking at the plans.
 12 Q. You also say you would look at the design codes and
 13 standards that would be appropriate. Did you have to
 14 look at any design codes or standards? Did you go to
 15 any during the course of this review?
 16 A. Yes, the code on which this is based is Approved
 17 Document B and, for reasons already mentioned, there was
 18 complete unanimity within the office that that was the
 19 appropriate code.
 20 Q. Yes. But do you actually have a memory of looking at
 21 Approved Document B while you were doing this review?
 22 A. Not while I'm reviewing that, no.
 23 Q. No.
 24 You said you would also routinely ensure that the
 25 facts, logic and mathematics of the fire engineering

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1 analyses were correct. Was there anything of that
 2 nature that --
 3 A. The only thing you could call a fire engineering
 4 analysis was the one I inserted, so there was nothing
 5 there to be checked.
 6 Q. Okay. But you did all of that within just 33 minutes,
 7 yeah?
 8 A. Well, as I said, bearing in mind that (a) it's a very
 9 brief report and (b) yeah, the facts and logic, it was
 10 largely -- you know, those facts almost all pertain to
 11 the drawings. So reading the text of that length,
 12 comparing it with the drawings, is not a massive task --
 13 not a, you know, massive number of man hours required
 14 for that.
 15 Q. Yes.
 16 Now, I want to look at the amendments to issue 2 of
 17 the fire safety strategy. We have discussed in general
 18 terms the process for making arrangements already today,
 19 but let's look at the specific amendment that you made.
 20 If we can look at page 6 {EX000001758/6} within the
 21 fire strategy, and section 3.1.1, it's in the middle of
 22 that page, it's the largest paragraph there.
 23 A. Yeah.
 24 Q. So is it right that you inserted these words:
 25 "While the sharing means of escape between

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1 residential and non-residential accommodation is not
 2 endorsed by current statutory guidance, these proposals
 3 represent a continuation of the existing principles for
 4 means of escape in the building and therefore do not
 5 create a non-compliance with the requirements of the
 6 Building Regulations. It is noted in this context that
 7 the fire loads in the offices and boxing club are no
 8 greater than those in a typical flat, and that the
 9 non-residential accommodation will be separated from the
 10 stairs by ventilated lobbies (see below). The risks the
 11 occupants of a flat from a fire in a non-residential
 12 demise are therefore not considered significantly
 13 greater than those stemming from a fire in another
 14 flat."

15 So those were your words that you inserted when you
 16 reviewed the report; is that right?

17 A. Correct.

18 Q. I think you explain in your statement inserting that,
 19 and you explain that you inserted that because it didn't
 20 comply fully with modern design guidance.

21 Which modern design guidance are you referring to
 22 there?

23 A. Primarily Approved Document B, but, I mean, any
 24 applicable design code. So it doesn't matter if you're
 25 using BS 9991 or anything; whatever approach you would

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1 take, the recognised design codes do not endorse that
 2 situation.

3 Q. Yes.

4 A. And it's certainly not something that you would be
 5 allowed to do under the Building Regulations as they
 6 stood in 2012.

7 Q. Yes.

8 A. Well, for a new-build.

9 Q. You say at paragraph 3.12 of your witness statement --
 10 perhaps we can bring that up to orientate ourselves
 11 there and see what you say, {EX000001753/4} -- you
 12 explain:

13 "The change I proposed to the report was based upon
 14 my understanding of the existing means of escape ... and
 15 was made in the context of Regulation 3(2) of the
 16 Building Regulations 2010, which states that an
 17 alteration to an existing building is only material for
 18 the purposes of the regulations if it creates a
 19 non-compliance with the relevant 'functional
 20 requirements' - the design standards - or, if a
 21 non-compliance already exists, it creates conditions
 22 that are less satisfactory than before."

23 So that was your understanding of the
 24 Building Regulations and background?

25 A. The relevant provisions of the Building Regulations.

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1 Obviously the Building Regulations cover a lot more than
 2 fire and a lot more than alterations to existing
 3 buildings.

4 Q. Absolutely.

5 A. But the bit of them that was relevant in this context.

6 Q. Yes.

7 Then at 3.13 you say that:

8 "My amendment ... was intended to indicate that,
 9 while the addition of the boxing gym was not in line
 10 with standard guidance due to the mixed use, conditions
 11 were not being made worse by this alteration, and
 12 therefore it did not amount to a material alteration:
 13 and, moreover, that in fact the risk to occupants was
 14 not significantly different from the risks in a typical
 15 block of flats without a gym. This is due to the fact
 16 that the fire load in a boxing gym would be unlikely to
 17 be higher than that in a typical flat."

18 Yes, so we have your explanation there.

19 Then in paragraph 3.15, you refer there to an email
 20 that you received on the evening of 24 October from
 21 Mr Ashton, "expressing concern about the amendment I had
 22 made to section 3.1.1 of the report", and you say,
 23 "I have only a vague recollection of this email
 24 conversation."

25 Have you, in advance of giving evidence, been able

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1 to look over those emails and remind yourself of that
 2 email conversation?

3 A. I've had a chance to re-read them, yes.

4 Q. If we can go back to that chain of emails,
 5 {EX000001444}, and we look at the bottom of page 1, at
 6 15.53 we see at the bottom of that page that you wrote:

7 "Terry

8 "I note that there is a stair which is shared
 9 between residential and non-residential parts of the
 10 building."

11 Then if we go over the page {EX000001444/2}, you
 12 said:

13 "Do we need to flag this up as a deviation from the
 14 standard guidance and provide a comment to the effect
 15 that the risks to the occupants of the flats from a fire
 16 in the boxing gym are no greater than those from a fire
 17 in another flat and/or include compensatory measures?"

18 "Cheers

19 "Tony."

20 So you are flagging to Mr Ashton that you think you
 21 may need to draw attention to this deviation and explain
 22 the justification for it.

23 A. Mm-hm.

24 Q. Then if we go back to page 1 {EX000001444/1}, we see
 25 that Mr Ashton replied at 16.01:

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1 "Tony
 2 "This is an existing situation where the ressy
 3 stair ..."
 4 Does he mean residential there?
 5 A. He must do, yes.
 6 Q. "... whereby the ressy stair is shared with other uses.
 7 If you feel that it would help, feel [free] to insert
 8 some text but, if you do, bear in mind that the escape
 9 route from the ressy is shared with both the boxing club
 10 and office accommodation. Terry."
 11 We can see that that's sent from his iPhone. Do you
 12 see that there?
 13 A. Yes.
 14 Q. So he would appear to potentially be, well, on his
 15 iPhone somewhere, and he has sent that back to you.
 16 12 minutes later, as we've seen, you reply at 16.13,
 17 saying:
 18 "Terry
 19 "I have added something (although if you think what
 20 I have added is too long and draws too much attention to
 21 the issue, feel free to shorten it)."
 22 Then you attach the report with the aforementioned
 23 addition.
 24 Now, just focusing there on that email --
 25 A. Yeah.

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1 Q. -- why do you say there "draws too much attention"? So
 2 you say:
 3 "... if you think what I have added is too long and
 4 draws too much attention to the issue, feel free to
 5 shorten it ."
 6 Can you explain: why wouldn't you want to draw
 7 attention to the issue of a non-compliance with current
 8 statutory guidance?
 9 A. The report is, or was until I added my paragraph,
 10 totally focused on the requirements of
 11 Building Regulations and the discussions with
 12 Building Control as to whether the alterations complied
 13 with the requirements, whereas what I was putting in
 14 there is more a flag to whoever's doing the risk
 15 assessment in the context of the Regulatory Reform Order
 16 to be aware of the fact that there is something here
 17 that is not code compliant.
 18 What I'm trying to say is that we do not feel that
 19 the building is so safe (sic) that we should be altering
 20 it or closing it down irrespective of the refurbishment
 21 works and that, in its current state, it is not safe
 22 enough to continue to be operated, but precisely because
 23 this potentially detracted from the primary purpose of
 24 the report, which was the validation of the design of
 25 the alterations for the Building Regulations, that it

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1 might potentially draw attention to things to which
 2 attention did not need to be drawn.
 3 Q. I see. So the deviation from the current design
 4 guidance that you had referred to, were you not
 5 referring there principally to paragraph 2.51 of ADB
 6 that talks about you can only share a stair --
 7 A. I can't remember the paragraph number off by heart.
 8 I mean, it's a fairly universally accepted rule not just
 9 in Approved Document B but all the other relevant design
 10 codes.
 11 Q. Yes.
 12 A. As I say, I wouldn't have been able to tell you at the
 13 time what the paragraph is --
 14 Q. No, but you knew --
 15 A. -- but this is something that the authors of these codes
 16 are --
 17 Q. Yes.
 18 A. -- rather disquiet about, the ...
 19 Q. I see. But I think you have just said that as well as
 20 flagging up the non-compliance with Approved Document B,
 21 you also intended to flag this up because of the
 22 responsible person's obligations under the RRO.
 23 A. Yes. This is primarily a flag in the context of the
 24 fire safety order. I'm trying to say that the building
 25 in its existing state -- or we do not feel that the

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1 building in its existing state is so dangerous that
 2 remedial action needs to be done with this issue --
 3 Q. I see, yes.
 4 A. -- irrespective of what may or may not be going on
 5 elsewhere and what the scope of the refurbishment work
 6 is .
 7 Q. Yes.
 8 Just going back to the language you have used there
 9 about whether it draws too much attention to the issue,
 10 I just want to put to you that: wouldn't you want to
 11 draw attention to it, to ensure that an alternative
 12 proposal is put forward which ensures there is equal or
 13 better compliance with the Building Regulations?
 14 A. I mean, obviously the fact that I raised it, I do want
 15 to draw attention to it .
 16 Q. Yes.
 17 A. But at the same time, we -- I mean, as I say, the
 18 purpose of the report was to discuss the design in the
 19 context of the Building Regulations compliance for these
 20 alterations, and there was no reason why this existing
 21 situation that was not being amended had any bearing on
 22 the Building Regulations and I, you know, wasn't wanting
 23 to overly complicate the negotiations for the
 24 Building Regulations approval because of this
 25 pre-existing issue.

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1 Q. Yes.
 2 Now, just at this time, we know later in the evening
 3 you got an email from --
 4 A. Yeah.
 5 Q. -- Terry Ashton, but at this time, when you had flagged
 6 this, did you have any parallel telephone calls or
 7 discussions with Mr Ashton about this, do you recall?
 8 A. (a) I don't recall, and (b) from the fact that
 9 everything is -- the wording of that email would imply
 10 that I didn't.
 11 Q. Yes.
 12 A. The whole reason why this conversation occurs by email
 13 is precisely because he was not available on his phone.
 14 Q. Yes.
 15 A. I cannot recall the reasons why.
 16 Q. If we go a little further up the chain to the next email
 17 up from 16.13, we see that what you have done there is
 18 at 16.53, so a bit later, after you have sent him back
 19 the report, you have just flagged in that email the text
 20 that you have inserted.
 21 A. Mm-hm.
 22 Q. So can you recall, why did you send that second email
 23 setting it out?
 24 A. I am afraid I can't, no.
 25 Q. Were you concerned that Mr Ashton might not have opened

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1 the report you attached and read your change?
 2 A. I was certainly trying to make it as easy as possible
 3 for him to satisfy himself that of the appropriateness
 4 of the text I had inserted. The exact ins and outs of
 5 the context and what conversations were going on,
 6 I cannot recall.
 7 Q. Okay.
 8 Now, Mr Ashton was clearly unhappy with your
 9 amendment at the time, wasn't he?
 10 A. Yes.
 11 Q. He responds at the top of this page, this is at 17.47
 12 that same day, and he says this:
 13 "Tony
 14 "I told Mags to send the report out without reading
 15 what you'd added. Had I been able to read it, I would
 16 not have agreed to the amendment as what you've said
 17 highlights the non compliance with codified guidance
 18 but, more importantly, is debatable. Let's hope that
 19 Paul Hanson doesn't pick up on it.
 20 "Terry."
 21 Do you see that there?
 22 A. Yes, yes.
 23 Q. What did you understand at the time when you were
 24 reading that about Mr Ashton saying that the amendment
 25 was "debatable"?

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1 A. The justification I've put for allowing this
 2 non-compliance with standards to persist is very
 3 qualitative and is precisely based on an argument that
 4 was not accepted by the authors of Approved Document B,
 5 because if it had been, Approved Document B would have,
 6 you know, allowed this sort of configuration.
 7 Part of my thought process there was probably: this
 8 is a -- you know, I guess I must have had in my mind the
 9 pressing timeframe of trying to get that report issued,
 10 you know, in half an afternoon. This is something
 11 rather quick and easy that I can put in. Should it
 12 raise questions and Building Control then question it or
 13 ask for further justification, we can provide that at
 14 a later date.
 15 Q. I see, that's helpful. So basically saying your
 16 justification for the non-compliance is what's
 17 debatable?
 18 A. Yes. I mean, the argument that the fuel load in the
 19 boxing gym or we can rely on the fuel load in the boxing
 20 gym being low, that's certainly something that would not
 21 be universally concurred with by the rest of the
 22 fire safety community, and I must have been fully aware
 23 of that at the time. From memory, my thoughts must have
 24 been: well, I'll put something in there, my first
 25 attempt at justification. If Building Control comes

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1 back and says, "We're not happy with it", well, we'll
 2 revisit it, but the fundamental attitude had to be:
 3 well, if the building's unsafe, then the Fire Brigade
 4 should have put an enforcement notice on it before we
 5 start talking about the refurbishment. The fact that
 6 they appear to be happy for the building to continue to
 7 be operated would suggest that there is a general
 8 consensus that, although it is not code compliant, the
 9 risks in the context of the Regulatory Reform Order are
 10 tolerable, bearing in mind that design standards for
 11 existing buildings for the purpose of the Regulatory
 12 Reform Order tend to be lower -- I mean, the benchmarks
 13 and thresholds tend to be lower than the standards that
 14 you would accept from a new-build structure today.
 15 Q. Okay, and that explained in your mind, does it, or did
 16 it at the time, that because your justification was
 17 somewhat debatable, that's why he then says, "Let's hope
 18 that Paul Hanson doesn't pick up on it"?
 19 A. There is more background to it. First of all,
 20 I suspect, as much as anything else, Terry was annoyed
 21 with himself for having sent the report out without
 22 having checked my wording and had that discussion that
 23 he should have had.
 24 Terry had been in the business of fire safety
 25 obviously for decades. He had been in the business

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1 since before I was born. He knew the senior
 2 Building Control officers and the fire safety engineers
 3 within the Building Control departments in the central
 4 London boroughs quite well, and I suspect any reference
 5 to Paul Hanson was due to his specific relationship with
 6 Paul --
 7 Q. Right.
 8 A. -- and experience of Paul being somebody who is
 9 relatively pedantic.
 10 Q. I see.
 11 A. And possibly add that different boroughs in London had
 12 varying cultures in their building departments. Some
 13 were a lot more willing to accept justifications for
 14 non-standard solutions than others, and Royal Borough of
 15 Kensington and Chelsea, their Building Control
 16 department had a bit of a reputation of being
 17 particularly hard to convince to accept anything
 18 non-standard.
 19 Q. Now, thinking back to the time when you received that
 20 email, were you troubled by Mr Ashton's approach in what
 21 he said to you there?
 22 A. "Troubled" is not the right word. I mean, obviously it
 23 came as a bit of a smack, like a, "Woah, what's going on
 24 here, I've given you every opportunity to review the
 25 text and comment on it, it's a bit late now". But,

