

OPUS2

Grenfell Tower Inquiry

Day 174

September 14, 2021

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1 Tuesday, 14 September 2021
 2 (10.00 am)
 3 SIR MARTIN MOORE–BICK: Good morning, everyone. Welcome to
 4 today’s hearing. Today we’re going to hear further
 5 closing statements in relation to Modules 1 and 2 from
 6 various core participants.
 7 The first statement we’re going to hear will be made
 8 by Mr Michael Douglas Queen’s Counsel on behalf of
 9 Exova, and I’m now going to check that Mr Douglas can
 10 see and hear us, and we have proper communication.
 11 Good morning, Mr Douglas.
 12 MR DOUGLAS: Good morning, Mr Chairman. I can hear you and
 13 see you.
 14 SIR MARTIN MOORE–BICK: Good, thank you very much, and we
 15 can see and hear you.
 16 So you’re going to make a statement on behalf of
 17 Exova. Is that right?
 18 MR DOUGLAS: That’s correct.
 19 SIR MARTIN MOORE–BICK: If you’re ready, then we’re ready to
 20 hear you. Thank you very much.
 21 Module 1 & 2 closing submissions on behalf of Exova
 22 by MR DOUGLAS
 23 MR DOUGLAS: Thank you.
 24 Again, good morning, Mr Chairman, and good morning,
 25 Ms Istephan and Mr Akbor.

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1 The panel already has Exova’s submissions in
 2 writing. Those submissions are detailed, fully
 3 referenced and they stand in full.
 4 My purpose today is to develop four aspects of our
 5 analysis. We will first address Exova’s position in the
 6 project, and with particular reference to the façade.
 7 We will then deal with Dr Lane’s written evidence, tying
 8 Exova to the cladding system, and the rowing back from
 9 her position as evidenced in the later iterations of her
 10 report and in her oral evidence. We want to look at the
 11 specific questions that arose in relation to cavity
 12 barriers, and we will also touch on some areas that have
 13 been the subject of some debate: the impact of Rydon’s
 14 appointment, the existing fire strategy report, duties
 15 under the RRO, duties in connection with regulation F38
 16 and means of escape, and talk about what they actually
 17 amount to. We will also deal with causation and one or
 18 two confined issues that need highlighting.
 19 We will also deal, but only insofar as it is
 20 necessary or appropriate to do so, with what other
 21 participants have said in their written closing
 22 submissions, though a great many of the points made
 23 there are in fact already addressed in our own written
 24 submissions, so in that respect, we will be relatively
 25 short.

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1 So starting with Exova’s place in the project.
 2 Through the TMO, which in turn was agent for RBKC,
 3 it appointed Exova. It did so at Studio E’s
 4 recommendation, in order for Exova to provide input to
 5 Studio E. It was thus with Studio E and, on occasion,
 6 Max Fordham that Exova communicated, and at Studio E’s
 7 behest that Exova was included or not in communications
 8 with other team members. So, for example, Exova
 9 attended three design team meetings between September
 10 and 31 October 2012, but was not invited to the design
 11 team meeting later in November or to any of the seven
 12 design team meetings in 2013.
 13 Mr Ashton accompanied Studio E to a meeting with
 14 building control in November 2012 concerning risers,
 15 access by fire services, the new lower level, and means
 16 of escape, and he again accompanied Studio E and
 17 Max Fordham to one further meeting with building control
 18 in September 2013, which concerned layouts on the lower
 19 floors and smoke ventilation. He had a number of
 20 discussions with Mr Sounes in that month and again into
 21 November 2013, again primarily in relation to lower
 22 floor layouts, staircase access and smoke ventilation
 23 issues. Those conversations led to issues 2 and 3 of
 24 his report, and also his offering that colleagues would
 25 carry out a computational fluid dynamics study for the

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1 new smoke control system, though in the event
 2 KCTMO/Max Fordham chose to go down a different route.
 3 That aside, Exova were not invited to any other
 4 meetings before Rydon were appointed at the end of
 5 March 2014, nor to any that took place after Rydon were
 6 appointed.
 7 These points are not disputed. I repeat: the only
 8 meetings that Exova attended or to which they were
 9 invited between the end of stage C on 31 October 2012
 10 and the end of the project in July 2016 were two
 11 meetings with building control in November 2012 and
 12 September 2013. That, objectively, is a very striking
 13 fact.
 14 Whilst the appointment of Rydon as D&B contractors
 15 was an important event in the history of the project,
 16 the facts just referred to show that, in truth,
 17 throughout the project, even prior to Rydon’s
 18 appointment, Exova were not actively involved by the
 19 design team and, indeed, mostly left to one side in the
 20 project development of the façade.
 21 So far I have referred to meetings, but the same
 22 theme holds true of critical information and design
 23 documents. They were simply not communicated to Exova,
 24 who were ignored. For example, in the summer and autumn
 25 of 2012, Studio E had detailed discussions with

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1 Max Fordham in connection with thermal insulation
 2 performance and choice of insulating materials. But,
 3 even though they were discussing other fire strategy
 4 issues with Exova at around the same time, they sought
 5 no input on fire issues in relation to the façade.
 6 Through much of 2013, cladding materials were
 7 discussed between KCTMO, Studio E, Artelia, Leadbitter,
 8 CEP and subsequently Harley. The contents of those
 9 discussions were never communicated to Exova, nor even
 10 the fact that those discussions were taking place.
 11 Specifications for the proposed cladding system, with
 12 details of the proposed materials and provisions with
 13 respect to compliance, including fire compliance, were
 14 set out in the crucial NBS document. These were
 15 compiled entirely by Studio E, who never sought Exova's
 16 input. Exova never received a copy, whether in draft or
 17 final form.
 18 Likewise, no part of the employer's requirements for
 19 the tender of the D&B contract was ever communicated to
 20 Exova, nor were any details of the tender responses
 21 provided for evaluation or comment, even though Exova's
 22 own fee proposal had offered to assist in dealing with
 23 issues that appeared during the tender review process.
 24 Exova, in other words, was left out of the entire
 25 tender process, and throughout that period were asked

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1 only one isolated query by Mr Rek, which I'll touch on
 2 later.
 3 Then there is the crucial decision to change the
 4 cladding materials to incorporate Reynobond PE 55 ACM
 5 rainscreen panels and Celotex RS5000. That decision,
 6 made between Rydon, KCTMO, Studio E and Harley, was not
 7 communicated to Exova, much less were they consulted on
 8 these matters, nor for that matter the later decision by
 9 Rydon and Harley to include Kingspan K15 in addition to
 10 or in substitution for Celotex RS5000. This is quite
 11 contrary to what has been suggested yesterday, that
 12 Exova was appointed with full knowledge of the
 13 materials.
 14 In parallel was the process of the full plans
 15 application for Building Regulation approval, followed
 16 by the S1 and S2 applications, all made by Rydon through
 17 Studio E without Exova being invited or expected to play
 18 any part. Indeed, there were numerous occasions over
 19 the course of 2015 to 2016 where the TMO consulted Rydon
 20 and Rydon consulted RBKC and other parties on
 21 fire-related matters. Exova were neither included in
 22 nor consulted about these meetings, as Barbara Lane now
 23 catalogues in her fire engineering report at
 24 paragraphs 11.2.79 to 11.2.91.
 25 Again, these points are undisputed, and again they

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1 are very striking. This was supposed to be
 2 a co-ordinated design team. Pre-tender, TMO assigned
 3 that responsibility of co-ordination to Studio E as lead
 4 consultant. Studio E needed therefore to consider what
 5 specialist input they needed, particularly given the
 6 gaps in their own experience, and to instruct their
 7 specialist consultants accordingly. Later, Rydon had
 8 overall responsibility for co-ordinating the project and
 9 used Studio E to co-ordinate the application for
 10 Building Regulation approval.
 11 Again, the position is compounded, worsened, after
 12 Rydon's appointment, because, notwithstanding their duty
 13 to procure all the relevant forms of specialist
 14 expertise; their lack of any specialist expertise
 15 themselves; the obvious need as a result to have
 16 somewhere in the post-contract team to which every one
 17 of the specialist responsibilities could be properly and
 18 clearly allocated; their obligation to complete the work
 19 in progress that comprised the employer's requirements,
 20 including, under their contract, the advice given up to
 21 that point by Exova, Rydon consciously and deliberately
 22 decided not to appoint Exova or, for that matter, any
 23 other fire consultant as part of the design team, but
 24 instead, as confirmed to Mr Soules in or about
 25 March 2014, to rely on the architect, the specialist

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1 cladding contractor and building control to secure
 2 compliance with the Building Regulations. This was
 3 despite six attempts post their appointment to persuade
 4 Rydon to use Exova or a fire consultant.
 5 It was no longer possible from March 2014 onwards
 6 for Exova's formal engagement to continue as it had
 7 been. They ceased thereafter to be or to be thought of
 8 as part of the Grenfell Tower project team, and no
 9 attempt was ever made to integrate Exova into that team
 10 or the development of the project.
 11 It is worsened yet further by the fact, at least so
 12 far as the façade is concerned, that this whole question
 13 of regulatory compliance seems to have fallen between
 14 the cracks. At an organisational level, Rydon failed to
 15 ensure that a design responsibility matrix was
 16 established and maintained to provide the required
 17 certainty of responsibility for the remaining design and
 18 build activities and highlight any gaps. Notionally,
 19 Studio E accepted contractual responsibility for
 20 compliance, but they did so retroactively, near the end
 21 of the project, having hitherto apparently believed that
 22 their responsibility was only to check the contractor's
 23 designs by reference to conformity with architectural
 24 intent.
 25 The oral evidence showed that every one of the

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1 participants in the façade package believed that
 2 responsibility for compliance did not rest with them.
 3 So I turn then to Dr Lane's evidence.
 4 We have in our written submissions made a number of
 5 criticisms of Dr Lane's evidence. I will for the most
 6 part not repeat them now, though we firmly maintain them
 7 for the reasons we've set out what. What I seek to do
 8 here is to develop certain important points on Dr Lane's
 9 criticisms and conclusions.
 10 The three versions of Dr Lane's report each have
 11 over 300 pages of minute analysis and critical
 12 statement. I'm going to focus on three highly
 13 significant paragraphs which were introduced in the
 14 second version.
 15 The first two are as follows, and I'm using the
 16 final version as the reference point. Paragraph 9.1.34
 17 {BLARP20000017/284}:
 18 "It is very important to acknowledge the change from
 19 zinc to ACM, and it is correct that Exova were not asked
 20 for their opinion about this change, as I read the
 21 evidence available."
 22 9.1.41:
 23 "I can understand why, before 18th Sept 2014, it
 24 could be said that Exova may not have read or
 25 proactively sought relevant information about the

1 external wall build-up upon which to base their
 2 fire strategy, albeit I do not consider that it was
 3 reasonable for Exova not to have taken steps to
 4 understand that before then."
 5 I'll come back to that comment at the end about what
 6 Dr Lane believes should have been done. She said more
 7 about that in her oral evidence. But from the rest of
 8 those two paragraphs we take these points.
 9 First, the decision to change materials from
 10 compliant zinc honeycomb rainscreen cladding — see Lane
 11 9.1.37 {BLARP0000017/284} — to the ACM, which was the
 12 critical reason for the spread of the fire, was in
 13 itself and obviously a very important step in the
 14 exterior cladding at Grenfell Tower. So too was the
 15 fact that that decision was undertaken without any
 16 reference to Exova or any other fire consultant.
 17 Conversely, it is professionally understandable why,
 18 at least up to 18 September 2014, Exova was not aware of
 19 it, had not read about and did not proactively seek
 20 information about the proposed build-up of the external
 21 wall. This is a crucial issue and these are crucial
 22 concessions. This was a cladding fire, it happened
 23 because of the choice of materials, and what Dr Lane
 24 concedes from her version 2 onwards is that Exova (a)
 25 were not aware of the choice of rainscreen, and (b), as

1 we shall demonstrate from her oral evidence very
 2 shortly, were not obliged at the time it was chosen to
 3 look into the choice of insulation.
 4 That brings me to the third paragraph, which is
 5 this, 9.1.42:
 6 "But it is clear that on 18 September 2014 the
 7 Celotex data sheet was sent to Terry Ashton and he
 8 responded to that e-mail."
 9 Now, that is expressed in a very guarded and
 10 selective way. It is an example, one could say, of
 11 seeking to wound but fearing to strike, implying without
 12 actually saying so (1) that Exova knew that the
 13 insulation was Celotex when that is not the case; and
 14 (2) that Mr Ashton responded to or commented on the
 15 datasheet, which he didn't. I'll come back to those
 16 points later.
 17 But what matters for present purposes is that it
 18 illustrates Dr Lane's focus, from her second version
 19 onwards, not on ACM, but on Celotex as the main basis
 20 for criticism of Exova. This is confirmed in Dr Lane's
 21 comments on Mr Ashton's responses to questions asked of
 22 him after Rydon's appointment and her conclusions, both
 23 of which I deal with separately later.
 24 It is also necessary at this point to refer to
 25 Dr Lane's oral evidence at Days 61 and 62 to examine

1 what I will call her up-to-date evidence is on the
 2 actions of a reasonably competent fire engineer in the
 3 period 2012 to 2015.
 4 First, following on from Dr Lane's evidence, but
 5 contrary to what Studio E expected, Exova ought to have
 6 analysed the information in the stage C report, her
 7 evidence in the witness box was nevertheless much more
 8 limited. She says this:
 9 "I think the minimum I would expect a fire engineer
 10 in that year [2012] to notice was some type of surface,
 11 some type of insulation being applied on every storey,
 12 and nothing further." {Day61/182:1}
 13 "... the minimum would have been: the building is
 14 being overclad on every storey, some materials are
 15 fixed, some materials are not yet fixed, here are the
 16 performances, is a minimum." {Day61/182:25}
 17 "Before the Grenfell fire, no, I would not have
 18 expected them to take any further step regarding
 19 satisfying themselves about products ... I want to be
 20 absolutely clear on that." {Day61/183:5}
 21 Secondly, reference was made to the course of action
 22 that should have been taken in the absence of much
 23 information having been made available to Exova. That,
 24 Dr Lane said, was to:
 25 "... set out, at an absolute bare minimum, the

1 statutory guidance for insulation , cavity barriers and
 2 the external surface.
 3 "If you're given no drawings whatsoever about the
 4 overcladding, and that has happened many times, the best
 5 thing left for you to do professionally is to simply to
 6 state the statutory guidance minimum requirements."
 7 {Day61/168:19–25}
 8 Thirdly, and in the same vein, how issue 2 of
 9 Exova's report in October 2013 should have addressed B4
 10 if they still felt they had limited information as to
 11 the proposed changes to the exterior. She refers to:
 12 "... section 12 regarding the construction of the
 13 external wall, bare minimum, writing down the minimum
 14 performance requirements for each of the layers. So
 15 that's the bare minimum, not bringing in any
 16 post-Grenfell levels of detail." {Day61/191:23}
 17 Then as to what should have been done in relation to
 18 materials, three points: {Day61/192:8}
 19 "Question: Would you expect any kind of analysis of
 20 materials at this stage?
 21 "Answer: ... we're in 2013 now ... I'm not going to
 22 say that they should automatically have read up about
 23 Celotex, because I know that wasn't very common practice
 24 at the time. Okay? That's why I'm just keeping on
 25 saying: writing down the recommendations or the

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1 requirements in Approved Document B is the bare
 2 minimum ...
 3 "So just that statement is the minimum piece of
 4 professional guidance I would expect written down in the
 5 fire strategy ...
 6 "... and if one had noticed Celotex in the stage C
 7 report, it would have been an extra step at that time to
 8 explore what that meant. Some professionals would have
 9 done it; some professionals would not."
 10 And in answer to a question from the Chairman,
 11 Dr Lane confirmed that she meant by her expression "some
 12 reasonably competent professionals".
 13 Later, she said that 2013, 2014 and 2015 was a very
 14 complex time and that, finally:
 15 "I'm still not going to say the bare minimum from
 16 Mr Ashton was to take out the Celotex brochure or get
 17 some reports. I'm still not going to say that at this
 18 moment in time." {Day61/197:16}
 19 While Dr Lane gives the example of Celotex, her
 20 evidence is in relation to materials or products
 21 generally, and therefore applies just as much to
 22 Reynobond ACM.
 23 There are other examples of Dr Lane accepting that
 24 fire engineers did not need nor was it their normal
 25 practice to deal with materials. Version 1 of her

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1 report at page 251 makes the statement. In line with
 2 that, importantly, nowhere in her reports or her oral
 3 evidence does Dr Lane explicitly or even implicitly
 4 criticise Mr Ashton for not having noted or advised on
 5 the proposed use of ACM.
 6 I've already referred to her statement that it's
 7 very important to note that they were not consulted
 8 about the ACM change, then zinc Proteus HR on its own
 9 was class 0, hence complied with diagram 40 of ADB 2013
 10 for use in a building above 18 metres in height,
 11 paragraph 9.1.37 {BLARP20000017/284}.
 12 "... I don't want to say that I would immediately
 13 have expected Terry Ashton to have noticed aluminium and
 14 to have done something else that day." {Day62/64:13}
 15 There referring to an email in a chain relating to
 16 the 31 March advice, mentioning aluminium cassettes.
 17 These comments reveal an important limitation on
 18 Dr Lane's views. She is not saying that a reasonably
 19 competent fire engineer ought to have made enquiries as
 20 to the material being used, nor even that, had Exova
 21 seen products and materials actually mentioned in
 22 a design or specification , they should have investigated
 23 them and expressed an opinion on whether or not they
 24 were compliant. Rather, the supposed obligation of the
 25 reasonable professional was simply to have set out or

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1 written down the recommendations or requirements of ADB2
 2 or the performance requirements, or even just the
 3 outline performance requirements.
 4 Writing down, whether it means setting out the
 5 relevant provisions of ADB2 or referring to them or
 6 identifying the relevant paragraphs, in itself seems
 7 a surprisingly basic task, and one which has little
 8 utility until it can be coupled with practical advice in
 9 connection with the particular proposed materials, and
 10 until that point it risks being positively unhelpful,
 11 given the acknowledged ambiguities of ADB2 and its
 12 diagrams 40 and 33. That is something that the
 13 fire engineer can only do once they're given materials
 14 to comment on. Dr Lane accepts that Mr Ashton was under
 15 no obligation to investigate , enquire and pursue that
 16 point.
 17 In any case, this supposed duty to write down the
 18 performance requirements runs up against the expert
 19 evidence in relation to the professionals who would
 20 receive that advice. Mr Hyett is entirely clear that
 21 an architect had no need for such advice. In Mr Hyett's
 22 words, it was:
 23 "A specialist fire engineer should not normally be
 24 required to assist an architect in interpreting and
 25 applying the guidance of ADB2 with respect to specifying

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1 materials within and designing the arrangements for
2 an external wall or overcladding system as applied in
3 an external wall."

4 Entirely clear, we say, and we also say clearly
5 right. That is in contrast with Dr Lane's oral
6 evidence, which was notably variable and indeed unsure
7 about when the practice of checking materials developed
8 into a professional practice or even duty. Was it 2013,
9 2014, 2015 or after Grenfell? That confusion makes it
10 very difficult to be sure of the ground on which rests
11 the alleged criticism, the supposed omissions on any of
12 the particular occasions, the opportunities, as Dr Lane
13 refers to them in paragraph 9.1.25.

14 And there is another point, because you will
15 remember that I said that I would return to Dr Lane's
16 statement about her view that, notwithstanding that she
17 could understand the point, she thought that it was
18 unreasonable for Exova to have taken so long. I would
19 say that the practice that she describes and the duties
20 which she describes demonstrate entirely why it would be
21 understandable, by a professional body of opinion, they
22 hadn't investigated proactively the materials or read up
23 about them, entirely explicable. Her point of view, on
24 the other hand, also her view that it was unreasonable
25 for them not to have, seems to me to be inconsistent

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1 with the evidence she has actually given orally about
2 what the practice was.

3 Despite accepting that Mr Ashton was not aware of
4 the proposed use of ACM nor obliged to make enquiry
5 about ACM or Celotex, nor obliged at that stage to
6 comment on the proposed choice of materials generally,
7 the view in Dr Lane's report in its second and third
8 versions is, first, that the use of Celotex nullified
9 the compliance of the external wall assembly because it
10 was not a product of limited combustibility, and,
11 secondly, that therefore, regardless of the surface
12 material, paragraph 3.1.4 of Exova's fire strategy, no
13 adverse effect, was quite simply always wrong.

14 That statement is not correct for two reasons.
15 First, it ignores, and not for the only time, the
16 express reservation which follows the partial quote.
17 The proposals provided to Mr Ashton on which he was
18 asked to base his report did not yet include anything
19 that had an adverse effect on external fire spread. The
20 position, as he said, needed to be confirmed in a later
21 report.

22 Secondly, since, as Dr Lane expressly accepts,
23 professional practice did not require Mr Ashton to check
24 materials at that stage, it was not wrong at that stage
25 to give that opinion subject to those qualified terms so

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1 that it could be revisited and confirmed later, as
2 appropriate.

3 I've already mentioned that as a result of the
4 limited view Dr Lane takes of the fire engineer's
5 duties, she nowhere criticises Exova for a failure to
6 comment on the rainscreen panels. The closest Dr Lane
7 comes to criticising Exova for not commenting on the
8 suitability of the particular materials is on the basis
9 of her implying that Mr Ashton knew the product was
10 Celotex because he was sent a datasheet identifying it.
11 That is wrong both factually and conceptually, as we
12 will explain when we visit in more detail the email
13 exchanges of 18 September 2014.

14 Turning to first principle, we seem to arrive at the
15 point where Dr Lane's entire case appears to be that
16 Exova failed to set out or write down the provisions of
17 ADB, paragraphs 12.5 to 12.9. Aside from whether that
18 really ought to have been a task for a fire consultant
19 advising an architect, and the expert architect says not
20 as already quoted, one has to ask what difference it
21 would have made.

22 There are problems with ADB2, including diagrams 40
23 and 33 and their annotations, which merely citing it
24 will not cure. The manufacturers' claims, as we know,
25 were calculated precisely to deceive people into

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1 believing that their products did indeed comply with
2 those requirements. In any case, the die was cast. The
3 materials were selected for cost reasons without
4 compliance ever being meaningfully considered by any of
5 those who made and implemented and oversaw those
6 selections. Even before the contract was let, there had
7 been a steady and increasing pressure to use cheaper
8 alternatives to zinc, notably ACM, in order to meet
9 KCTMO's budgetary challenges.

10 It started in early 2013, with the commencement of
11 a period of value engineering initiated by Leadbitter.
12 In or about March 2013, Mr Sounes met CEP and discussed
13 ACM. In April, Harley came on the scene and, in
14 September 2013, had a meeting with Studio E at the
15 Hays Galleria, at which Harley began to mention ACM,
16 relying in part on their having used it in so many other
17 projects. In October, Harley provided Studio E with
18 a budget spreadsheet and followed that up by a further
19 spreadsheet indicating that the choice of Reynobond
20 could save up to £500,000. Harley further stated that,
21 from a Harley selfish point of view, they would prefer
22 to use ACM.

23 KCTMO became involved in the specification, and
24 Mr Maddison wanted ACM alternatives to be included in
25 the NBS, which they were. Harley had worked with Rydon

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1 on high-rise projects, in particular the Chalcots
 2 Estate, at which ACM was used. Rydon then used Harley
 3 to assist in their tender submission by the provision of
 4 figures, and again for their secret negotiation with
 5 KCTMO to reduce the tender price.
 6 By 31 March 2014, it was a foregone conclusion that
 7 the cladding would be ACM, motivated by cost and nothing
 8 else.
 9 Rydon then assisted in presentations to RBKC
 10 planning, supporting the change to ACM. Harley were
 11 persuaded directly by Celotex to use Celotex RS5000
 12 insulation. Studio E, KCTMO, Rydon, Harley all approved
 13 the use of these materials in the summer of 2014.
 14 Studio E seemed to have gone along with the proposal and
 15 approved the final cladding design without getting to
 16 grips with the issue or seeking any independent advice
 17 about the suitability of the proposed materials.
 18 Not once over the 20-month period of this
 19 groundswell in favour of using ACM, not once, did they
 20 ever inform Exova about the proposal and actual
 21 selection of materials.
 22 In November 2013, the structural engineers, Curtins,
 23 provided to Artelia and Studio E a structural
 24 specification for the exterior works. It listed
 25 regulations and guidance applying to all aspects of the

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1 work. It included in that list a recommendation to
 2 follow BRE 135. Clearly the design produced for
 3 Grenfell Tower did not follow that advice. That
 4 provides material evidence of the fact that even if
 5 advice had been given citing regulations or sections of
 6 ADB, it is far from a probability that such advice would
 7 have been followed, or even, given ADB's confusions,
 8 that it would have been understood.
 9 We know moreover that there continued to be scant
 10 regard for post-contract compliance. Even though the
 11 façade section of the NBS required not only compliance
 12 but documentary evidence of compliance, no such evidence
 13 was ever requested for provided.
 14 I then turn to the individual questions put to Exova
 15 in relation to cavity barriers on three occasions.
 16 Pre-contract.
 17 I mentioned earlier that, during the pre-contract
 18 period, Exova was asked only once about anything to do
 19 with cladding. That was on 4 November 2013, when Mr Rek
 20 enquired:
 21 "Can you please confirm that the rainscreen
 22 cavity barriers are to be 60 minutes fire resistance to
 23 match the compartmentation."
 24 This was a single and very narrow request, to which
 25 Mr Ashton replied:

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1 "Tomas, cavity barriers need only have a 30-minute
 2 fire resistance."
 3 That was the sum total of the interaction. The
 4 answer was correct, but it is also the case that the
 5 standard for cavity barriers under ADB2 is uniform, see
 6 appendix 1, line 15.
 7 In her report at page 277, Dr Lane made some
 8 semantic criticisms, but in oral evidence accepted that
 9 Mr Ashton had said (inaudible) to them that he could
 10 have said.
 11 We then need to look at the post Rydon appointment
 12 ad hoc questions. There are then two queries, a few
 13 months apart, raised ad hoc during the Rydon period,
 14 both on equally narrow points.
 15 18 September 2014. On 17 September 2014,
 16 Mr Anketell-Jones of Harley emailed Studio E,
 17 Mr Crawford, with a request for information concerning
 18 the location of firebreaks at compartment floor level.
 19 He said:
 20 "We believe that they [horizontal firebreaks] will
 21 be required at every floor level on the vertical
 22 columns, but not in the area of cladding between
 23 windows. This is because there is no chimney effect
 24 here."
 25 It's difficult to resist the inference that this was

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1 a cost-saving issue for Harley. However that may be,
 2 the question was a narrow one. It was not
 3 a broad-ranging issue about cavity barrier design or
 4 performance, but a simple: do we need to put horizontal
 5 cavity barriers at the floor level between the
 6 spandrels?
 7 The history is then this: Mr Crawford forwards the
 8 RFI to Mr Ashton on the 18th, asks the question to
 9 Mr Ashton, "Do you believe the interpretation to be
 10 correct?" Mr Ashton responded saying, correctly, "I've
 11 never seen details of what you're doing to the external
 12 walls, do you have any cross-sections or elevations?"
 13 Mr Crawford replied, forwarding Harley drawings, which
 14 he said are fairly limited. On those drawings,
 15 insulation is depicted but not identified. Mr Ashton
 16 responded, "If the insulation is combustible, you will
 17 need to provide a cavity barrier in order to prevent
 18 fire from spreading from one flat to the one above", and
 19 that reply was then sent back to Mr Anketell-Jones.
 20 Now, at this point, we accept that there is scope
 21 for criticism. At the time, insulation could be
 22 combustible provided it was classed as limited
 23 combustibility. But more to the point, the
 24 cavity barriers were necessary in any event.
 25 The exchange continued. Mr Anketell-Jones responded

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1 to Mr Crawford:
 2 "Dear Neil, thank you for your response. The
 3 insulation is class 0, therefore after reading the
 4 correspondence below, I believe that the fire barrier in
 5 these locations will not be necessary. Can you confirm
 6 that this is acceptable."
 7 That email was forwarded to Mr Ashton. Mr Crawford
 8 asked:
 9 "Terry, is this interpretation correct? See below."
 10 That was Mr Anketell—Jones' email.
 11 Mr Ashton in response made two points. Firstly, he
 12 said that class 0 is not necessarily non—combustible.
 13 Secondly, that:
 14 "In any case, you need to prevent fire spread from
 15 one flat to the one above as I stated in my earlier
 16 email."
 17 So Mr Ashton ended up, admittedly by an erratic
 18 route, in the right place. He did not give a textbook
 19 answer, there was a slip in his working, but the answer
 20 he gave to the question he was asked is the right one:
 21 contrary to Harley's suggestion, cavity barriers were
 22 indeed needed.
 23 Now, Dr Lane tries to take an entirely separate
 24 point from this exchange and to elevate the 18 September
 25 2014 on the basis of this narrow query into a date of

