

# GRENFELL TOWER INQUIRY

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## PHASE 2, MODULE 1: OPENING SUBMISSIONS ON BEHALF OF THE BSRs REPRESENTED BY TEAM 2

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### Introduction

1. The Team 2 BSRs are grateful to the Chairman and his team for the Phase 1 report. It is clear that a huge amount of hard work has gone into the report.
2. However, much remains to be done in Phase 2. The work is urgent: two and a half years have now passed since the tragic events of June 2017. Many residents of tower blocks up and down the country, including bereaved family members, are concerned about the cladding and materials used in their own buildings and struggling to get information from their landlords. These concerns are increased when it is discovered, for example, that Rydon are still working on large public housing projects and were, until very recently, still being allowed to bid for, or work on, high-rise buildings.<sup>1</sup> There have also been a number of well-publicised fires where the cladding has been a substantial contributing factor.<sup>2</sup>
3. Our clients seek two main things from Phase 2 of the Inquiry: the truth; and justice, in the form of accountability and change.
4. So far as accountability is concerned, the Inquiry will need to demolish the wall of obfuscation set up by the corporate CPs and hold to account the many individuals, firms, companies and organisations who have contributed to this tragedy. The Inquiry will, no doubt, be assisted in this task by the extremely robust, indeed devastating, expert reports. For example, in relation to Exova, Barbara Lane refers to *very serious evidence of professional negligence*.<sup>3</sup> This is extremely strong, but fully justified, language from a very experienced expert.

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<sup>1</sup> [http://edition.pagesuite-professional.co.uk/html5/reader/get\\_clipping.aspx?edid=7624080d-861b-4bac-ba2a-b4d964de727f&pnum=5&timestamp=20191118153015317](http://edition.pagesuite-professional.co.uk/html5/reader/get_clipping.aspx?edid=7624080d-861b-4bac-ba2a-b4d964de727f&pnum=5&timestamp=20191118153015317) .

<sup>2</sup> E.g. at Bolton, in November 2019: see <https://www.bbc.co.uk/news/uk-england-manchester-50445311>

<sup>3</sup> The Fire Safety Engineer - Lane Phase 2 Report, para 6.5.8, {BLARP20000003\_0148}.

5. Our clients' desire is to achieve change and to see the Phase 1 recommendations implemented within the lifetime of the Inquiry. This Inquiry must not repeat the experience of the Lakanal House fire and inquest, where avoidable deaths occurred, but lessons were not learnt.
6. Although, for practical reasons, Phase 2 has been divided into modules, there needs to be an approach which underpins all the modules, namely the need for fundamental change within the construction industry and social housing sector, designed to place safety first in residential building and materials, and to place residents at the centre of a new regulatory process.
7. This opening is divided into the following sections:
  - (a) Phase 1;
  - (b) Phase 2: possible pitfalls and opportunities;
  - (c) How the tragedy unfolded;
  - (d) What was wrong with the cladding (issue 5);
  - (e) Why did this happen? Background (Issues 1 and 4);
  - (f) Why did this happen? Procurement (issues 2 and 3);
  - (g) Why did this happen? Fire strategy (issue 6);
  - (h) Why did this happen? Building Control (issue 7);
  - (i) The wider issues.
8. In summary, our submissions are as follows in relation to the enumerated issues:
  - (a) No single element of the cladding system complied with the Building Regulations. Together, the elements combined to fuel, rather than inhibit, the fire. Responsibility for the dangerous cladding system lies with many parties, including Studio E, Harley, Arconic/Alcoa, Celotex, Exova, Rydon, BBA and KCTMO/RBKC: issue 5 and section (d) below;
  - (b) The background history of decision making, budgetary considerations and planning is of crucial importance to what followed. RBKC and KCTMO were obsessed with cost and aesthetics, not fire safety, and this explains much of what ensued: issues 1 and 4, and section (e) below;
  - (c) Procurement goes to the heart of what went wrong. RBKC and KCTMO selected an architectural practice which lacked the requisite experience of overcladding tower blocks, failed to appoint a fire consultant with an obligation to provide a comprehensive fire strategy for the refurbishment, chose Rydon because theirs was the cheapest bid,

even though it was unrealistically low, and failed to clarify or monitor the roles of Exova or Studio E post-novation: issues 2 and 3 and section (f) below;

- (d) Exova never produced a final or comprehensive fire strategy for the refurbishment works, and they never made any proper attempt to clarify what their role was: issue 6 and section (g) below.
- (e) RBKC's Building Control Department (RBKCBC) failed in its obligations in respect of each of the requirements under the Building Regulations: issue 7 and section (h) below.