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1 as I say, obviously the brusqueness of it I think must
 2 have put me back a bit, but no more than that.
 3 Q. Did you feel at the time that you were being reprimanded
 4 by him, put back in your box, you know?
 5 A. I can't remember exactly what I thought, but, I mean,
 6 obviously by that time I had worked with Terry for
 7 five years already, I knew that at times he can be a bit
 8 gruff, but it was one of these: well, let's wait until
 9 the morning and let's wait and see.
 10 Q. Yes.
 11 A. By which time apparently he had calmed down and I don't
 12 think anything was ever said of it subsequently.
 13 Q. Were you concerned that his whole approach appeared to
 14 be not to draw attention to debatable points like that,
 15 not to draw attention with non-compliance with current
 16 codes, and hope that Building Control didn't pick up on
 17 it? Did you have any concerns about that approach at
 18 the time?
 19 A. Not really. I mean, as I said, he had been in the
 20 industry since before I was born and he knows
 21 Paul Hanson quite well, so I trusted him to know his
 22 business better than I know it.
 23 Q. In terms of the justification given for the
 24 non-compliance in the wording that you used, and
 25 I appreciate you said you were under time pressure to

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1 get this drafted, isn't part of the reason why Approved
 2 Document B doesn't recommend mixed-use accommodation
 3 sharing a single exit because the risk of fires breaking
 4 out in non-residential accommodation is much higher, in
 5 general terms?
 6 A. What do you mean by the risk of it breaking out much
 7 higher? The issue is not the likelihood of the fire;
 8 the issue is the potential for a fire to be large and to
 9 threaten fire spread to wider parts of the building and
 10 to jeopardise the escape routes.
 11 There is -- in any building, there is always
 12 a residual risk. By nature of the fact we allow blocks
 13 of flats to exist, we accept that there is a residual
 14 risk a flat fire may break out in a flat and may lead to
 15 some compromising of the means of escape. We control
 16 that risk as best we can with appropriate fire doors,
 17 compartmentation, et cetera, et cetera, et cetera, but
 18 there is never 100% safety.
 19 The codes recognise that, you know, commercial
 20 accommodation, if I can use that word, is -- you know,
 21 potentially harbours greater fire risks and, therefore,
 22 if a fire breaks out, there is an increased risk of
 23 compromise of means of escape from the flats than there
 24 would be from a fire in another flat.
 25 Q. Yes.

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1 A. Possibly I can add at the time my thought there was:
 2 well, Approved Document B is a fairly blunt instrument,
 3 lumps types of accommodation and different purposes
 4 together in fairly broad categories, so an intelligent,
 5 nuanced approach of, "What are the actual risks?" might
 6 be able to justify something that just the broad-brush
 7 purpose group categories of Approved Document B don't.
 8 Q. Yes.
 9 A. You know, if they just say, "Well, it's public
 10 assembly", you know, the contents could be anything, and
 11 the content of the theatre set -- you know, it's the
 12 same purpose group and potentially massive fire loads.
 13 So ...
 14 Q. Did you feel at the time, when you were writing it, that
 15 your mitigation had adequately addressed the risks that
 16 were posed?
 17 A. I was satisfied at the time that the risks were such
 18 that we didn't have to close the building as it stood at
 19 the time --
 20 Q. Yes.
 21 A. -- despite the fact that the pre-existing conditions did
 22 not comply with that guidance. Whether my explanation
 23 as to why I was satisfied with the conditions were
 24 sufficient to satisfy a Building Control authority,
 25 I don't know. It was a case of: put it to the

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1 Building Control authority. Some were more willing to
 2 accept a qualitative argument; others would have
 3 required a detailed mathematical analysis. I didn't
 4 know what to expect from Kensington and Chelsea in this
 5 particular instance.
 6 Q. Yes.
 7 A. So a case of: well, put something down there and if they
 8 reject it, well, we'll, you know --
 9 Q. Think again.
 10 A. -- provide a more detailed analysis if required.
 11 Q. Okay.
 12 At the time, were any design risk assessments done
 13 which underpinned the assessment of mitigation? Was
 14 that a process that you thought about undertaking, doing
 15 some kind of design risk assessment to weigh the pros
 16 and the cons?
 17 A. Nothing formal.
 18 Q. Okay.
 19 Now, in due course we're going to look a bit more at
 20 the content of issue 2 of the fire safety strategy, but
 21 I just want to stick for a moment with these changes,
 22 and I want to look forward to issue 3 of the outline
 23 fire safety strategy. We know that there was a draft of
 24 that on 5 November with yellow highlighting showing the
 25 changes, and then the final version is at {TMO00828399}.

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1 So this is the final version of issue 3 dated
 2 7 November. If we can go to page 6 {TMO00828399/6}
 3 under the heading "Means of escape". So we can see
 4 there, there is that paragraph "Means of escape,
 5 general", so this contained similar wording, save that
 6 some of what you had written had been deleted. In
 7 particular, there was a phrase that had read:
 8 "These proposals represent a continuation of the
 9 existing principles for means of escape in the building
 10 and therefore do not create a non-compliance with the
 11 requirements of the Building Regulations."
 12 That phrase has been removed and we have a smaller
 13 paragraph here.
 14 Now, I want to ask you: this fire strategy, this
 15 third issue, was written by Mr Ashton and reviewed by
 16 Mr McEleney.
 17 Was he aware, when he did his review, that you had
 18 made an amendment to issue 2 to add in this paragraph?
 19 A. No idea.
 20 Q. You don't know?
 21 A. I mean --
 22 Q. Did you ever discuss that with Mr McEleney?
 23 A. I don't think I did. I mean, put it this way: I don't
 24 see any reason why he ... well, that's not true.
 25 He's ... he was obviously reviewer of issue 1.

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1 Q. Yes.
 2 A. He was the reviewer of revision 3. There was a fair
 3 lapse of time between revision 1 and revision 3, so how
 4 well his recollection -- how good his recollection was
 5 of the contents of issue 1, of revision 1, and the
 6 change between what he reviewed and what he was now
 7 being given to review, I don't know.
 8 Q. Yes.
 9 A. Certainly I don't recall having any conversations with
 10 him at the time.
 11 Q. So you didn't ever discuss with him that you had added
 12 wording to issue 2 drawing attention to the --
 13 A. I don't think I did.
 14 Q. -- non-compliance?
 15 A. I don't think I did.
 16 Q. Do you agree that it would have been helpful for him to
 17 have known that when he was reviewing issue 3? It is
 18 only a few days later. Would it have been helpful for
 19 him to have known --
 20 A. Possibly. Possibly.
 21 Q. Can we look at your witness statement again,
 22 paragraph 3.20 of your statement. This is
 23 {EXO00001753/5}. You say there:
 24 "Both Issue 03a and Issue 03b contain the same
 25 language in relation to the 'mixed use' issue identified

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1 above, which differed slightly from Issue 2. In
 2 particular, it omitted my earlier comment that this did
 3 not create a non-compliance with Building Regulations.
 4 It continued, however, to note that the plans involved
 5 mixed use of the staircase, and that this was not in
 6 line with guidance at the time, but that the typical
 7 fire loads would be no greater, and that the
 8 non-residential accommodation would be separated by
 9 ventilated lobbies, so the risks to occupants were not
 10 considered significantly greater."
 11 Do you see that there?
 12 A. Mm-hm.
 13 Q. Now, you say there, I think, that it's not uncommon, or
 14 you have said that it's not uncommon if a report has
 15 been previously reviewed and minor changes have been
 16 inserted, for someone to be asked simply to review those
 17 changes rather than necessarily repeating the full
 18 review.
 19 A. Correct.
 20 Q. Again, was that something that was spelt out in Exova's
 21 quality assurance processes, that you could just review
 22 the changes and not review the report as a whole?
 23 A. As per my previous answers, I cannot recall the details
 24 of the written policies and procedures.
 25 Q. But your understanding was that was a common practice,

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1 was it, within Exova?

2 A. My understanding was that it was a common practice, when

3 somebody was reviewing a revision of a report, that they

4 might just be reviewing the changes and taking as read

5 that the bits that weren't changed were as they should

6 be.

7 Q. I see. Yes.

8 Then at paragraph 3.21, you say:

9 "I do not recall having discussed with Mr Ashton the

10 reasons why the text of Issue 2 of the report was

11 changed but am happy that the revised wording in

12 Issue 03a and Issue 03b adequately highlighted the point

13 and reached the correct conclusion."

14 Do you see that there?

15 A. Yes.

16 Q. So I think you agree that words were removed --

17 A. Yes.

18 Q. -- from the paragraph.

19 A. They clearly were.

20 Q. Were you aware of this at the time that issue 3 was

21 going out?

22 A. I don't believe I was, and I don't believe that I ever

23 did see issue 3 at the time when it was issued.

24 Q. I see. That was my next question, whether you saw

25 issue 3 when it --

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1 A. I doubt it. I mean, I have -- in preparation for the

2 hearing today, I have actually checked my diary for the

3 date on which it was issued, and that particular day

4 I was out of the office.

5 Q. Yes.

6 A. So I concluded there that, no, I did not see it.

7 Q. Yes.

8 Do you agree that, in principle, it would be better

9 to highlight the potential non-compliance in the fuller

10 way that your revision 2 did? I mean, revision 3 does

11 draw attention to the non-compliance, but your language

12 talks specifically about whether it does create

13 a non-compliance with the Building Regulations. Your

14 language is clearer, isn't it?

15 A. I mean, my general approach to writing strategies for

16 existing buildings is somewhat different from

17 Mr Ashton's, inasmuch as I would generally start with

18 a description of the building as it is and the state of

19 the fire safety provisions in it, before then going on

20 to explain what's being modified and what impact the

21 modifications have on fire safety and the ins and outs

22 in the context of the Building Regulations.

23 So this is very much a Terry Ashton report, not

24 an Anthony Pearson report, but as I said before, he had

25 been in the business since before I was born, so it's --

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1 this report was very much, as I understood it, targeted

2 to the specific needs of a specific project in

3 a specific -- or under the jurisdiction of a specific

4 Building Control authority, and I didn't really see any

5 reason to question his approach.

6 Q. Okay.

7 So, pausing there, you have just said, "My general

8 approach to writing strategies for existing buildings is

9 somewhat different from Mr Ashton's", and you have said

10 that you would generally start with a description of the

11 building as it is, the state of the fire safety

12 provisions in it before then going on to explain what's

13 being modified.

14 How was Mr Ashton's approach different from that?

15 A. This is very much focused on the validation of the

16 changes in respect of part B of the

17 Building Regulations, and anything that's pre-existing

18 and not being altered is not -- is generally, you know,

19 not mentioned at all, and I can only presume that that

20 is deliberate.

21 Q. And that reflected a general practice of Mr Ashton's as

22 distinct from your practice, did it?

23 A. Yes.

24 Q. Yes.

25 A. I mean, with the caveat that every report again is

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1 tailored to the needs of the specific project.

2 Q. Yes.

3 A. And depending on who the client is, and, you know, the

4 technical knowledge and abilities of the client.

5 I mean, we've ... if you're writing a report, if your

6 client is the owner of a building, you might need to

7 adapt things in slightly more layman's terms than if

8 your client is a mechanical and electrical services

9 engineer.

10 Q. You have talked a couple of times about how experienced

11 Mr Ashton was, his extensive experience in

12 Building Control before coming to Exova; did you feel in

13 practice that it was difficult to question him?

14 A. No. No.

15 Q. So you didn't feel somehow that it was harder to

16 question him because he had had such a length of

17 experience and expertise in --

18 A. I mean, obviously it is always going to be harder to

19 question somebody with 40 years' experience than it is

20 a graduate with four years' experience, and I had a lot

21 of respect for him and so possibly there was a tendency

22 at times to, you know, think twice, and very often when

23 I disagreed with him, it turned out that he was right

24 and I was wrong. But that didn't stop me from

25 questioning him, no.

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1 I mean, precisely because he was usually quite
 2 religious with, you know, getting all of his documents
 3 double checked, including fairly minor, innocuous
 4 emails, where you think, "That really is a statement of
 5 the obvious, why are you wasting my time reviewing it?"
 6 answer: because he is leading by example, that, no,
 7 I mean, he precisely was somebody who did very much
 8 practice this requirement of making sure that everything
 9 was double checked.
 10 Q. What about others within the office? I mean, you have
 11 obviously got some academic experience that we discussed
 12 earlier in relation to fire behaviour, et cetera. Do
 13 you think others -- take Mr McEleney, who is reviewing
 14 this third issue. Do you think it would have been
 15 difficult for him to have challenged Mr Ashton if he
 16 disagreed with him, and that there was a level of
 17 deference to him because of his level of experience?
 18 A. I think probably, if anything, if there was anything,
 19 bearing in mind that, yes, Mr McEleney was relatively
 20 inexperienced, if there was anything, it was probably
 21 self-doubt on the basis -- on the part of Mr McEleney,
 22 you know, not having the experience, not having seen as
 23 wide a range of different strategy reports to have,
 24 you know, as good a judgement as I would like to think
 25 I've got as to what's good, what's bad and what's ugly.

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1 Q. If you had known at the time that it was Mr McEleney who
 2 was reviewing the third issue of the report, do you
 3 think you would have thought that was odd given his
 4 relative junior status?
 5 A. I certainly would have thought it was odd and, you know,
 6 the general rule was, no, you would give it to somebody
 7 more senior. I can only imagine that this was a breach
 8 of normal protocol due to the urgency of needing to get
 9 something issued.
 10 Q. Yes.
 11 A. As I say, to repeat my earlier thing, as I say,
 12 I subsequently checked and on that particular day I was
 13 not in the office, and I would presume that had I been
 14 in the office, or had it been a choice of myself or
 15 Mr McEleney, Mr Ashton would have given it to me and not
 16 to Mr McEleney.
 17 Q. Yes. I was just about to touch on that.
 18 You go on at 3.22 to deal with this. You say you
 19 are not aware of the reasons why he was chosen to review
 20 it:
 21 "... but would note that whenever there was a need
 22 to issue a minor amendment to a report urgently, the
 23 choice of reviewer was often dictated by who was
 24 available in the office at the time."
 25 Then you say you do not recall who was available at

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1 the time.
 2 Can you explain why that was, that the choice of
 3 reviewer was often dictated by who was available in the
 4 office at the time?
 5 A. Well, precisely as it says. I mean, if there is nobody
 6 else available, then, you know -- if the, you know,
 7 entire staff is out of the office on meetings, well, I'm
 8 not available to review it, and so ...
 9 Q. But was it ever discussed within Exova that perhaps
 10 a more formal process ought to be adopted for important
 11 documents like these, fire strategies?
 12 A. I mean, this was very much the exception rather than the
 13 rule of giving it to somebody as junior as Mr McEleney
 14 to review, so this will only have been done, you know,
 15 as needs must. This was certainly not normal practice,
 16 and was really only accepted because Mr Ashton was so
 17 experienced, and so because everybody in the -- within
 18 the firm had, you know, sufficient trust in him to
 19 actually get things right.
 20 Q. Are you saying that normally the choice of reviewer
 21 would be a more considered process?
 22 A. Yes, yes.
 23 Q. And time built in to allow for the review process so
 24 that it's not being done at the last minute, would that
 25 have been the normal practice?