25

1 central importance. What nobody mentioned at the time
 2 was that Mr Anketell—Jones' email to Mr Crawford, in
 3 which he described the insulation as class 0 and argued
 4 that this meant there was no need for a cavity barrier,
 5 had a document attached to it. Mr Crawford does not
 6 recollect reviewing the attachment and it is open to
 7 doubt that he even noticed it at the time. The contents
 8 of the attachment related to Celotex insulation, though
 9 that was not mentioned in or apparent from any of the
 10 emails in the chain, nor from the name of the
 11 attachment. Neither Mr Anketell—Jones nor Mr Crawford
 12 referred to an attachment or asked about it or made any
 13 mention of Celotex. Mr Anketell—Jones made a general
 14 proposition. Mr Crawford asked if it was correct and
 15 Mr Ashton correctly said that it was not. He had no
 16 need to open any attachment, nor even to note that there
 17 was one. His answer did not depend on the contents but
 18 only on the question.
 19 It is clear, though, that Dr Lane now relies upon
 20 this interchange as the main thrust of her criticism of
 21 Exova's conduct in connection with the external
 22 cladding. This can be seen in several quotations from
 23 her report.
 24 9.1.26 {BLARP20000017/283}:
 25 "The evidence ... that Terry Ashton ... was sent the

26

1 Celotex RS5000 datasheet ... is particularly
 2 relevant ..."
 3 9.1.38 {BLARP20000017/284}:
 4 "... the fact that Celotex RS5000 was not a material
 5 of limited combustibility nullified the compliance of
 6 the external wall assembly ...
 7 "Therefore, regardless of the surface material,
 8 Section 3.1.4 [the 'will have no adverse effect'
 9 statement] ... was quite simply always incorrect."
 10 9.1.42:
 11 "But it is clear that on 18th September 2014 the
 12 Celotex data sheet was sent to Terry Ashton and he
 13 responded to that e—mail."
 14 9.1.43:
 15 "Therefore, Exova's reports and their e—mail
 16 guidance fundamentally failed to consider the
 17 implications of the cladding design on the life safety
 18 of occupants in Grenfell Tower."
 19 14.1.46 {BLARP20000017/338}:
 20 "Even when on 18th September 2014, Terry Ashton was
 21 directly asked to comment on concerns about
 22 cavity barrier performance and was sent drawings ... he
 23 failed to communicate correctly the performance
 24 requirements necessary to satisfy ... B4.(1) ..."
 25 14.1.48 {BLARP20000017/339}:

27

1 "I note that Mr Ashton was specifically sent a
 2 datasheet of Celotex RS5000 insulation by e—mail ...
 3 [which stated that it] only relates to the components
 4 detailed ... [and that] Any changes ... will need to be
 5 considered by the building designer' ..."
 6 A caveat that Mr Ashton did not raise with the
 7 design team.
 8 14.1.62 {BLARP20000017/340}:
 9 "18th September was a point in time when a detailed
 10 fire strategy, which Exova had themselves proposed ...
 11 was needed, and could have been successfully put
 12 together by them."
 13 This is layer upon layer built on a slender
 14 foundation. Mr Ashton was not specifically sent
 15 a datasheet. It happened to be silently attached and he
 16 was never asked about it. Certainly he responded to
 17 an email, but the question he answered was nothing to do
 18 with Celotex or the datasheet and so neither was his
 19 answer. The question was not a concern about
 20 cavity barrier performance, but simply a query about the
 21 need for cavity barriers in a particular location. His
 22 answer was not a fundamental failure to consider
 23 life safety; it was a correct response to the questions
 24 that he had been specifically asked. Since there was no
 25 need for Mr Ashton to read the unmentioned attachment,

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1 still less can he have been under a duty to flag up the
 2 caveats within it, which in any case were beyond the
 3 scope of the question he was being asked.
 4 The implication in almost all of the passages just
 5 quoted from Dr Lane's report is that Mr Ashton knew that
 6 the product was Celotex, and is a leap without
 7 foundation in the evidence. Starting with what
 8 I described as the seeking to wound but fearing to
 9 strike, nowhere, even in any of these many quotes, does
 10 she actually say that Mr Ashton read the attachment, or
 11 even actually expressly that he should have.
 12 On 18 September, Mr Ashton was posed a narrow,
 13 ad hoc question to which Studio E wanted an answer. He
 14 was not then or at any point thereafter asked for or
 15 expected by anyone to produce a further iteration of the
 16 fire strategy report, nor was he given comprehensive
 17 up-to-date material on the project as a whole which he
 18 would have needed for a further full report. The
 19 limited intervention was all that was requested and all
 20 that he held himself out as providing.
 21 We then go to 31 March 2015. In late March 2015,
 22 a dispute developed between Harley, Rydon and Siderise
 23 on the one side and building control on the other side
 24 as to whether, at compartment floor level, ADB2 required
 25 a gap between the compartment floor and the external

1 cladding to be firestopped for 120 minutes, or whether
 2 the detail was a cavity barrier, 30 minutes' integrity
 3 and 15 minutes' insulation.
 4 Siderise had advised that the cavity barrier
 5 argument was correct. Mr Hoban of RBKC had, however,
 6 concluded that firestopping was necessary because the
 7 detail, as he said, between the compartment floor and
 8 the existing cladding was not a cavity barrier.
 9 On 31 March 2015, Mr Crawford, shortly after
 10 strongly siding with Harley and Rydon's argument, asked
 11 Mr Ashton to comment on the dispute.
 12 In describing the situation, Dr Lane said at
 13 {Day62/60:23}:
 14 " ... we now see entering into the narrative here
 15 a confusion about the difference between a firestop and
 16 a cavity barrier, and the need for someone who
 17 understands that fully ... "
 18 "The primary issue here is a lack of understanding
 19 about the difference between a firestop and
 20 a cavity barrier." {Day62/64:5}
 21 But again, this is wrong. There was no confusion on
 22 the part of the Rydon design team, who all correctly
 23 believed and had argued that the detail at compartment
 24 floor level was a cavity barrier, not a firestop.
 25 The question was narrow and purely binary: either

1 the requirement was for a firestop or it is for
 2 a cavity barrier. The design team all thought it was
 3 for a cavity barrier. Mr Ashton swiftly agreed with
 4 them. He was right.
 5 Mr Hoban retracted his previous opinion the next
 6 day. He did so probably on the basis of Mr Crawford's
 7 email. There is no evidence that Mr Ashton's note was
 8 ever forwarded to him. No broader issue arose on the
 9 emails and no drawings accompanied the queries to draw
 10 attention to a wider issue.
 11 Accepting that Mr Ashton's answer was correct,
 12 Dr Lane nevertheless criticised him on two other bases.
 13 First, Mr Ashton's comment that zinc cladding would fail
 14 in external flaming. But again, it is correct as
 15 a statement of fact that a zinc panel would deform and
 16 potentially detach in that scenario. Indeed,
 17 Mr Ashton's view was confirmed separately by Mr Pearson,
 18 who explained in his oral evidence that this was a known
 19 and accepted risk with individual panels. This evidence
 20 was given at {Day19/178-181}. His evidence on that
 21 issue has not been challenged.
 22 Secondly, Mr Ashton's comment in passing that this
 23 was not something that would necessarily form part of
 24 the strategy Dr Lane says was entirely wrong advice to
 25 give at that time and remained so. In his oral

1 evidence, Mr Ashton accepted that he was wrong in the
 2 way he had expressed it, and explained how he was
 3 dealing with a slightly different point, meaning simply
 4 that a fire strategy would not normally include
 5 a detailed commentary on whether ADB required
 6 cavity barriers or firestops in this location. In any
 7 event, he answered the question that was asked, and
 8 Dr Lane's report acknowledges that he answered it
 9 correctly, so nothing at all turns on that comment.
 10 I now raise a separate issue about cavity barriers
 11 which has emerged in the course of Module 2, and that is
 12 the question of the efficacy of cavity barriers
 13 generally in rainscreen cladding.
 14 It has nowhere been suggested that Studio E or
 15 Harley were wrong to include cavity barriers in the
 16 design of the building at all, or that Exova were wrong
 17 to advise that they should be included, or that
 18 cavity barriers actually installed were not compliant
 19 with ADB, though many were poorly installed and there
 20 were gaps as to where they should have been inserted.
 21 Rather, the complaint against Exova is that they did
 22 not, when considering the ad hoc cladding questions in
 23 September 2014 and March 2015, point out that
 24 cavity barriers were required around the windows.
 25 Whether they should have done so is of course bound

1 up with Exova's responses to the questions asked, which
 2 we've already dealt with. Over and above that, though,
 3 there is a particular causation which it is important to
 4 note.
 5 On any view, Exova were not responsible for
 6 designing the windows, their shape, size or location.
 7 Had Exova advised in broad terms on the requirements of
 8 ADB2, it would not have needed to be much more extensive
 9 than confirming that openings, including windows, were
 10 to be required to be closed by cavity barriers with
 11 30 minutes' fire resistance and 15 minutes' insulation.
 12 Had they been asked to review a plan drawn up by
 13 Studio E or Harley, it would have been sufficient to
 14 have an indication, eg a thick or dotted line or
 15 a yellow circumference around the windows as shown on
 16 Mr Hyett's diagram at page 44 of his main report,
 17 figure 3.16, that would have demonstrated the intended
 18 compliance with ADB2 diagram 33.
 19 As Dr Lane herself acknowledges, detailed drawings
 20 and specifications are for others, not the
 21 fire engineer, and while a fire engineer formulates
 22 a package of protection measures, many other parties
 23 then take on the responsibility of the detailing of any
 24 active and passive protection measures required, the
 25 construction of those measures and so the quality of

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1 what is ultimately built. In other words, any
 2 elaboration of the design would be for others once the
 3 intention to provide cavity barriers was adequately
 4 demonstrated.
 5 The even broader question is whether, given the
 6 actual complexity of the construction arrangements, it
 7 would even have been possible to design a cavity barrier
 8 system that would have been effective. At the very
 9 least it would have been exceptionally challenging.
 10 In Phase 1, Professor Bisby and Dr Lane concurred
 11 that the particular conditions at Grenfell rendered that
 12 almost impossible. Professor Bisby said:
 13 "To be honest -- and I've thought about this -- I'm
 14 not sure how anyone would put a cavity barrier around
 15 walls installed in this manner. It's an almost
 16 impossible question to answer because I can't imagine
 17 how one would actually achieve what one is attempting to
 18 achieve by putting a cavity barrier around the window."
 19 Dr Lane echoed that, stating:
 20 "Answer: The voids around the window and then the
 21 voids into the main cladding are very complex and
 22 interconnected.
 23 "Question: Is what you are saying that it's not
 24 obvious how you could have provided cavity barriers with
 25 that kind of arrangement?

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1 "Answer: Exactly. In fact, I've spent a lot of
 2 time trying to work out how one could."
 3 In her Module 1 evidence, in oral evidence, Dr Lane
 4 was similarly cautious. She said:
 5 "Answer: So I don't even want to get into if the
 6 cavity barriers had been there but something else had
 7 happened.
 8 "Question: You are clear, are you, that
 9 cavity barriers can be effective around windows even in
 10 a rainscreen system?
 11 "Answer: No, I've never said that, and I'm not
 12 going to say that now."
 13 In his Phase 2 report, Mr Hyett offered his view of
 14 how a system could be designed. Though he describes it
 15 as an outline, it is extremely bespoke and goes much
 16 further than what would normally be described as
 17 a cavity barrier or fit into what is contemplated by
 18 section 9.13 of ADB.
 19 Having set it out, Mr Hyett is extremely careful not
 20 to assert that the scheme, despite its complexity, would
 21 be successful in containing fire, stating that it would
 22 require considerable further input following dialogue
 23 with other specialist consultants and the building
 24 control department in order to be developed into
 25 a robust scheme.

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1 Mr Hyett in oral evidence did consider that the
 2 complex scheme might have given time and insulation
 3 protection for some period, although he could not be
 4 specific about it. The conclusion must be that it would
 5 take an exceptionally skilled architect a long time to
 6 come up with such a scheme and that, in any event, its
 7 likely protective impact would have been at most
 8 speculative.
 9 So although, for the reasons already stated,
 10 Mr Ashton's answers to the issues raised about
 11 cavity barriers were correct and Exova are not properly
 12 to be criticised for not going further, even if they had
 13 gone further, issues have arisen on the expert evidence
 14 as to (a) the effectiveness of cavity barriers as
 15 a matter of principle in rainscreen systems, dealt with
 16 in the Module 2 written closings, the protection of
 17 window cavities in rainscreen systems and especially in
 18 the configuration installed at Grenfell Tower, which
 19 suggests that the escape of flames around the windows
 20 and into the cavities could not have been prevented.
 21 I'd like now to move on to four other topics that
 22 have been the subject of some comment.
 23 First of all, Exova's position after Rydon's
 24 appointment.
 25 First, the impact of Rydon's appointment in

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1 March 2014. From that point, they had overall
 2 responsibility that covered the appointment of
 3 consultants, and they elected not to appoint Exova or
 4 any other fire consultant. It included an obligation to
 5 complete outstanding points in the employer's
 6 requirements, among them the statement that external
 7 fire spread was subject to confirmation in a further
 8 report. Dr Lane's review is that all this changed
 9 nothing. Merely to state that proposition begins to
 10 suggest its unreality and the facts bear that out.

11 First, the starting point. Exova's retainer letter
 12 recognised that the extent of any contribution that
 13 might be expected at the post-contract phase was
 14 uncertain. Mr Ashton's evidence, uncontradicted, was
 15 that it wasn't unusual for contractors simply to drop
 16 the fire engineer.

17 Secondly, the practicality. Mr Hyett recognised
 18 that, post-novation, it would have been impracticable
 19 for Exova to provide such ongoing advice. With no
 20 authority and no relationship, Exova was not in
 21 a position to simply muscle in and express views. Rydon
 22 controlled the project as a whole and, with it, all the
 23 documents and designs and meetings and flows of
 24 information that a fire engineer would have needed to be
 25 part of it, if it was to play a full role.

1 Thirdly, the knowledge and understanding of the
 2 parties at the time. The TMO had appointed Exova
 3 pre-contract. Post-D&B award, Rydon told the TMO that
 4 it would look into the possibility of a post-contract
 5 appointment, implying a recognition by both that there
 6 wasn't one in place. Rydon having said that they would
 7 look into it, the matter being raised at six meetings,
 8 decided that they would not. Later in 2016 it was made
 9 clear to Ms Williams and the TMO that Exova's strategy
 10 was a pre-tender document not since updated and,
 11 likewise, it had been made clear many months previously
 12 to building control that it had been overtaken by later
 13 changes in the design.

14 When Ms Williams wanted fire advice, her "Lakanal
 15 moment", it was to Rydon she turned, not to Exova. The
 16 TMO, an active client involved in overseeing the
 17 project, raised the issue with Rydon and simply let it
 18 fall away, acquiesced in the non-appointment of Exova.

19 Mr Gibson and Mr Williams were clear that the
 20 purpose of Exova's engagement was to assist Studio E.
 21 Apart from the existing building fire strategy,
 22 a separate agreement, every fee proposal, fire strategy
 23 document and design note was addressed from Exova to
 24 Studio E. There was no personal contact to speak of
 25 between Exova and KCTMO, either before or after the

1 appointment of Rydon. The outline fire strategy reports
 2 were read by Mr Sounes, but no notice was taken of them
 3 by any representative of Rydon, Harley or KCTMO.

4 The fact that Exova had been engaged to advise
 5 Studio E explains KCTMO's disinterest in the
 6 continuation of the contract with Exova post Rydon's
 7 appointment. Right from the start, KCTMO's own interest
 8 was in fire assessment reports. It was their legal duty
 9 to obtain these under the RRO regime, and they had been
 10 using them for many years in managing buildings.

11 Fourthly, the position in these proceedings. The
 12 TMO acknowledges expressly in its written opening
 13 submissions that Exova was part of the team pre-contract
 14 but not post-contract, though CS Stokes was. They
 15 accept that it was up to Rydon post-contract whether or
 16 not they wished to have fire consultant advice.

17 Rydon's witnesses are clear about the parties on
 18 whom they relied. Not Exova. Studio E know that Rydon
 19 needed to engage Exova if they were to remain part of
 20 the design team. TMO, Rydon and Studio E are the only
 21 parties who could conceivably have been party to
 22 an engagement with Exova, and the fact that, say,
 23 a subcontractor called or dropped a line to
 24 a fire consultant which had been involved on the project
 25 at an earlier stage on a matter of small detail on odd

1 occasions spread over a two-year period, can have no
 2 bearing on Exova's status whatsoever.

3 Dr Lane makes two rather clumsy attempts to get
 4 around that. First, as well as recalling some projects
 5 where she was novated, she says that, on occasion, the
 6 employer chose instead to appoint her directly. In
 7 either case, though, that required a decision. Here the
 8 TMO's decision was to entrust the matter to Rydon, and
 9 Rydon's decision was not to retain Exova. The fact that
 10 some of Dr Lane's clients may have made different
 11 decisions on some of their projects is neither here nor
 12 there.

13 Likewise, her having been appointed on other
 14 projects to review the employer's requirements for
 15 contractors or contractor's proposals for employers, as
 16 it happens it was envisaged in this project that
 17 consultants would be novated, as happened for example
 18 with Studio E, or reappointed on altered terms, as
 19 happened with Max Fordham, who made an amended proposal
 20 in December 2013.

21 Secondly, Dr Lane lists everything that Exova did in
 22 the post-Rydon period and tries to equate it with the
 23 work pre-Rydon. But this is wrong. Two queries, one
 24 about a stair vent, the other about fire alarms, were
 25 answered with a single sentence each. Three entries in

1 Dr Lane's table were a single chain answered in one
 2 paragraph. There were a couple of exchanges, as we
 3 know, in September and November 2014 in relation to the
 4 plans for lower levels, so tying back to points that
 5 Mr Ashton had commented on previously. The two
 6 cavity barrier queries involved again just one or two
 7 emails apiece. After the second of those, there was
 8 next to nothing else, and that which was raised no new
 9 issues.

10 So we're talking about archetypally sporadic ad hoc
 11 questions, hardly examples of ongoing involvement as
 12 part of a design team. Thus, having already had but
 13 a limited role pre-contract, post-contract Exova were,
 14 in a real and definite way, frozen out of the project.

15 Next issue: the scope of Exova's duty after the
 16 Rydon appointment.

17 It is important to understand the implications for
 18 Mr Ashton's duty when, as in September 2014 and
 19 March 2015, he answered an ad hoc question. First,
 20 complete responsibility for the project was vested in
 21 Rydon and flowed down from there. Second, large parts
 22 flowed, for example, to Studio E across the whole
 23 project, or Harley in relation to the façade and so on.

24 Not so Exova. What flowed from Studio E to
 25 Mr Ashton was a handful of disparate, discrete queries.

1 Doubtless he was required, as he accepted in his
 2 evidence, to take reasonable care, when he answered
 3 a question, in answering it. But that cannot have been
 4 a duty beyond the question that had been asked. To
 5 suggest otherwise is at odds with the reality of the
 6 project structure as everyone knew it to be.

7 Certainly it would be neither fair nor practical to
 8 suggest that he had in effect a choice between not
 9 answering the question at all or assuming responsibility
 10 for conducting a more wide-ranging analysis of the
 11 project and the cladding system as a whole by answering
 12 a narrow question, assuming in effect the same duties or
 13 role as a fully retained and active member of the design
 14 team. Evidently nobody at the time understood Exova to
 15 have been engaged any more broadly than the questions
 16 asked and, for the reasons already discussed, a full
 17 engagement was not something that Rydon sought.

18 Then the existing building fire strategy. Dr Lane
 19 makes a significant number of points about the existing
 20 building fire strategy. The great problem with these,
 21 apart from their intricate detail, is that it is nowhere
 22 said with any clarity what precisely was the consequence
 23 of the omissions, if indeed there was any.

24 So, for example, much criticism was made of
 25 assumptions, but all of them were stated clearly at the

1 time and none of them have since been shown to have been
 2 wrong. The central and broad complaint appears to have
 3 been that the report did not deal with obligations under
 4 the RR(FS)O, but that was the separate function under
 5 that order of a fire risk assessment. The issues that
 6 needed attention to be drawn to at that very early stage
 7 in the process, such as means of access, means of
 8 escape, smoke ventilation, were indeed all flagged up
 9 and intelligently dealt with.

10 The smoke ventilation deficiencies and suggestions
 11 for upgrading the system were dealt with clearly at
 12 section 3.4 of the report, the requirement for
 13 a firefighting lift was referred to, and the need for
 14 investigations of (1) the separation of the risers,
 15 ancillary accommodation entered directly off the
 16 firefighting shafts and (2) the separation of the
 17 residential accommodation and non-residential
 18 accommodation via the central core were both clearly
 19 referred to.

20 It is also worth noting that once a draft of the
 21 report was submitted, the ball was in the TMO's court,
 22 and the TMO seems to have been singularly disinterested.
 23 Mr Anderson's evidence was that there was no legal
 24 requirement for a fire strategy and he did not read it,
 25 his concern having been with the fire risk assessment,

1 which was required. It is unclear that any of his
 2 colleagues read it either.

3 I next turn to the Regulatory Reform (Fire Safety)
 4 Order 2005. We may return to that in Module 3.

5 The point here is simply to correct the error in
 6 Dr Lane's approach. Although Dr Lane places repeated
 7 emphasis upon the RR(FS)O in her report, it is
 8 surprising how flimsy the legal basis is for the duties
 9 she alleges. In her words, a consideration of the
 10 RR(FS)O is a requirement of any fire safety strategy of
 11 any building to which the RR(FS)O applies.

12 She has assumed that all this will form the basis of
 13 Exova's scope of work and reviewed Exova's fire strategy
 14 report on this basis. Thus, she says, it was reasonable
 15 to expect that Exova's report would set out any
 16 fire safety management duties on which compliance with
 17 Building Regulations relied, and that any relevance to
 18 duties under the RR(FS)O be clearly considered as set
 19 out when making final recommendations in a fire safety
 20 strategy.

21 Now, that on its face would cover all routine
 22 maintenance which the TMO as responsible person already
 23 knew about, maintenance it was already carrying out,
 24 maintenance which was unaffected by the refurbishment.
 25 That goes well beyond Exova's fee proposal letters and

1 well into the realms of fire risk assessment, and it is
2 wrong. The starting point is the acknowledgement in
3 paragraph 0.13 of ADB that Building Regulations do not
4 impose any requirements on the management of a building.
5 ADB goes on to say that, in developing a fire safety
6 strategy design for a building, it may be necessary to
7 consider the way in which it will be managed, explaining
8 that a design which relies on an unrealistic or
9 unsustainable management regime cannot be considered to
10 have met the requirements of the regulations. It
11 therefore gives the example of a design which might make
12 a building's maintenance too difficult to be
13 realistically managed.

14 There is nothing to suggest that this threshold was
15 reached in the current case. Essentially, the
16 management duties of the responsible person were no more
17 onerous or unachievable after the refurbishment than
18 they were before. So Dr Lane has imposed, into a report
19 on compliance with the requirement of
20 Building Regulations, the subject that the guidance says
21 quite clearly is not a requirement of the
22 Building Regulations, but which is covered quite
23 separately in the fire risk assessment.

24 Then I turn to regulation 38.
25 As to that regulation, Dr Lane says

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1 {BLARP20000017/77}:

2 "... it is my opinion that Exova committed
3 themselves to providing adequate guidance on how to
4 comply with Regulation 38."

5 In fact, Exova's fee proposal did not refer to
6 regulation 38. Dr Lane's proposition, which relies on
7 an assertion rather than any regulatory provision
8 binding on Exova, or any guidance saying more than that
9 the fire strategy report and drawings should be included
10 as part of the regulation 38 information, is not sound.

11 Regulation 38 obliges the person carrying out the
12 work, in this case Rydon, to hand information over to
13 the building's responsible person, in this case KCTMO.
14 Exova's role was never to advise Rydon on its
15 obligations to KCTMO.

16 The information must be handed over no later than
17 the completion of the work. In other words, RIBA
18 stage K. Neither of Exova's fee proposals contained any
19 reference to regulation 38 or any provision at all in
20 relation to beyond RIBA stage F.

21 Beryl Menzies explains that the relevant 2000 (sic)
22 guidance indicates that compliance with regulation 38
23 involves assembling a package from as-built information.
24 Nothing even approaching material of the sort required
25 under regulation 38 existed at the time of any of

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1 Exova's reports. By stage K, such information as Exova
2 had been given was far out of date. Indeed, in her own
3 lengthy report on regulation 38, Dr Lane makes only
4 passing reference to Exova.

5 Again, Dr Lane should not be reading into a contract
6 terms which are not there. Even if it were permissible
7 to give an opinion, for the reasons I have given, the
8 one she gives is wrong.

9 In any event, having made the criticism in relation
10 to regulation 38 at some length, Dr Lane's position in
11 oral evidence reduced to virtually nothing. She was
12 asked why she would consider it reasonable to have
13 expected Exova to address regulation 38 when any
14 handover was due to be at the end of the project and
15 responded, at {Day61}:

16 "So I think, as a reputable fire engineering
17 company, they should raise the duty of others to comply
18 with regulation 38 regardless of when that is going to
19 happen ...

20 "So I'm being clear that the fire safety engineer
21 must make the parties aware of their duties to comply
22 with regulation 38 ...

23 "And when you're writing a fee proposal ... I would
24 expect a fire safety engineer to make clear that's
25 a looming issue for them ...

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1 "It's nothing more than that."

2 So this is a very, very obvious odd obligation to
3 tell the parties that there will be a duty of which
4 those parties are already aware.

5 Excuse me, sir, Mr Chairman, just for a second.
6 I have a small glitch.

7 (Pause)

8 Thank you.

9 SIR MARTIN MOORE-BICK: All right?

10 MR DOUGLAS: That's someone who knows how to use tech.

11 SIR MARTIN MOORE-BICK: Good, all right, carry on.

12 MR DOUGLAS: Okay, I'm ready to carry on.

13 Means of escape.

14 There was some lengthy questioning on Day 62 about
15 the duty of a fire engineer to have regard to the
16 interests of vulnerable and disabled persons in drawing
17 up fire strategies for high-rise residential buildings.
18 Again, this is an issue that we may come back to at
19 Module 3.

20 Some criticism was apparently being directed at
21 Exova, though after being taken to some of Exova's
22 witness evidence on this issue, Dr Lane did accept that
23 ADB had no section which expressly dealt with the issue,
24 and she did not suggest that there was any duty on
25 a fire engineer other than to mention or consider the

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1 point.
 2 It may very well be, and we accept, the law here
 3 should be different and the guidance clearer, but it is
 4 clear that, on any practical analysis, this is another
 5 issue that, independently of the refurbishment, was and
 6 is much more a matter for the responsible person under
 7 the RR(FS)O.
 8 Causation.
 9 The issue of causation is notoriously difficult and
 10 I'm not going to get into a complex legal analysis, but
 11 I do want to set out a common-sense summary of what
 12 Exova considers are, from its perspective, important
 13 considerations on the development of any causation
 14 argument.
 15 Starting point: Mr Ashton's report was explicitly
 16 caveated and so was not capable of being interpreted as
 17 an endorsement for anything absent any analysis in
 18 a further report.
 19 Reliance. The advice was not in fact relied on.
 20 None of those involved in the selection of the façade
 21 materials or the design of the façade system had regard
 22 to Mr Ashton's report. Indeed, it's not even clear that
 23 any of them, other than Mr Sounes, had read it.
 24 Secondly, responsibility. Mr Ashton's report formed
 25 part of the employer's requirements under the D&B

1 contract between KCTMO and Rydon. By a negotiated term
 2 of that contract, Rydon assumed responsibility for any
 3 omissions or errors/deficiencies in the employer's
 4 requirements. This was a stated omission.
 5 Rydon having been appointed in March 2014
 6 specifically chose not to appoint Exova. All of the
 7 departures from guidance, breaches of
 8 Building Regulations were decided and implemented after
 9 that date. Even if one looks back to earlier steps, the
 10 considerations that took place before those decisions
 11 were made, the whole history leading to the selection of
 12 non-compliant materials is a narrative of steps by
 13 others without involving Exova.
 14 So, pre-contract, the consideration of alternative
 15 materials which might be substituted for compliant zinc
 16 Proteus rainscreen panels; the inclusion of possible
 17 alternative panels in the NBS as presented to bidders;
 18 at the time (inaudible) post-contract, the discussion of
 19 value engineering with Rydon, both pre and
 20 post-appointment, including specifically the savings
 21 which could be achieved by substituting ACM for zinc;
 22 the selection of ACM instead of zinc Proteus rainscreen
 23 panels; the selection of PE-cored Reynobond by Harley;
 24 the choice of RS5000 made by Harley and approved by
 25 Studio E; the choice of Kingspan K15 insulation made by

1 Harley and approved by Studio E; detailed design work
 2 incorporating those materials done by Harley and
 3 approved by Studio E.
 4 Speculation. As regards what would have happened,
 5 had Terry's report indicated the requirement of ADB, as
 6 Dr Lane says that it should have been, the factual
 7 evidence strongly suggests that the die was cast in
 8 favour of the change to ACM panels. Whereas Studio E
 9 did not look to Exova to give substantive advice on the
 10 façade, they did seek such advice from Curtins, their
 11 structural engineer. Curtins advised to follow BS 8414,
 12 BR 135, route to compliance, ie to use a tested system.
 13 That advice was ignored. The evidence at Module 2
 14 indicates compellingly that all of the manufacturers,
 15 Arconic for Reynobond, Celotex and Kingspan for the
 16 insulation, set out to market their respective products
 17 as compliant under the Building Regulations and ADB for
 18 unrestricted use above 18 metres, notwithstanding that
 19 they were not. It appears from the evidence at Module 1
 20 that Rydon and Harley were both accustomed to using
 21 Reynobond ACM panels and that they understood them to be
 22 compliant. It also indicates that advice from Exova was
 23 never expected with respect to specific materials, as
 24 does Dr Lane's evidence on analysis.
 25 One particular feature I turn to now was the

1 architectural crown.
 2 The crown feature at Grenfell Tower was highly
 3 influential in the lateral spread of the fire around the
 4 building, as Professor Bisby's collated photographs
 5 showed so dramatically. Once the fire had reached the
 6 top of the building, its spread was led by the crown.
 7 The flame front at the top of the building advanced
 8 ahead of the lower levels and, in doing so, caused
 9 molten and burning polyethylene to drop on to the
 10 cavity barriers at lower levels or projections within
 11 the columns, or simply on to the face of the rainscreen
 12 panels at lower levels, from which areas new lateral
 13 spread fires started to ascend.
 14 The design of the crown had not been addressed in
 15 the NBS specification or the employer's requirements
 16 except by the reference "TBC", before the appointment of
 17 Rydon. The design was carried out in or about mid-2015
 18 by Studio E and Harley. It was a feature implemented
 19 for purely aesthetic effect. No consideration was given
 20 to the issue of fire safety. No mention was ever made
 21 about it again. Again, on this critical and causative
 22 issue, Exova were simply ignored.
 23 Misdirection resulting from design disorganisation.
 24 A small but telling example of a failure of basic
 25 design co-ordination lies in the plans themselves. In

1 September 2014, the drawings which Harley through
 2 Kevin Lamb had created continued to indicate that the
 3 exterior rainscreen was zinc and did not define the
 4 nature or make of the exterior insulation ,
 5 notwithstanding that the materials had by then been
 6 finally selected, and this was a reason why Terry Ashton
 7 may not have noticed or believed after September 2014 to
 8 think that the cladding was zinc or that the insulation
 9 was Celotex.