9. Before turning to these issues, we deal first in sections (a) to (c) with our response to Phase 1, and make some comments on the approach to Phase 2, before making an initial attempt (which will no doubt be much supplemented during the oral evidence) to explain how events unfolded. Section (i) sets our clients' initial views on the wider issues.

#### A. **Phase 1**

10. The Phase 1 Report could scarcely be more categorical:<sup>4</sup>

##### ***Non-compliant facade: functional requirement B4(1)***

26.1 *It is apparent from the findings made in earlier chapters that the external walls of the building did not resist, and indeed actively promoted, the spread of fire. That was principally due to the presence of ACM panels with a polyethylene core, but other materials and other features, including the design and geometry of the facade, also played a role...*<sup>5</sup>

26.4 *...In this case, whether one considers the rainscreen panels alone or the cladding system as a whole, or even the complete external envelope, including the original concrete structure, it is clear that the walls did not resist the spread of fire. On the contrary, they promoted it, as can be seen in the video recordings of the rapidly developing fire which engulfed the building in just over 2.5 hours...*

26.6 *...I can see no rational basis for contending that the external walls of the building met requirement B4(1), whatever the reason for that might have been...*

11. Our clients welcome these conclusions.

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<sup>4</sup> Volume 4, Chapter 26.

<sup>5</sup> It is important to remember, also, that almost all the deceased appear to have succumbed to the effects of toxic smoke. The principal source of this toxic smoke was the PIR insulation - mainly Celotex RS5000 with a small quantity of Kingspan K15 phenolic PUR. As to its effects, see <https://www.birmingham.ac.uk/Documents/collegeges/gees/conferences/nercpops/Conference2014/Fire%20smoke%20toxicity.pdf>.

12. However, those findings mark only the end of the beginning of this process. Our clients need to know how this extraordinary and disastrous situation could have come about. They also want to see fundamental change, so that a tragedy like this never happens again.

**B. Phase 2: possible pitfalls and opportunities**

13. The process has not been assisted by the approach to this Inquiry of the corporate participants.
14. On 4 June 2018, Mr Millett Q.C. outlined what was expected from the corporate participants:<sup>6</sup>

*Some 25 or so letters are about to be or have just been sent to the corporate and governmental core participants under rule 9 of the Inquiry Rules 2006. Those letters request written witness statements...The inquiry has asked that the statements address very specific identified issues by reference to the updated list of issues. Given the apparent need to extract a full and clear case out of many of these core participants, rather than our relying on them to make admissions against their interests, we expect these requests to be taken seriously and we will pursue proper, detailed responses with vigour. We hope that core participants will resist the temptation to indulge in a merry-go-round of buck-passing, but will identify exactly their role in the chain of events leading to Grenfell Tower becoming a major hazard.*

15. In fact, the witness statements from the key players say very little. Some statements, for example from Studio E, are, on the face of it, long and detailed and make copious reference to contemporaneous documents. Others (Exova, Rydon) are terse and unforthcoming, with little apparent use of the documents. However, the statements share a common thread: the reader would struggle to *extract a full and clear case*. None of the witnesses really engage with the question of how the widespread and fundamental failures identified in the Phase 1 Report came to take place.
16. Despite the strong words of Mr Millett, the corporates have elected to *indulge in a merry-go-round of buck-passing*. No one takes responsibility for anything. Everyone seeks to blame other parties and avoid accepting any responsibility. The duty of candour has been ignored.
17. Thus, one finds the following from Mr Crawford of Studio E:<sup>7</sup>

*257. Taking the Building Regulations approvals process for the cladding as an example, as explained in more detail above, as part of my coordinating role I relied on the expertise of Rydon, a main contractor experienced in refurbishing high-rise residential blocks, a specialist subcontractor, Harley, who I understand stated that over-cladding tower blocks was very much what it does, Exova, which markets itself as a world leader in the provision of fire safety services and Building Control, which has specific competencies in*

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<sup>6</sup> Transcript, day 1, 105-22 to 106-23.

<sup>7</sup> {SEA00014275}.

*verifying that designs comply with Building Regulations, which, I understand from correspondence received during the Project, in turn relied on the LFB.*

18. But when one then turns to the evidence of the senior person at the *world leader in the provision of fire safety services*, one gets this:<sup>8</sup>

*Exova's involvement after the appointment of Rydon*

*5.9 I was not aware at the time precisely when Rydon took over the site, or were formally appointed. I was aware in general terms that Rydon had taken on overall responsibility for the project. We were not approached by Rydon to provide services to them. This is not an unusual state of affairs.*

*5.10 As a result of this, we were not copied on project correspondence, or invited to attend design team meetings, or to agree commercial terms for our continued involvement. On occasion, some queries were raised with me from time to time, and I discuss these below, but aside from that we were no longer involved in the project.*