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1 A. Ideally, yes.
 2 Q. But that didn't happen here?
 3 A. That's the only conclusion I can draw.
 4 Q. Well, we can see it didn't happen in relation to issue 2
 5 because you only got a few minutes to review it, and we
 6 can -- it would appear that Mr McEleney may have been
 7 chosen because there was no one else available. So am
 8 I right in thinking that it would appear that, for the
 9 Grenfell project, these two fire strategies didn't
 10 follow a considered process for the review?
 11 A. Well, revision 2, possibly, yeah, the review was
 12 possibly rushed. Yes, the revision 3 -- I mean, yeah,
 13 I'm not sure that "considered" is a very precise word,
 14 but it probably wasn't as considered as one might
 15 ideally want it to be, if I can put it that way.
 16 Q. Yes. Well, I will put it to you: a formal process which
 17 involved someone more senior reviewing it before it went
 18 out.
 19 A. It certainly wasn't that, no.
 20 Q. Yes, yes.
 21 Briefly, before we come to looking a little bit more
 22 at the content of issue 2 and what you were reviewing,
 23 just to explore a little bit your attitude to
 24 Building Control and Building Control approval.
 25 Can we just look at an email, {SEA00012189}. This

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1 is the top of the page. So this is Neil Crawford to
 2 Terry Ashton on 20 November 2014, copying in a number of
 3 others. He says this :
 4 "Terry
 5 "I have received these mark ups from Building
 6 Control regarding the fire strategy on Grenfell Tower.
 7 I am due to meet with them on Monday on site and
 8 wondered if you had any views on their comments. On the
 9 Academy project we had the situation where Tony Pearson
 10 managed to argue some of their comments away. If you
 11 had any observations particularly where you think there
 12 comments may be excessive I would be grateful to know as
 13 I can take these with me to the meeting on Monday.
 14 "Regards
 15 "Neil."
 16 Do you see that there?
 17 A. Mm-hm.
 18 Q. Now, I'm not suggesting you were aware of it at the
 19 time, you're not copied in to it, but I want to ask you
 20 about the comment there that, on the KALC project, you
 21 had managed to argue some of the Building Control
 22 comments away.
 23 Do you know what they might be referring to there on
 24 the KALC project?
 25 A. Without going -- having access to the minutes of the

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1 meetings and the reports, I cannot recall in detail.
 2 Certainly we did have discussions during meetings with
 3 representatives of the Royal Borough of Kensington and
 4 Chelsea, and there were some aspects of the design that
 5 originally they weren't convinced of that we were then
 6 able to persuade them that, actually, in terms of the
 7 level of risk that they would create, they were within
 8 the parameters of what requirements B1 to B5 would
 9 allow.
 10 Q. Yes.
 11 A. I'm afraid I cannot recall the specifics of what those
 12 aspects of the design were.
 13 Q. Can I ask, is that generally your attitude to
 14 Building Control officers: that part of your job is to
 15 try and argue their comments away?
 16 A. The job is two-fold: on the one hand, we need to ensure
 17 the building is safe, while at the same time avoiding
 18 lumbering a client with something that's overengineered.
 19 I'm not going to sit in front of a Building Control
 20 officer and argue that black is white and try and push
 21 a substandard design, particularly as, being
 22 a firefighter, if they do have a fire in the building,
 23 I may be the one putting my own neck on the line trying
 24 to put that fire out. I'm not that suicidal.
 25 So, no, if there's something where the code says do

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1 something -- and I say again, I've said this before,
 2 Approved Document B is a fairly blunt instrument. There
 3 are situations where code compliance would require the
 4 design to incorporate certain features, and you look at
 5 it and think well, actually, if you omit -- or if you do
 6 something slightly differently or the circumstances
 7 we've got here are not quite what the authors of the
 8 codes had in mind for the usual common situations, and
 9 that actually the building absolutely achieves the level
 10 of safety that's necessary, then, yes, precisely one of
 11 the reasons why I'm employed is to explain to
 12 Building Control why the building is safe, rather than
 13 necessarily explain to Building Control why the building
 14 is code compliant.
 15 Q. Do you ever feel that there is pressure or expectation
 16 from clients that that's your role, to engage with --
 17 A. There has been in the past. There has been in the past,
 18 and I've been fired off jobs before now for not putting
 19 in my reports what the client wants me to put in.
 20 Q. Did you feel on the KALC project that there was
 21 an expectation that you would be trying to argue with
 22 Building Control and persuade them round to your views?
 23 A. There was ... there was a pressure to persuade them of
 24 things, things that I felt were safe were safe. There
 25 was not a pressure to convince them of things that

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1 I myself was uncomfortable with.
 2 Q. Do you agree that best practice for a fire engineer is
 3 to engage openly and transparently with Building Control
 4 officers rather than seek to go into combat with them?
 5 A. I mean, "combat" is a strong word. For that matter,
 6 I don't see that combat might necessarily not be open.
 7 Q. Forget the combat for a moment. Do you agree --
 8 A. Yes, it does need to be open and transparent, as much as
 9 some of these discussions happen during a design team
 10 meeting when the only witnesses are the other members of
 11 the design team, so inasmuch as then the results will be
 12 minuted and so the only, you know, record for third
 13 parties to see are the minutes, so how open that is,
 14 you know, okay, is sometimes debatable, but, I mean,
 15 precisely the way you discuss these things is, you know,
 16 quiet, calm, rationally in a quiet room, and not in
 17 a pub. So, you know, there's -- it's not something
 18 where we're trying to do dodgy backroom deals, no.
 19 Q. I want to ask you some questions about the content of
 20 issue 2 of the fire strategy that you reviewed. Can we
 21 go back to that, {EX000001758/4}, the introduction to
 22 the report.
 23 So this is an introduction which explains the
 24 background to the proposed refurbishment, 24-storey
 25 residential block, and then we've seen this a number of

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1 times already, but I haven't shown it to you yet, the
2 refurbishment then comprises a number of bullet points.

3 Now, were you aware at this time, when you were
4 reviewing issue 2, that the refurbishment included
5 overcladding?

6 A. Not that I recall, no.

7 Q. We know it's not included within this list. So you
8 don't recall anybody saying to you around this time --

9 A. I've no recollections on that matter at all.

10 Q. Did you feel that you had adequate information about the
11 project to conduct a competent review of this strategy,
12 in terms of background to the project?

13 A. At the time, there was nothing I felt that I needed that
14 I didn't have. Looking at it subsequently, there's --
15 you know, it would have been useful if I had had
16 minutes -- they referred to discussions with the Royal
17 Borough of Kensington and Chelsea. It would have
18 probably been useful if I had had access to the minutes
19 of those meetings.

20 Q. Yes, so you could have seen what was discussed --

21 A. So, with hindsight, there is other information that
22 probably should have been available that maybe I should
23 have asked for. But at the time, bearing in mind that
24 this is a document titled "Outline strategy", so it is
25 a fairly brief, high-level review, I was not really

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1 expecting that much information would have been
2 available other than those general arrangement drawings.

3 Q. We know that a number of those design team meetings
4 included reference to overcladding. Was that something
5 that ideally you would have known at this time in terms
6 of reviewing this outline fire safety strategy?

7 A. Probably, yes.

8 Q. Yes.

9 Were you aware at what stage in the RIBA process --
10 I appreciate you said it wasn't typical in the
11 fee proposal to break it down -- the design team was at?

12 A. No, no, no.

13 Q. So you weren't aware when you reviewed this outline
14 strategy that, for example, Studio E's stage D report
15 had come in in the August of 2013 --

16 A. No.

17 Q. -- prior to this?

18 A. No, no.

19 Q. And that their stage C report had been the previous
20 October 2012?

21 A. No.

22 Q. You didn't know that?

23 A. No.

24 Q. No.

25 Had you read, prior to working on this, the existing

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1 fire safety strategy prepared by Exova that was authored
2 by Ms Cooney and reviewed by Ms Barker?

3 A. Not as far as I recollect, no. I don't think I saw that
4 report until after the fire.

5 Q. Did you even know that such a report existed, that Exova
6 had been commissioned to do a report on the existing
7 fire safety strategy?

8 A. I must have known. Again, there is no specific
9 recollection of what was in my memory at the time. But
10 there was a separate -- I think it was a sub-project
11 rather than a project. There was a separate scope of
12 works for the existing building. I must have been aware
13 of that, so I must have been aware that something was
14 going on.

15 Q. Yes.

16 A. But what that specifically entailed, I don't think I was
17 aware, no, and what the -- you know, where the
18 boundaries were between the scope of the refurbishment
19 programme -- project and the work on the existing
20 building, I was certainly completely ignorant of that.

21 Q. Had you known at the time that there was an existing
22 fire safety strategy, is that something ordinarily, when
23 reviewing a report, that you would have wanted to see
24 before conducting such a review?

25 A. Probably, yes, as I say, possibly with the caveat that,

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1 if I were writing the report, it would have contained
2 quite a lengthy summary of the existing fire safety
3 strategy anyway.

4 Q. Do you think that the fact that Mr Ashton hasn't made
5 reference to that anywhere within this issue, he has not
6 made any reference to the existing fire strategy, could
7 reflect this distinction you were talking about earlier
8 between an Ashton report and a Pearson report?

9 A. Yeah.

10 Q. That you would build on the existing in your reports --

11 A. Yes.

12 Q. -- but he would focus on the changes.

13 A. Yes.

14 Q. Yes.

15 A. Well, he would focus on, you know, what is the purpose
16 of the report, and in this case my understanding is that
17 the purpose of this report is to explain to
18 Building Control why these works comply with part B of
19 the Building Regulations.

20 Q. When you say these works, you mean these works listed
21 out in the introduction?

22 A. As listed on that -- yeah.

23 Q. You weren't aware that there were other works as well?

24 A. No.

25 Q. I think we have established it, but can I just check:

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1 had you been provided with any other design
 2 documentation that had come from the design team when
 3 you reviewed this? We have talked about the two
 4 drawings at the bottom of this introduction.
 5 A. I mean, I must have seen earlier -- floor plans of
 6 earlier iterations. I couldn't recall the specific
 7 details of which version, how many different versions
 8 I had seen. I was aware that -- I mean, by sheer nature
 9 of the fact that obviously we're talking about a change
 10 in -- rewording of the entire description of the means
 11 of escape here, I was aware that there had been previous
 12 iterations and I had seen previous iterations of floor
 13 plans. Beyond the general arrangement floor plans and
 14 mark-ups that colleagues had done with recommended fire
 15 resistance ratings, there's nothing else I can really
 16 recall.
 17 Q. Would you have expected by this time for a full suite of
 18 design documentation to have been provided to Exova as
 19 fire engineers?
 20 A. Not knowing where this stood in the context of the
 21 project and its programme, I didn't really know what --
 22 you know, how much detail to expect and how much detail,
 23 you know, should have been provided.
 24 Q. I see.
 25 So just back to the RIBA stage reports, did it occur

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1 to you at any time to check where in the RIBA stage
 2 process the design team were?
 3 A. Nope, I just took it on trust that Terry, you know, knew
 4 how to manage a project at our end. He didn't need me
 5 to tell him how to do his job. So he had asked me, can
 6 I review a report. He didn't ask me for advice as to
 7 whether that report, you know, was -- whether the level
 8 of detail, you know, was appropriate for where we are in
 9 the project, so --
 10 Q. I see.
 11 A. -- I didn't know the context of where we were in the
 12 project programme at all.
 13 Q. Would you ever ask if a stage C or a stage D report from
 14 the architects existed? Would that ever be something
 15 you might enquire as to?
 16 A. Rarely. I mean, they're normally something that they
 17 will give you quite voluntarily. Bearing in mind that,
 18 you know, it's a piece of work that usually architects
 19 are fairly proud of, so it's not -- you know, getting
 20 that report off them is not a tooth extraction process.
 21 So, yeah, if it's available, it would normally be
 22 provided to us. If anything, the issues are the
 23 opposite; if they provide you with so much information
 24 that actually trying to extract the relevant wood from
 25 the forest of trees is the difficulty.

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1 Q. Yes.
 2 Let's look on at requirement -- I want to start with
 3 B3 and then we will come and look at B4. So I want to
 4 look at B3, internal fire spread. If we go to page 8
 5 {EX000001758/8} of this, and there is the section B3 at
 6 3.1.3 there.
 7 Now, under the heading "Fire resistance of elements
 8 of structure", just there, Mr Ashton's identified that
 9 the floors should provide at least 60 minutes of fire
 10 resistance. Do you see that there?
 11 A. Yes.
 12 Q. Shouldn't that have been 120 minutes' fire resistance if
 13 applying Approved Document B at the time?
 14 A. Applying Approved Document B as of 2012, yes, for
 15 a new-build it should have been.
 16 Q. Yes. But that was not something you picked up on
 17 your --
 18 A. That's not something I picked up in my review.
 19 Q. Is that because you didn't think it was your role to
 20 check that kind of detail as part of the review process,
 21 or for some other reason?
 22 A. I think more likely because I took it on trust that that
 23 paragraph that had been written was correct, and I can
 24 only -- the only explanation I can give myself is that
 25 I wasn't as diligent as I might have been in reviewing

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1 it.
 2 Q. Understood.
 3 A. I mean, there's ... looking at it with the benefit of
 4 hindsight, I can only presume that this was something
 5 that was agreed between Mr Ashton and the
 6 Building Control surveyors at the time, based on
 7 an understanding of the design codes at the time of
 8 construction.
 9 Q. Yes.
 10 A. But if the next question is: should this have been
 11 explained? Well, it probably would have been useful,
 12 yes.
 13 Q. Thank you.
 14 Under "Compartmentation", then, the next heading,
 15 and there's various subparagraphs there about where
 16 compartment walls and/or floors will be provided, and
 17 then there is more about standards of resistance.
 18 It may be explained by the fact you didn't know
 19 about the overlapping, but I wanted to ask you about
 20 why this section doesn't deal with regulation B3.(4)
 21 which states:
 22 "The building shall be designed and constructed so
 23 that the unseen spread of fire and smoke within
 24 concealed spaces in its structure and fabric is
 25 inhibited."

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1 Did you note at the time that there wasn't any
 2 reference to B3.(4)?
 3 A. Not consciously, and I can only sort of retrospectively
 4 try and reconstruct what my thought process must have
 5 been. It was not uncommon that a -- for an outline
 6 report, so something that is intended for an early
 7 design stage, for that to be considered a level of
 8 detail that is not, at this stage of the design, yet
 9 relevant and would be inserted later.
 10 Q. When you say "at this stage of the design", you didn't
 11 know what stage of the design they were at, did you?
 12 A. Based on the fact that it calls itself an outline
 13 strategy rather than a strategy, so I would infer from
 14 that that it is at a relatively early design stage and
 15 a relatively brief, high-level document.
 16 Q. Do you think you assumed at the time that it was
 17 a stage C document as opposed to being a stage D/E
 18 document?
 19 A. That's what the level of detail in the report implies.
 20 Q. Yes. And on the B3.(4) theme, did you notice at the
 21 time that there was no reference to, say, section 9 of
 22 Approved Document B which deals with location and
 23 provisions for cavity barriers in the external wall as
 24 well as other locations?
 25 A. Whether I consciously noticed it, I cannot recall.