10 What is more remarkable is that the plans were never
 11 altered so as to fully and accurately represent the
 12 exterior materials. Even at the end of the project, the
 13 Studio E/Harley as-built drawings continued to depict
 14 the rainscreen material as zinc and to leave the
 15 insulation unspecified. Ben Bailey of Harley was quite
 16 unable to explain this.

17 Core participants.

18 I now turn to the written submissions of the other
 19 core participants. The issues they raise where they
 20 criticise Exova, which by no means all do, were
 21 foreseeable. Where and why we disagree is apparent from
 22 our own written closings. Many of the criticisms refer
 23 to or ally themselves with what Dr Lane has said, which
 24 we have also of course dealt with in both our written
 25 and today's oral submissions. We therefore confine

1 ourselves to a very few issues.

2 I'm going to start with the issue of reliance.

3 Whilst Dr Lane at significant points does not even
 4 mention the second part of the much quoted
 5 paragraph 3.1.4 of Exova's outline fire safety
 6 strategies, a number of the core participants' closing
 7 submissions seek to suggest that paragraph 3.1.4 gave
 8 rise to a false sense of security, or that it was
 9 misleading. This argument is wrong. The words used
 10 were as follows:

11 "It is considered that the proposed changes will
 12 have no adverse effect on the building in relation to
 13 external fire spread but this will be confirmed by
 14 an analysis in a future issue of this report."

15 On its face, this was perfectly clear. It was
 16 voicing a provisional opinion but was subject to
 17 confirmation by analysis in a subsequent report.
 18 Mr Sounes understood it as meaning that it was too soon
 19 for them to comment and that Exova would obviously need
 20 full details to be able to provide an analysis,
 21 contemplating that the next or subsequent stage when the
 22 information became clear would be that point.

23 The use of the word "confirm" is very common in
 24 ordinary speech, often in the context of arrangements,
 25 such as "Tuesday at 8.00 pm looks all right but I will

1 confirm tomorrow". That does not mean I will definitely
 2 say yes, otherwise it would not require confirmation,
 3 but simply: I will confirm one way or the other. In
 4 both this simple example and in the sentence in the
 5 report, it is the word "but" which spells out the
 6 provisional nature of the statement and the fact that it
 7 cannot be relied upon until confirmed.

8 There is little evidence in any event that anyone
 9 actually read the report. Nobody at Rydon or Harley
 10 could remember doing so. Nobody at KCTMO could remember
 11 doing so.

12 Rydon.

13 Rydon appear to accept that they had significant
 14 contractual liabilities, but seek to put forward two
 15 arguments. First, that in this Inquiry the issue of
 16 legal liability is not in issue, so instead the tribunal
 17 needs to look at the issue of responsibility not by
 18 reference to legal liability, but in the sense of
 19 deserving of blame. Secondly, that the standard of
 20 conduct required of Rydon under their contract with
 21 KCTMO was the reasonable skill and care to be expected
 22 of a professionally qualified and competent design and
 23 build contractor, meaning that the yardstick of blame in
 24 their case appears in fact to be the same as the test
 25 for breach of contract. They also rely on the fact that

1 it was and is accepted practice that delegation of
 2 specialist tasks to subcontractors and professionals is
 3 the norm in D&B contracts.

4 These three propositions have no exculpating effect
 5 on their dealings with and in relation to Exova.
 6 Engagement of consultants means taking reasonable care
 7 to recognise the areas in which the contractor does not
 8 have the requisite skill, identifying that those skills
 9 are required, and ensuring that they are obtained.

10 Rydon knew they had no fire skills. They were
 11 advised on several occasions by others in the design
 12 team to instruct a fire consultant, and stated that they
 13 would do, but never in fact did so. This was not
 14 because of any actual consideration of the facts, but
 15 because it was their preordained policy not to instruct
 16 fire consultants at all on D&B contract work. In this
 17 case, they plainly primarily relied on their own and
 18 Harley's experience of using Reynobond ACM cladding on
 19 residential blocks in London.

20 Thirdly, having achieved tender success based on the
 21 use of ACM and its associated cost-savings, they argued
 22 forcefully before the planners that ACM was
 23 an appropriate material to use on the exterior of the
 24 building and were committed to its use at
 25 Grenfell Tower.

1 To use Rydon's approach, they are to blame for
2 ignoring their own lack of experience on fire matters in
3 approaching the issue of delegation. They are to blame
4 for having disregarded the advice of other parties and
5 Studio E in relation to the engagement of
6 a fire consultant. They are to blame for following
7 a policy which a professionally qualified and competent
8 design and build contractor, experienced in the carrying
9 out of work of a similar size, scope, value and
10 character and complexity to Grenfell Tower, would not
11 have employed. They are to blame for putting financial
12 self-interest before all other considerations and never
13 giving fire safety a second thought in the process.

14 Concluding comments.

15 I do not say on behalf of my client that there is
16 nothing that can be criticised. What I have sought to
17 demonstrate in our written submissions and to reinforce
18 today is that it involved a series of decisions on
19 materials and costs contemplated at the pre-contract
20 phase without consulting a fire engineer, made and
21 implemented post-contract, having pointedly decided not
22 to engage a fire engineer.

23 I recognise that inevitably our submissions are
24 focused on our dealings in the case. However, I do wish
25 to say that we are not so preoccupied by and immersed in

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1 our own submissions that we forget the bigger picture or
2 why we are here.

3 We are here because 72 people are not, leaving
4 behind them a whole community scarred and grieving. We
5 also remember how these proceedings started, with
6 a deeply moving and fitting tribute to the deceased in
7 a series of memorial hearings. It would therefore be
8 wrong of me to finish in any other way than to express
9 sorrow for those who are gone and profound sympathy for
10 those they have left behind.

11 So, Mr Chairman, I believe in time, those are my
12 submissions, and I have nothing more to add.

13 SIR MARTIN MOORE-BICK: Well, Mr Douglas, thank you very
14 much. You have been economical in your time, and you
15 have given us a lot to think about, so we're very
16 grateful to you. Thank you very much.

17 At this point, we will take the morning break. The
18 next statement is to be made by Mr Stephen Hockman
19 Queen's Counsel on behalf of Arconic. He was scheduled
20 to make his statement at 11.45, but I think that if he
21 is able to make it at a little earlier, we will come
22 back at 11.35, take the usual 15-minute break now, and
23 hope to see Mr Hockman then or shortly thereafter.

24 Thank you very much. 11.35, please.

25 (11.20 am)

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1 (A short break)

2 (11.37 am)

3 SIR MARTIN MOORE-BICK: Welcome back. The next statement is
4 going to be made by Mr Hockman Queen's Counsel on behalf
5 of Arconic.

6 I can see you on my screen, Mr Hockman, so I hope
7 you can see us and that we can hear each other. Can you
8 hear us?

9 MR HOCKMAN: Yes, sir, good morning, I can, and good morning
10 to your colleagues.

11 SIR MARTIN MOORE-BICK: Good morning. It's good of you to
12 make yourself available a bit earlier. I'm sorry that
13 we made rather faster progress than we hoped, but thank
14 you for becoming available a bit earlier. If you're
15 ready to make your closing statement, then we're ready
16 to listen.

17 Thank you very much.

18 Module 1 & 2 closing submissions on behalf of Arconic
19 by MR HOCKMAN

20 MR HOCKMAN: Thank you.

21 We are very grateful for the opportunity to make
22 this oral closing address relating to Modules 1 and 2,
23 and would like to begin by reiterating our sympathy for
24 all those affected by the Grenfell fire, especially
25 those who have lost loved ones and all others whom we

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1 recognise will have been affected in so many different
2 ways. Nothing that I can say will alleviate the effects
3 of the tragedy, and indeed I'm conscious that my remarks
4 may be felt by some to have the opposite effect. All
5 I can do is to remind those listening, as I have done in
6 the past, that if this Inquiry is to arrive at a true
7 and fair outcome, it is absolutely essential that it
8 should hear the perspective of every core participant,
9 including those whom we represent. Only in that way
10 will the Inquiry have a sufficiently full and balanced
11 picture of the material upon which its decisions fall to
12 be made.

13 A moment ago I used the phrase "full picture", and
14 I am of course not oblivious to the concern expressed by
15 some that our clients have failed to do their best to
16 provide the Inquiry with the information which it seeks.
17 I do nonetheless reiterate the assurance that we have
18 done everything that we can to provide such assistance,
19 notwithstanding the constraints facing us.

20 As regards documentation, it is indisputable that we
21 have provided detailed witness statements and many
22 thousands of pages of relevant documentary material.
23 Above all, we facilitated the attendance of the
24 company's president, Mr Claude Schmidt, who gave
25 evidence over nearly five days earlier this year and was

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1 thanked by you, sir, for his contribution.
 2 A key constraint that faced the company which we
 3 represent was, as you know, the French Blocking Statute,
 4 which expressly prohibits the release to a foreign
 5 judicial authority almost all the information which
 6 the Inquiry legitimately requested. To assist
 7 the Inquiry in overcoming this problem, we engaged with
 8 it from the outset in order to try to find a solution.
 9 We proposed, and the Inquiry agreed, that as regards
 10 documentation, this could be achieved by the provision
 11 by us to the Metropolitan Police Service of relevant
 12 written information within the framework of a European
 13 investigation, a process which did not involve the
 14 contravention of the French Blocking Statute. The
 15 transfer of all this information to the Inquiry then
 16 took place routinely pursuant to the memorandum of
 17 understanding between the MPS and the Inquiry.
 18 The fact that, after taking their own separate
 19 advice, certain witnesses have not felt able to attend
 20 for oral questioning is in fact not something which can
 21 be laid at our door and, indeed, we've been assured that
 22 Counsel to the Inquiry, if and when he makes a closing
 23 statement, will make no reference to and certainly no
 24 criticism of the decision of those witnesses not to
 25 attend.

1 So we hope that the Inquiry will treat these
 2 submissions, like those of other core participants, as
 3 being made in good faith, and as being made with the
 4 intent, as I've mentioned, of enabling the Inquiry to do
 5 justice to all concerned.
 6 In case anyone has any doubt as to the applicability
 7 to these proceedings of the French Blocking Statute and
 8 the risks involved in a contravention of that legal
 9 provision, we have now provided the Inquiry with
 10 an independent confirmatory opinion by a distinguished
 11 French legal expert. We hope that this may be made
 12 available to core participants on Relativity, and we
 13 know that the panel has had the opportunity to peruse
 14 it. This, we submit, should lay to rest any lingering
 15 suggestion that the company has somehow taken
 16 inappropriate advantage of this legal provision in order
 17 to defeat its own obligations towards the Inquiry.
 18 Turning now to the substance of my oral submissions,
 19 I want to begin, if I may, by making some broad general
 20 points which will underpin the more detailed arguments
 21 which will follow.
 22 My first general point concerns the scope of the
 23 Inquiry itself. The evidence and the arguments have
 24 of course ranged far and wide, but at the end of the
 25 day, and as is clear from its terms of reference, this

1 Inquiry is concerned with the causes of the fire at
 2 Grenfell Tower. That fire was a specific and utterly
 3 tragic historical event, and we are confident that
 4 the Inquiry will wish to limit itself in its findings to
 5 an analysis of those causes.
 6 A recognition of the terms of reference enables one
 7 to make two further points about the scope of the
 8 Inquiry. First, the terms of reference do not extend so
 9 as to permit a wide-ranging and unlimited review of the
 10 history of particular businesses unless relevant to
 11 decisions made in connection with the events leading up
 12 to the fire. Still less do the terms of reference allow
 13 a wide-ranging and unlimited review of the use of
 14 particular products with regard to their combustibility
 15 or otherwise. In any event, and this is a point to
 16 which I shall return, the evidence does not permit the
 17 making of findings on such a broad basis.
 18 There is, however, a further point which arises from
 19 the terms of reference. Their effect is to mandate
 20 the Inquiry to consider the causes of a particular
 21 event. The Inquiry is of course precluded by the
 22 Inquiries Act from making any determination of civil or
 23 criminal liability, though clearly that does not
 24 preclude the making of findings of fact pertaining to
 25 the responsibility of particular human or legal persons.

1 Our submission, however, is, and it's a point that
 2 we made in our original opening address to you, that
 3 findings in relation to responsibility have to be made
 4 on the basis of the facts as known at the time and on
 5 the basis of the standards as they were reasonably
 6 believed to apply. Findings in relation to
 7 responsibility should not be made on the basis of
 8 knowledge or standards applicable today after the event
 9 and after much subsequent public and private scrutiny.
 10 Again, this is a matter to which I shall return.
 11 The next broad point to which I now turn is that the
 12 company which we represent manufactured and supplied
 13 a number of different products, but these products were
 14 universally sold in unfabricated form. Although general
 15 guidance was given as to possible methods of
 16 fabrication, the company could not and did not dictate
 17 methods of fabrication, let alone guarantee the
 18 performance of each product in any particular fabricated
 19 form.
 20 Furthermore, it's an obvious and fundamental fact
 21 that a product being manufactured in the form of a flat
 22 panel would have no use or purpose on its own, at any
 23 rate in connection with architectural use. It was and
 24 was known to be inevitable that the product would be
 25 used in combination with other materials, and that such

1 combination of materials would be fitted together in
2 accordance with a specified design. Clearly the company
3 had no control over the choice of the other materials,
4 let alone the arrangements for the fitting together of
5 those materials in combination.

6 Perhaps the most crucial distinction which
7 the Inquiry, as we respectfully submit, must acknowledge
8 is the distinction between a product such as this
9 company supply and the façade system within which, in
10 architectural use, the product was deployed. Again,
11 this is a point to which I will return.

12 As regards the supply for Grenfell Tower, the sale
13 in France of the raw panels was to CEP, who in turn
14 brought the panels into the UK, and was under a duty of
15 care when ordering the product to assess it and ensure
16 that it was suitable for the purpose for which, as they
17 were aware, the product was intended to be used. As
18 appointed fabricator, CEP was then responsible for
19 cutting and fabricating the panels in accordance with
20 the design principles set out by the architect,
21 Studio E, and then providing such fabricated panels to
22 those responsible for their installation, namely Rydon
23 and Harley.

24 As I shall explain, at least half of the panels were
25 fabricated in a wholly unorthodox manner that was

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1 clearly distinct from any fabrication used for the
2 purpose of testing and was distinct from any method of
3 fabrication contemplated by this company.

4 The next broad point that I want to make is that the
5 manufacture and supply of ACM PE was at all material
6 times lawful, both in France, where the product used for
7 Grenfell Tower was in fact sold, and in the UK. I shall
8 develop this point briefly in the course of this oral
9 closing, though the legal analysis underpinning the
10 submission is set out more fully in our written closing.

11 The next general point follows logically from
12 everything that I have said so far. Decisions as to the
13 choice and use of a particular product in a façade
14 system, decisions as to the design of that system, and
15 in particular the assessment of the combustibility and
16 safety of the façade system, had to be a matter for
17 those concerned in the design and construction of the
18 façade.

19 In relation to this point, we submit that
20 the Inquiry will wish to take great care in its
21 approach. The fact that the refurbished façade at
22 Grenfell Tower included combustible panels did not in
23 itself mean that the construction failed to comply with
24 the relevant regulatory regime or that the façade system
25 as a whole was unsafe. It is our firm submission that

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1 ACM PE was capable of being used in a safe and compliant
2 manner, just as combustible façades have been a feature
3 of building design throughout the ages. Indeed, we
4 would submit that the Inquiry is not empowered by its
5 terms of reference, nor equipped by the evidence
6 provided to it, to conclude that ACM PE could never be
7 used in a safe and compliant manner. Such a finding
8 would involve a wide-ranging review of a huge volume of
9 international material which the Inquiry has not
10 undertaken and could not undertake.

11 Moreover, there are hundreds of examples of
12 buildings which had been clad in ACM PE and had received
13 regulatory approval, both in this jurisdiction and
14 elsewhere. The Inquiry would have no basis for
15 concluding that in all these cases fundamental mistakes
16 or misunderstandings occurred in the past.

17 It follows as a matter of inexorable logic that the
18 tragic outcome of the Grenfell Tower fire resulted not
19 from the use of ACM PE but from the way in which it was
20 used; in other words, its use in combination with a wide
21 range of other combustible materials, especially those
22 surrounding the windows, which ought to have delayed the
23 escape into the façade system of a small internal fire
24 in a particular flat long enough to allow the
25 Fire Brigade to extinguish it.

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1 It follows, again inexorably, from the foregoing
2 that the responsibility for the fire and for its effects
3 lay with those who decided on the choice of materials
4 and the design and implementation of their relationship
5 with one another. It also lies with all those who ought
6 to have been concerned with fire safety and fire
7 precautions in the building as a whole and with the
8 methods of firefighting deployed.

9 It is far too easy, but also wrong and deeply
10 unfair, to try to pin the blame on the manufacturer of
11 a particular material which, at the time — and I stress
12 at the time — was engaged in a lawful process of
13 merchandising of a product which cannot be demonstrated
14 to have been regarded at the time as necessarily
15 inappropriate or unusable.

16 I want to make two further broad general points
17 before moving to more specific submissions.

18 The first concerns the BBA certificate, the wording
19 of which was of course the responsibility of the BBA.

20 There was much debate in the evidence as to whether
21 a particular proposition within the certificate was
22 misleading, and as we have done in our written
23 submissions, I will be addressing you in detail on this
24 in due course. For now, let me submit that, taken as
25 a whole, the BBA certificate which related to the ACM PE

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1 panels, in other words to the product and not to the
2 wider system in which they were used, was not
3 misleading.

4 Secondly, and in any event, from 2014 onwards, the
5 company took steps to advise customers as to potential
6 issues with regard to ACM PE, particularly in certain
7 fabrications, and at the same time results of testing in
8 particular systems were exhibited on the website of the
9 testing body, the CSTB.

10 To put the matter at its very lowest, it was
11 therefore at least open to anyone involved in the
12 construction of the new façade system at Grenfell Tower
13 to seek and ascertain any relevant information about the
14 fire performance of the products supplied, whether by
15 interrogating the manufacturer or by checking with the
16 CSTB. The true facts are that those concerned probably
17 paid no attention to the BBA certificate or, if they
18 did, they wrongly treated the reference to class 0 as
19 a guarantee of regulatory compliance.

20 On the contrary, it is clear that a holistic fire
21 assessment was absolutely necessary in this case, and
22 that such an assessment, had it been undertaken, would
23 have led to the rejection of the design, not least
24 because the combustible insulation did not comply with
25 paragraph 12.7 of Approved Document B. We believe that

1 the insulation covered approximately two-thirds of the
2 façade compared with only one-third which was covered by
3 Reynobond panels in any sort of conventional
4 fabrication.

5 I now want to make some more detailed submissions
6 about the legal context in which the company supplied
7 its product to customers.

8 It is, we submit, indisputable that it was lawful
9 for the company to place its products on the market in
10 France, and we have not heard any suggestion maintained
11 to the contrary. The product used in the Grenfell Tower
12 refurbishment was in fact sold in France, and under EU
13 law it followed that the product could also be lawfully
14 supplied in any EU jurisdiction under that description.
15 That is because the provisions of the EU treaties on the
16 free movement of goods have been interpreted by the
17 Court of Justice as requiring member states to allow
18 products lawfully placed on the market in one member
19 state also to be placed on the market in another,
20 subject only to limited powers of intervention in order
21 to satisfy imperative public policy requirements,
22 including those related to public safety. As regards
23 supply in France, the use of the products in
24 a construction project would of course require
25 compliance with relevant French construction law.

1 As I mentioned earlier, EU law allows member states
2 certain powers of intervention to satisfy imperative
3 public policy requirements, including those relating to
4 public safety. Where, as is the case here, there is
5 an absence of harmonising rules at European level, then
6 it is for each member state to decide on its intended
7 level of protection of human health and life. In
8 England and Wales, this has been done through the
9 enactment of building legislation. This does not
10 regulate the supply of products; rather, it regulates
11 the way in which products are used in building work and
12 it imposes duties on those who carry out the building
13 work. The legislation of course includes the
14 Building Act 1984 and the Building Regulations 2010.

15 It is worth stressing that the requirement in the
16 2010 regulations at B4, namely that the external walls
17 of the building shall adequately resist the spread of
18 fire over the walls, must, we suggest, mean adequately
19 to achieve the statutory objectives; in other words,
20 adequately to ensure a reasonable standard of health and
21 safety in all circumstances, and to ensure that, as
22 necessary, occupants can either stay put as a result of
23 effective compartmentation, or, if this is not possible,
24 can exit or be evacuated safely in the event of fire.

25 It is, moreover, clear that matters such as

1 effective compartmentation, a necessary precondition of
2 the efficacy of a stay-put policy, the presence of
3 fire detection systems, fire alarms, means of escape and
4 other factors are relevant when assessing adequacy.

5 Approved Document B at paragraph 0.33 in the general
6 introduction lists a wide variety of measures which
7 might be utilised in order to secure compliance with the
8 statutory requirements. These include such matters as
9 automatic detection and warning systems; means of
10 escape; measures for smoke control; the adequacy of the
11 structure to resist the spread of fire, one but not the
12 only factor; measures for fire extinguishment; and staff
13 training. It can be seen that the approach of the
14 regulations is a holistic one, and that no absolute
15 obligations were imposed as to the type of product that
16 could be used in the construction of a façade system.
17 Certainly there was no absolute prohibition at the time
18 on the use of combustible materials.

19 We submit it follows logically from what I have said
20 and was undoubtedly the case that there was no legal
21 obligation on a supplier to give a warning that ACM PE
22 was combustible. Moreover, it is obvious and a matter
23 of common knowledge that polyethylene, a plastic, is
24 combustible, and the following statement appears in
25 a standard textbook on product liability and safety,

1 which states as follows:
 2 "The need for a warning may depend on whether
 3 a danger is hidden as opposed to being either obvious or
 4 a matter of common knowledge. There is no need to warn
 5 an adult that petrol is explosive and pork is dangerous
 6 when eaten raw. When a danger is of this type, all
 7 relevant duties will be discharged by supplying a sound
 8 product into the hands of a person who could be expected
 9 to deal with it safely."

10 In any event, moving on from what I have said
 11 already, those involved in the construction project, not
 12 only the fabricator as purchaser but others concerned,
 13 were in the events which happened on notice of the need
 14 to check and confirm that the use of the products was
 15 appropriate by means of a fire safety assessment by
 16 a qualified fire engineer.

17 I refer, for example — I will say more about this
 18 in a few minutes — to section 6.5 of the
 19 BBA certificate itself, to the effect that in relation
 20 to resistance to fire, the performance of a wall
 21 incorporating a product had to be subject to testing.
 22 And, moreover, as I've already mentioned, the company
 23 took steps from 2014 onwards to provide additional
 24 relevant information.

25 I would add at this point that, as Mr Seaward

1 pointed out yesterday, those concerned with the design
 2 and choice of materials who opted for ACM PE were on any
 3 view obligated to ensure that the design and choice of
 4 materials would ensure adequate compartmentation within
 5 the building.

6 Those involved in the construction project are no
 7 doubt entitled to ask the Inquiry to apply the legal
 8 regime as it existed at the material time. By the same
 9 token, an overseas manufacturer is entitled to make
 10 exactly the same request and to rely on the fact that
 11 the regulatory regime in this jurisdiction will be
 12 conscientiously applied by those to whom it does apply.
 13 An overseas manufacturer who sells the product in the
 14 jurisdiction of manufacturer cannot be expected to
 15 second-guess the national regime in another
 16 jurisdiction.

17 Moreover, as we have repeatedly pointed out, and
 18 irrespective of the many criticisms of the then regime
 19 which have been and can be made, it's indisputable that,
 20 on any view, the Grenfell Tower proposals, in specifying
 21 combustible insulation rather than insulation of limited
 22 combustibility, were in direct contravention of the
 23 linear route to compliance in the then regime, as
 24 contained in ADB paragraph 12.7, and a recognition of
 25 this departure from compliance by the design and

1 construction professionals would itself, if
 2 acknowledged, have led necessarily to a holistic fire
 3 assessment and to a complete revisiting of the use of
 4 the combination of materials which was in fact used.

5 On the other hand, it is, we suggest, absolutely
 6 clear that paragraph 12.7 had no application to the ACM
 7 panels, this being the clear and we would contend
 8 indisputable evidence of Dr Lane. Further, Mr Sakula's
 9 report states that he would consider that paragraph 12.7
 10 was intended to refer to gap fillers, such as expanding
 11 foam fillers. He does not think that it was intended to
 12 refer to the core of an ACM panel, which he has never
 13 heard referred to as filler. He also thinks the
 14 reasonably competent contractor or product manufacturer
 15 would have had a similar view.

16 Documentation disclosed in the context of Module 6
 17 shows that, in the immediate aftermath of the fire,
 18 government representatives, encouraged by Colin Todd,
 19 were proposing to claim that the use of the ACM panels
 20 was non-compliant by reason of paragraph 12.7. If that
 21 were the case, then subsequent legislation banning the
 22 use of combustible panels generally would hardly have
 23 been necessary.

24 Some of the evidence before the Inquiry relates to
 25 examples of cases in which fires occurred in buildings

1 clad with what was or may have been combustible
 2 cladding. The extent to which such fires were or became
 3 matters of public knowledge is unclear. Many of the
 4 witnesses called before the Inquiry claim not to be
 5 aware of these fires, though some admitted that they
 6 were.

7 Once again, this evidence needs to be approached
 8 with considerable caution. The Inquiry will, we submit
 9 with respect, have to ask itself the question: what is
 10 the evidential relevance of this type of evidence? On
 11 any view, if such a fire involved combustible cladding,
 12 and if a witness was aware of that, then that would
 13 demonstrate that the relevant individual knew or ought
 14 to have known of the risk of such a fire occurring in
 15 other buildings. However, that inference does not take
 16 the Inquiry very far because, as we submit, anyone
 17 acquiring ACM PE panels would be aware of their
 18 combustibility. A perusal of the BBA certificate,
 19 for example, including its express reference to the fire
 20 retardant alternative, would have made this clear. It
 21 would, however, have been wrong to assume that the
 22 presence of combustible cladding would in itself result
 23 in a failure to achieve adequate resistance to the
 24 spread of fire; in other words, to lead to a significant
 25 adverse risk to human health and safety.

1 Professor Torero pointed out in his Phase 1 report
 2 that, in the cases he mentions where buildings had
 3 experienced large external fires, there were no
 4 significant injuries, let alone fatalities, given the
 5 wider construction features and fire protection features
 6 involved in those buildings. This is further evidence
 7 that the product was capable of being used safely, even
 8 in high-rise residential applications, if the
 9 appropriate cladding system was designed and adequate
 10 safety precautions incorporated into the building works.
 11 Against this background, it's understandable that
 12 suppliers of ACM PE around the world continued to market
 13 the product, as indeed did others within the UK who had
 14 a significantly greater market share than this company.
 15 As regards Reynobond PE, at the time that this product
 16 was sold for use as one component of the cladding system
 17 as Grenfell Tower, there was no awareness of any fires
 18 involving that product that had resulted in the loss of
 19 life or significant injury.
 20 Moreover, as I have already stressed, the same
 21 product had been used and had obtained regulatory
 22 approval for its use on hundreds of other buildings.
 23 The key to an understanding of this picture lies in the
 24 distinction which I drew early on in this address
 25 between the product itself and the way in which the

1 product was used; in other words, the system.
 2 In those cases where significant fires occurred,
 3 particularly if they led to any loss of life, it may be
 4 possible to infer that there were defects in the system
 5 which prejudiced health and safety, but one simply
 6 cannot infer from this that the product itself was
 7 unsafe, let alone that it could not achieve compliance
 8 in a particular regulatory regime.
 9 On the contrary, the only possible inference is
 10 that, whether in this jurisdiction or abroad, compliant
 11 systems were repeatedly designed by qualified architects
 12 and repeatedly achieved regulatory approval by
 13 presumably competent building control officers.
 14 The Inquiry cannot, on the evidence, conclude that
 15 ACM PE, albeit, like many other historic and
 16 contemporary building components, being combustible, was
 17 incapable of being used in such a way as to resist
 18 adequately the spread of fire, taking into account the
 19 various and wide-ranging factors which I have listed
 20 above.
 21 The panel may take the view that this analysis is
 22 consistent with a very interesting exchange which
 23 occurred last week during the evidence of Dr Lane on
 24 Day 170, when you, sir, highlighted the fact that
 25 significant elements of the original external façade at

1 Grenfell Tower were comprised of non-combustible
 2 materials. Dr Lane, in her Phase 1 report, had
 3 identified these materials as including sliding windows
 4 and non-combustible infill panels, which did not promote
 5 the spread of fire over the external façade, although of
 6 course after refurbishment, the façade included the
 7 white Aluglaze infill panels that were highly
 8 combustible, and the windows and the Aluglaze panels, as
 9 it happens, covered an area at least equal to the area
 10 covered by the ACM panels.
 11 You were, I think, in that evidential exchange
 12 making the point that one could not in any event regard
 13 the external façade as contributing to the concept of
 14 compartmentation. Dr Lane responded to the effect that
 15 that was correct and that, as regards the external
 16 façade, the aim should have been under the regime at the
 17 time not to promote substantial spread of flame to
 18 multiple other compartments. From this one can draw the
 19 inevitable conclusion that those concerned with
 20 fire safety at the material time, whether as expert fire
 21 assessors or in local authority building control, must
 22 have taken the view in many instances that combustible
 23 ACM PE, even though combustible, would not in the
 24 context of the particular building design and
 25 configuration promote fire spread to multiple other

1 compartments.
 2 Moreover, to reinforce what I have been saying in
 3 general terms, there is in fact ample positive evidence
 4 of the potential safe and compliant use of ACM PE.
 5 Mr Sakula himself has confirmed in his report,
 6 paragraph 70.10 to 12, that the use of ACM PE was not
 7 precluded by the regulatory regime at the time, and it
 8 is indeed possible that a building incorporating ACM PE,
 9 but designed to be in compliance with the regime and
 10 including all appropriate features, such as
 11 cavity barriers and non-combustible insulation, would
 12 have been in compliance.
 13 This is shown, for example, by the evidence as to
 14 the Taplow fire. The cladding system on the building at
 15 Taplow comprised Reynobond ACM PE cladding in rivet
 16 fabrication and Rockwool insulation, which is
 17 non-combustible. The fire did not spread across the
 18 outside of the building because of the overall cladding
 19 system used. The precise features in the cladding
 20 system and construction of the building, most notably
 21 the firebreaks, contained the fire to a small area.
 22 Another perhaps even more relevant example is the
 23 fire in 2010 at Sudbury House, Wandsworth, a 24-storey
 24 tower clad in ACM PE fabricated as cassettes, with
 25 mineral wool insulation, which CEP have confirmed was

1 contained, like the fire at Taplow House.
 2 There have also been a number of fires in
 3 residential tower blocks outside the UK in which there
 4 have been no casualties, including those where
 5 fire spread was more rapid than it was at Grenfell.
 6 Professor Torero notes in his report that a comparison
 7 with other international events shows that the upward
 8 flame spread from Grenfell Tower is among the slowest.
 9 An example, we think, is The Torch in Dubai, which was
 10 clad in ACM PE, though not this company's product.
 11 This would suggest that there was something other
 12 than the type of cladding which differentiates the
 13 buildings, for example the robustness of
 14 compartmentation, and that it is such other factors
 15 which led to the vastly differing outcomes of the fires.
 16 In all the circumstances, we suggest that the
 17 emphasis placed by others on the awareness of various
 18 individuals within this company of the combustible
 19 nature of Reynobond PE is misplaced. Those within the
 20 company were entitled at the time to take a view which
 21 was clearly taken by hundreds of building control
 22 officers up and down this country, namely that the
 23 combustibility of the product was only one among many
 24 factors to be evaluated in assessing fire safety, and
 25 that if the systems and arrangements within the building

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1 as a whole were adequate to resist the spread of fire,
 2 then regulatory compliance and appropriate health and
 3 safety requirements would be achieved and fulfilled.
 4 If there are those who suggest that the company
 5 should have gone further than giving warnings and should
 6 have withdrawn its ACM PE products from the UK
 7 architectural market, as indeed it did following the
 8 Grenfell Tower fire, we say that that would have been
 9 unreasonable in the light of the potential safe and
 10 compliant use of ACM PE, and in the light of the UK
 11 construction regime being an overseas regime so far as
 12 the company was concerned.
 13 Moreover, given the relatively small share of the
 14 Reynobond ACM PE product in the UK market, that would
 15 simply have meant that unless the regulatory position in
 16 the UK was changed so as to ban or restrict its use,
 17 construction professionals wishing to use ACM PE in
 18 their construction projects would have obtained it from
 19 one or another of the many other manufacturers who at
 20 that time were supplying similar products on to the UK
 21 market.
 22 Finally on this aspect, we have noted that other
 23 core participants have made reference to a range of more
 24 recent product testing in which, as they suggest, the
 25 use of ACM PE gave rise to less than favourable results.

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1 We reserve our position on these references unless and
 2 until any of this third-party testing is embraced and
 3 relied upon by the Inquiry experts. For the present, we
 4 confine ourselves to the observation that the fact that
 5 particular results are obtained when a product is used
 6 in a particular configuration cannot by definition prove
 7 that it would be impossible for the product to be used
 8 in a compliant manner. It's precisely for that reason
 9 that one of the four routes to compliance involves
 10 a holistic fire engineering assessment of the particular
 11 project design under consideration.
 12 Furthermore, we must obviously reserve our position
 13 as to the long-awaited outcome of the experimentation
 14 work which the Inquiry itself has been arranging and
 15 upon which key conclusions in the Phase 1 report were
 16 acknowledged in part 10. We would encourage the Inquiry,
 17 if it can, to provide another progress report on this
 18 work and to make the results available as soon as
 19 possible for scrutiny by core participants.
 20 Now I want to turn, please, to deal in greater
 21 detail with the BBA certificate and its terms and
 22 effects, and this certificate and the dealings between
 23 the company and the BBA have assumed, of course,
 24 considerable significance.
 25 It's not a legal requirement to hold

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1 a BBA certificate, which is seen as a marketing tool to
 2 assist sales. It was paid for by the company and, as
 3 part of that payment, the company was entitled to rely
 4 upon the expertise and judgement of the BBA when
 5 granting the certificate in the terms it felt were most
 6 appropriate.
 7 The certificate was of course drafted by the BBA,
 8 but we submit that if its contents had been properly
 9 considered and understood, the certificate itself would
 10 or should have ensured that those involved in the works
 11 to the tower were appropriately directed as to the use
 12 of the company's products.
 13 Not only did the certificate itself show clearly
 14 that the company could supply a fire retardant as well
 15 as a polyethylene product, but in relation to the
 16 latter, it contained accurate and precise information,
 17 as well as clearly defined limitations as to its scope.
 18 It provided correct information as to the fire
 19 performance of which a panel would be capable, depending
 20 on the cladding system in which it was used, but made
 21 crystal clear that the performance of that system would
 22 depend on further specific testing.
 23 Moreover, as I've mentioned, no one reading the
 24 BBA certificate could possibly have thought it
 25 appropriate to incorporate ACM PE in the cladding system

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1 without conducting a holistic fire engineering
 2 assessment.
 3 We respectfully reject the suggestion that the
 4 company deliberately arranged for the certificate to
 5 apply to an individual panel rather than to a panel as
 6 subsequently fabricated by another business for
 7 incorporation into a cladding system in a particular
 8 configuration. Since the company would have no
 9 involvement in the design of the system, nor in the
 10 fabrication of the panel, it was natural and logical
 11 that the certificate should apply, as it did, to the
 12 panel itself.
 13 Now, before I deal in a little bit of further detail
 14 with the BBA certificate, I have to establish and remind
 15 the Inquiry of some key points relating to methods of
 16 fire testing.
 17 Testing under BS 476—6 and 7 is of course testing in
 18 relation to an unfabricated sample of the product which
 19 is what the company manufactures and supplies. That
 20 form of testing, which may lead to a finding of national
 21 class 0, does not involve a test of the fire performance
 22 of a fabricated product incorporated into a particular
 23 wall assembly. NCO is or at any rate has generally, if
 24 strictly speaking inaccurately, been understood as being
 25 a classification in relation only to the surface of

1 an unfabricated product. An NCO classification can, as
 2 we can see from other BBA certificates evidenced by
 3 the Inquiry, be achieved alongside different EN
 4 classifications.
 5 Now, as to EN classifications, European
 6 classifications, in broad terms the EN 13823 test in
 7 particular is a test of the panels in a particular
 8 mocked up system. The system in which the panels are
 9 assembled may vary from one test to another, not just in
 10 terms of the method of fixing, for example rivet or
 11 cassette, but also in terms of the substrate used, the
 12 size of the cavity, and the particular arrangement of
 13 the panels, and the size of the joints, in other words
 14 the size of the gap between the panels.
 15 So, if, for example, an EN B classification was
 16 achieved, it shows that a product, a panel, is capable
 17 of achieving an EN B in a particular system when
 18 fabricated in a particular way. But given the nature of
 19 EN testing, a classification such as EN B cannot be
 20 treated as achievable in all circumstances. This point
 21 has been made very strongly by Counsel to the Inquiry
 22 himself in questioning other manufacturers, and moreover
 23 in questioning Mr Schmidt, the president of the company,
 24 counsel positively asserted that there are a number of
 25 variables when one is conducting a test under the

1 European system, for example the shape of the product,
 2 the mounting, the substrate, the size of the air gap
 3 between the reverse of the rainscreen and the substrate.
 4 It follows that any reference to a particular
 5 European class, whether in diagram 40 of ADB or in the
 6 BBA certificate or otherwise, could and should have been
 7 treated only as a reference to the class which the
 8 product was capable of achieving. No other proposition
 9 can logically be acceptable.
 10 Moreover, because the EN 13823 test relates to the
 11 testing of a product fabricated in a particular way in
 12 a mocked up system which may vary from one test to
 13 another, it follows that two or more EN classification
 14 reports can co-exist in relation to the same product at
 15 the same time.
 16 Of course, it follows from all of the above, as the
 17 BBA certificate itself suggested, that the time to
 18 assess the potential use of the product in a particular
 19 context must be at the point of system assembly and by
 20 applying one of the routes to compliance.
 21 Now, let me apply these general propositions to the
 22 testing of Reynobond PE.
 23 We know that in 2005 and in 2011, panels of the
 24 product configured in a particular mocked up system
 25 achieved EN B. As I've explained, this shows that the

1 product was capable of achieving an EN B, although other
 2 and subsequent EN tests involving the product in which
 3 the particular mocked up system would have varied did
 4 not achieve EN B. This is not inconsistent with the
 5 fact that in 2005 and in 2011 an EN B classification was
 6 achieved, and the obvious conclusion is that the product
 7 was capable of achieving EN B. The variable was not the
 8 product; it was the system into which it was
 9 incorporated.
 10 This point is illustrated by the written submissions
 11 of a number of core participants and by the questions
 12 put to Mr Schmidt by your counsel, which have referred
 13 to variations in the width of the cavity between the
 14 cladding panels and any substrate.
 15 In the presentation by Dr Lane on Day 68, she
 16 helpfully referred to a conclusion in a 1994 report to
 17 the effect that a reduction in the width of the cavity
 18 will reduce the surface spread of flame over cladding
 19 material. This would appear inconsistent with the
 20 suggestion which others have made that, in the testing
 21 process, the width of the cavity was originally
 22 increased artificially in order to improve the outcome.
 23 In any event, it is right to note that variations of
 24 this kind are inherent in a process whereby the tested
 25 system will vary from test to test. The width of the

1 cavity may be only one of the differences between the
 2 tested system.
 3 As I have already said, the system in which the
 4 panels are assembled may also vary in terms of matters
 5 such as the method of fabrication and fixing, the
 6 substrate used, the particular arrangement of the
 7 panels, and the size of the joints. In other words, the
 8 gap between the panels.
 9 The fact that these factors may vary from one test
 10 to another is a feature of the EN testing process. What
 11 is important is that the CSTB, the recognised testing
 12 body in France, nonetheless confirmed and published on
 13 its website the relevant classifications, including
 14 those showing that, in a given system, an EN B result
 15 could be achieved, as well as others less favourable.
 16 Now I want to go on, if I may, to provide
 17 an analysis of the BBA certificate, including its
 18 purpose and scope and the limitations of the
 19 representations which it contained.
 20 Insofar as behaviour in relation to fire is
 21 concerned, a BBA certificate could not and did not go
 22 further than to certify as to the surface of
 23 an unfabricated panel. The BBA proceeded on the basis
 24 that once the panel achieved an EN B rating in one
 25 testing scenario, that meant that the panel should be

1 able to achieve an NC0 rating on testing for surface
 2 spread of flame.
 3 Moreover, the certificate contained a range of
 4 caveats as to the fire performance of a fabricated panel
 5 in a particular cladding system. In these
 6 circumstances, it was unnecessary and indeed irrelevant
 7 to provide additional information as to the fire
 8 performance achieved by panels in specified fabrications
 9 or systems. Such information was immaterial to the
 10 purpose or the scope of the certificate as worded by the
 11 BBA, and should have been understood by those who
 12 perused it.
 13 Now, let me descend a little further into the detail
 14 of the wording, which I'm sure everyone recalls.
 15 The first page of the certificate expressly
 16 describes the panels as aluminium polyethylene
 17 composite, and states that a panel may be regarded as
 18 having a class 0 surface. Following this, it refers the
 19 reader to section 6.
 20 Section 6.1 states that when a sample of a standard,
 21 that is a PE grey/green product, was subjected to
 22 an EN test, it achieved a B classification. That
 23 product was therefore capable of achieving an EN B
 24 classification. As I've explained, this did not mean
 25 that an EN B classification would be achievable in all

1 circumstances and irrespective of the method of
 2 fabrication and the other features of the cladding
 3 system.
 4 Section 6.2 then deals separately with the testing
 5 of a fire retardant sample. Section 6.3 then states
 6 that both products, that is FR and PE, may be regarded
 7 as having a class 0 surface in relation to Approved
 8 Document B.
 9 The assertion in section 6.3 of the certificate that
 10 the product may be regarded as having a class 0 surface
 11 in relation to ADB is plainly a reference to
 12 paragraph 12.6 of the guidance and diagram 40, hence the
 13 certificate was simply setting out that since the
 14 product was capable of achieving the requisite European
 15 class, it could also be treated for the purposes of
 16 compliance with the guidance as achieving the requisite
 17 national class. If the UK regulatory regime had not, in
 18 diagram 40, offered the option of equating European
 19 class B with NC0, the BBA certificate could not have
 20 been issued in the form it took, that is in claiming
 21 that the product could be regarded as achieving NC0 for
 22 the purposes of ADB paragraph 12.6. By an amendment in
 23 2002, however, references were included in ADB to
 24 European test standards in order to facilitate treaty
 25 provisions on the free movement of goods in the EU.

1 Now, we recognise that the Inquiry will in due
 2 course investigate and opine upon the wisdom of
 3 providing for the two alternative compliance mechanisms
 4 in diagram 40 which played a critical part in the
 5 decision-making of the BBA. On any view, there can be
 6 no criticism of this company for the decision of the
 7 BBA, which claims to have expertise regarding UK
 8 Building Regulations, to interpret and apply diagram 40
 9 as it did.
 10 We would also stress that, at the time that the
 11 product was sold to CEP for use on Grenfell, a valid
 12 EN B classification report existed which showed that the
 13 product had achieved an EN B classification. We
 14 acknowledge that, as counsel and other core participants
 15 have observed, under European testing, some fabricated
 16 versions of the product failed to achieve a B
 17 classification. However, for the reasons I have set
 18 out, this was not inconsistent with the NC0
 19 certification in the BBA certificate, this being
 20 a certification relating to the surface of the product
 21 which, in a particular system and when fabricated in
 22 a particular way, had been shown capable of achieving
 23 a B classification. Information as to the fire
 24 performance of other fabrications -- and, as I've
 25 explained above, there could have been and at

1 Grenfell Tower itself were a large number of alternative
2 fabrications and systems — would have been immaterial
3 to the scope and purpose of the certificate .

4 Then we come to section 6.5, which has been much
5 underemphasised in the course of the hearings.

6 Section 6.5 of the certificate states that, for
7 resistance to fire , the performance of a wall
8 incorporating the product is not covered by the
9 certificate . The BBA certificate at section 6.5 also
10 states that the performance of a wall incorporating the
11 product can only be determined by further tests.

12 Section 6.5, we submit, is a provision of great
13 importance and was clearly so regarded at the time by
14 those concerned. Whilst there is of course a difference
15 between reaction to fire and resistance to fire , it 's
16 clear that requirement B4 of the Building Regulations
17 was crucially concerned to ensure that the external
18 walls of the building had adequate resistance to the
19 spread of fire , and section 6.5 in relation to this
20 issue makes explicit the requirement for further tests .

21 From this there flow a number of important
22 consequences. First, bearing in mind that the
23 certificate was to certify only the surface of
24 an individual panel, it was entirely logical and
25 appropriate to include the caveat contained in

1 section 6.5 that the performance of a wall system
2 incorporating the product could only be determined by
3 further tests .

4 Second, given the incorporation of 6.5, it was in
5 fact entirely unnecessary to include caveats within the
6 certificate relating to the method of fabrication.
7 Counsel for the Inquiry suggested to BBA witnesses that
8 it ought to have been made explicit that the test result
9 in section 6.5 was achieved by a sample of the product
10 in rivet fabrication or, more generally, that it should
11 have been made explicit that this did not necessarily
12 apply to all forms of fabrication . We note in passing
13 that BBA certificates relating to other ACM PE products
14 did not have such references either . But it can be seen
15 that section 6.5 has precisely the effect which Counsel
16 to the Inquiry was looking for . Indeed, it expresses
17 his caveats even more broadly.

18 Thirdly, section 6.5 clearly shows that section 6.1
19 cannot be read as meaning that a sample of the product
20 will achieve a B classification in any and every system.
21 It cannot be read as meaning that a sample of the
22 product will achieve a B classification in any and every
23 system. If that were the case, then further testing
24 would be unnecessary. It follows that in interpreting
25 the certificate as a whole, and in particular section 6

1 as a whole, the suggestion that the reference in
2 section 6.1 to a B classification was misleading is both
3 incorrect and unfair.

4 Then the certificate at section 6.6 goes on to state
5 that cavity barriers should be incorporated, and
6 section 6.6 also states that particular attention should
7 be paid to preventing the spread of fire within
8 a building breaching the cladding system through windows
9 and door openings. What more apposite warning could
10 there be? It follows that the BBA certificate is
11 cautiously worded. The reference to class 0 is
12 expressly related to the surface of the product, and the
13 certificate as a whole limits itself to specific
14 examples of the product. Moreover, clear advice is
15 given that the fire resistance of a cladding system
16 incorporating the product is not covered by the
17 certificate but must be subject to further testing .

18 It 's also worth noting that the caveats and
19 limitations in the certificate are consistent with the
20 relevant guidance contained in Approved Document B,
21 which I deal with briefly . Appendix A, paragraph 16
22 provided that any reference in relation to the surface
23 spread of flame should be carefully checked, and it went
24 on to say that small differences in detail , such as
25 thickness, substrate, colour, form, fixings , adhesive,

1 et cetera, may significantly affect the rating. These
2 are caveats equivalent to that which is expressly
3 contained in the certificate in section 6.5.

4 Now, considerable stress has been laid upon the
5 provision in the contractual arrangements between the
6 company and the BBA under which the company agreed to
7 inform the BBA as to any change in the composition of
8 the product or any change in other details affecting the
9 validity of the certificate .

10 We submit that these complaints lack substance,
11 firstly because the composition of the product never
12 changed, other than an immaterial change to the colour
13 of the core, which would have been evident to the BBA on
14 their visit to the factory at Merxheim; and, secondly,
15 because, given the analysis I have set out in these
16 submissions, and especially given the scope and purpose
17 of the certificate in certifying as to the surface of
18 an individual panel, it follows that system testing of
19 which the BBA may have been unaware could not have
20 affected and did not on a correct interpretation affect
21 the validity of the certificate .

22 Moreover, Mr Gregorian on behalf of the BBA itself
23 gave some important detailed evidence as to how the
24 BBA certificate came into existence. It was clear
25 beyond doubt from his evidence that, although the

1 certificate was produced at the request of the company,
 2 it was the BBA which decided on the information which
 3 they would need in order to compile certificates , and it
 4 was the BBA which decided on its contents. Those
 5 involved in the process on behalf of the BBA included
 6 not only Mr Gregorian, but also Brian Haynes, now sadly
 7 deceased. Mr Gregorian made clear that Mr Haynes was
 8 experienced in the assessment of the fire performance of
 9 a product to be certified . Moreover, he had close links
 10 with the BRE and, in particular, with their expert fire
 11 professional , Ms Sarah Colwell. In the case of the
 12 certificate for this company, Mr Haynes expressly
 13 referred the matter to Ms Colwell. This was primarily
 14 for the purpose of confirming the correctness of the
 15 certification with regard to the back face of the
 16 panels, but in order to enable Ms Colwell to do that,
 17 she was provided with the fire classification reports
 18 which the BBA had in their possession. It follows that
 19 Ms Colwell herself must have been aware that the
 20 classification report obtained for PE in rivet format
 21 was being relied upon by the BBA.
 22 Unfortunately no evidence has been adduced in
 23 Module 2 from Ms Colwell herself, but it seems
 24 reasonable to infer that she was aware that the BBA were
 25 proposing to issue a certificate certifying that

1 an individual panel could be regarded as achieving
 2 a class 0 surface and that she expressed no adverse view
 3 in that regard.
 4 In particular , it seems reasonable to infer that she
 5 did not advise Mr Haynes that it was inappropriate to
 6 rely on the classification report, limited as it was to
 7 a particular mode of fixing, or that the BBA should seek
 8 fire testing results for other fixing modes. It would
 9 have been open to the BBA, knowing from the text of the
 10 certificate itself that there were other methods of
 11 fabrication and fixing, to ask for tests relating to
 12 other methods. The BBA clearly took the view that the
 13 method of fabrication should not have affected the
 14 external flame spread characteristics with which
 15 a class 0 rating was concerned.
 16 As regards the purpose and scope of the certificate ,
 17 on this issue Mr Gregorian's evidence was very clear
 18 indeed that the purpose of the certificate was to
 19 provide an assessment of an individual panel and not to
 20 provide an assessment of the performance of the panel in
 21 fabricated form or in the context of the many variable
 22 cladding systems.
 23 Mr Gregorian made it explicit that the BBA were not
 24 intending to make any representations as to the
 25 performance of the product in fabricated form or in

1 a cladding system as a whole. Such representations, as
 2 Mr Gregorian repeatedly stressed, would have been
 3 irrelevant to the scope and purpose of the certificate .
 4 It must, therefore, follow as a matter of indisputable
 5 logic, that although in a particular fabrication or
 6 cladding system the fire performance of a panel could
 7 vary, the certificate was confirming the level of
 8 performance which could be achieved by an individual
 9 unfabricated panel.
 10 Any reading of the certificate which treated the
 11 certificate as confirming that in any and every mode of
 12 fabrication or in any or every cladding system a given
 13 level of fire performance would be attainable, would
 14 clearly be a serious misreading and would attach to the
 15 certificate far more weight than it was intended to bear
 16 at the relevant time.
 17 In relation to the BBA certificate, Mr Sakula is of
 18 the view that members of the cladding contractor's staff
 19 with technical or design responsibility should have read
 20 the certificate in detail . A reasonably competent
 21 cladding contractor would have ensured that somebody
 22 with technical or design responsibility had read the
 23 BBA certificate in detail to ensure that a product was
 24 appropriate for its intended use on a project, and that
 25 would involve reading the whole certificate in its

1 entirety and not just any summary on the front.
 2 Here, although the front page may have given the
 3 impression that the product had a class 0 rating without
 4 qualification , on turning to section 6 it was apparent
 5 that this contained vital information about the details
 6 and limitation of the fire testing carried out.
 7 Mr Sakula considered that a reasonably competent
 8 cladding contractor should have read section 6 in full ,
 9 and, had they done so, they would have been alerted to
 10 the fact that the BBA certificate was very specific in
 11 its scope. He also said that the cladding contractor
 12 should have had dialogue with the manufacturer to find
 13 out what background information there was to the
 14 certificate , such as underlying source tests and test
 15 data. Such enquiries made at any time after
 16 February 2014 would have highlighted relevant issues in
 17 relation to the cassette fabrication .
 18 As regards the awareness of a reasonably competent
 19 cladding contractor as to the nature of the PE core,
 20 Mr Sakula said that, by reason of the known fires
 21 involving the use of such material, it ought to have
 22 been understood that the material was quite easily
 23 ignited and combustible, and in the oral evidence
 24 for example of Mr Ray Bailey, he confirmed that
 25 following the Chalcots fire and the Taplow fire, he

1 learnt that ACM would burn.
 2 Since the certificate related to the reaction to
 3 fire of the surface of the unfabricated product and the
 4 potential spread of fire across that surface, the
 5 statements in the certificate would not, or at least
 6 should not have changed in the light of further fire
 7 performance information relating to the surface
 8 following the issue of the certificate unless there was
 9 evidence that the fire performance of the surface of the
 10 unfabricated product had changed, which it had not. And
 11 as I have previously argued, an EN test result relating
 12 to the fire performance of the product in a particular
 13 cladding system would demonstrate and could demonstrate
 14 only that the product was capable of achieving an EN
 15 result as part of that system. Consequently, further
 16 EN test results would not have impacted upon the
 17 classification referred to in the BBA certificate.
 18 We therefore submit that less favourable test
 19 outcomes on a system involving cassette fabrication did
 20 not detract from the fact that the product had achieved
 21 and was capable of achieving EN B, and therefore that
 22 the NC0 classification referred to in the certificate
 23 remained appropriate.
 24 Sir, in moving on, as I now do, to discuss briefly
 25 the evidence of Mr Claude Schmidt, perhaps I can

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1 reassure you and your colleagues that I'm on track to
 2 finish by my allotted deadline of 1.15. I hope that is
 3 appropriate.
 4 SIR MARTIN MOORE—BICK: I thought since you started
 5 ten minutes early, you might finish ten minutes early,
 6 Mr Hockman.
 7 MR HOCKMAN: Well, I'm sorry, I can't promise to be able to
 8 do that.
 9 SIR MARTIN MOORE—BICK: All right.
 10 MR HOCKMAN: I'll do my best. Apologies.
 11 It is now necessary to provide a summary of and
 12 commentary upon the content of the oral evidence of
 13 Mr Schmidt insofar as it bears upon the issues that I've
 14 been discussing. He was of course being asked questions
 15 in English and responding in French.
 16 Mr Schmidt was subjected to a series of leading
 17 questions based on the premise that, contrary to the
 18 case made in these submissions, the reference to EN B in
 19 section 6.1 of the BBA certificate was misleading.
 20 Those questions were put in a manner which, as later
 21 became clear, contained in the English version a crucial
 22 ambiguity.
 23 However, irrespective of the manner in which the
 24 questions were put, they were in any event based on
 25 a false premise that reference to specified fabrications

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1 of systems was material to the scope and purpose of
 2 a certificate which identified the fire performance
 3 which had been and therefore could be achieved by
 4 an individual panel.

5 The company's case, as foreshadowed in its opening
 6 statement to the Inquiry on 5 November 2020, and as
 7 supported by Mr Gregorian, is that such reference was
 8 immaterial and that no conclusion adverse to the company
 9 should therefore be drawn from the answers to such
 10 questions.

11 The following summary of the oral evidence of
 12 Mr Schmidt illustrates the false premise on which the
 13 question was based, and underpins the submission which
 14 is made on the company's behalf that extreme caution is
 15 required in dealing with his oral evidence. Time does
 16 not permit me to repeat the fully detailed review which
 17 is found in our written closing.

18 On Day 91, Mr Schmidt was asked to agree that the
 19 BBA certificate presented both the rivet and
 20 cassette—fixed variants of Reynobond 55 PE as class B.
 21 It was also put to him that this was a false statement
 22 so far as concerns the cassette—fix variants.

23 Regrettably, these propositions, as we respectfully
 24 submit, were themselves false, as Mr Gregorian
 25 emphasised, and as is clear from the certificate, in

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1 particular from section 6.1. The certificate related to
 2 an individual panel and not to what counsel described as
 3 either the rivet or the cassette—fixed variant. Of
 4 course, the company does not supply a rivet or
 5 a cassette—fixed variant; it supplies unfabricated
 6 panels.