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1 Q. So that wasn't something that you picked up at the time?
 2 A. I would have commented -- if I had have picked it up,
 3 I'm guessing I would have commented on it.
 4 Q. Did it concern you that issue 2 of this outline fire
 5 safety strategy -- you knew it was issue 2, didn't you?
 6 A. Yes.
 7 Q. And you knew that the issue 1 had been a year before,
 8 because that's on the front page?
 9 A. I don't know how much attention I paid to the dates on
 10 issue 1, I mean ...
 11 Q. I see.
 12 Did it concern you that it omitted to identify the
 13 locations in Grenfell Tower that formed concealed spaces
 14 or the locations that cavity barriers were required in
 15 order to comply with section 9 of Approved Document B?
 16 A. As I say, based on the fact that this is calling itself
 17 an outline strategy and not a strategy, no, not
 18 particularly.
 19 Q. Okay. That was my next question: in your view, would
 20 addressing the need for cavity barriers be something
 21 that ought to be included as part of a fire safety
 22 strategy?
 23 A. As part of a full strategy, yes.
 24 Q. Have you ever come across a situation in which you have
 25 put in the performance requirements for, say, cavity

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1 barriers, even if you don't know precisely what the
 2 design team have in mind, in order to give them guidance
 3 and to flag up that that's something they need to be
 4 thinking about?
 5 A. I have done in the past, yes.
 6 Q. Yes.
 7 When you reviewed this issue 2 of the strategy, were
 8 you aware that this was a high-rise block of flats with
 9 a stay-put evacuation strategy?
 10 A. Yes.
 11 Q. Were you aware that such a strategy relies on a high
 12 degree of compartmentation?
 13 A. Yes.
 14 Q. Did it concern you at all that the outline fire safety
 15 strategy made no reference to reliance on
 16 compartmentation in a building with a stay-put
 17 evacuation strategy?
 18 A. Not particularly. I was I think under the impression
 19 that all parties concerned were taking that as read.
 20 Q. I see.
 21 A. And particularly if -- this document looks as if it is
 22 focused primarily on providing relevant information to
 23 the Building Control surveyors, and they will have been
 24 absolutely aware of that and wouldn't have needed us to
 25 remind them of that fact.

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1 Q. Do you agree that where a high degree of
 2 compartmentation is required, cavity barriers are
 3 particularly important, including, for example, around
 4 the windows?
 5 A. Yes.
 6 Q. But you didn't flag up to Mr Ashton at the time that
 7 there was no mention of cavity barriers in this report?
 8 A. No, I didn't.
 9 Q. Requirement B4, then, is on that page in the next
 10 section, 3.1.4, and we looked before at the fee proposal
 11 which said that the fire strategy would include
 12 determination of any external fire spread issues.
 13 When you did your review, were you concerned at all
 14 that all we have on the B4 requirement is that one
 15 sentence there? Did that strike any alarm bells with
 16 you?
 17 A. I can't recall how much -- I mean, obviously there's the
 18 sentence being finished by "it will be confirmed",
 19 you know, that's a flag for, "We don't yet have all the
 20 information we need". How concerned I was at the time,
 21 I cannot recollect.
 22 Q. Okay.
 23 When you say it's a flag for "We don't yet have all
 24 the information we need", it doesn't say that, does it?
 25 It says --

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1 A. It doesn't say that, but --

2 Q. It says:

3 "It is considered the proposed changes will have no
4 adverse effect ... but this will be confirmed by
5 an analysis in a future issue ..."

6 It goes further, doesn't it, than just, "We don't
7 have enough information"?

8 A. In the sense that, yeah, there are -- there is --

9 obviously what it's saying is it's something that will
10 need to be revisited, yes.

11 Q. Did you ever discuss this paragraph or B4 around this
12 time with Mr Ashton? Did you ever have any discussions
13 with him about it?

14 A. Not in the specific context of this project.

15 Q. No.

16 So you were involved, I think we know, in the KALC
17 project at this time.

18 A. Yes.

19 Q. And you were aware of the potential impact of cladding
20 on fire spread --

21 A. Yes.

22 Q. -- for example, from that project; yes?

23 A. Yes.

24 Q. We know that you were aware of numerous façade fires
25 generally.

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1 Would you agree that this statement is clearly

2 incorrect, even on the basis of just some form of
3 cladding being proposed, because any form of cladding
4 has a potential effect on the ability to comply with B4?

5 A. Well, bear in mind, at the time, I think I was
6 completely ignorant of the fact that the works included
7 overcladding.

8 Q. Yes. So that explains why you didn't pick that up, yes.

9 When you reviewed this wording, did you understand
10 what the proposed changes were which Mr Ashton was
11 referring to?

12 A. The ... (inaudible) there probably are no changes.

13 I must have been thinking primarily in the context
14 of space separation, so sizes of non-fire resisting
15 sections of external wall and sizes of compartment, and,
16 you know, fire load, so the two risk categories in the
17 BR 187, the report on analysis methods in connection
18 with space separation.

19 So the expectation is that the alteration --

20 primarily the alteration was being undertaken on the
21 lower levels of the building --

22 Q. Yes.

23 A. -- that any changes in compartment sizes and changes to
24 window sizes will not significantly impact the
25 conclusion if one were to do a BR 187 analysis.

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1 Q. Yes.

2 Now, this point about space separation, I'm
3 interested in this. Is it possible that, at the time,
4 any issues around external fire spread were considered
5 only in terms of space separation, and that perhaps less
6 emphasis was given to, say, section 12 of ADB in general
7 than section 13?

8 A. It's certainly possible.

9 Q. Would you agree with me at the time that fire engineers
10 in your situation were often focusing on space
11 separation, building-to-building flame spread, and that
12 there was generally less focus on flame spread up and
13 within the existing building?

14 A. I would be hesitant to make any statement about fire
15 engineers and the rest of the industry in general.

16 Q. Fair enough. What about your practice?

17 A. As much as I have read fire safety strategies from
18 other -- from some of our competitors in some contexts,
19 I don't have enough of a recollection of what they said,
20 and certainly not enough of a recollection of what may
21 have been omitted, to really draw any conclusions about
22 what was normal practice throughout the rest of the
23 industry.

24 Q. Take your practice, for example.

25 A. Certainly within Warringtonfire, there certainly was

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1 a tendency, particularly at the early design stages, to
2 focus on space separation, bearing in mind that
3 an outline strategy typically you would write for the
4 pre-planning phase, and one of the things -- the aspects
5 that planners need to concern themselves with is the
6 external appearance, and so size of the windows and
7 obviously the separation distance between buildings, so
8 this is very much a focus of our considerations at
9 a pre-planning phase, whereas the selection of materials
10 then is something that can be left until a later --
11 often is something that can be left until a later date.

12 Q. So we know that Approved Document B, when it looks at
13 B4, we have section 12, external fire spread;
14 section 13, space separation; and section 14, roof
15 coverings. It breaks it down into three.

16 Does it follow from what you've said -- that a lot
17 of the focus, particularly at the pre-planning stage,
18 would be on space separation -- that it's a fair comment
19 to say that perhaps less focus would go on section 12
20 and external fire spread?

21 A. At the pre-planning phase, certainly, yes.

22 Q. And indeed generally at this time?

23 A. At times, yes. I mean, as I said, certainly my own
24 awareness grew during this period.

25 Q. Looking back, let's think about 2013, when you did this

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1 review of this fire safety report, would it be a fair
 2 comment to say that, within Exova, you would be less
 3 focused on section 12 than you would on section 13?
 4 A. Generally speaking, probably, yes.
 5 Q. Yes.
 6 Now, just staying within this external fire spread
 7 point, did you think to question why there were no
 8 plans, sections or elevations relating to the external
 9 wall that you could review at this time?
 10 A. No, I didn't. I mean, I ... having worked for --
 11 alongside Terry for five years, I assumed that if he had
 12 had that information and it was relevant at that design
 13 stage, he would have put it in the report.
 14 Q. Would it be normal to give advice on the B4 requirement
 15 without such plans, sections or elevations to hand?
 16 A. Well, no, precisely because you can't.
 17 Q. Yes.
 18 A. Other than -- I mean, this was -- in this case, yeah,
 19 the -- I think "educated guess" is probably the wrong
 20 term, but there was certainly an expectation of what
 21 we're likely to find.
 22 Q. Yes.
 23 A. But that's precisely then why there is then the caveat
 24 of, "This will need to be revisited".
 25 Q. Were you aware at this time that Celotex FR5000 was

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1 planned to be used as the insulation behind the
 2 rainscreen?
 3 A. I had never even heard of the product.
 4 Q. No.
 5 A. I mean, I was aware that it was common practice to use
 6 polymer foam as insulation rather than materials of
 7 limited combustibility. That specific product,
 8 as I say, I don't think I had ever heard of the product.
 9 Q. Did it occur to you at this time, when you were
 10 reviewing this strategy, to ask about insulation and the
 11 external --
 12 A. Well, as I said, I don't think I had any knowledge of
 13 the fact that it was -- there was any proposal to
 14 overclad the building at all.
 15 Q. Yes.
 16 A. My recollection is I was just completely ignorant of
 17 that aspect of the project.
 18 Q. Thinking back, were you aware at the time of the
 19 provisions in 12.7 of ADB and the recommendation about
 20 materials of limited combustibility for insulation?
 21 A. I can't recall how -- I mean, I certainly hadn't
 22 memorised them. I mean, I had read them and, as we
 23 said, you know, earlier on this morning, I was certainly
 24 aware that it's something to which attention must be
 25 paid, but precisely because any questions of detailed

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1 design I would usually give to colleagues, my
 2 familiarity with the details of those paragraphs was
 3 limited.
 4 Q. Yes.
 5 Did you know anything about the top of the tower at
 6 this point?
 7 A. No.
 8 Q. Did you know anything about the crown?
 9 A. No.
 10 Q. Did you know whether there was going to be a crown? Was
 11 this ever discussed with you?
 12 A. Nope. Even from the documents I've read subsequently,
 13 I still don't understand what was going on on the top
 14 level.
 15 MS GRANGE: Mr Chairman, I think that would be
 16 an appropriate moment, if that's okay, because I'm
 17 moving on to a topic that I would like to do in more
 18 than three minutes.
 19 SIR MARTIN MOORE-BICK: Well, that seems very sensible.
 20 MS GRANGE: We are making good progress. Obviously we
 21 always have to sweep up additional questions, and indeed
 22 a lot of questions from core participants have already
 23 fed into my questioning, so it's a constant ongoing
 24 process.
 25 SIR MARTIN MOORE-BICK: Yes, I understand that.

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1 Good, thank you. Dr Pearson, we will have a break
 2 at this stage for some lunch. We will come back at
 3 2 o'clock, please.
 4 THE WITNESS: Okay.
 5 SIR MARTIN MOORE-BICK: Please don't talk to anyone about
 6 your evidence while you're out of the room. All right?
 7 Thank you.
 8 Would you like to go with the usher, please.
 9 (Pause)
 10 Good, thank you, 2 o'clock, please. Thank you.
 11 (1.00 pm)
 12
 13 (The short adjournment)
 14 (2.00 pm)
 15 SIR MARTIN MOORE-BICK: Right, ready to carry on,
 16 Dr Pearson?
 17 THE WITNESS: Yes, thank you.
 18 MS GRANGE: Yes, thank you.
 19 I want to start by picking up a few points that have
 20 arisen out of your evidence this morning, and then
 21 I will go back to where we were in my series of
 22 questions.
 23 In terms of supervision, at the time that you were
 24 reviewing issue 2 of the outline fire safety strategy,
 25 who did you report to? Who was your line manager?

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1 A. As I said this morning, I cannot remember the point in
 2 time at which the transition occurred between
 3 Terry Ashton being the office manager and
 4 Andrew Willmott. In 2012 it was probably still
 5 Terry Ashton.
 6 Q. This was 2013.
 7 A. Sorry, 2013?
 8 Q. Yeah. So this was October 2013.
 9 A. At the time of my ... I can't -- I really can't remember
 10 the chronology of what happened first.
 11 Q. Yes, okay.
 12 By the time of your email of 31 March 2015, which
 13 we're going to come to look at, do you think by that
 14 stage --
 15 A. At that stage, it must have been Andrew Willmott, most
 16 have taken over the office.
 17 Q. Yes, okay.
 18 Were you aware when you were reviewing Mr Ashton's
 19 issue 2 of the fire strategy that he had had no
 20 experience of advising in respect of cladding works in
 21 high-rise buildings prior to this project?
 22 A. No, I wasn't.
 23 Q. Does it follow from the fact that you didn't know at the
 24 time that there was going to be any overcladding that
 25 you didn't think to question his suitability to be

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1 advising in relation to that project?
 2 A. Obviously -- yeah, absolutely, why would I have?
 3 Q. I have been asked to put it to you directly: would you
 4 agree -- we looked at the amount of time that you
 5 carried out the review in, it's around 33 minutes
 6 between the two emails. Would you agree that that's
 7 an insufficient amount of time to carry out the steps
 8 that you ordinarily would for --
 9 A. Looking back at things that slipped through my review,
 10 well, I can only conclude that, yes, it was not as
 11 thorough as maybe it should have been.
 12 Q. What further checks or changes do you think you might
 13 have made to the report, had you had more time?
 14 A. Given time -- I mean, difficult to say because, I mean,
 15 I've re-read it now with my knowledge and experience
 16 that I have, and trying to put myself in my shoes of
 17 five years ago, it's difficult to recollect, you know,
 18 what my knowledge and experience would have allowed me
 19 to conclude at the time.
 20 Q. Yes.
 21 A. It certainly, with hindsight, would have been useful to
 22 ask for the minutes of any meetings with the design team
 23 and/or Building Control just to verify that they
 24 correlate.
 25 Q. Yes.

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1 A. And it would have been useful to ask for, you know,
 2 further information on a reference in relation to this
 3 Max Fordham report to which the report refers in
 4 relation to the ventilation.
 5 Q. Yes. Okay. That's helpful, thank you.
 6 Just picking back up, I want to just ask you
 7 a little more about the analysis of external fire spread
 8 that was done on the KALC project --
 9 A. Yeah.
 10 Q. -- just for a moment. Can we go to {EX000001380}. So
 11 this is an email to you on 25 February 2013, and the
 12 subject is KALC, "KAA", Kensington Aldridge Academy, and
 13 then we've got "External Fire Spread Analysis".
 14 A. Yeah.
 15 Q. And "Southern External Fire Spread" is the subject and
 16 attachments. Do you see that there?
 17 A. Yes.
 18 Q. This seems to be Mr Maddison within Exova emailing you
 19 saying he has included the southern external fire spread
 20 analysis with the mid-point between the Kensington
 21 Aldridge Academy and the Grenfell Tower as 8.5 metres,
 22 and then he says:
 23 "Either way we get 100%.
 24 "Changes to the report are highlighted in yellow."
 25 Now, was this a space separation analysis that had

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1 been done --
 2 A. It must have been, yes.
 3 Q. -- in relation to the two buildings?
 4 A. Yes, it must have been.
 5 Q. Does Exova routinely carry out those kind of analyses?
 6 A. Yes.
 7 Q. But none appears to have been done on Grenfell Tower,
 8 certainly at the time that you reviewed the outline fire
 9 safety strategy.
 10 A. I'm certainly not aware of any, no.
 11 Q. Was that something that seemed odd to you when you
 12 reviewed it?
 13 A. I cannot recall.
 14 Q. Okay.
 15 Now, you also peer reviewed the outline fire safety
 16 strategy for KALC dated 27 September 2012, which did
 17 address the B4 requirement in detail. Can we just look
 18 at that. This is at {RBK00015703}.
 19 A. Yeah.
 20 Q. This is the outline fire safety strategy for that
 21 project. We see the date down on the right-hand bottom
 22 of the page, and it's issue 1. Your name as reviewer is
 23 on page 2 {RBK00015703}, if we can go within that. We
 24 can see it was prepared by Ben Rogerson, senior
 25 consultant, and then you reviewed it. Do you see that

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1 there?
 2 A. Mm-hm.
 3 Q. Just pausing there, was Ben Rogerson senior to you?
 4 A. Yes.
 5 Q. He is a senior consultant.
 6 A. Yes.
 7 Q. So you have reviewed, even though you are junior to him?
 8 A. Yes.
 9 Q. The B4 requirement is addressed at pages 9 to 10
 10 {RBK00015703/9} of this fire strategy, and we can see
 11 external fire spread, for example, on the right there.
 12 There are various provisions in there.
 13 So you were peer reviewing Mr Ashton's fire strategy
 14 report on version 2 of the Grenfell strategy on
 15 24 October 2013, so eight months after you had received
 16 the KALC fire spread analysis that we just looked at.
 17 A. Yeah. Can we just -- I think possibly some confusion
 18 here. That earlier email related, as I understand it,
 19 to Kensington Aldridge Academy; this is Kensington
 20 Leisure Centre.
 21 Q. Right, yes, fair enough.
 22 A. Two buildings in the KALC project.
 23 Q. Yes, yes.
 24 A. I don't suppose it makes any difference, but just for
 25 avoidance of any confusion.

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1 Q. Yes, fair enough.
 2 I think the point is that given you had been doing
 3 these kind of external fire spread analyses related to
 4 related projects nearby, did that not prompt you to
 5 question Mr Ashton as to whether there were more B4
 6 issues that needed addressing for the Grenfell Tower
 7 project?
 8 A. I just took it on trust -- well, (a) first of all,
 9 again, I don't remember in detail, but my thought
 10 process must have been because there is the caveat in
 11 the report for Grenfell Tower that the -- it will be
 12 confirmed at a later date whether or not there were
 13 issues, that I just took it on trust that he would do
 14 an analysis later. Whether the lack of details in that
 15 revision of the report was due to us not having
 16 elevation drawings or whether it was due to not having
 17 had the time, I do not know.
 18 Q. Yes.
 19 A. As I say, it certainly didn't concern me at that time.
 20 I had absolute faith in him that he would provide all
 21 necessary information at the appropriate juncture.
 22 Q. Okay, yes.
 23 Was the analysis of external fire spread that was
 24 done at KALC done due to any concern that those walls
 25 might not adequately resist the spread of fire, given

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1 that our understanding is that some aluminium skin
 2 panels stuck together with polyurethane adhesive to
 3 a core of Dow styrofoam liquid blowing agent, that that
 4 was the nature of some of the panels that were on the
 5 leisure centre?
 6 A. Again, I've got no detailed recollection. I mean, it
 7 was -- this space separation analysis was something that
 8 was typically done as a routine -- matter of course,
 9 including on some projects where you just take one look
 10 at the size of the compartments and the separation
 11 distance, and it's pretty obvious to anybody with a bit
 12 of experience that it's going to pass the relevant tests
 13 even before you have done the maths.
 14 There's obviously, in this particular instance,
 15 an example where there's relatively close separation
 16 distances for a relatively large compartment size, so it
 17 will certainly have been part of due diligence to verify
 18 whether or not these external walls passed the relevant
 19 tests or whether the proportions of that external wall
 20 that are fire resisting need to be increased.
 21 As I say, I just cannot recall the details of that
 22 analysis.
 23 Q. Can we have a look at page 10 {RBK00015703/10} of the
 24 external fire spread analysis for KALC.
 25 Yes, there we see it finishes off. It's gone

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1 through each elevation and looked at external fire
 2 spread issues.
 3 So you can't help us as to whether the particular
 4 type of panels that was proposed to be used on that
 5 project necessitated close look at the B4 requirement?
 6 A. I would be surprised whether it had anything to do with
 7 the selection of materials, but, as I say, I've got no
 8 recollection. I don't even know who it was who did that
 9 analysis and whether that was in a previous issue. I am
 10 afraid I have just got no recollection at all.
 11 Q. Were you aware at all that some of the external walls
 12 were covered with a panel which had a core of
 13 combustible styrofoam insulation?
 14 A. My recollection here is a bit -- there were certainly
 15 discussions with external walls. I think they related
 16 to the academy rather than to the leisure centre. So,
 17 as I say, again, my recollection, I am afraid, is just
 18 too hazy.
 19 Q. So did you ever ask your colleagues at Exova, whether in
 20 the context of reviewing issue 2 or subsequently
 21 thereafter, whether they had done or considered
 22 a flame spread analysis on Grenfell Tower?
 23 A. I did not, no.
 24 Q. Then I just want to ask you some questions about means
 25 of escape for the disabled.

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1 A. Mm-hm.
 2 Q. So can you explain why, even though the KALC outline
 3 fire safety strategy which you peer reviewed did address
 4 means of escape for the disabled, your peer review of
 5 the Grenfell Tower issue 2 of the fire strategy failed
 6 to mention that the Grenfell Tower strategy did not
 7 contain a plan for disabled evacuation? Can you explain
 8 that?
 9 A. That's due to the general practice for blocks of flats .
 10 The -- you know, Approved Document B contains certain
 11 advice on provisions that need to be made in offices ,
 12 public buildings , et cetera . For blocks of flats , the
 13 requirement to provide appropriate compartmentation
 14 between the flats and the common circulation space is to
 15 provide adequate separation between stair lobbies ,
 16 corridors and stairs , and nothing else , and the
 17 conclusion from that is that the expectation from the
 18 regulators were that we need to ensure that anybody
 19 within a flat where there was a fire can get out of that
 20 flat , but that really is as far as the expectation went,
 21 and there is no further expectation then placed on the
 22 designers to ensure there is a way -- or there is means
 23 for , you know, management, for want of a better word, to
 24 then assist with an evacuation.
 25 Q. Yes.

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1 Can we look at a couple of provisions within ADB
 2 itself . If we bring up {CLG00000224/13}. We can see in
 3 the bottom left -hand column there is a section headed
 4 "Inclusive design" at 0.19.
 5 A. Yeah.
 6 Q. It draws attention within that, for example, at the
 7 second paragraph, to part M of the regulations, access
 8 to and use of buildings:
 9 "... requires reasonable provision for access by
 10 people to buildings."
 11 Then it continues in the third paragraph:
 12 "People, regardless of disability , age or gender,
 13 should be able to gain access to buildings and use their
 14 facilities , both as visitors and as people who live or
 15 work in them.
 16 "As such the fire safety measures incorporated into
 17 a building will need to take account of the needs of all
 18 those persons who may have access to the building. It
 19 is not appropriate, except in exceptional circumstances,
 20 to presume that certain groups of people will be
 21 excluded from a building because of its use."
 22 Then I think it continues at the top of the next
 23 column:
 24 "The provisions set out in this Approved Document
 25 are considered to be a reasonable standard for most

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1 buildings . However, there may be some people whose
 2 specific needs are not addressed. In some situations
 3 additional measures may be needed to accommodate these
 4 needs. This should be done on a case by case basis ."
 5 Just taking this in stages, I think these were
 6 provisions that came in in the 2006 version of Approved
 7 Document B. Were you familiar with these provisions at
 8 the time you were working on the Grenfell project, say,
 9 in 2013?
 10 A. I can't -- I hadn't memorised the wording, but the basic
 11 principle , yes.
 12 Q. Was any consideration given by you to those provisions
 13 when you were reviewing the fire safety strategy issue 2
 14 in October 2013?
 15 A. Not specifically in context of that project. It's
 16 a discussion that you have every time a new member of
 17 staff joins the firm, and particularly , obviously, with
 18 graduates, who are needing to learn the ropes.
 19 So there's certain principles that you will apply to
 20 any general need block of flats . Grenfell Tower is
 21 considered a general need block of flats , and so it was
 22 just a case of, well, revert to normal procedures.
 23 Q. Right. So is that a way of saying no consideration was
 24 given --
 25 A. Not beyond the fact that, well, it is a general need

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1 block of flats ; therefore, as I say, just revert to
 2 plan A.
 3 Q. Right, which is not to look any further --
 4 A. Which is to provide adequate compartmentation between
 5 the flats and the common areas, between the corridor,
 6 lobby and the stairs .
 7 Q. Yes.
 8 A. The smoke ventilation.
 9 Q. Yes, okay.
 10 A. Those requirements drawing on that sentence at the top
 11 of that right -hand paragraph:
 12 "The provisions set out in this Approved Document
 13 are considered to be a reasonable standard for most
 14 buildings."
 15 Grenfell Tower in that respect was considered to --
 16 we could include it in that category of "most
 17 buildings". It's a general needs block of flats as
 18 distinct from something that is specifically intended as
 19 a retirement home or for people with particular care
 20 needs.
 21 Q. I see.
 22 A. Possibly I can also add also a reference to the Local
 23 Government Association guidance on fire safety
 24 management in blocks of flats which, for an unstaffed
 25 block of flats , again, doesn't place any expectations

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1 for any management procedures or anything like that,
 2 other than the requirement there is to provide advice to
 3 the residents and basically that -- there is
 4 an assumption that that is the understanding of what the
 5 legal requirement is.

6 Q. Okay.

7 Can we look at another part of Approved Document B
 8 on page 17 {CLG00000224/17}. This is in the B1.v
 9 section on the right-hand side. There is a heading
 10 "Criteria for means of escape", and then if we can zoom
 11 in on the bottom of the page, there is then a note:

12 "Some people, for example those who use wheelchairs,
 13 may not be able to use stairways without assistance.
 14 For them evacuation involving the use of refuges on
 15 escape routes and either assistance down (or up)
 16 stairways or the use of suitable lifts will be
 17 necessary."

18 Do you see that?

19 A. Mm-hm.

20 Q. So there again it's drawing attention to the fact that
 21 some consideration ought to be given to that --

22 A. Yeah.

23 Q. -- aspect of the building and those who may be using
 24 wheelchairs.

25 Was any such consideration given, as far as you were

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1 aware, on the Grenfell project?

2 A. Not beyond what we would normally have thought through
 3 for any block of flats, is that, you know, because of
 4 the compartmentation provided, or that should have been
 5 provided -- obviously, with hindsight, it didn't work --
 6 because of the levels of compartmentation and the
 7 corresponding stay-put strategy, that the guidance in
 8 Approved Document B for blocks of flats is all that is
 9 required to ensure the expected levels of safety for
 10 people who are not able to use the stairs unaided.

11 Q. Does it follow from that that there was no consideration
 12 given to particularly vulnerable groups, whether the
 13 elderly, disabled or young children, and how the
 14 fire strategy might affect them?

15 A. Not specifically. Again, it was a general needs block
 16 of flats.

17 Q. Okay.

18 A. And as much as we are aware that there may be disabled
 19 residents in a block of flats, the understanding of the
 20 legal requirements are that -- the guidance set out in
 21 the relevant sections for blocks of flats is --
 22 you know, equates to the legal requirements --

23 Q. Yes.

24 A. -- and there was no expectation from the regulator to go
 25 beyond that.

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1 Q. The existing building fire strategy report --

2 I appreciate you didn't see this at the time -- shows
 3 three different purpose groups with various levels of
 4 hazard identified as against Approved Document B.

5 Did you consider whether it was important that
 6 issue 2 of the refurbishment fire strategy report should
 7 reflect or examine the characteristics of the occupants
 8 under these different purpose groups?

9 A. I didn't at the time, no.

10 Q. Is the reason for that the answers you have just already
 11 given about the regulatory framework as you viewed it?

12 A. Yeah.

13 Q. Did you ever give any consideration in this context to
 14 how the TMO would comply with its obligations under the
 15 RRO in relation to its fire safety management plan
 16 without having some kind of guidance or strategy for
 17 assisting people who needed assistance evacuating?

18 A. Well, I think possibly to not answer that question, at
 19 the time I wasn't aware of who the TMO were. So, again,
 20 I was under the impression that we were working as
 21 a subcontractor on behalf of the Royal Borough of
 22 Kensington and Chelsea rather than the TMO. But it's
 23 a general needs block of flats that, you know, I had no
 24 reason to assume that it wasn't already being adequately
 25 managed and therefore that they would need any advice

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1 beyond, well, continue managing it well.

2 Q. So it didn't occur to you that more information might be
 3 necessary from the person managing the building about
 4 the characteristics of the occupants?

5 A. I had no information at the time that would raise any
 6 concerns that it was currently not being adequately well
 7 managed.

8 Q. Yes.

9 Dr Barker suggested in her evidence that the
 10 assumption was that residents could self-evacuate. Was
 11 that the assumption that you made when you were doing
 12 the review?

13 A. How deeply I was thinking through it at the time,
 14 I can't say. Yes, you do assume that, in a block of
 15 flats, there may be residents or visitors who are
 16 disabled, but my understanding of the legal requirement
 17 at that point is you need to protect the stairwell well
 18 enough so they can, if nothing else, wait in the
 19 stairwell until the fire has been put out.

20 Q. Right.

21 A. So, yes, there certainly is the possibility of there
 22 being somebody in the building who cannot use the
 23 stairs, but we're just basing our understanding of the
 24 requirements on that paragraph we looked at earlier
 25 about the design guidance here is sufficient for most

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1 buildings.

2 Q. Yes.

3 So does it follow from your answers that you didn't

4 turn your mind to the fact that some residents might not

5 be able to self-evacuate without assistance?

6 A. Not specifically about this project. I mean, I say

7 again, it's a question one asks oneself or one discusses

8 every time somebody new joins the team, so it is

9 an issue to which we were rather sensitised, and -- yes,

10 so this is AN Other general need block of flats and,

11 you know, to ... so, you know, the same requirements

12 apply as to other general need blocks of flats with

13 which we've worked in the past, and, you know, the -- in

14 particular, you know, comparing it to new-build blocks

15 of flats that there were a number projects I had worked

16 on, certainly the expectation there never went beyond

17 providing what Approved Document B calls for, for

18 a block of flats.

19 Q. Dr Barker also said this {Day15/143:7-11}:

20 "... if they did have mobility issues, then maybe

21 Grenfell Tower wasn't the best place for them to live.

22 To reiterate, Approved Document B does not make any

23 provisions in residential buildings for people with

24 mobility impairments."

25 Do you agree with her in relation to that?

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1 A. It's not the way I tend to look at it, because, as

2 I said, we always have to assume that there may at some

3 time in the lifetime of the building be somebody who

4 can't use the stairs, so it certainly -- I'm not --

5 I can't rely on an owner of a building operating

6 a procedure of not allowing people to rent or buy a flat

7 if they're disabled, particularly bearing in mind that

8 that disability or the cause of the disability may arise

9 long after they have moved in. They may live there for

10 ten years, have an accident and then become disabled.

11 So I'm certainly not going to base any strategy or

12 policy on the assumption that I can, for a block of

13 flats, rule out there being disabled people in the

14 building.

15 Q. Did you have access to any information about the make-up

16 of the residents in terms of their --

17 A. Not beyond the knowledge that it's a council block of

18 flats and being able to make an educated guess as to

19 what the demographic might be.

20 Q. Right. What would that educated guess have been?

21 A. That probably, well, at least, shall we say, a higher

22 than average proportion might have been from the lower

23 socioeconomic sectors, if I can put it in rather

24 technocratic language.

25 Q. Right.

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1 Would it be common practice to have information

2 about individuals in terms of their vulnerabilities,

3 their disabilities, before you put together a fire

4 safety strategy, or indeed as part of reviewing a fire

5 safety strategy?