7 In response to these questions, Mr Schmidt began by
 8 saying that he was in doubt about the question, and that
 9 previously it was said that one wasn't going to be
 10 referring to cassette or rivet.

11 Mr Schmidt was then asked whether Arconic accepted
 12 responsibility for the sale of Reynobond 55 PE to the UK
 13 market on a false basis as to its European fire
 14 classification. Once again, this question was itself
 15 put on an incorrect basis. Mr Schmidt's response was
 16 that the information that was on the BBA certificate was
 17 not false but that it did not mention the different
 18 reactions to fire depending on whether the system was
 19 rivet or cassette. The company's case is that, on
 20 a correct interpretation of the scope and purpose of the
 21 certificate, it was unnecessary for that reference to be
 22 made.

23 It is now necessary for me to explain why many of
 24 the questions put to Mr Schmidt contained a crucial
 25 ambiguity.

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1 On Day 94, counsel acknowledged that there was
 2 something that needs to be corrected. He acknowledged
 3 that the company's lawyers had stated that the English
 4 word "misleading" in his questions had been wrongly
 5 translated into French. It had been translated using
 6 the word "erroné", which means "incorrect" or
 7 "erroneous". The company's lawyers had in fact
 8 suggested in an email to the Solicitor to the Inquiry
 9 that the word "misleading" should be translated so as to
 10 show that the word carries the meaning in English
 11 "deceptive".
 12 Instead of adopting this suggestion, counsel told
 13 Mr Schmidt that the question would be translated as
 14 "wrong such as to lead a person into error". A number
 15 of examples were then put forward from the earlier
 16 questioning, and Mr Schmidt was invited to confirm that
 17 in those cases he would agree to the use of the word
 18 "misleading" in the sense of "wrong such as to lead
 19 a person into error".
 20 In response, Mr Schmidt made a number of comments.
 21 First, he stated that it wasn't done consciously because
 22 there was a doubt with regard to fire certificate 5B.
 23 Then he stated his belief that the failure to mention
 24 test 5B was not deliberate, but that there had been
 25 a misunderstanding or bad understanding with regard to

1 the results of that test.
 2 In summary, therefore, we would point out that
 3 Mr Schmidt was not involved in the creation or issue of
 4 the BBA certificate, nor was he or is he an expert in
 5 fire risk assessment. He did initially agree with
 6 questions put to him in leading form suggesting that the
 7 reference to the EN B result in section 6.1 was
 8 misleading, but these questions were, as we submit,
 9 based on an incorrect interpretation of the
 10 BBA certificate. In any event, the evidence was later
 11 revisited as a result of an ambiguity in the process of
 12 translation. We pointed out that the word "misleading"
 13 in English can imply deliberately deceptive conduct,
 14 whereas the interpreters had translated the word as
 15 meaning incorrect or wrong leading to error. In later
 16 questioning, counsel made clear that he had intended to
 17 advance the latter interpretation, and Mr Schmidt made
 18 clear that it was on this basis that he accepted what
 19 was put to him. He stressed that he had not intended to
 20 accept that the company had acted deliberately to
 21 mislead, and he pointed out the various caveats in the
 22 certificate to which we have drawn attention.
 23 We therefore submit that, in accepting that, as we
 24 all now know, the EN B result was incorrect and
 25 inapplicable to the cassette fabrication, Mr Schmidt was

1 doing no more than accepting the obvious. The Inquiry
 2 would not be entitled to infer that the reliance on the
 3 EN B result came about through any form of deceptive
 4 conduct or that, read as a whole, the certificate was
 5 misleading. At the time, the certificate was intended
 6 by all concerned to relate to a panel in unfabricated
 7 form and it was therefore entirely legitimate to provide
 8 as an example a test showing the result of which the
 9 product was capable in a given system, with the proviso
 10 that the performance of the product in a cladding system
 11 would be dependent on further tests. It's worth noting
 12 that the certificate itself on its final page stresses
 13 that it relates only to the product or system named on
 14 the front page and that it has to be read as a whole.
 15 Now I come on to deal with the written evidence of
 16 Mr Claude Wehrle, who described the circumstances in
 17 which he provided to the BBA classification report 5A
 18 and sought confirmation from them that this information
 19 was acceptable for their purposes, to which they
 20 responded in the affirmative.
 21 He has confirmed in his witness statement that he
 22 did not provide the sole incomplete report for the
 23 cassette variant because it was a single sample test
 24 report, not a valid classification report, and that at
 25 the time he considered that the sole cassette test

1 result was a rogue result on the basis of his
 2 understanding at the time that the cassette would
 3 perform better than rivet. When considering the spread
 4 of flame from an external source to the cladding on the
 5 building, the cassette, he thought, may reasonably have
 6 been considered to be more resistant to ignition than
 7 the riveted version.
 8 Mr Wehrle has further confirmed in his witness
 9 statement that he did not have sufficient knowledge
 10 about the UK regulatory regime to understand how the BBA
 11 had reached its conclusion on NC0, but he was aware that
 12 it would be drafted by the BBA and be reviewed by
 13 regulatory authorities and technical assessors.
 14 In assessing whether his failure to disclose to the
 15 BBA or otherwise the outcome of the 2005 cassette
 16 testing represented an intention on his part to hide
 17 what he knew to be an adverse result, the Inquiry will
 18 wish to attach strong weight to the following matters.
 19 Firstly, on a proper interpretation of the
 20 BBA certificate, the disclosure of such information was
 21 immaterial to the scope and the purpose of the
 22 certificate because the testing related to products with
 23 a different surface/colour and fabrication.
 24 Secondly, the cassette testing was carried out by
 25 the CSTB, which was the principal, if not the only,

1 testing house available in France, and with which not
 2 only the company but the BBA and doubtless others had
 3 a close working relationship. The CSTB carried out
 4 market surveillance on the Merxheim site from 2008 until
 5 2014 on behalf of the BBA, and had direct knowledge of
 6 the classifications that the company obtained from time
 7 to time. As Ms Amoroso stated in important oral
 8 evidence, the arrangements between the BBA and the CSTB
 9 were such that she would have expected the CSTB to have
 10 disclosed to the BBA any adverse testing relating to
 11 ACM PE. It's therefore unlikely in the extreme that
 12 Mr Wehrle could have believed that this information
 13 would have remained secret.

14 Thirdly, the outcome of the testing was described by
 15 the CSTB as not usable, although it was suggested that
 16 the result gave an idea of the behaviour of the product
 17 in fire. We submit that, given Mr Wehrle's general
 18 experience, it was not unreasonable for him to consider
 19 at the time this result relating to the performance of
 20 the cassette fabrication in a particular system to be
 21 atypical.

22 It is clear, however, that by 2011 at the latest,
 23 Mr Wehrle was addressing the 2005 rogue result relating
 24 to the cassette fabrication and was engaging in relation
 25 to it with the CSTB.

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1 I go on to stress the following important points
 2 which we detail much more extensively in our written
 3 closing.
 4 Mr Schmidt and Mr Wehrle have acknowledged a growing
 5 awareness of the risk that ACM PE in general, unless
 6 deployed in the context of an appropriate fire risk
 7 assessment, could contribute to the spread of fire, and
 8 that this awareness led them to take a number of
 9 precautionary steps.

10 Those precautionary steps taken by the company
 11 included the following: first, arranging to modify
 12 references to ACM PE in its marketing so as to eliminate
 13 any claim that a panel could achieve EN B. Reducing as
 14 far as possible the price of ACM FR. From early in
 15 2014, giving a voluntary instruction to both internal
 16 and external staff as to the disclosure of information
 17 concerning ACM PE, particularly cassette fabrication,
 18 the 2011 EN B result for rivet still being technically
 19 valid until 2016, and encouraging sales staff to focus
 20 their efforts on the sale of ACM FR.

21 The marketing material at the time of the supply of
 22 ACM PE for Grenfell Tower was therefore not misleading,
 23 and in any event there is no evidence that the marketing
 24 material was taken into account by the supply chain; if
 25 anyone in the supply chain relied on outdated marketing

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1 material, that was not something over which the company
 2 had control.

3 Moreover, anyone in the supply chain could have been
 4 aware of the existence of and the possibility of
 5 utilising a fire retardant product. Those involved had
 6 originally specified ZCM, zinc instead of aluminium FR
 7 panels. There are examples of the company specifically
 8 providing the class 0 test report in relation to the FR
 9 product, thereby alerting customers not only to the
 10 existence of that product, but to its class 0
 11 certification. No reliance can or should be placed upon
 12 the assertions of those in the supply chain who claimed
 13 to be unaware of the availability of ACM FR. In
 14 circumstances where there was a perceived need to reduce
 15 cost, their decision to prefer ACM PE was probably
 16 cost-related. In any event — and this is important —
 17 there is certainly no evidence in the case of the
 18 Grenfell transaction that anyone on the part of the
 19 company pressed or pushed for ACM PE to be preferred as
 20 distinct from ACM FR.

21 In general, therefore, the evidence shows that
 22 customers with whom the issues were discussed were told
 23 about the EN E classification result, as well as that
 24 result being available on the website of the CSTB.
 25 Several of the company's fabricator clients, such as

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1 Simco and Taylor Maxwell, were made aware of this
 2 information. Unfortunately it seems this did not apply
 3 to CEP, at least not by direct communication on behalf
 4 of the company, though the information was just as
 5 available to them as it was to others.

6 During the evidence of Deborah French on Day 88,
 7 Counsel to the Inquiry expressly acknowledged that
 8 information as to the EN E classification was sent on to
 9 customers, and it was suggested that Deborah French
 10 alone appears to have failed to do this. It's
 11 unrealistic, however, to suggest that UK sales
 12 representatives should have advised on the UK regulatory
 13 regime relating to cladding systems, not least because
 14 they would not have the detailed information about other
 15 products and systems within which the ACM PE would be
 16 used. They were, however, aware that any relevant
 17 technical requests from customers could be sent to the
 18 company's technical team for review and would have
 19 facilitated this.

20 Now, I want to say a few words, if I may, about the
 21 way in which the ACM was used on Grenfell Tower.

22 Of course, the company did provide guidance as to
 23 the way in which it might be used, but that information
 24 as to the methods of fabrication doesn't seem to have
 25 been consulted at all by those involved in the

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1 Grenfell Tower refurbishment project. As a result,
2 there were numerous departures from this information,
3 which have been fully detailed by Barbara Lane in her
4 Phase 1 report in April 2018, section 8.

5 On the tower itself, only two-thirds of the external
6 surface comprised ACM PE and, of that, at least 50% was
7 comprised of panels fabricated in a fashion which can
8 only be described as wholly unorthodox, and, as I've
9 mentioned, an equivalent area of the façade comprised
10 the Aluglaze panels and windows.

11 As Mr Hyett pointed out, the ACM PE used on the
12 columns and crown of the tower was fabricated in a way
13 which was peculiar to Grenfell Tower and which could not
14 have been anticipated by the company in a construction
15 project of any kind. In relation to the more orthodox
16 50%, even that was utilised within the context of
17 an irregular building construction, in that there were
18 numerous departures from regulatory guidance, including
19 matters such as the absence of cavity barriers around
20 the window openings. These deficiencies were not
21 something which the company could have been expected to
22 anticipate.

23 Taking into account the various considerations I set
24 out above, it's clear that no more than a third of the
25 external surface of the tower was clad in ACM panels

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1 fabricated in anything resembling an orthodox manner,
2 and of these, an unknown proportion fell away in the
3 early stages of the fire. Many of the ACM panels were
4 fabricated in a way which the company could not possibly
5 have foreseen. Moreover, the ACM panels were utilised
6 throughout in a wholly unorthodox and irregular cladding
7 system for which the company bore no responsibility.
8 That cladding system comprised a very large number of
9 ACM panels in an unorthodox fabrication, and a range of
10 other combustible materials, such as the Aluglaze panels
11 and a whole range of other combustible items, and
12 comprised extra thick insulation which, as already
13 mentioned, covered the majority of the tower.

14 It's a remarkable feature of the evidence within
15 Phase 2 that hardly any of the witnesses were prepared
16 to acknowledge an awareness of the combustible nature of
17 the core of the panel, though some admitted to
18 an awareness that it was plastic, and some but fewer
19 admitted that the core was therefore combustible.
20 The Inquiry may take the view that those who profess
21 ignorance of these matters do so with their own
22 interests to protect.

23 Mr Sakula has emphasised that a responsible
24 specifier would have taken into account the combustible
25 nature of ACM PE when selecting the combination of

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1 materials to use on the external façade. He confirmed
2 that a reasonably competent cladding contractor would
3 have known that the various types of insulation used
4 were combustible. He confirmed that a reasonably
5 competent cladding contractor ought to be aware of the
6 combustibility of ACM PE cladding, and he highlighted
7 the fact that a reasonably competent contractor would
8 have checked with the manufacturer or the supplier to
9 confirm whether an FR core should be used. And he said,
10 and we agree, that he would have expected a design and
11 build contractor in relation to Grenfell Tower to have
12 considered the appointment of a façade engineer or
13 consultant. He observed that, in relation to the
14 design, both Studio E and Harley had design
15 responsibilities.

16 Moreover, the Inquiry may take the view that
17 irrespective of the precise state of knowledge of
18 individual witnesses, there is a more fundamental point:
19 since no one concerned with the choice or use of the
20 ACM PE could have been unaware of the existence of the
21 core, it would follow that anyone responsible for the
22 choice or the use of it had the option to check the
23 combustibility of the core, whether by asking the
24 manufacturer directly, which the evidence shows to have
25 occurred on other projects, or by some other means, such

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1 as looking at test results available on the website of
2 testing and regulatory bodies. None of those
3 responsible for the refurbishment can escape their share
4 of responsibility by claiming ignorance or lack of
5 information.

6 Finally, we respectfully remind the Inquiry that
7 it's already clear that the kind of tragedy which
8 occurred at Grenfell could only have occurred as
9 a result of a unique combination of factors, including
10 the combination and configuration of the materials used
11 in the refurbishment, the failure of compartmentation
12 and other internal systems, and undue reliance on the
13 stay-put policy, among others. We attempted to assist
14 the Inquiry as to the interaction between many of these
15 factors in the schedule forming part of our written
16 closing at the conclusion of Phase 1. More recent
17 evidence as to the lack of maintenance of fire
18 protection systems can now be seen to have contributed
19 to smoke spread and inhibited the firefighting ability
20 of the LFB.

21 This extraordinary range of factors should, we
22 submit, be regarded as ultimately responsible for the
23 tragedy to a far greater extent than the role played by
24 any individual product. Accordingly, it's respectfully
25 submitted that the conclusion of the Inquiry's Phase 1

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1 report that the presence of the ACM rainscreen cladding
2 in the external wall was the principal reason why the
3 fire spread so quickly can now be placed in a far wider
4 and, we respectfully submit, more accurate context.

5 We would add this final observation: it may well be
6 that the Inquiry will ultimately conclude that there
7 were significant deficiencies in the regulatory regime
8 before and during the refurbishment of Grenfell Tower.
9 It may well be, furthermore, that the Inquiry will
10 conclude that those who carried out the refurbishment
11 failed, either properly or at all, to apply that
12 regulatory regime to the construction work which they
13 had agreed to undertake. It would, as we suggest, be
14 wrong and unfair for the Inquiry to pin the blame for
15 this tragedy upon the manufacturer of cladding panels
16 which were known to be combustible and which were
17 nonetheless treated by all those concerned as being
18 usable in conformity with the regime.

19 Thank you, sir.
20 SIR MARTIN MOORE-BICK: Thank you very much, Mr Hockman.
21 Mr Millett, I think you want to say something.
22 MR MILLETT: Yes, Mr Chairman, thank you. Very briefly on
23 the subject of the French Blocking Statute, I just want
24 to say two things very briefly.
25 First, my learned friend Mr Hockman Queen's Counsel

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1 has not quite accurately stated what the Inquiry told
2 Arconic's solicitors. What was said in correspondence
3 was:
4 "Counsel to the Inquiry does not intend to refer in
5 any closing statement he may make to the reasons why the
6 Arconic employees did not give evidence."

7 And no more than that. It was certainly not
8 a reversal from any previously publicly stated position.
9 Second, Mr Chairman, we, certainly the Inquiry team,
10 do not necessarily accept the conclusions of Arconic's
11 proffered French law expert's report. It is right to
12 say only that the question about the application of the
13 French Blocking Statute to this Inquiry is controversial
14 as a matter of French law, and the panel, we hope, will
15 consider that question in due course when reflecting on
16 the evidence as a whole.

17 That's all I wish to say, thank you.
18 SIR MARTIN MOORE-BICK: Thank you very much.
19 It is now 1.15. Mr Hockman, thank you for your
20 statement.
21 We are now going to break for some lunch and we will
22 resume at 2.15, when we shall hear from Mr Craig Orr.
23 Good, thank you very much.

24 (1.15 pm)
25 (The short adjournment)

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1 (2.15 pm)
2 SIR MARTIN MOORE-BICK: Welcome back. We are now going to
3 hear a closing statement on behalf of Celotex made by
4 Mr Craig Orr Queen's Counsel.

5 Mr Orr, I can see you there. Can you see us
6 all right?
7 MR ORR: I can, Mr Chairman.
8 SIR MARTIN MOORE-BICK: It sounds to me as though you can
9 hear us and we can hear you, so I think we're all ready
10 to go.

11 So, when you're ready, we look forward to hearing
12 from you.
13 Module 1 & 2 closing submissions on behalf of Celotex
14 by MR ORR

15 MR ORR: Thank you.
16 Good afternoon, Mr Chairman, Ms Istephan and
17 Mr Akbor.
18 May I start by reiterating on behalf of Celotex its
19 deepest sympathy to the bereaved families, survivors and
20 everyone affected by the tragic fire at Grenfell Tower.
21 Celotex recognises and has from the outset
22 recognised the crucial importance of this Inquiry in
23 ensuring that no such tragedy occurs again. It has
24 approached the Inquiry with candour and transparency.
25 It has self-reported to the Inquiry matters learned by

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1 its current management in the course of investigations
2 carried out after the Grenfell Tower fire. It has
3 acknowledged shortcomings identified by those
4 investigations in the historic testing and certification
5 of certain of its products, and has taken full and
6 concerted steps to remedy those shortcomings. It has
7 not sought and does not seek in its submissions to
8 the Inquiry to deny its shortcomings. However, they
9 must be put in the context of the role played by Celotex
10 in the refurbishment of Grenfell Tower. That is what
11 I will seek to do in this closing statement.

12 Celotex's position in relation to Modules 1 and 2 is
13 set out in detail in the written submission that it has
14 provided to the Inquiry.

15 My comments today will be structured as follows:
16 first, I provide an overview of Celotex's position;
17 second, I address Celotex's investigations following the
18 fire; third, I highlight a number of key failings by the
19 designers, contractors and building control body
20 responsible for the design, construction and inspection
21 of the cladding façade at Grenfell Tower; fourth,
22 I address the position of Arconic, which manufactured
23 and supplied the Reynobond aluminium composite material
24 used in the cladding system at Grenfell Tower. I will
25 refer to that material as Reynobond PE. That of course

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1 drove the external fire spread at the tower.
 2 Starting, then, with an overview of Celotex's
 3 position.
 4 Celotex is a manufacturer of polyisocyanurate
 5 insulation, known as PIR. Two of its products were used
 6 in the refurbishment at Grenfell Tower: RS5000 was
 7 supplied through distributors and used as insulation in
 8 the cladding system, and TB4000 was, Celotex now
 9 understands, purchased from a builder's merchant and
 10 used to fill gaps in the window surrounds at
 11 Grenfell Tower.
 12 PIR is and has been widely used in the construction
 13 industry. It is an organic compound which, in common
 14 with all organic compounds, will combust under certain
 15 conditions. Its combustibility was clearly highlighted
 16 by Celotex in its health and safety datasheet which was
 17 available on Celotex's website and cited in Celotex's
 18 product literature, including the RS5000 datasheet on
 19 which a number of designers and contractors involved in
 20 the Grenfell Tower refurbishment claim to have relied.
 21 The Building Regulations in force at the time of the
 22 refurbishment permitted combustible insulation to be
 23 used in high-rise residential buildings. There were
 24 additional requirements that had to be met when using
 25 combustible insulation in a building over 18 metres, but

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1 provided those requirements were met, PIR could be used
 2 in such buildings.
 3 Now, the design and compliance of the cladding
 4 system at Grenfell Tower was the responsibility of
 5 specialist designers, contractors and consultants
 6 engaged on the refurbishment. Those included Studio E,
 7 the architects; Harley, the specialist cladding
 8 contractor; Rydon, the design and build contractor;
 9 Exova, the fire engineer; and Max Fordham, the M&E
 10 advisers. Each of those construction professionals held
 11 themselves out as having the necessary experience and
 12 expertise to carry out their respective roles. They
 13 each had specific responsibilities in relation to the
 14 design and construction of the cladding façade under the
 15 terms of their respective contracts. They were
 16 responsible for ensuring that the cladding façade
 17 complied with Building Regulations.
 18 Celotex was not part of the design or construction
 19 team on the Grenfell Tower refurbishment. Celotex did
 20 not design or construct the cladding system at
 21 Grenfell Tower. Its sole role was as the manufacturer
 22 of the insulation which was supplied through
 23 distributors for the refurbishment.
 24 Design of the cladding system requires consideration
 25 of the system as a whole and each component of it. As

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1 the manufacturer of a single component of the cladding
 2 system, Celotex could not reasonably have been expected
 3 to input into the design of that system, or ensure
 4 compliance of the system with Building Regulations.
 5 Whilst Celotex was provided with some information
 6 about the proposed cladding system at Grenfell Tower, it
 7 was not privy to full details of the design process and
 8 had no access to the contractual documents governing the
 9 refurbishment or the NBS specification which governed
 10 the selection of products. Celotex had no dealings with
 11 the architect or fire engineer, whose input would have
 12 been relevant to assessing the cladding system's
 13 compliance with Building Regulations. Celotex was never
 14 asked to provide assurance that the cladding system was
 15 compliant or to verify compliance of the system, and it
 16 did not do so.
 17 Now, the Building Regulation guidance at the time of
 18 the refurbishment was contained in volume 2 of Approved
 19 Document B, known as ADB2. This permitted the use of
 20 combustible insulation such as PIR in high-rise
 21 buildings. It provided four potential routes to
 22 compliance for a cladding system in a building over
 23 18 metres: first, the linear route which required
 24 individual components of the cladding system to meet
 25 specified standards of fire performance; second, testing

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1 of the complete cladding system in accordance with
 2 British Standard BS 8414 to demonstrate that the system
 3 as a whole met specific performance criteria known as
 4 the BR 135 criteria; third, obtaining a desktop study
 5 from a suitably qualified fire specialist to confirm
 6 that the cladding system would, if tested, meet the
 7 BR 135 criteria; and, finally and fourth, obtaining
 8 a holistic fire engineering assessment to confirm that
 9 the system met the requirements of the Building
 10 Regulations, taking account of the adequacy of the fire
 11 prevention measures in the building as whole.
 12 Under the linear route, insulation in the cladding
 13 system had to be of limited combustibility and the
 14 cladding panels had to be classified as class 0 under
 15 British Standards or class B or better under European
 16 standards. The term "limited combustibility" which
 17 applied to the insulation was specifically defined in
 18 ADB2. That definition required, in summary, that the
 19 insulation be non-combustible or classified as class A2
 20 or better under the European testing regime.
 21 Since PIR has never fallen within the definition of
 22 limited combustibility, the linear route to compliance
 23 was unavailable if PIR was being used. PIR could only
 24 be used in a cladding system on a high-rise if the
 25 system was shown to meet the BR 135 criteria, whether by

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1 way of testing or a desktop study, or a holistic
 2 fire engineering assessment was undertaken.
 3 Industry guidance available at the time of the
 4 refurbishment emphasised that PIR was not a material of
 5 limited combustibility and therefore could not be used
 6 under the linear route to compliance. For example,
 7 Technical Guidance Note 18, issued by the
 8 Building Control Alliance, stated that thermosetting
 9 insulants, which include PIR, do not meet the definition
 10 of limited combustibility and should not therefore be
 11 accepted as satisfying the requirements of the linear
 12 route. The limitations on using PIR were therefore
 13 well known and should have been familiar to any
 14 designer, contractor or consultant involved in the
 15 design and construction of a cladding system.
 16 However, the evidence heard in Modules 1 and 2 shows
 17 that the construction professionals involved in the
 18 Grenfell Tower refurbishment were unaware of,
 19 disregarded or otherwise failed to follow the
 20 requirements of ADB2 when designing and constructing the
 21 cladding system. In particular, the construction
 22 professionals gave no proper consideration to which, if
 23 any, potential route to compliance they were following.
 24 They had no regard to the fact that the insulation and
 25 cladding panels were combustible. They did not consider

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1 what impact that combustibility would have on compliance
 2 of the cladding system with Building Regulations. They
 3 failed to appreciate that the linear route to compliance
 4 was unavailable because of the Celotex insulation they
 5 had selected. They failed to recognise that the
 6 Reynobond PE cladding panels they had chosen were so
 7 highly combustible that they could not meet the
 8 requirements of the Building Regulations concerning the
 9 spread of fire over the external walls. And, finally,
 10 they undertook no assessment at all of the fire
 11 performance of the cladding system as a whole, whether
 12 by way of a BS 8414 test or a desktop study or
 13 otherwise.
 14 These matters, we submit, were not Celotex's
 15 responsibility. They represent fundamental failings on
 16 the part of the construction professionals who were
 17 responsible for the design and construction of the
 18 cladding façade. Yet the construction professionals
 19 refuse to acknowledge this. They all seek to exculpate
 20 themselves by blaming others.
 21 Studio E, Harley and Rydon make two particular
 22 points. They say, first, that ADB2 was unclear and they
 23 seek to blame their compliance failures on its poor
 24 drafting. Secondly, they suggest that they were misled
 25 by Celotex's product literature into believing that use

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1 of RS5000 at Grenfell Tower was compliant with ADB2.
 2 These arguments should be rejected. They have been
 3 devised after the event by the construction
 4 professionals to excuse their failure to have any proper
 5 regard to the compliance of the system they designed and
 6 constructed.
 7 I take each argument in turn.
 8 First, ADB2. Whilst some criticism can fairly be
 9 made of certain aspects of ADB2, the provisions of ADB2
 10 regarding the use of insulation and cladding panels in
 11 a cladding system over 18 metres were sufficiently clear
 12 to achieve their objective. The Inquiry's experts
 13 confirmed that no competent architect, designer or
 14 cladding contractor should have been confused about
 15 those provisions.
 16 Now, as regards Celotex's product literature,
 17 Celotex's position is that there is no reliable evidence
 18 that anyone from Studio E, Harley or Rydon actually read
 19 its product literature, let alone relied upon the
 20 product literature or was misled by it. Nor is there
 21 any reliable evidence that anyone else involved in the
 22 refurbishment was misled by Celotex's product
 23 literature. The construction professionals cannot
 24 credibly argue that their design and construction of
 25 a non-compliant cladding façade is explained by reliance

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1 on Celotex's product literature.
 2 RS5000 was first launched for use in rainscreen
 3 cladding systems in August 2014, after a cladding system
 4 incorporating the product had been successfully tested
 5 by the Building Research Establishment to BS 8414 in
 6 May 2014. Prior to August 2014, Celotex marketed no
 7 products at all for use in buildings above 18 metres.
 8 RS5000 was marketed on the basis that a cladding
 9 system incorporating the product had been demonstrated
 10 to meet the BR 135 criteria by way of a BS 8414-2 test.
 11 The product literature stated that the fire performance
 12 and classification report issued by the BRE for RS5000
 13 only related to the components of the system described
 14 in the literature, and that any changes to those
 15 components would need to be considered by the building
 16 designer. This reflected the requirement in ADB2 for
 17 any cladding system containing combustible insulation to
 18 be shown by tests or assessment to meet the BR 135
 19 criteria.
 20 Celotex also produced a rainscreen cladding
 21 compliance guide which drew specific attention to, first
 22 of all, the requirements imposed by ADB2 on the use of
 23 insulation in high-rise buildings, and, secondly, the
 24 importance of building designers ensuring that any
 25 cladding system incorporating RS5000 met the BR 135

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1 criteria . This guide was a key part of the RS5000
 2 product literature . It was distributed along with other
 3 product literature to Celotex’s customers, including
 4 Harley. Mr Hyett, the Inquiry’s architectural expert,
 5 confirmed that warnings given in the guide about the
 6 limitations of the fire performance classification
 7 obtained by Celotex and the importance of designers
 8 checking that the classification covered any end—use
 9 application were absolutely clear .

10 No competent construction professional who actually
 11 read Celotex’s product literature could have thought
 12 that RS5000 met the requirements of the linear route to
 13 compliance, or could be used in a different cladding
 14 system over 18 metres without verifying that the system
 15 as a whole met the BR 135 criteria.

16 Some of the RS5000 product literature referred to
 17 RS5000 being suitable or acceptable for use in buildings
 18 above 18 metres in height. Those words obviously needed
 19 to be read in the context of each product document as
 20 a whole. When so read, two things were or should have
 21 been clear to any construction professional .