6 A. Certainly not for a block of flats because you know

7 there is going to be a turnover of residents, tenants

8 moving in, tenants moving out, flats being bought and

9 sold, and the profile of a day when the contractors hand

10 the keys over may be very different from the profile

11 ten years later. It's not something you can predict and

12 therefore you don't try and predict it.

13 Q. Were you made aware at any time when you were working on

14 the Grenfell project that there were at least 22 people

15 with disabilities living in the tower?

16 A. No.

17 Q. Would you expect to have been told information of that

18 nature, if that was the case, 22 people?

19 A. Not really, because, I mean, you assume that it's,

20 you know, quite possible that there might be.

21 Q. So if you had been told, would you have done anything

22 differently?

23 A. Probably not. I mean, again, my understanding of the

24 legal requirement, the standard of safety required, is

25 that that would be achieved by implementing the guidance

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1 in Approved Document B, and again, with reference to the

2 guidance on the Regulatory Reform Order, that doesn't

3 really place any expectation on the management other

4 than to provide advice to the residents.

5 Q. Okay, yes.

6 Did you consider, just going back to issue 2 that

7 you reviewed, issue 2 to be a detailed fire strategy?

8 A. No.

9 Q. No.

10 Now, I now want to turn on to the email of

11 31 March 2015 which you sent to Mr Ashton in relation to

12 cavity barriers in the rainscreen cladding systems.

13 Can we go first up to {EXO00001756}.

14 So this is an email that you sent to Mr Ashton

15 headed "Grenfell Tower - External Cladding" on

16 31 March 2015, so some significant time on from

17 October 2013 when you reviewed issue 2 of the

18 fire strategy.

19 You say this:

20 "We note that the barrier against fire spread

21 between floors is provided through the connection of the

22 structural floors to the existing external walls. The

23 existing external walls are expected to provide

24 sufficient fire resistance to prevent fire from entering

25 the cavities at or near floor or ceiling level.

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1 "We would not rule out that fire could enter the
2 cavity if there is flaming through the windows. However
3 if significant flames are ejected from the windows, this
4 would lead to failure of the cladding system, with the
5 external surface falling away and exposing the cavity,
6 eliminating the potential for unseen fire spread.
7 A standard cavity barrier should be sufficient to
8 prevent fire spread between floors while there remains a
9 cavity.

10 "In view of the above, we do not feel that there
11 should be a need for a 2-hour rated fire break in the
12 cavities along the lines of the compartment floors or
13 walls."

14 Do you see that there?

15 A. (Witness nods).

16 Q. We know, or it would appear to be the case, that this
17 email arose in the context of questions that had been
18 asked of Mr Ashton about whether or not it needed to be
19 a firestop or a cavity barrier in the external wall at
20 this time.

21 Now, you say in your witness statement that,
22 although you don't recall this email, you note that this
23 appears to be a draft response to a query received by
24 Mr Ashton from Neil Crawford at 12.05 earlier that day.

25 A. Yes.

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1 Q. That's what you have said.

2 A. Yes.

3 Q. We can see that email from Mr Crawford to Mr Ashton if
4 we go to {EXO00000715} at the bottom of page 1. So
5 there we see it, 12.05, "Grenfell Tower Fire Stopping":

6 "Hi Terry

7 "Can you comment on the history of this item- please
8 see correspondence below as it is not clear to me why
9 this item is causing such a difference in
10 interpretation - can't see anything that seems to
11 reference it in the fire strategy."

12 Do you see that there?

13 A. Yes, yes.

14 Q. Now, had Terry Ashton requested your advice or approval
15 prior to you sending him that email?

16 A. He must have done, because why else would I have written
17 an email? As I say, I've got no recollection of the
18 exact course of events. I can only make an educated
19 guess as to what the circumstances were here.

20 Q. And what do you think they were likely to be?

21 A. This has the hallmarks of a situation that did arise
22 from time to time of client sends a question to the lead
23 fire engineer on a project, that lead fire engineer is
24 in the middle of something and says, "I don't have time
25 to deal with it immediately", farms it out to

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1 colleagues, "Can you please have a look at this? If
2 it's something you can deal with very quickly, please do
3 so; if it is something more complicated, if you can
4 summarise the issues to me so I can work out what's
5 going on rather more quickly", and this has all the
6 hallmarks of this being one of those situations.

7 Q. Yes.

8 A. Which would, for example, probably also explain why my
9 email is not part of a chain.

10 Q. Yes, exactly.

11 A. What probably happened here is Terry probably printed
12 out the original email chain, gave it to me as a hard
13 copy and then, you know, I drafted mine -- I'm guessing
14 it was, you know, for example, you know, "This is a text
15 you could maybe copy and paste into your response" or
16 something along those lines.

17 Q. That makes sense.

18 Can we look at what you say at paragraph 4.5 of your
19 witness statement, {EXO00001753/6}. So you say:

20 "On 31 March 2015, I sent an e-mail to Mr Ashton.

21 I do not recall this email but I see that it contains
22 what appears to be a draft response to a query received
23 by Mr Ashton by e-mail from Neil Crawford from Studio E
24 earlier that day. I do not recall why I was involved in
25 the conversation, although as already noted, it was not

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1 uncommon for Mr Ashton to discuss technical matters with
2 other staff, as all e-mail containing technical
3 information had to be approved by at least two people,
4 and this might explain my involvement."

5 So you have helpfully tried to explain why you think
6 you were involved.

7 Did you know at the time what Terry Ashton actually
8 did with that draft email that you sent him?

9 A. No.

10 Q. Did you ever ask him?

11 A. Not until, you know, the run-up to the preparation for
12 my appearance here today, no.

13 Q. When you drafted that email, that draft response, and
14 sent it to him, did you expect it to be forwarded to the
15 client on the project?

16 A. That must have been my assumption, yes.

17 Q. And to the design --

18 A. As I say, probably more likely copy and paste into an
19 email of his own.

20 Q. Yes, yes, so sent to the design team on the project?

21 A. Yes.

22 Q. Sent to the client on the project?

23 A. Whether the client, the design team, as I say,
24 I wasn't -- with reference to earlier conversations
25 about me not knowing the project history of where we

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1 were at RIBA stages or even understanding who the client
2 was, I didn't give it much thought as to who the
3 recipient of the email might be, other than recognising
4 the name Neil Crawford and knowing him from my work on
5 the KALC project.

6 Q. If we can look at paragraph 5.31 of Mr Ashton's witness
7 statement, this is {EX000001621/19}. So, actually, if
8 we look it up at 5.30, he says he sent an email:

9 "... trying to explain that if a fire were to occur
10 with external flaming, it would take some of the
11 cladding panel with it, and this might cause the fire
12 stop to fall away with it (this would of course depend
13 on precisely how the fire stop was fixed)."

14 Then he says:

15 "Some minutes after I sent that email, I received an
16 email from Mr Pearson that commented on the same
17 issues."

18 And then he has set out what you said.

19 So it appeared that he had already responded back to
20 Mr Crawford with his view --

21 A. That is my subsequent understanding.

22 Q. -- before he got your response. If that's correct, just
23 thinking back to the usual practice, you said that every
24 email, technical email, would be approved by two
25 people --

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1 A. Yeah.

2 Q. -- that would suggest that that wasn't followed in this
3 case, wouldn't it?

4 A. That's, you know, certainly the implication, yes.

5 Q. Should the proper process have been to wait for your
6 response, given it would appear he has referred it to
7 you?

8 A. In absence of the full facts, don't know, but probably.

9 Q. Yes, and then, when he had got your response, decide how
10 to then --

11 A. Yes.

12 Q. -- respond back.

13 A. Yes. I mean, just going back to what the situation
14 probably was, as I say, it didn't happen, you know, that
15 uncommonly that you would receive something, don't have
16 time immediately to deal with it and pass it away.

17 Client then phones up chasing for a response and that
18 telephone call then prompts the project manager, in this
19 case Mr Ashton, to actually deal with the question
20 rather than waiting for me to come back to him.

21 Q. Right.

22 A. So that to me is the most logical explanation of how
23 this chronology occurred of him then answering the
24 question before I had had a chance to get back to him.

25 Q. I see.

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1 Was it a common occurrence when you were working
2 with Mr Ashton that he would not comply with the
3 checking of the email, the technical email, by two
4 people?

5 A. In a way, I wouldn't know, because I only know the times
6 he asked me to review something and I don't know how
7 often he didn't. Generally -- I mean, he certainly very
8 often would make a point of asking for a second opinion
9 on something.

10 Q. Yes.

11 A. And I would just assume that that was the majority of
12 the cases. As I say, not having been party to or in any
13 way been surveilling his entire email communications,
14 how often he followed the procedure and how often he
15 didn't I couldn't tell you.

16 Q. Okay.

17 Were you aware when you sent your email to him that
18 he had already responded to the query?

19 A. I doubt it. I've no clear recollection, but I can't
20 imagine that I would have sent my response to him had
21 I known that he had already answered the question.

22 Q. Okay.

23 Let's go back. I want to look in detail at what you
24 said in that draft to Mr Ashton, {EX000001756}. So it's
25 really that second paragraph that I want to focus on,

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1 and I just want to kind of unpick what your view was and
2 why you were saying this. You say there that:

3 "However, if significant flames are ejected from the
4 windows, this would lead to failure of the cladding
5 system ..."

6 Do you see that there?

7 A. Yes, yes.

8 Q. So is it correct that your view was that fire could
9 enter the cavity if there was flaming through the
10 windows?

11 A. Right, obviously with hindsight we now know what was and
12 was not installed, but this was all based on the
13 assumption that everything else is code compliant, so
14 there should have been a cavity barrier on the top edge
15 of the window frame of the flat where the fire is, at
16 floor level, and another one then on the other side.

17 Bearing in mind, at the bottom of that email chain
18 from Neil Crawford, it's referring to aluminium
19 rainscreen cladding, if I allow myself to assume that
20 that external cladding is aluminium, well, that would --
21 you know, certainly the fixings, if not the panels
22 themselves, would detach quite rapidly, and so it is
23 rather likely that, actually, we would have failure of
24 the cladding before we had failure of the cavity
25 barrier.

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1 However, without doing a detailed analysis, I can't
2 guarantee which of those components would fail most
3 easily, so I can't entirely rule out that, actually, the
4 fire would penetrate that first cavity barrier before
5 there is substantial damage to the external cavity.

6 But we've got -- we should have three of these
7 cavity barriers between where the flames are coming from
8 and the window frame above, and the amount of heat it
9 would take to compromise all three cavity barriers would
10 rather exceed the amount of heat I would expect it to
11 take for the external cladding at the outermost layer to
12 cease to be recognisable as an external sheet, if I can
13 use those words.

14 Q. Okay.

15 A. I don't know how much I thought about the materials.
16 I've got a very vague recollection of seeing that word
17 "aluminium" at the bottom of the email train which, if
18 I did, that will have led me to think of sheet metal.
19 Most of my experience up to that point with external --
20 or most of the queries I had had, had related to glass
21 façades rather than metal, so I don't know how coherent
22 an idea I had in my mind as to what the materials were,
23 and this admittedly somewhat awkward wording is partly
24 precisely because actually I don't know what the
25 materials are and what the components are.

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1 Q. Right, yes.

2 A. So I'm trying to cover all eventualities.

3 Q. Going back to that wording there, you talk about "flames
4 are ejected from the windows, this would lead to failure
5 of the cladding system". At the time, did you mean
6 failure of the cladding system as a whole or that this
7 would lead to a localised failure of the cladding?

8 A. Again, I probably didn't give it very much thought.
9 I just can't remember what I was thinking in terms of
10 materials.

11 Q. No.

12 A. If I had in my mind an image of glass, well, glass would
13 probably shatter over a fairly wide area.

14 Q. Yes.

15 A. If it was an image of sheet metal panels, well, they're
16 going to detach a panel at a time. Now, how local is
17 local before we consider it not to be local? In a way,
18 in the context of the question I was asking, it didn't
19 really matter.

20 Q. Didn't matter, no.

21 A. The question was: does this barrier in line with the
22 floors need a four-hour resistance rating or
23 a 30-minute -- 30-minute for integrity, 15 for
24 insulation -- and the answer is if you accept the design
25 guidance in diagram 33 of Approved Document B, it is

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1 a situation where a cavity barrier is required, ie 30/15
2 rather than a 120 firestop.

3 Q. Mr Ashton said to us last week that the way he
4 interpreted this was that you were saying there would be
5 failure of the cladding in a localised way, but it
6 sounds like from what you are saying here, you didn't
7 intend that to be --

8 A. It didn't matter in the context of the question I was
9 being asked.

10 Q. No.

11 Is it right that then what you're saying is, because
12 the cladding will fail, there was therefore no unseen
13 fire spread, and therefore no need for the two-hour
14 firebreak and that the standard cavity barrier should be
15 enough?

16 A. Fundamentally, once you have no longer got a cavity, the
17 cavity barrier was serving no purpose.

18 Q. Were you aware, first of all, that Mr Ashton was asking
19 you about this in the context of Grenfell Tower? Did
20 you know that it was in the context of that building
21 that you were advising?

22 A. If I was reading a hard copy of that email chain from
23 Neil Crawford, well, I must have done. I had met
24 Neil Crawford at design team meetings for KALC and,
25 you know, I knew this email didn't relate to KALC, so

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1 what else could it relate to?

2 SIR MARTIN MOORE-BICK: Well, it says so, doesn't it?
3 "Subject: Grenfell Tower"?

4 A. Yes.

5 MS GRANGE: You had been working on the KALC project, we
6 know that, at the time.

7 A. Yeah.

8 Q. Apart from version 2 of the fire strategy that you
9 reviewed, and we have looked at that, had you looked at
10 any other information relevant to Grenfell Tower, any
11 other drawings or reports?

12 A. As I say, early in the design stage there must have been
13 at least one iteration of the general arrangement floor
14 plans and mark-ups created by Terry Ashton.