22 First , that the basis for RS5000’s suitability for
 23 use in buildings over 18 metres was the fact that it had
 24 been incorporated in a system that had been tested to
 25 BS 8414 and shown to meet the BR 135 criteria. It

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1 followed that the product’s suitability for use in any
 2 particular rainscreen cladding system would need to be
 3 verified and assessed against the system in which RS5000
 4 had been tested. Indeed, when witnesses from Rydon,
 5 Harley and Studio E were taken to the product literature
 6 in evidence, they accepted as much. We give the
 7 references to that evidence in our written submission.

8 Any competent construction professional intending to
 9 rely on the RS5000 product literature would indeed have
 10 read it carefully and in full , and not relied on single
 11 words in isolation and out of context. Mr Hyett agreed
 12 with this. However, it is clear from the evidence of
 13 Rydon, Harley and Studio E witnesses that they either
 14 did not read the literature or they did not read it with
 15 any care. They cannot therefore credibly claim to have
 16 relied on the literature so as to justify their
 17 disregard of their own compliance obligations.

18 Rydon, for example, suggests in its closing
 19 submissions that Mr Lawrence, who was Rydon’s contracts
 20 manager, attempted to satisfy himself that RS5000 was
 21 suitable by reading the RS5000 datasheet. That is
 22 a distortion of the evidence. Mr Lawrence admitted that
 23 he in fact gave the datasheet nothing more than
 24 a cursory look, which he acknowledged sounded
 25 inappropriate, knowing what’s happened. Mr Lawrence

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1 also said that he probably did not get beyond the
 2 headline banner and the first paragraph on the first
 3 page of the datasheet.

4 Rydon argues that Mr Lawrence’s failure to read the
 5 rest of the document is excusable because he was not
 6 able as a contracts manager to interpret technical
 7 information. That, in our submission, is untenable.
 8 The RS5000 datasheet was only three and a half pages
 9 long. It was and should have been readily
 10 understandable to a construction professional in
 11 Mr Lawrence’s position.

12 As the design and build contractor, Rydon was itself
 13 responsible for the design and construction of the
 14 cladding façade, and should have ensured that it was
 15 capable of discharging that obligation by equipping its
 16 senior personnel with the necessary technical expertise .
 17 However, Mr Lawrence and other Rydon personnel assigned
 18 to the refurbishment had no meaningful knowledge or
 19 understanding of the Building Regulations or ADB2.
 20 Mr Lawrence was not even aware that ADB2 provided
 21 alternative routes to compliance for a cladding system.
 22 Indeed, he admitted that no one at Rydon ever checked
 23 compliance of the cladding system because it lacked the
 24 expertise to do so.

25 The suggestion that Mr Lawrence or anyone else at

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1 Rydon was misled by Celotex’s product literature is ,
 2 Celotex submits, unsustainable.

3 Celotex’s product literature also referred to the
 4 class 0 classification of RS5000. Now, class 0 is
 5 a relevant performance criterion for insulation .
 6 For example, it is relevant to the provision of
 7 cavity barriers in ceilings and other cavities .
 8 However, as any competent construction professional
 9 should have known, class 0 was not the relevant
 10 criterion for use of insulation in a cladding system on
 11 a high—rise building if following the linear route to
 12 compliance. The required insulation in such a system,
 13 following the linear route, needed to be of limited
 14 combustibility and not class 0. The Inquiry’s experts
 15 agreed that competent construction professionals would
 16 have understood the distinction between class 0 and
 17 limited combustibility, and would have known that
 18 insulation was required to be of limited combustibility
 19 as opposed to class 0 when following the linear route.

20 Nevertheless, Mr Ray Bailey of Harley and
 21 Mr Crawford of Studio E suggested in their evidence that
 22 they relied on the reference in the RS5000 datasheet to
 23 the product having class 0 classification as validating
 24 its compliance with the linear route. That evidence is
 25 analysed in Celotex’s written submission. It was

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1 contradicted by the evidence of other Studio E and
 2 Harley witnesses, and is not reliable . It is clear from
 3 the evidence of Mr Bailey and Mr Crawford that neither
 4 of them understood what limited combustibility actually
 5 meant in the context of ADB2. When shown the relevant
 6 provisions of ADB2, Mr Bailey accepted that they made
 7 the position clear . He and Mr Crawford should have
 8 known that a class 0 classification for insulation did
 9 not mean that it satisfied the linear route to
 10 compliance.

11 Some Celotex product literature referred to RS5000
 12 having class 0 performance throughout the entire
 13 product. This was in order to make clear that the whole
 14 product had been tested and not just the aluminium facer
 15 or the foam. This was intended to distinguish RS5000
 16 from Kingspan’s K range, which was believed only to
 17 achieve class 0 when the foil facer or the foam was
 18 tested separately and not when tested as a composite
 19 product.

20 Celotex accepts in hindsight that the phrase
 21 “throughout the product” was potentially confusing.
 22 However, its meaning was reasonably clear. As Mr Hyett
 23 said, an architect at the time would have understood the
 24 phrase as a simple assurance that the product meets
 25 class 0 in its entirety .

1 Mr Ray Bailey and Mr Crawford, however, suggested
 2 that they took this phrase to mean that RS5000 was
 3 a product of limited combustibility. That, we submit,
 4 is unrealistic and contrived. Even if they read the
 5 phrase at the time, the suggestion that they were misled
 6 by that wording into believing that RS5000 satisfied the
 7 linear route to compliance is not credible .

8 The final point to address in relation to Celotex’s
 9 product literature is the description in the literature
 10 of the cladding system tested to BS 8414 in May 2014.
 11 In the immediate aftermath of the Grenfell Tower fire,
 12 and in view of the focus on the role played by the
 13 cladding system in the fire , Celotex suspended the sale
 14 of RS5000 pending further clarity and set about
 15 ascertaining the relevant facts surrounding the supply
 16 of the Celotex products that were used at
 17 Grenfell Tower. This work was directed by Celotex’s
 18 managing director, Mr O’Sullivan. He had joined Celotex
 19 in May 2016, after the Celotex products used in the
 20 refurbishment were supplied. In the course of this
 21 work, Celotex’s current management learned of certain
 22 issues concerning the testing, certification and
 23 marketing of Celotex’s products. This has been
 24 addressed in previous submissions by Celotex.

25 One of the issues learned by Celotex’s current

1 management was the existence of differences between the
 2 system actually tested by the BRE in May 2014 and the
 3 description of that system in the RS5000 product
 4 literature . Celotex acknowledges that this description
 5 was inaccurate. The product literature failed to
 6 identify that at certain levels of the test rig
 7 a thinner cladding panel had been used, behind which was
 8 installed a 6–millimetre magnesium oxide board. Those
 9 components were not mentioned in the test report
 10 prepared by the BRE following the May 2014 test or in
 11 Celotex’s product literature . This issue was not
 12 previously known to Celotex’s current management.

13 I will explain shortly more about the steps Celotex
 14 took in response to this discovery. However, it’s
 15 important to emphasise that the misdescription of the
 16 test system had no impact on, and is completely
 17 irrelevant to, the specification , supply and use of
 18 RS5000 at Grenfell Tower. That is because it is clear
 19 beyond doubt that no construction professional involved
 20 in the refurbishment placed any reliance whatsoever on
 21 the description of the test system in Celotex’s product
 22 literature . That includes Rydon, Harley and Studio E.
 23 For example, both Mr Lawrence of Rydon and
 24 Mr Anketell—Jones of Harley confirmed in evidence that
 25 they never read the system description and took no steps

1 to compare the system tested by Celotex with the system
 2 to be installed at Grenfell Tower. So far as Studio E
 3 is concerned, the clear inference to be drawn from
 4 Mr Crawford’s evidence is that he also never read the
 5 system description and never considered its relevance to
 6 the cladding system at Grenfell Tower.

7 Even if the construction professionals had compared
 8 the system described in Celotex’s product literature
 9 with the system proposed for Grenfell Tower, it should
 10 have been obvious to them that the differences between
 11 the two systems were so great that RS5000 could not be
 12 used at Grenfell Tower without further testing,
 13 obtaining a desktop study or obtaining a holistic
 14 fire engineering report. This was confirmed not only by
 15 Mr Hyett, but also by Mr Sakula, the Inquiry’s cladding
 16 expert. In other words, the misdescription of the
 17 tested system was irrelevant. It had no impact
 18 whatsoever on the refurbishment. Nonetheless, Celotex
 19 acknowledges that the misdescription should not have
 20 occurred and has approached this matter with candour and
 21 transparency.

22 Once established, the issue was reported in
 23 January 2018 to the Inquiry, the Metropolitan Police,
 24 Trading Standards, the Ministry of Housing, Communities
 25 and Local Government and the BRE. At around the same

1 time, the issue was publicly announced on Celotex’s
 2 website and steps were taken to notify customers,
 3 contractors known to have used RS5000 and desktop study
 4 providers that had been given copies of the BRE’s test
 5 reports.
 6 Celotex also instructed Linklaters to undertake
 7 a review of all relevant documentation and other
 8 evidence concerning the testing of RS5000 and to prepare
 9 an objective and impartial account of the facts. The
 10 result of that review was set out in a BS 8414 summary
 11 paper which was provided to the Inquiry in
 12 September 2018 as an appendix to Mr O’Sullivan’s witness
 13 statement. That summary paper and other appendices to
 14 Mr O’Sullivan’s witness statement contain a full and
 15 detailed account of the BS 8414 tests commissioned by
 16 Celotex in 2014, as well as the subsequent launch and
 17 promotion of RS5000.
 18 Given the inaccuracies in the description of the
 19 test system, Celotex was concerned to establish whether
 20 that gave rise to any safety issues. It therefore
 21 commissioned another BS 8414 test replicating as closely
 22 as possible the system described in the product
 23 literature so as to be able to share with the market
 24 information about the likely practical effect of
 25 differences between the system described and the system

1 in fact tested in May 2014.
 2 This further test was carried out in April 2018. It
 3 showed that the re-tested system met the BR 135
 4 criteria. In other words, it showed that RS5000 could
 5 safely be used in the system described in the product
 6 literature in accordance with the statutory guidance at
 7 the time of the refurbishment. The results of this
 8 re-test were announced in May 2018.
 9 The matters which emerged in the course of Celotex’s
 10 investigations involved inappropriate and unacceptable
 11 conduct on the part of a number of its employees. This
 12 was of real concern to Celotex’s current management.
 13 Some of the employees involved, including Mr Roper, had
 14 already left the company. Those who remained were the
 15 subject of disciplinary proceedings, including Mr Hayes,
 16 Mr Berger and Mr Evans, all of whom gave evidence in
 17 Module 2. They and three other employees resigned
 18 between December 2017 and March 2018.
 19 Celotex has sought to learn from this experience and
 20 has implemented improvements in its management and
 21 operational procedures to ensure that no such situation
 22 occurs again. Among other things, Celotex has recruited
 23 new technical and operational management, improved
 24 training procedures, implemented changes and
 25 improvements to its testing processes, and designed new

1 quality assurance systems with the assistance of a new
 2 quality assurance manager.
 3 In addition, Celotex has undertaken extensive
 4 due diligence to ensure that its products were and are
 5 safe. This includes commissioning additional
 6 fire safety tests of its insulation products. These
 7 tests include the further BS 8414 test of RS5000 which
 8 I’ve already mentioned. They also include BS 476 tests
 9 to confirm the class 0 and class 1 classifications of
 10 RS5000 and TB4000 respectively.
 11 Celotex recognises the importance of ensuring that
 12 product literature is clear, accurate and unambiguous.
 13 These principles underlie the code for construction
 14 product information recently proposed by the
 15 Construction Products Association. Celotex endorses
 16 those principles. It has reviewed its product
 17 literature for its current range of insulation with
 18 those principles in mind, and it will review the
 19 finalised code, once it has been formally launched, with
 20 the intention of adopting its provisions.
 21 Celotex similarly endorses the work of the industry
 22 safety steering group, chaired by Dame Judith Hackitt,
 23 which is focused on improving competency and encouraging
 24 culture change in all sections of the construction
 25 industry.

1 Mr Chairman, I turn to my next topic: the wider
 2 failings of the construction professionals involved in
 3 the Grenfell Tower refurbishment.
 4 The Module 1 and 2 evidence has demonstrated the
 5 extent of those failings. Each of Studio E, Harley,
 6 Rydon and Exova fell far short of fulfilling the
 7 obligations they owed in relation to the design and
 8 construction of the cladding façade. RBKC
 9 building control failed to carry out any adequate
 10 assessment of the external façade, and other
 11 construction professionals, involving CEP, the
 12 fabricators of the Reynobond cladding panels, and
 13 Max Fordham, the M&E consultants, were also at fault.
 14 The failings of these various construction
 15 professionals were directly causative of the
 16 installation of a non-compliant and unsafe cladding
 17 system at Grenfell Tower. However, with the exception
 18 of RBKC, none of them has acknowledged their failings or
 19 accepted responsibility for their shortcomings, despite
 20 overwhelming evidence of their incompetence. Celotex
 21 submits that they are clearly responsible for what
 22 happened on the night of 14 June 2017.
 23 For the purposes of this oral statement, I highlight
 24 only certain key points.
 25 I begin with Studio E, Harley and Rydon.

1 In addition to selecting inappropriate cladding
2 panels and non-compliant insulation for the cladding
3 system, these construction professionals failed in
4 a number of other respects.

5 First, they failed to devise any coherent strategy
6 for cavity barriers. Their failure to make any
7 provision for cavity barriers around the window openings
8 is particularly significant. This meant that there was
9 a disproportionately high probability of an internal
10 fire spreading into the cladding system. This failure
11 was reckless. It was clear from ADB2 and other industry
12 standards with which the cladding system was required to
13 comply that cavity barriers were needed around the
14 windows. However, none were provided, despite Harley
15 having been advised by Mr Mort of Siderise that the
16 absence of cavity barriers at the head of the windows
17 was a "weak link for fire".

18 Secondly, Rydon wrongly arranged for SD Plastering,
19 a dry-lining contractor, to fill gaps in the window
20 surrounds at Grenfell Tower with Celotex TB4000 and
21 Kingspan TP10 insulation. This contravened not only
22 ADB2, but also the NBS specification, which required
23 Rockwool non-combustible insulation to be used in those
24 gaps. This had important consequences. The
25 configuration of materials in the window surrounds also

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1 contributed to the disproportionately high probability
2 of an internal fire spreading into the cladding system.

3 Rydon is primarily responsible for this serious
4 error. Mr Lawrence personally approved the use of
5 combustible insulation to fill gaps in the window
6 surrounds without giving any consideration to the fire
7 performance of the products used or the requirements of
8 ADB2. He admitted in evidence that SD Plastering was
9 not a design subcontractor and that Rydon was therefore
10 itself responsible for the wrongful selection and use of
11 combustible insulation around the windows.

12 Despite this, Rydon argues that SD Plastering and
13 Studio E are to blame and not Rydon. Celotex agrees
14 that Studio E and SD Plastering may also be at fault;
15 Studio E for failing to clarify in drawings that the
16 insulation in the window surrounds was to be Rockwool,
17 and SD Plastering for failing to have any regard for
18 fire safety. However, that does not exculpate Rydon,
19 which remains responsible for this serious error.

20 Thirdly, Harley selected combustible styrofoam and
21 Kingspan insulation as the core of the window infill
22 panels. This was contrary to the requirements of ADB2.
23 Harley did this without giving any consideration at all
24 to the compliance of those products. Its disregard of
25 the fire performance of the window infill panels is

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1 reflective of its general approach to fire safety.

2 Fourthly, Studio E, Harley and Rydon all failed to
3 have any regard to the fire safety of the crown. That
4 was an architectural feature at the top of the building
5 comprised solely of tall fins of Reynobond PE without
6 any insulation behind them. These fins were found by
7 the Inquiry in its Phase 1 report to have been the
8 primary driver of the extraordinary horizontal
9 fire spread witnessed at Grenfell Tower. That was one
10 of the unique features of the fire and undoubtedly
11 contributed to the extent of the tragedy. None of
12 Studio E, Harley or Rydon, though, gave any adequate
13 consideration to the fire risks posed by their design of
14 the crown.

15 Next I turn to Exova.

16 Exova was the only fire engineer on the project. It
17 bears heavy responsibility for the fire. It failed to
18 produce any comprehensive fire safety strategy, despite
19 having contractually agreed to do so. It misleadingly
20 stated in successive drafts of its outline fire safety
21 strategy that it considered that the proposed changes
22 will have no adverse effect on the building in relation
23 to external fire spread. That advice was given without
24 Mr Ashton, the author of the outline fire safety
25 strategy, giving any consideration to the proposed

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1 overcladding of the building.

2 Whilst that advice was qualified by the further
3 statement that the position would be confirmed by
4 an analysis in a future issue of the report, that
5 statement implied, by use of the word "confirmed", that
6 Exova already held a fairly firm view that overcladding
7 the building would give rise to no problem, which would
8 just be confirmed later. Moreover, the promised further
9 report was never produced, despite, that is, Exova
10 remaining engaged by the TMO for the duration of the
11 refurbishment.

12 These errors were compounded by Mr Ashton's failure
13 to exercise any care in answering questions that were
14 put to him by the design team after Rydon's appointment.
15 On two occasions, those questions were of vital
16 importance, relating to the insulation in the cladding
17 system and the provision of cavity barriers. The
18 answers Mr Ashton gave on each occasion were inadequate,
19 ambiguous or wrong. He admitted in evidence that he did
20 not at the time pay much attention because he was not
21 going to spend hours of work on answering ad hoc
22 questions for which he was not paid. Yet he was not
23 transparent about this, and proceeded to answer the
24 questions and provide advice that was careless and
25 inadequate. It does not behove Exova now to say that it

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1 is not responsible for that inadequate advice which
 2 amounted to an abdication of its responsibility as the
 3 fire engineer on the project.
 4 I turn next to building control.
 5 RBKC has admitted that its building control
 6 department failed to carry out any adequate assessment
 7 of the cladding system or the crown, and consequently
 8 issued a completion certificate for the refurbishment
 9 which should never have been issued. The full extent of
 10 RBKC's failings became apparent from the evidence of
 11 Mr Hoban, the building control officer assigned to the
 12 refurbishment.
 13 Celotex recognises the heartfelt emotion which
 14 Mr Hoban showed when answering questions from
 15 the Inquiry. However, his evidence showed that he was
 16 not capable of performing his role to the required
 17 standard. He had no prior experience of the
 18 overcladding of high-rise residential buildings. He
 19 lacked the necessary technical knowledge. He was
 20 confused about the routes to compliance and did not
 21 understand the meaning of limited combustibility, or
 22 that PIR could not be used in a cladding system if
 23 following the linear route to compliance.
 24 One of Mr Hoban's central failings was not to obtain
 25 a comprehensive cladding package. As a result, he did

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1 not have the information needed to assess compliance of
 2 the cladding system. He claimed in evidence that he
 3 relied on Arconic's BBA certificate to verify compliance
 4 of the Reynobond PE panels, but that evidence, we
 5 submit, is unreliable. Mr Hoban did not mention the
 6 BBA certificate in either of his witness statements, and
 7 he admitted in evidence that his practice was anyway not
 8 to read such certificates in detail because he lacked
 9 the training and knowledge to interpret them.
 10 As regards insulation, Mr Hoban claimed to have
 11 looked up Celotex insulation on a website after seeing
 12 it on site. However, it is unclear (a) what insulation
 13 Mr Hoban saw on site, (b) when he saw the insulation,
 14 (c) what website he may have viewed, and (d) what he saw
 15 on the website.
 16 Mr Hoban said that he knew that the insulation was
 17 Celotex insulation from the company logo he saw.
 18 However, two kinds of Celotex insulation were on the
 19 Grenfell site: RS5000 and TB4000, which, as I've said,
 20 was used by Rydon to fill gaps in the window surrounds.
 21 There was no Celotex logo on the face of RS5000.
 22 However, if Mr Hoban looked up TB4000, whatever he saw
 23 could not possibly have justified compliance of the
 24 insulation used in the cladding system.
 25 Mr Hoban was also unclear about what website he

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1 viewed. He gave conflicting evidence about whether he
 2 viewed Celotex's website or the LABC website. In
 3 addition, he could not recall what he had seen on the
 4 website. Celotex submits that his evidence on this
 5 issue is wholly unreliable. The tribunal cannot fairly
 6 conclude that Mr Hoban was misled, whether by something
 7 seen on Celotex's website or the LABC website, into
 8 believing that the insulation used in the cladding
 9 system was compliant.
 10 There is a specific issue about whether Mr Hoban saw
 11 the LABC certificate for RS5000 when looking for
 12 information about Celotex insulation online. If he did
 13 view the LABC certificate, he would have seen one of the
 14 later versions of the certificate and not the original
 15 version of the LABC certificate issued in August 2014.
 16 This follows from the likely timing of his viewing of
 17 any website, that is after delivery of Celotex
 18 insulation to the Grenfell site. This matters because
 19 the later versions of the LABC certificate gave
 20 prominence to the limitations on using RS5000 in
 21 high-rise buildings.
 22 RS5000 was delivered to the Grenfell site in batches
 23 from April 2015 onwards, whereas TB4000 was on site
 24 ready for installation from around July to
 25 September 2015. Now, documentary evidence provided by

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1 the LABC confirms that no RS5000 certificate was
 2 available to view on the LABC website from
 3 6 November 2014 until 1 July 2015, on which date the
 4 LABC posted on its website the revised version of the
 5 RS5000 certificate.
 6 It follows that the only LABC certificate that
 7 Mr Hoban could have viewed online after the delivery of
 8 Celotex insulation to the Grenfell site was the revised
 9 version. That version set out in extensive detail that
 10 the BR 135 certification obtained by Celotex for RS5000
 11 applied only to the specific system tested, and that
 12 an appropriate classification report or supplementary
 13 report had to be obtained to evidence the suitability of
 14 the product's use in any proposed makeup. For good
 15 measure, the revised certificate also stated that
 16 thermosetting insulants such as RS5000 did not meet the
 17 limited combustibility requirements of ADB2 and should
 18 not therefore be accepted as satisfying the linear route
 19 to compliance.
 20 It follows that Mr Hoban could not have relied on
 21 the LABC certificate as permitting the use of RS5000 at
 22 Grenfell Tower. We agree with the LABC's closing
 23 submission on this point.
 24 Mr Hoban admitted in evidence that his failure
 25 properly to investigate the suitability of RS5000 was

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1 a serious failing on his part. It is clear that he
2 failed also to assess compliance of other aspects of the
3 façade works, including the absence of cavity barriers,
4 the non-compliant window infill panels and the crown.
5 There can be no doubt that if RBKC building control had
6 done its job properly, the refurbishment works would not
7 have been approved and construction of an unsafe
8 cladding façade would have been prevented.

9 Finally, Mr Chairman, I turn to Arconic.

10 The position of Arconic is dealt with in Celotex's
11 written closing submission in detail. It is also
12 covered by other core participants to substantially the
13 same effect. I can therefore deal with this matter
14 shortly.

15 I wish to emphasise two points.

16 First, unlike PIR, which could safely be used in
17 compliance with the Building Regulations in a cladding
18 system with an appropriate combination of other
19 components, Reynobond PE panels could not be used safely
20 in a cladding system at all. This was demonstrated by
21 the BS 8414 tests carried out by the Department for
22 Communities and Local Government following the
23 Grenfell Tower fire. Those tests showed that cladding
24 systems incorporating PE-cored ACM panels failed to meet
25 the BR 135 criteria irrespective of the kind of

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1 insulation with which the panels were combined. The
2 tests failed even when non-combustible insulation was
3 used in a cladding system with PE-cored ACM panels.

4 By contrast, a cladding system incorporating
5 Celotex RS5000 with an ACM panel with a class A2 filler
6 met the test criteria. And, as I have mentioned, the
7 system tested by Celotex in April 2018, which replicated
8 as closely as possible the system described in Celotex's
9 product literature, also met the BR 135 criteria.

10 Arconic nevertheless suggests that Reynobond PE was
11 capable of being used in a compliant manner in high-rise
12 buildings. Celotex invites the Inquiry to reject this
13 contention. Contrary to Arconic's argument, Reynobond
14 PE was incapable of being used on a building in such
15 a way as to adequately resist the spread of fire over
16 the external walls.

17 Arconic knew that was the case. Its technical
18 manager, Mr Wehrle, repeatedly warned the company that
19 ACM PE was dangerous and unsuitable for use on cladding
20 façades. These warnings were unequivocal and not
21 couched with qualifications and reservations. They
22 demonstrate that Arconic's own technical manager
23 regarded the product at the time as necessarily
24 inappropriate and unusable. However, these warnings
25 were overridden by the company, which was unwilling to

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1 stop selling Reynobond PE, despite knowing how dangerous
2 it was.

3 The second point I wish to emphasise is that
4 Arconic's own documents and the evidence given by its
5 managing director, Mr Schmidt, make absolutely clear
6 that Arconic deliberately misled the market about the
7 true fire performance of Reynobond PE over an extended
8 period of time.

9 Reynobond PE was marketed in the UK and supplied for
10 use at Grenfell Tower on the basis of a certificate from
11 the BBA certifying that the product may be regarded as
12 having a class 0 surface. Arconic knew that this
13 certification was invalid and false. Reynobond PE had
14 never been tested under BS 476-6 and 7, which are the
15 tests necessary to achieve class 0 classification. The
16 product was only tested under the Euroclass regime, but
17 those tests did not justify the class 0 classification
18 claimed by Arconic.

19 So far as the cassette variant of Reynobond PE is
20 concerned, Arconic knew that this variant only ever
21 achieved the class E classification when tested from
22 2004 onwards. That is one of the lowest classifications
23 possible under the European testing regime. It meant
24 that the product in cassette form could not be used on
25 building façades. Those test results were never

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1 disclosed to the BBA or the market. The cassette
2 variant, of course, is the version of the product that
3 was used at Grenfell Tower.

4 So far as the rivet variant of Reynobond PE is
5 concerned, that initially achieved the class B
6 classification, but Arconic later acknowledged that
7 those results were attained by manipulating the test
8 systems. From 2013 onwards, the rivet variant only ever
9 achieved Euroclass C. Under ADB2, a cladding panel
10 classified as class C could not be treated as having
11 a class 0 classification under British Standards. That
12 required at least class B or better.

13 In 2014, Arconic cancelled the class B
14 certifications that it had previously obtained for
15 Reynobond PE. There was, therefore, no class B
16 classification in existence at the time that RB was sold
17 for use at Grenfell Tower. The submission to the
18 contrary made by Arconic this morning is, in our
19 submission, wrong.