15 Q. But had you seen anything specific to the cladding --

16 A. No.

17 Q. -- before this?

18 A. No.

19 Q. No.

20 A. No.

21 Q. Were you --

22 A. As I say, not to my recollection.

23 Q. Were you aware that, by 31 March 2015, there had still
24 not been a final fire strategy report on Grenfell Tower?

25 A. I just wasn't following the project at all so I didn't

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1 know where we were.
 2 Q. So you didn't know where in the design stages?
 3 A. No, no, no.
 4 Q. Were you basically just looking at a very narrow
 5 question that's been asked of you --
 6 A. Yes.
 7 Q. -- and answering that narrow question?
 8 A. Yes, yes, yes. So, yeah, no, where this fitted into the
 9 bigger picture, I really didn't know.
 10 Q. Were you aware that issue 3 of the fire strategy had
 11 said no more about the B4 requirement than had been in
 12 issue 2?
 13 A. I don't -- I don't think (a) I knew that it did or (b)
 14 how many issues had been sent since I had reviewed that
 15 issue 2.
 16 Q. Okay.
 17 Were you aware at this time that there was
 18 a stay-put evacuation strategy that --
 19 A. It was my --
 20 Q. -- was implicit within the fire strategy?
 21 A. It was implicit throughout the entire project, as was my
 22 understanding.
 23 Q. Had you known that there hadn't been a further final
 24 version of the fire strategy report, would you have been
 25 willing to give the advice you gave in those

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1 circumstances?
 2 A. What, specifically in this -- in the context of this
 3 question about whether --
 4 Q. Yes.
 5 A. -- that --
 6 Q. Had you known that there hadn't ever been a detailed
 7 fire strategy produced, would you have still been
 8 prepared to --
 9 A. Well, again, I was asked a specific question and so
 10 I gave an answer to that specific question. And that
 11 answer is, you know, basically, you know, in a very
 12 wordy fashion, saying what diagram 33 of Approved
 13 Document B says should be provided.
 14 Q. Looking at this now --
 15 A. Yeah.
 16 Q. Sorry, was there anything more you wanted to say? No.
 17 Looking at this now, would you agree that your
 18 advice potentially overlooks the point that the cladding
 19 material, such as insulation, can still burn and spread
 20 flame between flats, even once the panels have fallen
 21 off?
 22 A. Well, yes, because that wasn't the question I was being
 23 asked.
 24 Q. I see.
 25 It also potentially overlooks the fact that before

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1 the cladding fails and there is no cavity, there could
 2 be some unseen spread before that point.
 3 A. Well, precisely. That's the reason why we've got
 4 a cavity barrier there, so it cannot spread beyond the
 5 cavity barrier.
 6 Q. Yes.
 7 I appreciate you say that you're advising on narrow
 8 issues, but the question here is that what you have then
 9 both ended up describing, do you agree, had potentially
 10 more serious consequences for the building and for the
 11 fire strategy and what should be contained within it?
 12 A. One of these things, difficult to say with hindsight.
 13 I mean, you know, yes, obviously, with hindsight,
 14 somebody should have reviewed the materials being used
 15 on the external walls and point out, "Hang on a moment,
 16 we've got an issue here". How I put that in the context
 17 of this particular email, yeah, I don't know.
 18 Q. Yes.
 19 A. One of the big great what-ifs.
 20 Q. I mean, do you agree that what you are describing here
 21 would suggest that there does need to be an amendment to
 22 the fire strategy that you saw which specifically
 23 analyses the B4 requirement and whether it does
 24 adequately resist the spread of fire across the walls?
 25 A. Well, I mean, obviously there needed to be further work

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1 on the strategy full stop because that -- even issue 3
 2 is an outline report rather than a full strategy. With
 3 hindsight, you know, I mean, certainly the way I now
 4 write fire strategies, yes, I do provide more
 5 information on that subject, and in absence of knowing
 6 what the specifics of the design are, I give the generic
 7 guidance.
 8 Q. You say, "I do provide more information on that subject
 9 now". What was it that changed that pattern of
 10 behaviour in terms of --
 11 A. The fire and the subsequent realisation of quite how
 12 widespread the ignorance is about what the requirements
 13 are for external walls. We had hitherto rather allowed
 14 ourselves to assume that people doing the detailed
 15 design know what the requirements are, and obviously
 16 that, with hindsight, turns out to have been a rather
 17 misplaced assumption.
 18 Q. I see.
 19 Do you remember discussing this any further with
 20 Mr Ashton at the time --
 21 A. No, no.
 22 Q. -- this phenomenon, the external fire spread issues?
 23 A. Okay, not specifically in Grenfell Tower. Certainly the
 24 general issue of or the reasons why there were
 25 restrictions on materials on high-rise buildings, not

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1 just blocks of flats , I mean, yes, that was discussed.
 2 In what context, at what point in time, I cannot recall .
 3 Probably once early in my career, and then certainly as
 4 around about this time, 2014/2015, as we were then
 5 getting queries from clients , particularly with -- this
 6 tended to be the new-build blocks rather than
 7 refurbishment work, where it was starting to become
 8 a bit more apparent that there was a rather widespread
 9 use of materials that shouldn't be used, and suddenly
 10 clients coming to us and saying, "The insurers have
 11 rejected this , can you please advise us", and we would
 12 then look at it and think, "I'm not surprised the
 13 insurers don't accept it".
 14 Q. Did that ever prompt you to think to go back and look at
 15 projects you had handled the fire strategy for? Take
 16 Grenfell Tower as an example. That increasing
 17 awareness, did it prompt a realisation --
 18 A. Certainly on a couple of the projects that I was working
 19 on then, there was additional work done. Because I was
 20 not the lead on Grenfell Tower, I certainly wouldn't
 21 have prompted the review on Grenfell Tower, but there
 22 was a couple of the projects I was working on where,
 23 yes, then further work was done to then confirm what
 24 they can and cannot do.
 25 Q. Right.

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1 Do you know why that work wasn't done on
 2 Grenfell Tower, just because it was not requested?
 3 A. As I say, because I wasn't the lead engineer on there,
 4 again, I wasn't following the progress of the project,
 5 I was only assisting ad hoc as and when required, and --
 6 yeah, so just had no overview of what was going on on
 7 that particular project.
 8 Q. At 4.6 of your statement {EX000001753/6} -- we don't
 9 need to turn it up, I can just summarise it -- you say:
 10 "I have no recollection of any further involvement
 11 in the discussion ... I am not aware that the final
 12 conclusion of the discussion about the required
 13 standards [ie firestop , cavity barrier] ... was ever
 14 communicated to me."
 15 A. Okay, yes. Possibly a correction with that. Since
 16 having written that witness statement, I have since seen
 17 the email from -- or an email exchange between
 18 Terry Ashton and the Royal Borough of Kensington and
 19 Chelsea that --
 20 Q. Yes. So now you know how that correspondence ended, but
 21 you didn't know that --
 22 A. Yes, yes, I did not know at the point in time --
 23 Q. You didn't know it at the time.
 24 A. No.
 25 Q. Were you not at the very least curious to know at the

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1 time how that had ended up?
 2 A. Curious, yes. But, no, that curiosity didn't go
 3 beyond -- you know, didn't actually drive me to action.
 4 I was certainly curious.
 5 Q. Yes, but not such that you enquired as to how that issue
 6 had ended up being resolved?
 7 A. No.
 8 Q. Do you agree that your advice there about the failure of
 9 the cladding system in the event of significant ejection
 10 of flames from the windows would apply irrespective of
 11 whether the cladding panels were made of zinc or
 12 aluminium?
 13 A. It certainly would -- you know, I'm thinking aluminium.
 14 Obviously in both those cases, it would be sheet metal,
 15 and it wouldn't make much difference to which it were.
 16 As I said this morning, I wasn't aware that metal
 17 composite panels existed. My knowledge of BR 135 at the
 18 time was rather limited. I mean, I can obviously give
 19 an opinion now on the subject that's rather more
 20 detailed than I could have done at the time.
 21 Q. Yes.
 22 A. That the -- there's obviously the two options in
 23 Approved Document B as to either all insulation ,
 24 fillers , et cetera , to be of limited combustibility , or
 25 for the external wall system to pass the BR 135 test.

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1 Well, we now know that certainly the insulation wasn't
 2 of limited combustibility , irrespective of where we fall
 3 in the argument as to whether the rainscreen cladding is
 4 an "et cetera", and in that list of insulation , filler
 5 et cetera , and that wall build-up would certainly not
 6 pass the BR 135 criteria .
 7 So there's two separate considerations here: the
 8 cavity barrier is one and the selection of materials the
 9 other.
 10 Q. Yes.
 11 A. ADB doesn't say, you know, make the requirements for
 12 cavity barriers conditional on the materials and doesn't
 13 make the selection of materials conditional on --
 14 Q. No.
 15 A. -- the cavity barriers . This was a specific question
 16 about the cavity barriers that I answered, in rather
 17 blithe ignorance that elsewhere there are other things
 18 amiss.
 19 Q. When you refer there to the potential for unseen
 20 fire spread, were you focusing on the B3.(4) requirement
 21 of the Building Regulations that the building shall be
 22 designed and constructed so that the unseen spread of
 23 fire and smoke within concealed spaces in its structure
 24 and fabric is inhibited?
 25 A. In this particular situation it's ... B3 and B4 really

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1 are interlinked. I don't really want to be going
 2 arguing semantics about whether it's a B3 or a B4 issue.
 3 It's a life safety issue and --
 4 Q. Absolutely.
 5 A. -- these are the cautions (?).
 6 Q. The point I want to put to you is that under both it's
 7 a significant issue.
 8 A. Yeah, yeah.
 9 Q. It's a significant issue under B3.(4), unseen
 10 fire spread, but it's also a significant issue in terms
 11 of B4 and adequately resisting the spread of fire --
 12 A. Yeah, absolutely.
 13 Q. -- the advice you're giving.
 14 A. Absolutely.
 15 Q. Do you think you appreciated that at the time, the
 16 potential for this advice to really impact on --
 17 A. As much as it is difficult to say with no clear
 18 recollection of, as I say, my emotions and thoughts at
 19 the time, but I believe I was aware that it relates to
 20 both, yes.
 21 Q. Did you know at the time you were commenting on it that
 22 the statement in the version of the outline fire safety
 23 strategy that you had reviewed before, the statement
 24 about B4, had remained unchanged?
 25 A. I think (a) I didn't know where the strategy report was,

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1 and (b) so much time had passed since when I had
 2 reviewed revision 2 and this email, I don't think I had
 3 much of a clear recollection of what the report said at
 4 all on that subject.
 5 Q. When you were giving this advice, did you have a quick
 6 look back to --
 7 A. I don't believe I did.
 8 Q. -- the fire strategy?
 9 A. Because, again, it is a specific question where the
 10 answer can be given -- you know, it's a specific topic
 11 of its own, and so, you know, I felt I can answer that
 12 question -- I felt capable of answering that question.
 13 I mean, this was not something I was sending directly to
 14 Building Control. Precisely again the rule of: get
 15 a second opinion. So passing that to Terry: am I right
 16 in (a) my understanding of the question and (b) my
 17 understanding of what the requirements are and the
 18 correctness of the answer.
 19 Q. Do you agree that it follows from your observation here
 20 about the failure of the cladding that the proposed
 21 refurbishment works would have an adverse effect on the
 22 building in relation to external fire spread contrary to
 23 what had been said in that fire strategy report?
 24 A. It's one of these things. Had they been code compliant,
 25 then it's a bit of a philosophical question. I mean,

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1 we're looking at the context of material alterations.
 2 Clearly if we're adding a code compliant insulation
 3 system on to a concrete wall, well, yes, that is
 4 introducing risks. But as long as the external or
 5 this -- the additions are -- remain within the
 6 parameters of the code, it's, you know, permissible
 7 under --
 8 Q. I appreciate that, Mr Pearson, but would you have really
 9 been saying that there was no adverse effect on the
 10 building in terms of external fire spread, given this
 11 advice?
 12 A. I would probably be spelling it out as to what we're
 13 doing and, you know, why ... if we take a hypothetical
 14 building where we were happy with the materials they
 15 were using, I would probably then spell out, well,
 16 you know, "We're adding this and this and it complies
 17 because of such and such".
 18 Q. Creating cavities, creating the potential for unseen
 19 fire spread behind the rainscreen?
 20 A. Well, precisely, we're not creating an issue because the
 21 relevant control measures are being put in place. So,
 22 I mean, there is always a residual risk, but that
 23 residual risk is within the limits of the legal
 24 expectations.
 25 Q. Would you --

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1 A. Obviously if I, you know, became aware of somebody
 2 proposing a design where the materials are not
 3 satisfactory, I wouldn't be putting in the strategy
 4 report, "It's justified because of this and this";
 5 I would be sending it back to the client and saying,
 6 "Please go back to the drawing board, this doesn't
 7 work".
 8 Q. Dr Pearson, you are speaking quite fast, and I think --
 9 A. Sorry, I'm getting too excited, sorry.
 10 Q. No, it's fine, maybe just bear in mind the transcriber.
 11 A. Sorry.
 12 Q. That's okay.
 13 Would you agree that the advice that had been given
 14 in the outline fire strategy report to the effect that
 15 there would be no impact on external fire spread
 16 required immediate retraction, because it couldn't be
 17 justified in the light of this acknowledgement?
 18 A. With hindsight, probably, yes.
 19 SIR MARTIN MOORE-BICK: Well, there may be a prior question:
 20 did he recall what was in the fire strategy?
 21 MS GRANGE: I did just ask that, I think.
 22 SIR MARTIN MOORE-BICK: Otherwise there is a risk of trying
 23 to treat him as an expert.
 24 MS GRANGE: Just to be clear, I think I did ask you whether
 25 you had gone back and looked at --

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1 A. Yes. No, I hadn't. So at that point in time, when I am
2 writing this draft email, I don't think I had any clear
3 recollection at all about what the strategy report said
4 about B4.

5 Q. Fair enough.

6 Did you ever, in the context of Grenfell Tower, give
7 any consideration to revisiting the B4 section and
8 conducting a thorough analysis of the external
9 fire spread issues?

10 A. Well, because I wasn't leading the project, I was,
11 again, assisting in this case Mr Ashton, if he had asked
12 me to, I would have, but there is no reason why I would
13 have taken the initiative and told him how to manage his
14 project.

15 Q. Would you agree that any fire safety strategy should
16 have been updated to include such an analysis?

17 A. Generally speaking, yes.

18 MS GRANGE: Sorry, Mr Chairman, I'm just going to check. We
19 had a flurry of questions come in just before the
20 lunchtime break.

21 SIR MARTIN MOORE-BICK: I sensed that.

22 MS GRANGE: I'm just going to double-check whether I have
23 covered ...

24 Yes, did you think before giving this advice to
25 check what the materials were that were proposed to be

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1 used?

2 A. No, I didn't, no, I didn't, because the answer to that
3 question is somewhat independent of the selection of
4 materials. As I said before, the advice in section 12
5 of ADB, referencing back to section 9, the location of
6 the cavity barriers aren't dependent on the materials
7 and the materials aren't dependent on the number and
8 location of cavity barriers.

9 Q. But would the combustibility of the insulation not have
10 a potentially significant impact on the phenomenon
11 you're describing?

12 A. Well --

13 Q. Because if the insulation was combustible, wouldn't that
14 potentially --

15 A. I think two separate scenarios here: if we're using a --
16 materials compliant with the linear route, well, they
17 wouldn't be combustible. If we've got combustible
18 materials then the technically correct answer would be
19 that the cavity barriers or whatever fire barriers we're
20 putting in there need to be as per the BS 8414
21 certificate, and obviously if you can neither pass
22 a BS 8414, neither meet the BR 135 criteria, nor are
23 using materials of limited combustibility, well, the
24 whole question about cavity barriers is a bit academic
25 because the materials, irrespective of any amount of

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1 fire barriers, is not acceptable.

2 Q. Would you agree that, prior to giving this advice, you
3 ought to have sought clarification as to the precise
4 materials they were proposing to use at this stage?

5 A. I didn't see a need to because, again, it's a question
6 specifically about those fire barriers, and the answer
7 to that question is the same irrespective of what the
8 materials are.

9 Q. I see.

10 A. Bearing in mind that, as I said before, we were assuming
11 that the designers were choosing the appropriate
12 materials. I had nothing to steer me towards any,
13 you know, notion that the materials were actually
14 inappropriate.

15 Q. Given that you have accepted earlier on today that you
16 were aware, for example, of the Lakanal House fire and
17 other international fires, wasn't it important to check
18 the composition of the materials used before you started
19 assisting Mr Ashton with advice such as this?

20 A. I just took it on trust that he had -- that anything
21 that is not covered by that email is, you know, he is on
22 top of and dealing with elsewhere.

23 Q. Would you have expected Mr Ashton to have enquired what
24 the materials were that they were using prior to
25 answering a query about cavity barriers and

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1 firestopping?

2 A. Difficult to say. There was a bit of a tendency to take
3 material selection as -- or consider that as detailed
4 design rather than strategy. So, yeah ... I'm going to
5 struggle to give you a straight answer to that one,
6 I'm afraid.