20 Arconic did not disclose to the BBA that the rivet
21 variant only achieved a class C classification after
22 2013, or that Arconic had cancelled the class B
23 classification previously obtained for the rivet
24 variant. That was despite the class B classification of
25 the rivet variant having formed the basis of the BBA's

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1 certification of Reynobond PE as class 0.
 2 Had Arconic disclosed the cassette test results or
 3 the post-2013 rivet results to the BBA, the
 4 BBA certificate would not have been issued in the terms
 5 it was or would have been withdrawn. In either event,
 6 the BBA certificate could not have been relied upon by
 7 Arconic or other parties to support the use of Reynobond
 8 PE at Grenfell Tower.
 9 Arconic's documents also show that, long before
 10 Reynobond PE was supplied for use at Grenfell Tower,
 11 Mr Wehrle had repeatedly advised the company in strong
 12 terms that it should stop marketing Reynobond PE for use
 13 in architectural façades because the product was so
 14 dangerous. His advice, however, was overridden by
 15 Arconic's management on the grounds that he was
 16 technical and uncommercial. As a result, Reynobond PE
 17 continued to be promoted and marketed for use in
 18 cladding systems in the UK when there was no legitimate
 19 basis for doing so. The product should not have been
 20 sold or supplied for use at Grenfell Tower. Arconic
 21 should have stopped marketing it for use on building
 22 façades long before then.
 23 Arconic's suggestion that it should be exempted from
 24 criticism is, we submit, untenable. It is obvious that
 25 Arconic bears heavy responsibility for the specification

1 and use of cladding panels at Grenfell Tower that it
 2 knew to be dangerous.
 3 Mr Chairman, in conclusion, I reiterate Celotex's
 4 commitment to assisting this Inquiry. As I said at the
 5 outset, Celotex has acknowledged with regret that there
 6 were shortcomings in the historic testing and
 7 certification of certain of its products. It has been
 8 transparent and candid about those shortcomings. It has
 9 learned lessons and made improvements to its business as
 10 a result.
 11 Celotex's role, however, needs to be seen in the
 12 context of the Grenfell Tower refurbishment. Celotex
 13 submits that it is clear on the evidence that
 14 responsibility for the non-compliant cladding façade at
 15 Grenfell Tower lies, as I have outlined in this
 16 statement, with the construction professionals
 17 responsible for the design and construction of the
 18 façade or advising on it, and the TMO, RBKC and Arconic.
 19 Mr Chairman, that concludes my statement. Thank you
 20 for the opportunity to make this statement on behalf of
 21 Celotex.
 22 SIR MARTIN MOORE-BICK: Well, thank you very much, Mr Orr.
 23 That's very helpful, and has given us a lot to consider.
 24 At this point we'll take the afternoon break, and
 25 we'll resume at 3.30, when Mr Webb Queen's Counsel will

1 make a statement on behalf of Kingspan.
 2 So 3.30, please.
 3 (3.15 pm)
 4 (A short break)
 5 (3.30 pm)
 6 SIR MARTIN MOORE-BICK: Well, welcome back, everyone. We
 7 are now going to hear a closing statement on behalf of
 8 Kingspan from Mr Geraint Webb Queen's Counsel.
 9 Good afternoon, Mr Webb. I can see you, can you
 10 see me?
 11 MR WEBB: Good afternoon, Mr Chairman, yes.
 12 SIR MARTIN MOORE-BICK: Good, and we can obviously hear each
 13 other as well. That's good.
 14 Well, we are ready to hear your statement. Off you
 15 go then. Thank you very much.
 16 Module 1 & 2 closing submissions on behalf of Kingspan
 17 by MR WEBB
 18 MR WEBB: Thank you, Mr Chairman.
 19 The Grenfell Tower fire was a tragedy that should
 20 never have happened, and, as I said in the opening
 21 statement, Kingspan Insulation welcomes and supports the
 22 vitally important work of this Inquiry in its efforts to
 23 determine what went wrong and why.
 24 In Module 1 of Phase 2 the Inquiry has been
 25 considering, amongst other things, the numerous failings

1 which resulted in the refurbishment of Grenfell Tower
 2 being non-compliant with the Building Regulations.
 3 Kingspan Insulation had no direct involvement in the
 4 refurbishment of Grenfell Tower. It played no role in
 5 the design or installation of the cladding system. It
 6 provided no advice or technical guidance to those
 7 responsible for the design of the refurbishment or the
 8 installation. It had no contractual relationship with
 9 the council or the TMO, or any of the designers or any
 10 of the contractors engaged on the refurbishment. It did
 11 not provide any products provided to those involved in
 12 the refurbishment. It was not informed that its K15
 13 phenolic insulation product was being used on the tower,
 14 and it was not aware that K15 had been used on the tower
 15 until after the fire.
 16 Those responsible for the design of the
 17 refurbishment had specified that Celotex's PIR
 18 insulation would be installed behind the cladding, and
 19 almost all of the rainscreen insulation purchased for
 20 the tower, approximately 95% of it, was Celotex's PIR.
 21 However, since the fire, it's become clear that
 22 a limited amount of K15 phenolic insulation was used as
 23 a substitute when supplies of the Celotex PIR could not
 24 be obtained for a short period. In total, only about 5%
 25 of the rainscreen insulation purchased for use on

1 Grenfell Tower was K15.
 2 Given that Kingspan Insulation had no involvement in
 3 any aspect of the design or refurbishment of
 4 Grenfell Tower, and no witnesses connected to the
 5 company were called to give evidence in Module 1, my
 6 submissions on Module 1 will be brief.
 7 Much of the evidence heard in Module 1 and 2 was
 8 focused on aspects of the rainscreen cladding and the
 9 façade insulation used on Grenfell Tower, and so my
 10 submissions will also focus on these issues. However,
 11 it is important to keep in mind at all times that the
 12 tragedy was a result of multiple failings on the part of
 13 many different entities and individuals, and went far
 14 beyond the issues related to the cladding system. Such
 15 failings included, for example, failings in respect of
 16 the window systems, fire doors and their automatic
 17 closures, the gas supply cut-off and the smoke
 18 extraction system, as well as in relation to the
 19 response to the fire on the night. The reasons for the
 20 tragedy cannot properly be understood unless the
 21 importance of those numerous wider issues are fully
 22 recognised.
 23 Focusing on the cladding system itself, the starting
 24 point is the Building Regulations. At the time of the
 25 refurbishment of the tower, the collective guidance in

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1 Approved Document B and Technical Guidance Note 18
 2 required any cladding system for the tower to be
 3 assessed under one of four available routes to
 4 compliance. As Kingspan Insulation noted in its closing
 5 submissions in Phase 1, none of these routes was
 6 satisfied in respect of the Grenfell Tower
 7 refurbishment. Kingspan Insulation therefore agrees
 8 with the conclusion reached at paragraph 26.4 of the
 9 Phase 1 report, namely that the design of the
 10 refurbishment was not compliant with the
 11 Building Regulations. The system, therefore, should not
 12 have been specified or installed. Further, it should
 13 not have been approved by building control.
 14 When it comes to considering how and why
 15 a non-compliant cladding system was specified and
 16 installed, we would invite you to have regard to the
 17 following four points in particular.
 18 First and foremost, we invite you to consider the
 19 dominance of the role played by the PE-cored ACM
 20 cladding in the Grenfell Tower fire. As set out at
 21 paragraph 2.13 of the Phase 1 report, the evidence has
 22 established that the principal reason why the flames
 23 spread so rapidly up, down and around the building was
 24 the presence of the PE-cored cladding, which acted as
 25 a source of fuel. Put simply, the use of Arconic's

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1 Reynobond PE ACM cladding on Grenfell Tower rendered the
 2 tower unsafe following the refurbishment works.
 3 It's now clear that, prior to the Grenfell Tower
 4 refurbishment, Arconic knew that the cassette version of
 5 its PE-cored ACM cladding only achieved Euroclass E when
 6 tested. It therefore knew or should have known that its
 7 claim of a Euroclass B classification was incorrect,
 8 certainly in respect of the cassette version that was
 9 subsequently used on Grenfell Tower. It knew or should
 10 have known that the product was unsafe and not suitable
 11 for use on tall residential buildings.
 12 As far as we are aware, no system incorporating
 13 PE-cored ACM cladding of the type used on the tower has
 14 ever successfully passed a full-scale BS 8414 fire test
 15 in combination with any form of insulation. After the
 16 Grenfell Tower fire, the Department for Communities and
 17 Local Government commissioned two BS 8414 tests on
 18 PE-cored ACM cladding systems. One system incorporated
 19 PIR insulation, the other incorporated synthetic mineral
 20 fibre insulation classified as non-combustible. Both
 21 systems failed the test in under 8 minutes and therefore
 22 failed to meet the criteria set by BR 135. The
 23 independent expert panel concluded that ACM with
 24 unmodified polyethylene filler presents a significant
 25 fire hazard on residential buildings at any height with

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1 any form of insulation.
 2 This is a vitally important issue. It is clear from
 3 all of the available evidence that, whilst the
 4 Building Regulations did not permit PIR or phenolic
 5 façade insulation to be used with the Arconic PE-cored
 6 ACM cladding, the Arconic cladding would have been
 7 unsafe whether it had been combined with combustible or
 8 non-combustible insulation, as demonstrated by that DCLG
 9 testing.
 10 Furthermore, the extensive independent and
 11 peer reviewed testing and modelling carried out and
 12 published by Efectis has shown that there would have
 13 been no material difference in the nature and the speed
 14 of the spread of the fire at Grenfell Tower had the
 15 PE-cored ACM cladding been combined with non-combustible
 16 synthetic mineral fibre insulation instead of PIR. Full
 17 details of that testing and modelling are provided in
 18 footnote 11 of our written closing submissions.
 19 In addition, the validity of the expert panel's
 20 conclusion that PE-cored ACM cladding presents
 21 a significant fire hazard with any form of insulation is
 22 also clear from the evidence relating to other serious
 23 fires involving this type of cladding. Such fires have
 24 occurred in buildings using synthetic mineral fibre
 25 insulation directly behind PE-cored ACM, such as the

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1 Torre Ambar fire in Madrid in August 2020 and the fire
 2 at The Torch in Dubai in 2015, or even when there was no
 3 façade insulation at all, such as at The Address
 4 Building in Dubai in 2015. The common factor again and
 5 again has been the PE-cored ACM cladding. Full details
 6 of the fire in Milan just two weeks ago are not yet
 7 available, but the indications are that this was yet
 8 another fire involving PE-cored ACM.

9 The second major failing was in respect of design.
 10 Those at Studio E lacked experience of high-rise
 11 cladding systems. This was coupled with widespread
 12 ignorance of the risks inherent in PE-cored ACM cladding
 13 amongst those involved in the project. Overall, there
 14 was a lack of understanding and appreciation in relation
 15 to the question of safety when it came to the design of
 16 the refurbishment, as demonstrated for example in
 17 respect of the positioning of cavity barriers and
 18 detailing around the window reveals.

19 In this context it's important to note that even if
 20 the Arconic cassette system had genuinely been
 21 Euroclass B, it would still have been impermissible to
 22 combine such cladding with PIR or phenolic insulation
 23 under the linear route to compliance. Thus the design
 24 of the cladding system on any view was not compliant
 25 with the regulations.

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1 The third major failing was in respect of
 2 building control. Building control should have acted as
 3 an external and independent safeguard on the
 4 refurbishment project to ensure that the specified
 5 cladding system was compliant with the
 6 Building Regulations. It failed in this critical role.
 7 The Inquiry's appointed building control expert,
 8 Ms Menzies, confirmed in her report that she had not
 9 seen any evidence of communications between any party
 10 and building control that refers to the compliance or
 11 non-compliance of the cladding system, nor any evidence
 12 that building control requested details of the cladding
 13 system's ability to resist fire spread. She described
 14 this as a fundamental failing.

15 Ultimately those responsible for the design,
 16 construction and approval of the Grenfell Tower
 17 refurbishment bear responsibility for the fact that the
 18 refurbishment failed to comply with the
 19 Building Regulations and was unsafe.

20 Fourthly, however, Kingspan Insulation is firmly of
 21 the view that the Building Regulations themselves were
 22 flawed and remain flawed to this day, because the linear
 23 route to compliance permits systems to be built based on
 24 small-scale testing of individual components without
 25 requiring the safety of the system as a whole to be

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1 proved in a full-scale fire test. Had a full-scale
 2 fire test been required in respect of the Grenfell Tower
 3 cladding system, then it's clear from the DCLG tests
 4 that it would have failed, whatever insulation was used.

5 Mr Chairman, I now turn to Module 2.

6 My submissions on Module 2 fall into three parts:
 7 first, a few introductory points in respect of certain
 8 issues relevant to Module 2 evidence relating to
 9 Kingspan Insulation; second, I shall consider the
 10 evidence concerning testing, certification and
 11 classification of K15; and, thirdly, I shall respond to
 12 some of the other allegations that have been advanced
 13 against Kingspan Insulation which do not directly relate
 14 to K15 itself.

15 The first point I wish to address at the outset
 16 concerns the safety of K15 insulation. On numerous
 17 occasions during this Inquiry it has been asserted that
 18 K15 phenolic insulation is somehow unsafe for use in
 19 rainscreen cladding. It's also been asserted that the
 20 company knew that it was unsafe. These allegations are
 21 demonstrably untrue. They're contrary to the evidence.

22 In total 14 different cladding systems incorporating
 23 current K15, the type of insulation used on the tower,
 24 have successfully passed full-scale BS 8414 fire tests.
 25 Each of those tests is listed at footnote 5 of our

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1 written closing submissions. Those tests have involved
 2 a range of different cladding systems, including ACM
 3 systems with an A2 rating. There have also been other
 4 successful tests of systems incorporating K15 conducted
 5 by third parties with which Kingspan Insulation has had
 6 no involvement. Kingspan Insulation is not aware of any
 7 other type of rainscreen insulation that has been used
 8 in so many different cladding systems which have passed
 9 full-scale BS 8414 fire tests.

10 The only realistic way to test the cladding system
 11 is via a full-scale fire test of the whole system. This
 12 was the conclusion referred to by Dr Lane in her
 13 presentation to the Inquiry on Day 68 in November last
 14 year referencing Dr Raymond Connelly's conclusions in
 15 his 1994 report, and it remains the position today.

16 At the time of the refurbishment at Grenfell Tower,
 17 Approved Document B expressly permitted cladding systems
 18 that had successfully passed a BS 8414 test to be used
 19 on high-rise residential buildings. Thus, such systems
 20 were recognised to be safe systems. The MHCLG guidance
 21 for building owners of multistorey, multi-occupied
 22 residential buildings dated January 2020 also explicitly
 23 allows the retention of correctly installed and
 24 maintained rainscreen cladding systems which have passed
 25 a BS 8414 test.

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1 Kingspan Insulation relies on each of its 14
2 successful 8414 tests to demonstrate why it is
3 confident, and right to be confident, that K15 can
4 safely be used and retained in appropriate cladding
5 systems.
6 The second point concerns the role played by
7 insulation in a rainscreen cladding system. No one
8 doubts that residential buildings should be insulated.
9 No one doubts that rainscreen cladding systems should
10 contain insulation. Indeed, one of the primary
11 objectives of the Grenfell Tower refurbishment project
12 was to improve the insulation and thermal performance of
13 the building. But any rainscreen insulation, including
14 non-combustible insulation, will play some role in
15 a cladding fire, not least because its insulating
16 properties act to retain heat from combustion of the
17 cladding system. Therefore, the relevant question
18 insofar as insulation is concerned is not what would
19 have happened if there had been no rainscreen insulation
20 at Grenfell Tower, but whether the nature or speed of
21 the spread of the fire would have been materially
22 different had an alternative type of insulation been
23 used.
24 On this issue, the scientific evidence is clear and
25 unequivocal. The nature and speed of the spread of the

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1 fire would have been no different had non-combustible
2 insulation been used instead of PIR or phenolic
3 insulation behind the PE-cored ACM cladding. Testing
4 and commissioning by the DCLG following the
5 Grenfell Tower fire demonstrated that the systems
6 incorporating PE-cored ACM failed BS 8414 tests whether
7 combined with non-combustible synthetic mineral fibre or
8 with PIR insulation. Both systems, as I've said, failed
9 very quickly, in under 8 minutes. In fact, the system
10 incorporating non-combustible insulation failed
11 marginally quicker than the system incorporating PIR.
12 Independent testing and modelling by Efectis, as
13 I've said, demonstrates that the PE-cored ACM was so
14 dominant in the fire spread that there would have been
15 no material difference in the rate of the fire spread on
16 Grenfell Tower if non-combustible synthetic mineral
17 fibre had been used instead of the PIR insulation.
18 It's understood that the Inquiry will be producing
19 its own expert evidence on these fundamental issues in
20 Module 7.
21 The third point to emphasise is this: whilst
22 Kingspan Insulation has fully acknowledged and
23 apologised for historical shortcomings in its processes
24 and procedures as set out in its written statements,
25 many other allegations and assertions have been made

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1 against the company and its employees which are quite
2 simply untrue. As I've said, allegations attacking
3 K15's safety have been made which totally ignore the
4 relevant evidence, namely that K15 has been used in more
5 cladding systems which have passed full-scale fire tests
6 than any other type of insulation, so far as we're
7 aware, and I shall deal with other similar allegations
8 shortly.
9 It is part of the role of Counsel to the Inquiry to
10 put allegations to witnesses in order to elicit
11 an answer in evidence. There is, though, an inherent
12 risk that those observing the questioning process may
13 mistakenly believe that an assertion put to a witness
14 must be true when it may not be. That risk is all the
15 greater when the incorrect assertion is repeated time
16 and time again either by counsel or the media as if it
17 were an established fact. Core participants are
18 therefore dependent on you, Mr Chairman, and you,
19 members of the panel, to be extremely careful when
20 considering the totality of the evidence, both written
21 and oral, to ensure that the process followed does not
22 result in an incorrect understanding of the true factual
23 position or incorrect conclusions being drawn.
24 Kingspan Insulation has been criticised for certain
25 shortcomings between 2005 and 2014. It has learned from

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1 its mistakes and has taken steps to ensure that its
2 processes and procedures are improved. But such matters
3 should not distract from the important goal of
4 establishing the actual cause of the fire, the true
5 reasons for its tragic consequences and the need to
6 ensure that necessary measures are taken to protect
7 life safety in future.
8 The reality is that none of the shortcomings on the
9 part of Kingspan Insulation are relevant to the unsafe
10 design of the Grenfell Tower refurbishment, nor were
11 they causative of the fire, and nor were they causative
12 of the nature or speed of the spread of the fire.
13 In respect of the testing of K15, to which I now
14 turn, various allegations have been made to the effect
15 that Kingspan Insulation somehow manipulated BS 8414
16 tests. Such allegations are not true. None of the
17 BS 8414 tests of K15 have been manipulated.
18 More generally, the criticisms made of
19 Kingspan Insulation in respect of testing can be
20 categorised into six main themes, and I shall deal with
21 each of them in turn now.
22 The first category of allegations concerns the
23 design of the 2005 BS 8414 test. That criticism is
24 misplaced. The BS 8414 test was introduced in 2002 and
25 was a new type of test, being a test of a system rather

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1 than a particular product. The 2005 test was one of the
 2 very first BS 8414 tests undertaken. At that time, it
 3 was reasonably believed by those involved that testing
 4 a single specific type of cladding would not be
 5 particularly helpful for fire engineering professionals.
 6 The thinking was that it would be better to test
 7 a build-up that could be taken to simulate the
 8 performance of a generic non-combustible outer cladding.

9 Contrary to the assertions advanced by others, there
 10 was nothing dishonest or inappropriate about
 11 Kingspan Insulation's approach to the 2005 test. It was
 12 a bona fide test of a system which had been suggested by
 13 the BRE. Both the BRE and Kingspan Insulation were
 14 trying to understand how a new testing regime was
 15 intended to be used by professionals within the
 16 industry.

17 Furthermore, the rationale behind the approach
 18 adopted was entirely reasonable. Indeed, in 2014 the
 19 regulatory guidance was amended so as to allow evidence
 20 from a test on one system to be used by fire engineering
 21 experts to advise on safety of a different system via
 22 desktop studies, thus the concept of extrapolation came
 23 to be accepted as a legitimate route to compliance.

24 There have also been allegations made that the 2005
 25 test was rigged in some way. Again, these allegations

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1 are simply untrue. It was a valid test conducted
 2 transparently and honestly. Criticisms have been made
 3 of the way in which the timings of the test were
 4 recorded, but those timings were recorded by BRE
 5 employees, and Kingspan Insulation was not involved in
 6 taking or recording those timings. In any event, the
 7 system met the BR 135 criteria regardless of any issues
 8 concerning the way in which the timings were recorded.
 9 This was made clear by the BRE in their evidence.

10 There has also been an attempt to allege that the
 11 2005 test used unrepresentative fire barriers. The
 12 basis of this allegation has never been understood and
 13 has not been supported by any expert evidence.
 14 Kingspan Insulation understands that the fire barriers
 15 used were off-the-shelf purchases that were on the
 16 market at the time and typical of such products.

17 The allegations that the 2005 tests were somehow
 18 rigged by Kingspan Insulation is one of numerous
 19 examples of very serious allegations which have been
 20 made against the company which have no basis in fact.
 21 The 2005 test was conducted honestly and transparently
 22 by Kingspan Insulation and the BRE, and that is what the
 23 evidence shows. The fact that repeated allegations have
 24 been made to the contrary does not change that reality.

25 Erroneous allegations have also been made about the

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1 requirement for a BR 135 classification report. It was
 2 repeatedly put to witnesses in the context of the 2005
 3 that a classification report was somehow necessary in
 4 order to enable the company to state that the test had
 5 met the criteria set by BR 135. The true position is
 6 that, at the time of the 2005 test, there was no
 7 regulatory requirement to obtain a classification
 8 report. It was always an option available, but the
 9 relevant data was set out in the test report provided by
 10 the test house, and competent professionals could
 11 satisfy themselves as to whether the data met BR 135
 12 criteria.

13 Ten years after the test, however, there was
 14 a change in the guidance. In June 2015, the BCA
 15 Technical Guidance Note 18 for the first time suggested
 16 that a classification report should be obtained. Within
 17 three months of this new guidance being published,
 18 Kingspan Insulation sought a classification report for
 19 the 2005 test. All the relevant information relating to
 20 the 2005 test was set out in the original test report
 21 and so there was no difficulty in BRE issuing
 22 a classification report in 2015 for the 2005 test. This
 23 has also been confirmed by the BRE in their submissions
 24 and evidence. Furthermore, those competent to do so can
 25 look at the 2005 test and ascertain for themselves that

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1 the test met BR 135 criteria.

2 Finally in relation to the 2005 test, it was alleged
 3 during oral submissions yesterday that the only
 4 successful BS 8414 test on K15 at the time of supply to
 5 Grenfell was the 2005 test. This is incorrect.
 6 In fact, when K15 was first purchased for Grenfell Tower
 7 in May 2015, a further successful BS 8414 test of K15
 8 had taken place, and when K15 was supplied for the
 9 second time in September 2015, a further two successful
 10 BS 8414 tests of K15 had taken place. All three of
 11 these tests were in respect of the current K15, the type
 12 used on the tower.

13 The second category of criticism concerns the fact
 14 that Kingspan Insulation continued to rely upon the 2005
 15 test after certain changes were made in respect of the
 16 way in which K15 was manufactured. The company has
 17 fully accepted that the change in technology means that
 18 it should have re-conducted the 2005 test with K15
 19 manufactured using the new technology. However, its
 20 failure to do so was based on its honest belief that the
 21 change in technology would not make any material
 22 difference to the fire performance of the product in
 23 a BS 8414 test.

24 Dr Malcolm Rochefort, the technical director at the
 25 relevant time, explained based on his extensive

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1 experience of phenolics at ICI and at
 2 Kingspan Insulation that both new technology and old
 3 technology K15 used fundamentally the same type of
 4 phenolic foam, and that there was no reason from
 5 a chemical level to expect any significant differences
 6 in terms of the fire performance between the two
 7 technologies. He explained that, if anything, the new
 8 technology benefitted from a less flammable blowing
 9 agent.

10 On 6 June 2019, Kingspan Insulation undertook
 11 a BS 8414 test of a system which was as close as
 12 possible to the system used in the 2005 test, but which
 13 incorporated current K15 instead of old technology K15.
 14 The system passed the test. This 2019 replacement test
 15 demonstrates that the failure to undertake a replacement
 16 for the 2005 test earlier in time has not given rise to
 17 any fire safety risks. Any fire engineer or other
 18 expert who relied upon that original 2005 test now has
 19 the replacement test to rely upon in respect of the
 20 current K15. The company has now put in place
 21 a rigorous audit and change management system to ensure
 22 continuing product compliance.

23 The third category of allegations relating to
 24 testing concerns fire performance. It has wrongly been
 25 asserted on numerous occasions that new technology K15

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1 has a worse fire performance than old technology K15.
 2 There is absolutely no scientific or expert evidence to
 3 support such an assertion. The allegation has been
 4 based in particular on a report by Ivor Meredith of
 5 a December 2007 BS 8414 test of a cladding system
 6 incorporating aluminium cassettes. That system failed.
 7 It was asserted by counsel in cross-examination that the
 8 new technology K15 failed spectacularly in this
 9 December 2007 test, and that the test proved that the
 10 new technology K15 had a worse performance than old
 11 technology K15. Such assertions are patently incorrect.

12 K15 did not fail the test in 2007, let alone fail it
 13 spectacularly as asserted. The failure of the system
 14 tested in December 2007 demonstrates that that cladding
 15 system as a whole was not capable of passing the
 16 demanding requirements of the BS 8414 test. The failure
 17 of the test says nothing about new technology K15 as
 18 against old technology K15. This reality is
 19 demonstrated by the fact that the December 2007 test was
 20 repeated in January 2008 using non-combustible synthetic
 21 mineral fibre insulation instead of K15 and it failed
 22 again. Yet no one considers that the failure of the
 23 2008 test means that the synthetic mineral fibre
 24 insulation is unsafe or is somehow less safe than old
 25 technology K15.

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1 It would be perverse and wholly wrong for
 2 the Inquiry to conclude that the difference between the
 3 2005 8414 test result and the 2007 test result could
 4 somehow be attributed to the slight technological
 5 changes in respect of K15 as opposed to the gross
 6 differences in the designs of the cladding systems being
 7 tested. Yet that was the assertion repeatedly put to
 8 witnesses as if it were true, and then reported as if it
 9 were established fact in the media.

10 It's also notable that Mr Meredith, whose report
 11 described the failure of that December 2007 test, was
 12 not present when the test took place, yet his
 13 description of the test as a "raging inferno" was
 14 referenced on numerous occasions during this Inquiry as
 15 if it was a first-hand witness account. It was not. He
 16 did not witness the test, nor is there any evidence that
 17 he saw even a video recording of the test before writing
 18 his report. In contrast, Mr Baker, the BRE
 19 certification scheme manager, who did attend the test
 20 and witnessed it, described the language used in
 21 Mr Meredith's report as "quite flowery", and he himself
 22 declined to call the failure spectacular when invited to
 23 do so by Counsel to the Inquiry.

24 Nor is it clear why almost no mention has been made
 25 during cross-examination of the fact that the same

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1 rainscreen cladding system failed when tested in
 2 January 2008 using non-combustible insulation, despite
 3 evidence relating to this test having been drawn to
 4 the Inquiry's attention.

5 The fire performance of new technology K15 cannot be
 6 assessed on the basis of a comment made by one person in
 7 respect of one test of a whole cladding system which he
 8 did not witness and when he had limited experience of
 9 such tests. Conversely, the ability of current K15 to
 10 be used successfully in different cladding systems is
 11 demonstrated by the fact at least 14 cladding systems
 12 using current K15 have passed BS 8414 tests, as I've
 13 said. The repeated assertions that new technology K15
 14 has an inferior fire performance to old technology K15
 15 are entirely unsupported by any scientific evidence.

16 The panel is enjoined to consider the basis of each
 17 and every allegation levelled against Kingspan
 18 Insulation. Time and time again, there is no scientific
 19 basis to support the allegations advanced.

20 The fourth area of criticism concerns two BS 8414
 21 tests conducted in 2014. The first was a Trespa
 22 cladding system, the second was of a terracotta tile
 23 cladding system. Both tests were undertaken using
 24 non-standard K15, which differed from current K15 in
 25 that it used a thicker, unperforated foil facer and it

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1 was made using a different blowing agent. The first
2 Trespa system failed the BS 8414 test and the second
3 terracotta system passed.

4 Whilst these R&D changes intended to improve thermal
5 performance were considered by employees at the time to
6 be irrelevant to the issue of fire performance in
7 a full-scale BS 8414 test, Kingspan Insulation has
8 accepted that it should have made clear that those 2014
9 tests used non-standard K15.

10 The important point, however, is that new tests were
11 carried out very shortly afterwards using current K15.
12 BS 8414 tests of systems featuring a terracotta tile
13 rainscreen were undertaken in April 2015 and again in
14 January 2016 using current K15. Both systems also
15 passed. Accordingly, if any fire engineer relied upon
16 the successful 2014 terracotta test which used the R&D
17 version of K15, then they would similarly have been able
18 to rely on the 2015 and 2016 tests as relevant
19 alternative tests using current K15.

20 Out of an abundance of caution, Kingspan Insulation
21 also carried out a replacement test of the unsuccessful
22 2014 Trespa test using current K15 in 2019. The test
23 again achieved the same result, ie just as it failed in
24 2014, so it failed again in 2019. Thus, again, if any
25 fire engineer did have any regard to the failed 2014

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1 test, they can now refer to the replacement test.

2 In summary, therefore, whilst these two 2014 test
3 results should have been marked as R&D results, there
4 was no intention to mislead anyone, and the further
5 testing demonstrates that if any fire engineer did place
6 reliance upon either of those tests, any such reliance
7 would not have given rise to any fire safety issues.
8 Any such engineer can now rely on the further testing as
9 alternatives. Kingspan has put in place improved
10 procedures so as to ensure that the R&D testing is not
11 relied upon for current marketing of products.

12 The fifth area of criticism concerns the withdrawal
13 of the test reports I have been discussing.
14 Kingspan Insulation removed the test and classification
15 reports for the 2005 and the successful 2014 terracotta
16 test from its website and all marketing literature in
17 March 2019 so as to ensure that they were not relied
18 upon in any new projects. The company also then wrote
19 to fire engineers, including the BRE, on 23 October 2020
20 confirming that the test reports for the 2005 test and
21 those two 2014 tests were being withdrawn, but
22 explaining that the replacement tests could be relied
23 upon instead of the withdrawn reports.

24 The company's withdrawal of these three tests was
25 an appropriate and prudent step. It acted reasonably

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1 and responsibly, ensuring that it had conducted
2 appropriate testing to enable all those within the
3 industry to understand precisely why the company was
4 confident that the withdrawal of the three tests gave
5 rise to no risks to health or safety. The test reports
6 for the replacement tests are available to anyone who
7 wishes to rely upon them in place of any of the three
8 original tests.

9 Finally in relation to testing, it has been
10 suggested to various witnesses that Kingspan Insulation
11 should not have claimed class 0 in respect of K15. This
12 criticism is not accepted. Whilst there may be room for
13 more than one interpretation of the relevant regulations
14 and guidance in respect of the requirements for claiming
15 class 0, Kingspan Insulation considers that its
16 interpretation is reasonable, valid and legitimate,
17 having regard to the relevant statutory guidance set out
18 in Approved Document B.

19 K15's original class 0 classification was derived
20 from the testing of phenolic products produced by its
21 Dutch sister company in Kesteren. The BBA accepted
22 these test reports as appropriate evidence of K15's
23 class 0 classification, as explained in its evidence to
24 the BBA.