7 Q. Finally, Mr Pearson, were you aware at the time of the
8 chemical composition of PIR insulation? Were you aware
9 of what it might compose?

10 A. I know that PIR is polyisocyanurate.

11 Q. Were you aware that it was a combustible insulation?

12 A. I'm very much aware that PIR is -- never mind
13 combustible; anything with the symbol "cyan" in it
14 chemically is very nasty stuff if you set fire to it.

15 MS GRANGE: Mr Chairman, that concludes my questions and the
16 ones I've absorbed so far, but the usual custom is to
17 take a short break.

18 SIR MARTIN MOORE-BICK: We will do that, and I think we will
19 take a break until 3.20, which will give everyone plenty
20 of time to organise any questions that they want to add.

21 So we will have a break now, Dr Pearson. We will
22 come back at 3.20, please, unless we are told
23 otherwise -- occasionally we find it overruns for
24 various reasons -- and please don't talk to anyone about
25 your evidence while you're out of the room.

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1 Thank you very much. If you would like to go with
2 the usher, please.

3 (Pause)

4 Right, 3.20, or at least not before 3.20.

5 MS GRANGE: Thank you.

6 (3.05 pm)

7 (A short break)

8 (3.20 pm)

9 SIR MARTIN MOORE-BICK: All right, Dr Pearson?

10 Ms Grange, do you have any more questions?

11 MS GRANGE: Yes, I do. Yes, just a few.

12 So we discussed earlier on today that there was no
13 formal design risk assessment that was done. Do you
14 remember we were talking about the shared means of
15 escape, residential and non-residential, and I think
16 your answer was that there was no formal design risk
17 assessment done.

18 What form of design risk assessment was done? Was
19 any kind of design risk assessment done?

20 A. Beyond discussions with Mr Ashton when it was first put
21 to me that we've got an unusual situation here, and
22 obviously the discussions that we've seen in the email
23 exchange, I'm not aware of anything beyond that.

24 Q. Do you agree that design risk assessment is the process
25 of identifying and assessing risk and then eliminating

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1 risk?

2 A. That's one way of putting it, yeah.

3 Q. When you were reviewing the outline fire strategy issue
4 number 2, did you give any consideration to whether that
5 design risk assessment process had been carried out?

6 A. No, I didn't.

7 Q. If Mr Ashton was not going to flag the non-compliance,
8 and we know he didn't flag it in his first issue of the
9 report, how would risk have been identified and
10 eliminated if it's not flagged in a report like that?
11 Do you ever have a situation where it's done separately
12 from the fire strategy?

13 A. It really depends on the individual project and the --
14 how that project is managed, and each one being
15 different depending on whether we're working for the
16 architect or directly for a developer, for a contractor,
17 whether there is a project management consultant
18 involved as a middleman. Each project is different.

19 Q. Yes.

20 Now, you have said -- and this is linked to design
21 risk assessment -- you have explained that your approach
22 to writing a fire strategy is a comparative approach and
23 you compare what's there or you establish what's there
24 in the existing and then you look at any changes after
25 that.

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1 Do you agree that that approach provides a solid
2 basis for carrying out a design risk assessment, doing
3 it that way?

4 A. It certainly helps. I mean, as with anything, the ...
5 you can have a good approach and not do things with
6 adequate diligence and bodge things, so it's not
7 a condition that automatically means that everything
8 else is fine, but I certainly find it's a more
9 appropriate way of setting out.

10 Q. Yes.

11 You have explained in contrast what Mr Ashton's
12 approach was, which focused much more on just validating
13 the changes. Would you agree that that's potentially
14 less satisfactory in terms of trying to follow a design
15 risk assessment process if you haven't bottomed out
16 what's there and what's in the existing before you do
17 it?

18 A. It's not something for which I've given a lot of
19 thought, to be honest, but, I mean, probably.

20 Q. Just in general, how can one be satisfied that the
21 fire strategy poses no risk to safety if the risks have
22 not been assessed in the context of the building as
23 a whole.

24 A. Well, I think I would disagree with the statement they
25 hadn't been assessed -- in this particular instance,

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1 they hadn't been assessed in the building as a whole.
2 It's really when you are writing a strategy, what is the
3 purpose of the report and what is your brief?

4 The ... when you're making alterations to
5 an existing building, yes, absolutely, you need to
6 understand the context, and, you know, my understanding
7 was that Mr Ashton had a fairly good understanding of
8 the context. How that's documented and whether
9 everything is in one document or split across several,
10 each with a specific purpose, really depends on the
11 needs of the project and the preferences of whoever is
12 managing that project.

13 Q. Just on another topic and your knowledge of
14 overcladding, did Leadbitter ever mention that there was
15 cladding proposed on Grenfell Tower, or proposed to be
16 used on Grenfell Tower?

17 A. Certainly not to me.

18 Q. No, because we know that there was a link between KALC
19 and the Grenfell Tower project, and you became employed
20 on KALC by the contractor; is that right?

21 A. Correct, yes.

22 Q. By Leadbitter. But they never mentioned to you that
23 there was an overcladding proposal in relation to
24 Grenfell Tower?

25 A. Not that I recall, no.

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1 Q. Mr Chairman, I'm just turning to a second set of
2 questions that have come in.
3 We talked about that email which said you had argued
4 away comments with Building Control on the KALC project.
5 Would you accept that there was a general culture in
6 the fire industry at the time of arguing away
7 Building Control comments? Was that --
8 A. I think -- "arguing away" I think is rather awkward
9 language. I mean, arguing in the academic sense of you
10 put an argument to support a particular hypothesis.
11 The -- a lot of our work is to validate designs that are
12 not code compliant, verify that they're safe and explain
13 to the relevant regulatory authorities why they're safe,
14 and so in an academic sense, well, every fire
15 engineering analysis is argumentation.
16 Sometimes you get Building Control officers who are
17 rather set in their ways and it does generate a certain
18 amount of frustration when they apparently refuse to see
19 something that to yourself seems self-evident. But,
20 yeah, no, precise -- I mean, the Building Regulations
21 require that -- without wanting to quote the full length
22 of the five requirements of part B, but they require
23 reasonable levels of safety. Approved Document B sets
24 out the benchmark that defines the level but doesn't
25 define what the design needs to be. And so, yes, very

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1 often our design is actually explaining why
2 a non-standard solution provides the requisite level of
3 safety.
4 Q. Okay.
5 A. As I said before, I'm not going to argue black is white
6 and try and pull the wool over Building Control's eyes
7 and try and push something that I don't feel is safe,
8 because I might be the firefighter copping it then
9 trying to fight the fire ten years down the line.
10 Q. I want to ask you, at the time you were giving that
11 advice to Mr Ashton in March 2015, what you were aware
12 of in terms of the cladding materials that were being
13 discussed.
14 Can we look at an email, {EXO000000715}. So I'm
15 looking for the email at 13.32. So this is Mr Ashton's
16 email back to Mr Crawford. Did you see this email at
17 the time?
18 A. I don't think I did, no.
19 Q. So he is referring in the second to last line about
20 causing the zinc cladding to fail. Were you aware at
21 the time you were advising on these issues that
22 Mr Ashton was referring, at least, to zinc cladding?
23 A. I've certainly got no recollection one way or the other.
24 Q. Okay.
25 Your answers today demonstrate that you were aware

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1 that the failure of the cladding system with the
2 external surface falling away might include pieces of
3 cladding or, as you describe them, shrapnel would fall.
4 Would you say, first of all, that that would
5 represent a potential danger to people if that happened?
6 Second, was that an acceptable hazard to be
7 contemplating?
8 A. It clearly represents a hazard. Our understanding of
9 the statutory requirements -- and, again, going back to
10 Approved Document B, I think it's paragraph 1 of
11 section 12, saying that there is no universal general
12 need for external walls to be fire resisting. There are
13 certain circumstances in which they need to be, but if
14 those circumstances don't exist, there is no requirement
15 for fire resistance, and the consequence of that is
16 precisely there are then no controls over that sort of
17 incident happening, where pieces of external wall then
18 fall away.
19 My understanding of the requirements of
20 Building Regulations is that something would not be
21 allowed under normal circumstances, but then fire is
22 considered an unusual event, and, you know, that kind of
23 failure was accepted by the authors of Approved
24 Document B as that may occasionally occur, and is -- the
25 risks are sufficiently low for it to be tolerated.

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1 Most of these requirements come out of stable door
2 legislation, and I can only presume that it's something
3 where we don't have sufficiently horrendous statistics
4 of people being injured by objects falling off burning
5 buildings for the regulator to have decided, well,
6 actually, we need to toughen the requirements here and
7 put in additional controls.
8 Q. Right.
9 A. I mean, obviously, as a firefighter, it's something I am
10 acutely aware of; that's why I wear a helmet every time
11 I'm near a burning building, because, yes, you do know
12 that things might fall off it.
13 Q. Just going back to the discussion you were having about
14 shared means of escape, did it ever occur to you to
15 discuss with Mr Ashton whether you should be saying to
16 the client that they shouldn't be mixing residential
17 with non-residential means of escape?
18 A. I can't remember the exact words of the discussion.
19 I mean, as I mentioned, looking at an earlier phase
20 design plans, we identified the fact that there was this
21 means of escape.
22 Mr Ashton's focus was primarily on
23 Building Regulations and are we or are we not creating
24 material alteration; whereas I will allow myself to
25 think I took probably a wider view and let's make sure

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1 that we're adequately taking the Regulatory Reform Order
2 into consideration.

3 Our conclusion at the time was, for the reasons that
4 are outlined rather briefly without much in the way of
5 fire engineering mathematics, the conclusion was that
6 the risks are such that continued use of the building in
7 its existing situation should be acceptable, and
8 therefore, as the works are not creating any additional
9 risks, that therefore continued use should be acceptable
10 and the works, at least in that aspect.

11 Q. So it wasn't seriously considered that you should go
12 back to the client and say, "Don't mix these two
13 different uses with a single escape stair"?

14 A. We asked ourselves the question: is the -- are the
15 circumstances safe or not, applying the benchmarks of
16 the Regulatory Reform Order, and the conclusion was that
17 the risks to residents are, say, in line with what one
18 would expect in a "normal" block of flats.

19 Q. Just another question on evacuation: the existing
20 fire strategy report, which I appreciate you didn't see,
21 discusses evacuation of flats beyond the dwelling of
22 fire origin being carried out under the control of the
23 fire service, if necessary, and it also says, due to
24 an assumed high degree of compartmentation and therefore
25 a low probability of fire spread beyond the dwelling of

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1 fire origin, simultaneous evacuation of the building is
2 unlikely to be considered. So it made those two
3 statements in the existing fire strategy.

4 Did you notice at all in the second issue of the
5 refurbishment strategy that it didn't advise on the need
6 to check what the degree of compartmentation would be
7 after the refurbishment?

8 A. No. I mean, there are two things here. First of all,
9 with Mr Ashton's absolute focus on the works -- I mean,
10 the Building Regulations place requirements on the works
11 rather than on the edifice, so there's a requirement in
12 that strategy, any alterations to compartmentation, to
13 load-bearing elements, et cetera, et cetera, need to
14 meet certain standards. What's there existing is not
15 governed by the Building Regulations.

16 Looking at the separate perspective from the
17 Regulatory Reform Order, and that's then the legislation
18 that governs whether the existing conditions are
19 adequate, I there take my cue from the Local Government
20 Association guidance for fire risk assessment in blocks
21 of flats. I can't remember the exact wording, but the
22 basic attitude there is that in a block of flats, unless
23 there's any particular reason to give concern that the
24 existing compartmentation or structural resistance are
25 inadequate, it can -- it is in most instances safe

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1 enough to assume that the compartmentation is adequate.

2 Q. Yes. Okay.

3 You mentioned that you had consulted with Mr Ashton
4 about these issues. Can you tell us when you spoke to
5 Mr Ashton about the matters we've discussed today, and
6 have you had any conversations with him about your
7 witness statement or your evidence prior to giving
8 evidence here today?

9 A. Which issues specifically? Because there's obviously
10 issues we discussed which were only in the design --

11 Q. Your work on issue 2 of the outline fire safety strategy
12 and the amendment, did you discuss that with Mr Ashton
13 before you came to give evidence today?

14 A. Beyond acknowledging that, yes, I reviewed it and this
15 is what I put in, not really.

16 Q. Yes.

17 A. I mean, you know, we have met since the fire, but it's
18 not as if we've in any way ... I've asked him what he
19 wants me to say and he's asked me ... so, no.

20 Q. What about the email of 31 March 2015, have you had any
21 discussions about that email?

22 A. I've read his witness statement, but that's about as far
23 as the communication went.

24 MS GRANGE: Yes.

25 Now, Mr Chairman, while I have been on my feet,

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1 I have had an email from the Team 2 BSRs saying they
2 would like another pause to check with their clients
3 that all has been covered.

4 SIR MARTIN MOORE-BICK: How long do they want?

5 MS GRANGE: It doesn't say.

6 SIR MARTIN MOORE-BICK: Right. We will have a -- you
7 understand what Ms Grange is saying? We're going to
8 have a short break until 3.50. All right?

9 THE WITNESS: Okay.

10 SIR MARTIN MOORE-BICK: So off you go with the usher. Don't
11 talk to anyone about your evidence, and we will resume
12 at 3.50.

13 3.50, thank you.

14 (3.37 pm)

15 (A short break)

16 (3.50 pm)

17 SIR MARTIN MOORE-BICK: All right, Dr Pearson?

18 THE WITNESS: Mm-hm.

19 SIR MARTIN MOORE-BICK: Yes, Ms Grange, last lap.

20 MS GRANGE: Well, I have had it confirmed in the break that
21 there are no further questions, but that I am to thank
22 the Chairman on behalf of Team 2 for allowing them extra
23 time to check.

24 SIR MARTIN MOORE-BICK: Very well, thank you.

25 MS GRANGE: So it just goes to thank Dr Pearson for coming

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1	today.	1	INDEX	
2	SIR MARTIN MOORE-BICK: There we are, Dr Pearson, no more	2		PAGE
3	questions, but no doubt you are quite relieved .	3	DR TONY PEARSON (affirmed)	1
4	Anyway, thank you very much indeed for coming to	4		
5	give your evidence. It 's been a great help to hear from	5	Questions from COUNSEL TO THE INQUIRY	1
6	you, and you are now free to go.	6		
7	THE WITNESS: Thank you.	7		
8	SIR MARTIN MOORE-BICK: When you are ready, you go with the	8		
9	usher.	9		
10	(The witness withdrew)	10		
11	SIR MARTIN MOORE-BICK: Well, that's it for the day.	11		
12	MS GRANGE: That's it for today.	12		
13	SIR MARTIN MOORE-BICK: We only have ten minutes left, or	13		
14	perhaps only nine.	14		
15	MS GRANGE: Exactly, and we start again tomorrow with	15		
16	Mr Soules again, to finish his evidence.	16		
17	SIR MARTIN MOORE-BICK: We will resume with him at	17		
18	10 o'clock.	18		
19	MS GRANGE: Yes.	19		
20	SIR MARTIN MOORE-BICK: Before we go, can I just thank the	20		
21	shorthand writer, who I think was finding life a little	21		
22	bit difficult at times because the witness was quite	22		
23	voluble. Thank you very much.	23		
24	Right, 10 o'clock tomorrow, please.	24		
25	MS GRANGE: Thank you.	25		

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1	(3.52 pm)	188
2	(The hearing adjourned until 10 am on Tuesday, 14 July 2020)	

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