25 In May 2007, Kingspan Insulation tested the

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1 foil facer used on K15 to BS 476-6 and 7. It passed the
2 test. Approved Document B requires either the product
3 or surface material of a composite product to meet the
4 relevant criteria set out in BS 476. K15 is a composite
5 product for which the facer is the surface material, and
6 following this valid testing, Kingspan Insulation
7 rightly claimed that K15 was class 0.

8 It has been suggested to witnesses by Counsel to the
9 Inquiry that the company should not have relied upon the
10 wording of Approved Document B in respect of class 0.
11 This line of questioning was not supported by any expert
12 evidence. Indeed, it appears to be directly contrary to
13 the explanation provided by Dr Lane, who explained that
14 in 1985 the definition of class 0 was significantly
15 changed, in part because the requirement to consider the
16 substrate with the surface was removed from the text in
17 the statutory guidance document. This remained the
18 definition until the time of the Grenfell Tower fire.

19 Thus Kingspan Insulation's interpretations of the
20 requirements of BS 8414-6 and 7 is consistent with
21 Dr Lane's evidence. There was a deliberate change to
22 the statutory guidance to permit the testing of the
23 surface material of a composite product as opposed to
24 the testing of the entirety of the product. The
25 guidance expressly permitted the testing of the

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1 foil facer of K15 and that is what was tested.
 2 Furthermore, this understanding of the guidance has
 3 also to be considered in the context of Mr Pargeter's
 4 evidence that when you test a composite product like
 5 K15, the facer can delaminate from the product and then
 6 touch the burner element, which affects the test.
 7 Kingspan Insulation cannot be criticised for testing
 8 K15 in accordance with the plain reading of the text of
 9 the statutory guidance following an express amendment to
 10 permit testing in this manner. The repeated assertions
 11 to the contrary are not only unfounded, but appear to
 12 ignore the expert evidence which the Inquiry itself has
 13 adduced on this point.
 14 Certification .
 15 I now turn to issues which have been raised
 16 concerning the BBA and LABC certification of K15.
 17 The BBA is responsible for the contents of its own
 18 certificates . The BBA is qualified to make judgments
 19 about the content of the certificates and/or seek expert
 20 assistance if needed, and it can and does amend the
 21 wording of its certificates . The BBA also regularly
 22 audits Kingspan Insulation's manufacturing processes.
 23 The first BBA certificate relating to K15 was issued
 24 in October 2008. Five further versions were published
 25 between this date and November 2020. As regards the

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1 content of K15's BBA certificates, John Albon of the BBA
 2 confirmed in his evidence that:
 3 "The Certificate content has evolved over time,
 4 which is the case with most BBA Certificates, to reflect
 5 external changes and updates to the standard BBA wording
 6 for a particular product type. I believe that the
 7 wording has been clarified since the issue of the
 8 Certificate , but I have no concerns as to the content of
 9 previous issues , if it is to be read by a suitably
 10 experienced and competent individual behaving
 11 ethically ."
 12 Four of Kingspan Insulation's witnesses were asked
 13 questions about a reference to paragraph 12.7 of
 14 Approved Document B in the K15 BBA certificate dated
 15 April 2010. In the course of that questioning, it was
 16 repeatedly suggested that the certificate was incorrect
 17 to reference paragraph 12.7. In each case the witness's
 18 attention was drawn only to the first part of
 19 paragraph 12.7, which requires any insulation used in
 20 the external wall construction of a building over
 21 18 metres to be of limited combustibility .
 22 However, during questioning, none of those four
 23 witnesses was taken to the second part of
 24 paragraph 12.7, which makes it clear that the
 25 restriction does not apply to certain masonry cavity

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1 wall constructions. The effect of this exemption was to
 2 permit the use of K15 in such masonry cavity wall
 3 constructions. The second sentence explains why
 4 paragraph 12.7 of Approved Document B was referred to in
 5 the BBA certificate.
 6 Further, Mr Albon of the BBA explained precisely
 7 this point in his witness statement, and explained that
 8 the certificate wording was technically correct and that
 9 a suitably competent reader would have no difficulty in
 10 understanding the meaning. It is therefore not
 11 understood why Kingspan Insulation witnesses were not
 12 taken to the second part of paragraph 12.7 when being
 13 asked to justify why that paragraph was referred to in
 14 the BBA certificate, particularly given that the
 15 certificate was drafted by the BBA and the BBA had
 16 explained why it was drafted that way. Kingspan
 17 Insulation cannot be criticised for BBA's decision to
 18 refer to that paragraph in its certificate .
 19 The LABC also produced some certificates in respect
 20 of K15. The LABC was responsible for drafting those
 21 certificates with the assistance of Herefordshire
 22 Building Control. Wording was only included on the LABC
 23 certificate which had been authorised by the LABC.
 24 As the Inquiry has heard, the 2009 LABC certificate
 25 stated that K15 can be considered as a material of

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1 limited combustibility. In its written opening
 2 submissions, Kingspan Insulation accepted and
 3 acknowledged that, taken in isolation, this sentence
 4 could be misleading. The LABC has tried to suggest in
 5 its submissions that Kingspan Insulation is somehow to
 6 blame for the use of this language, even though it is
 7 wording that came from Mr Jones of Herefordshire
 8 Building Control and was not suggested or provided by
 9 Kingspan Insulation. Kingspan Insulation is not to
 10 blame for LABC's choice of wording. LABC has to take
 11 responsibility for its own choice of language in its own
 12 certificates .
 13 Whatever the reason for LABC's choice of wording in
 14 2009, the relevant language was not included in the
 15 subsequent certificates . Accordingly, at the time of
 16 supply of K15 for use on Grenfell Tower, the applicable
 17 LABC certificate of 30 March 2015 did not contain the
 18 wording which has been criticised, and nor had the prior
 19 certificate of 2013. The relevant point, therefore, is
 20 this: whatever criticisms might be made about the LABC's
 21 choice of language in its 2009 certificate , there is
 22 absolutely no evidence that anyone involved in the
 23 design of the Grenfell Tower refurbishment read that
 24 outdated 2009 certificate, far less that they relied
 25 upon it or were misled by it in any way.

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1 In addition, there has been some criticism about
2 some of the product literature relating to K15.
3 Kingspan Insulation accepted before the start of
4 Module 2 that certain statements made in early versions
5 of K15 product literature and other information issued
6 prior to 2014 could and should have made it clear that
7 the 2005 BS 8414 test related to a particular system and
8 advised caution against applying the 2005 test too
9 broadly.

10 However, this has to be seen in the context of the
11 newness of the BS 8414 test, and general uncertainty
12 within the industry at the time as to the extent to
13 which it was appropriate to extrapolate the performance
14 of one cladding system in a BS 8414 test to other
15 systems.

16 Ultimately, the position was clarified in June 2014,
17 Technical Guidance Note 18, which made it clear that
18 a BS 8414 test in respect of one system could be relied
19 upon by appropriate professionals when assessing the
20 likely performance of other systems.

21 In any event, at the time of the Grenfell Tower
22 refurbishment, Kingspan Insulation's standard advice to
23 clients correctly referred to Approved Document B and to
24 Technical Guidance Note 18, and appropriately summarised
25 relevant routes to compliance.

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1 Again, whatever criticisms have been made of the
2 historical product information, there is therefore
3 absolutely no evidence that anyone involved in the
4 design of the Grenfell Tower refurbishment was misled in
5 any material way by any of the outdated product
6 information relating to K15.

7 I now turn to allegations about Kingspan Insulation
8 itself.

9 One of the most perplexing allegations that has been
10 advanced is the assertion that the company's actions
11 were somehow causative of the tragedy that occurred
12 because K15 "set the precedent that combustible
13 insulation could genuinely pass an 8414 test and so be
14 used over 18 metres". But such an allegation makes no
15 sense whatsoever. As I have explained, current K15, the
16 type used on the tower, has been used in 14 different
17 systems which have each genuinely passed full-scale
18 BS 8414 tests. Those have all been proper tests in
19 respect of which no wrongdoing has taken place. The
20 fact that numerous systems incorporating K15 have
21 validly passed BS 8414 tests cannot render
22 Kingspan Insulation responsible for any wrongdoing on
23 the part of any other manufacturer. The allegation is
24 a nonsense in fact and in law.

25 The second point on this topic is that

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1 Kingspan Insulation's corporate culture has also come
2 under attack. The reality is that Kingspan Insulation's
3 priority has always been about the safety of its
4 products. It has never pursued commercial interests at
5 the risk of life or fire safety. Kingspan Insulation
6 has provided a very considerable volume of documents to
7 the Inquiry spanning a period of over two decades. Of
8 those disclosed, over 23,500 have been provided by
9 the Inquiry to core participants. That is three times
10 greater than the volume of documents — 7,703 —
11 provided from Celotex, notwithstanding that Kingspan
12 amounted to only 5% of the rainscreen insulation
13 purchased for the tower, whilst Celotex's PIR amounted
14 to 95%. It's 63 times greater than the 378 documents
15 provided in respect of Arconic's disclosure,
16 notwithstanding that Arconic's PE-cored ACM material
17 covered the whole tower and was the principal cause for
18 the spread of the fire.

19 In short, virtually every aspect of
20 Kingspan Insulation's business over the last two decades
21 has been examined in detail for disclosure purposes.
22 That process has unearthed a handful of emails and
23 chats, mainly involving three individual former
24 employees, which have revealed conduct that was totally
25 inappropriate and unacceptable and which has been

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1 acknowledged as such, and for which Kingspan Insulation
2 has apologised unreservedly. Such improper behaviour
3 has no place in Kingspan Insulation or the wider
4 Kingspan Group, and it is in no way reflective of its
5 core values. None of those three employees remain in
6 the employment of the company. Those isolated
7 communications are the exception and they should not
8 condemn the behaviour of the many hundreds of employees
9 that work at Kingspan Insulation, let alone the 18,000
10 employees who work for Kingspan Group worldwide.

11 The company has responded by taking robust measures,
12 ensuring that its culture is embedded throughout the
13 organisation, and details of the numerous steps taken by
14 the company are set out in its opening submissions.

15 I now turn to the final point in relation to
16 allegations that Kingspan Insulation misled the Housing,
17 Communities and Local Government parliamentary
18 select committee in 2018.

19 At that time, the linear route to compliance under
20 the Building Regulations permitted rainscreen cladding
21 systems to be installed on buildings above 18 metres
22 provided all the material used had achieved certain
23 classifications in small-scale fire tests.

24 Kingspan Insulation considers that this approach is
25 flawed and not based on scientific or empirical

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1 evidence. In particular, this approach takes no account
2 of how individual products will perform when combined in
3 a cladding system.

4 As part of his evidence, Mr Burnley, the then
5 managing director of Kingspan Insulation, drew those
6 concerns to the attention of the select committee, and
7 referred to some examples of BS 8414 tests of whole
8 systems which had failed despite the fact that the
9 individual components had achieved the necessary
10 classifications.

11 At the committee's request, the company provided
12 details of three tests of the systems comprising
13 Euroclass A1 and A2 cladding and insulation that had
14 failed full-scale fire tests. One of those three tests
15 was of a cladding system that Kingspan Insulation had
16 arranged to be tested; the other two had been
17 independently commissioned by third parties and had
18 nothing to do with the company.

19 When Mr Pargeter came to give evidence on
20 9 December 2020, he was subjected, without any notice,
21 to extensive cross-examination to the effect that
22 Kingspan Insulation had deliberately misled the
23 select committee. Leaving aside for now whether such
24 cross-examination is permissible under Article 9 of the
25 Bill of Rights, which is a matter for you, Mr Chairman,

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1 and to which we have drawn the Inquiry's attention, the
2 allegation that Kingspan Insulation misled Parliament is
3 wholly wrong.

4 The company was initially criticised for not
5 informing the select committee that one of the test
6 reports it had provided related to a cladding system
7 which had contained deliberate design flaws, but that
8 allegation was based on a misunderstanding of the true
9 factual position. The report provided to the committee
10 was of a system which was robustly built and contained
11 no deliberate design flaws whatsoever.

12 When that mistaken understanding was corrected, the
13 company was then criticised for not providing the
14 select committee with details of another system which
15 had passed a BS 8414 test. That criticism is also
16 entirely misplaced. The point being made to the
17 select committee was that some systems which comply with
18 the linear route would nevertheless be incapable of
19 passing a BS 8414 test and are therefore unsafe. It was
20 never being suggested that all systems passing the
21 linear route would fail a fire test. The company
22 provided details of the test which illustrated the
23 relevant point of public safety which was being made.
24 The other system, which passed the test, was irrelevant
25 to the issue of public safety under consideration and so

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1 was not provided.

2 Kingspan Insulation was acting in good faith by
3 attending the select committee as requested and properly
4 drawing attention to the three valid fire safety tests
5 which demonstrated that the linear route to compliance
6 is not 100% effective in screening out unsafe cladding
7 systems. The company drew the Parliament
8 select committee's attention to a genuine and important
9 issue of public safety. It should not have been
10 criticised for doing so during the course of this
11 Inquiry. The criticism is particularly difficult to
12 understand in circumstances in which the Inquiry's own
13 expert, Dr Lane, has presented evidence as to the
14 importance of full-scale testing and the problems
15 associated with small-scale testing, as I have
16 mentioned.

17 The issue of public safety raised by
18 Kingspan Insulation is real. The system based upon the
19 classification of individual products in small-scale
20 fire tests is not failsafe. For example, if Studio E
21 had switched the specification for the Grenfell Tower
22 refurbishment to non-combustible synthetic mineral fibre
23 insulation instead of PIR, the proposed system would
24 have been superficially compliant with the linear route
25 because of Arconic's PE-cored ACM wrongful

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1 classification of Euroclass B. However, the evidence
2 clearly indicates that the tragic outcome of the
3 Grenfell Tower fire would have been the same even if
4 non-combustible mineral fibre insulation had been used
5 with a PE-cored ACM instead of PIR. Conversely,
6 full-scale fire testing of the Grenfell Tower cladding
7 system would have revealed the lack of safety of the
8 proposed system.

9 Kingspan Insulation strongly believes that it should
10 be a requirement of the Building Regulations that every
11 cladding system proposed for use on a residential
12 building with a floor above 18 metres should have to
13 pass a BS 8414 test, regardless of the classification of
14 the individual components. This is the best and most
15 robust way to ensure that all cladding systems are safe.
16 Kingspan Insulation will continue to state its position
17 on this important issue of public safety even if others
18 try to criticise it for doing so.

19 Finally, Mr Chairman, and by way of conclusion,
20 Kingspan Insulation emphasises the following points.

21 First, extensive testing shows that at least 14
22 different systems incorporating K15 have passed
23 full-scale fire tests under BS 8414. Those systems are
24 safe systems.

25 Second, Kingspan Insulation recognises that there

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1 were certain shortcomings in respect of some aspects of
 2 the testing of K15, but those shortcomings have not
 3 resulted in anyone being misled in any material way.
 4 The replacement tests carried out mean that any
 5 professional who relied upon any relevant historical
 6 testing can now rely on replacement tests in any event.
 7 Third, whilst criticisms have been made of the
 8 wording in early versions of K15's certificates issued
 9 by the LABC, the relevant issues had been corrected long
 10 before the refurbishment. The certificates current at
 11 the time of the refurbishment were appropriately worded.
 12 Furthermore, there is no evidence that any person
 13 involved in the refurbishment relied on, let alone was
 14 misled by, the wording of any LABC certificates for K15.
 15 Finally, it's imperative that the Inquiry move on
 16 from the unfounded accusations that have been made, and
 17 apply a clear, calm and measured approach to the
 18 evidence. That evidence is unequivocal. The type of
 19 Arconic PE-cored ACM cladding used on Grenfell Tower had
 20 only achieved a Euroclass E classification in testing
 21 and was unsafe for use with any type of insulation.
 22 Furthermore, the nature and speed of the spread of the
 23 fire would not have been materially different if
 24 non-combustible mineral fibre insulation had been used
 25 behind the ACM cladding instead of the type of

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1 insulation that was in fact used.
 2 Mr Chairman, thank you.
 3 SIR MARTIN MOORE-BICK: Thank you very much, Mr Webb.
 4 We're due to hear next from Ms Leek Queen's Counsel
 5 on behalf of the Building Research Establishment, but
 6 I think we ought to have a short break before we do, and
 7 I'll apologise to Ms Leek when I eventually see her.
 8 We will come back at 4.30. I think that will be
 9 enough.
 10 Thank you very much. 4.30, please.
 11 (4.23 pm)
 12 (A short break)
 13 (4.30 pm)
 14 SIR MARTIN MOORE-BICK: Well, welcome back, everyone. We're
 15 now going to hear a closing statement on behalf of the
 16 Building Research Establishment from Ms Leek
 17 Queen's Counsel.
 18 Good afternoon, Ms Leek. Can you see me and hear me
 19 all right?
 20 MS LEEK: Good afternoon, sir. I can, thank you.
 21 SIR MARTIN MOORE-BICK: The first thing I must do is to
 22 apologise for keeping you hanging around for 15 minutes.
 23 The reason is that the previous speaker I'm afraid
 24 overran, and then we had to have a short break for
 25 Inquiry purposes. So sorry about that, and you should

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1 not feel that you are under pressure to take any less
 2 than the time you have been allotted, which I think is
 3 half an hour.
 4 MS LEEK: Thank you, sir.
 5 SIR MARTIN MOORE-BICK: If you need the whole half hour, of
 6 course.
 7 MS LEEK: Sir, I don't think I will take the whole half hour
 8 in any event.
 9 SIR MARTIN MOORE-BICK: All right. Well, off you go, when
 10 you're ready.
 11 Module 1 & 2 closing submissions on behalf of the
 12 Building Research Establishment by MS LEEK
 13 MS LEEK: Sir, thank you.
 14 First of all, BRE would like to recognise publicly
 15 the courage and determination of all of the bereaved,
 16 survivors and residents, knowing that for many, the
 17 Inquiry process will have been a painful and distressing
 18 experience. On behalf of BRE, I would like to offer our
 19 heartfelt condolences to all those who have been
 20 affected by the fire and its aftermath.
 21 Over the last year, BRE and its legal team have
 22 attended many days of the Inquiry's hearings remotely
 23 and observed Counsel to the Inquiry's examination of the
 24 conduct of a number of organisations and individuals
 25 dating back several years. This is the first time that

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1 there has been such comprehensive and intense scrutiny
 2 of the conduct and oversight of the building industry in
 3 this country. The evidence has shown that it is much
 4 needed. As an organisation which has worked to improve
 5 the built environment and ensure the health and safety
 6 of those who use it, BRE welcomes this scrutiny, and
 7 throughout has co-operated fully with the Inquiry.
 8 In looking at the events, the Inquiry has shone
 9 a light on practices, policies and procedures and
 10 regulation that have fallen short of what is to be
 11 expected in this country, irrespective of whether they
 12 caused or contributed to the fire. I would like to
 13 reiterate on BRE's behalf its intention to remain open
 14 and not defensive, to acknowledge and learn from
 15 historic shortcomings identified, and to take on board
 16 any recommendations that the panel makes.
 17 BRE submitted in writing that nothing that it did or
 18 failed to do caused or contributed to the tragic fire at
 19 Grenfell Tower. Whilst BRE stands by that, we do not
 20 propose to set out the causative factors here. Rather,
 21 BRE wishes to use its allotted time for the following:
 22 first, to assist the Inquiry in establishing facts
 23 insofar as they concern BRE; second, to identify where
 24 there were shortcomings in BRE's own practices,
 25 processes and procedures irrespective of causation;

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1 third, to reflect upon those; and, fourth, to consider
2 what questions might be asked in Module 6 to inform
3 recommendations for the future of the regulatory regime.

4 Turning now to those topics.

5 First of all, establishing the facts.

6 It was established in Module 1 that Kingspan's K15
7 and Celotex's RS5000 flammable insulation boards came to
8 be used with Arconic's Reynobond panels in cladding
9 systems that were installed on to Grenfell Tower. The
10 fitting of those composite systems proved to be fatal.
11 The Inquiry has heard much from core participants about
12 events that preceded that installation on a broad range
13 of topics, with some being more central than others to
14 the Inquiry's mandate.

15 BRE emphasises again: BRE did not test or classify
16 the composite systems that were installed on to
17 Grenfell Tower. No manufacturer engaged a testing house
18 to do that task. However, during the course of the
19 evidence, the following matters that did involve BRE
20 were scrutinised by the Inquiry.

21 BRE tested to BS 8414-1 a system that incorporated
22 K15 on 31 May 2005. BRE produced a BR 135
23 classification report for that specific system in 2015.
24 BRE tested to BS 8414-2 a system that incorporated
25 RS5000 on 2 May 2014, and it produced a BR 135

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1 classification report that inaccurately listed the
2 components in that system.

3 Sir, these tests at BRE were of different systems
4 from those fitted on the tower, and the relevant BRE
5 test reports and classification reports do not relate to
6 or classify any systems other than the systems tested on
7 those dates, nor do they relate to or classify any
8 individual component parts. Anyone saying or believing
9 otherwise was wrong.

10 With regard to Kingspan's test of May 2005, BRE
11 explained in its oral opening statement for Module 2
12 that it was not inappropriate for a classification
13 report to be produced ten years later in 2015. BRE's
14 Tony Baker explained why in his evidence: a test report
15 is a statement of fact relating to the system tested at
16 that time from which a classification report may be
17 produced if the system tested met the criteria of
18 BR 135. Both the test report and classification report
19 relate only to the system tested.

20 It is now known that the formula of K15 was changed
21 without BRE's knowledge after the May 2005 test.
22 Kingspan changing the formula of K15 in the intervening
23 period rendered the classification report of no use to
24 Kingspan, the market or building control. There is no
25 obligation on a test laboratory to interrogate the test

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1 sponsor as to whether the composition of any components
2 has changed between the test and the issuing of
3 a classification report, and there was no error at BRE
4 in issuing that classification report, which stated that
5 it was valid only for the system as installed and as
6 detailed in the corresponding test report.

7 With regard to Celotex's test of May 2014, it is
8 also a fact that the cladding system described in
9 Celotex's classification report would, if it had been
10 subject to the test, have been capable of achieving
11 BR 135 classification. This was established when the
12 system as described in that classification report was
13 tested to BS 8414-2 following the fire at Grenfell Tower
14 in 2018. Whether, how and to what effect Kingspan and
15 Celotex misused their test and classification reports is
16 a question for the Inquiry to answer. BRE is deeply
17 troubled by the evidence about how those reports were
18 used by Kingspan and Celotex.

19 Irrespective of causation, BRE understands why
20 Celotex's May 2014 test at BRE was subject to particular
21 scrutiny. Former employees of Celotex have told this
22 Inquiry that they intentionally committed a fraud on the
23 market by misdescribing a cladding system for which
24 Celotex was the test sponsor. Celotex failed to declare
25 that the system tested by BRE on 2 May 2014 included

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1 a 6-millimetre magnesium oxide board and that two
2 different thicknesses of Marley Eternit board were used,
3 8 millimetres as well as 12 millimetres.

4 In relation to allegations that were made by
5 Celotex's former employees Jonathan Roper and
6 Jamie Hayes about BRE's former employee Phil Clark, BRE
7 would like to refer you to the relevant paragraphs of
8 its written closing submissions for Module 2 at
9 paragraphs 44 and 45.

10 Sir, in addition to what is set out in those
11 paragraphs, we submit that it is inherently improbable
12 that Mr Clark, or indeed anyone at BRE, an independent
13 testing house committed to making a positive difference
14 in the built environment, would assist a company to
15 deceive the market. There simply was no incentive or
16 motive for Mr Clark to join in that deception. This is
17 supported evidentially by the fact that Mr Clark
18 declined Jonathan Roper's request to remove a photograph
19 from the test report that showed the magnesium oxide
20 board. If he had been a party to the deception, surely
21 he would have removed the photograph.

22 However, whether the conduct of Mr Clark and other
23 BRE staff lacked rigour and attention to detail during
24 Celotex's test is another matter, and BRE has taken
25 steps to improve its processes and procedures since that

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1 time.
 2 In that regard, I move on to the second and third
 3 topics: BRE's own practices and reflecting on
 4 shortcomings identified.
 5 BRE accepts, and readily so, that the Inquiry's
 6 scrutiny of the Kingspan and Celotex tests, while they
 7 did not relate to the cladding systems that were
 8 installed on to Grenfell Tower, has identified that
 9 there was room for improvement in BRE's own processes
 10 and procedures. BRE recognises that its processes in
 11 2014 were insufficiently robust to identify Celotex's
 12 dishonesty. It is accepted that there were genuine
 13 shortcomings in BRE's testing of Celotex's system on
 14 2 May 2014. The way in which that test was conducted
 15 did not meet the high standards that BRE expected of
 16 itself. Amongst other things, the magnesium oxide board
 17 should have been spotted and should have been recorded
 18 in the test report.
 19 BRE wishes the bereaved, survivors and residents to
 20 know that it has reflected carefully on the issues
 21 highlighted by this Inquiry and has made changes to its
 22 own internal processes, practices and structures.
 23 Foremost among the changes that have been made to date
 24 are the following: BRE has been under new management
 25 since 2019. The new management has been working to

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1 ensure that the quality of BRE's processes, procedures
 2 and systems matches BRE's scientific capabilities.
 3 There have been extensive changes to BRE's executive
 4 team, including a new executive responsible for
 5 oversight of the UKAS accredited services. Additional
 6 roles have been created to strengthen internal audit and
 7 the oversight of testing, classification and
 8 certification.
 9 BRE will take on board the Inquiry's
 10 recommendations, but emphasises that it is not waiting
 11 until the Inquiry's report is published to make major
 12 changes and improvements. It is addressing the issues
 13 identified by this Inquiry now. BRE's new leadership
 14 has implemented a major programme of improvement. This
 15 includes: strengthening the role of BRE's independent
 16 impartiality committee, which provides scrutiny of BRE's
 17 activities to ensure that it is acting impartially
 18 across all business areas; implementation of an updated
 19 operational risk management framework; and creation of
 20 a new system of audit. These address risks which go
 21 wider than those around quality and compliance, and are
 22 supported by more extensive risk registers and more
 23 robust internal audit plans and systems for managing
 24 resulting actions.
 25 There have also been improvements to testing,

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1 including enhanced checking of test rigs, greater focus
 2 on photographic records throughout the test rig build
 3 process, increasing checking of the documentation and
 4 materials for any products coming into the business, and
 5 improvements to test result datasheets.
 6 BRE has also implemented improvements to procedures
 7 in the updated BS 8414:2020 and a new system for the
 8 calibration of equipment. These changes have been
 9 applied within the current regulatory regime.
 10 The final issue I want to address, sir, concerns the
 11 future for the building industry.
 12 Unsafe cladding systems never should have been
 13 installed on Grenfell Tower. The bereaved, survivors
 14 and residents and the wider public, in addition to
 15 learning in Module 2 how those unsafe systems came to be
 16 installed, must be assured after Module 6 that the
 17 governance of the building industry will be reformed to
 18 avoid a repetition of the tragedy at Grenfell Tower.
 19 BRE looks forward to contributing to Module 6.
 20 BRE is committed to assisting in the formulation of
 21 changes to the regime in the light of the flaws that
 22 have been identified to date. In the meantime, BRE
 23 suggests that the following questions should be
 24 explored, as part of the Inquiry's consideration of
 25 issues in Module 6: whether the current regulatory

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1 regime underpinned by manufacturers' self-declaration
 2 remains fit for purpose, given what has been discovered
 3 during this Inquiry about manufacturers' practices;
 4 whether there should be a specific mechanism for
 5 reporting suspected dishonesty or misleading information
 6 in the market for use by testing houses like BRE and
 7 other stakeholders in the building industry.
 8 BRE has made clear, contrary to the suggestion of
 9 other core participants, that it is not a regulator.
 10 There is a question of how regulatory oversight can be
 11 improved and how testing houses like BRE can play a part
 12 in the regulatory environment.
 13 Sir, in conclusion, BRE hopes that the process of
 14 examining the facts, practices, policies and regulation
 15 in this forensic environment will contribute to the
 16 public understanding of what has happened in the past in
 17 the building industry and will contribute to the
 18 bereaved, survivors and residents' understanding of what
 19 happened to them and their loved ones and why.
 20 As an organisation, BRE is committed to learning
 21 whatever lessons for the future can be drawn from this
 22 history, BRE will welcome the Inquiry's report and
 23 recommendations in this investigation, they will be
 24 analysed carefully and the lessons learned will be
 25 shared within the organisation and beyond to ensure

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1 continued organisational development and improvement in
2 this critically important area of building practice.
3 Thank you, sir.
4 SIR MARTIN MOORE–BICK: Well, thank you very much, Ms Leek,
5 you have been very economical with your time. I'm sorry
6 again that we kept you waiting quite so long in order to
7 make your statement, but it's been —
8 MS LEEK: Not at all.
9 SIR MARTIN MOORE–BICK: — very helpful and you have raised
10 some important questions for us to consider.
11 Thank you very much.
12 MS LEEK: Thank you, sir.
13 SIR MARTIN MOORE–BICK: At that point we will conclude for
14 the day. Tomorrow we shall hear some more closing
15 statements from other core participants and we will do
16 that at 10 o'clock tomorrow morning.
17 Thank you very much, 10 o'clock tomorrow.
18 (4.50 pm)
19 (The hearing adjourned until 10 am
20 on Wednesday, 15 September 2021)
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