19. Likewise, Anketell-Jones of Harley claims that they thought all the key decisions were for others and not for them, since *as far as I was aware the materials were all compliant as they had all been selected and specified by architects and the specification and drawings had been reviewed and approved by a fire consultant and Building Control. I am not aware of anyone raising any issue or concern about the materials being used at any stage.*<sup>9</sup>
20. Thus, it will be necessary for GTI through careful questioning *to identify exactly their role in the chain of events leading to Grenfell Tower becoming...a major hazard*. It is important that our clients are able to contribute fully to this process: not a straightforward exercise, given the quantity and timing of material disclosed by GTI.
21. It is also important to have at the forefront of everyone's minds that there must be change, that it must happen quickly, and that the Inquiry needs to ensure that the change is radical, measurable and permanent.
22. We welcome the appointment of Professor Hamdi and Ms Istephan. The role of the panel members is *crucial to ensure the Inquiry panel has the diversity of skills and experience necessary for the scope and complexity of issues to be investigated by Phase 2 and to help get to the truth of what happened, deliver justice and ensure that a tragedy like the fire in Grenfell Tower can never happen again.*<sup>10</sup> All the panel members need to be central to the Phase 2 process: it is the panel as a whole who have responsibility for the contents of the report.<sup>11</sup>

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<sup>8</sup> {EXO00001621}, Witness Statement of Terence Ashton (Exova).

<sup>9</sup> Witness statement of Daniel Anketell-Jones, No. 1, 08/11/2018, para 27, {HAR00010149\_0006}.

<sup>10</sup> <https://www.gov.uk/government/news/prime-minister-appoints-new-grenfell-tower-inquiry-panel-members>.

<sup>11</sup> See: Inquiries Act 2005, Explanatory Notes paragraph 18.

### C. How the tragedy unfolded

23. It is important to understand how we got to 14 June 2017. To do this, it is necessary to go back in time and to trace through the litany of errors which led to the fire. To this sequence, many parties contributed.
24. This tragedy had a pre-history. As is explained in the Phase 1 Report, a serious fire had occurred at Lakanal House in 2009. Six people died. The Coroner's recommendations included the need to address the requirements of Building Regulation B4.<sup>12</sup>
25. RBKC and KCTMO were, like others in the public housing sector, aware of these developments.<sup>13</sup>
26. Both Rydon and Harley had been involved in a previous tower block overcladding project where a serious fire had occurred, at Chalcots Estate, Taplow House. Their report prepared at the time noted that *it was evident that despite the fire and the amount of flammable items in the flat such as paper etc. the fire breaks were still intact and prevented the fire spreading between flats. The Harley designed fire break system is visible, now the surrounding fabric has melted under the extensive heat.*<sup>14</sup>
27. However, it does not appear that this experience was either shared with Studio E or KCTMO, or learnt from by Rydon and Harley. It should be noted that the Chalcots experience was well known to the senior management of both companies. The report referenced above was circulated to Steve Blake, Ray Bailey and Daniel Anketell-Jones, all of whom were to play substantial roles in the GT refurbishment.
28. It follows that, when the current project was considered, designed and delivered, the senior management of the key players – RBKC, KCTMO, Rydon and Harley – were well aware of the challenges and dangers relating to fire safety in tower blocks, and should have had these dangers at the forefront of their thinking.
29. As the project was first conceived in 2012, the objectives were *improving the thermal efficiency and visual appearance of the façade.*<sup>15</sup> These objectives, of course, required fire

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<sup>12</sup> <https://www.lambeth.gov.uk/sites/default/files/ec-letter-to-DCLG-pursuant-to-rule43-28March2013.pdf>.

<sup>13</sup> {RBK00052542\_0002}, 15/03/10, RBKC, Housing, Environmental Health and Adult Social Care Scrutiny Committee - Joint Report by the TMO Chief Executive and Chief Housing Officer, LGA Report "Extinguishing the risk: a councillor's guide to fire safety".

<sup>14</sup> {HAR00010169\_0004}, 17/01/12.

<sup>15</sup> {EXO00001359\_0002}, Minutes of Design Team Meeting from 19/04/2012.

safety to be given top priority. Exova provided shortly thereafter a comprehensive fee proposal for the following (inter alia) services at RIBA stage D/E:<sup>16</sup>

*The fire safety strategy would be developed to comply with the relevant statutory requirements, which would primarily be The Building Regulations 2010...The fire safety strategy for the building will consider the following items: ...Determination of any external fire spread issues that there may be and the impact this may have on the architectural design; Recommendations of compartmentation and structural fire protection standards...*

30. However, the position relating to Exova's appointment remained unclear and unresolved during the summer of 2012, and thereafter.<sup>17</sup> Nonetheless, in August 2012, Exova provided a report on the existing building, which gave correct advice. However, this thinking does not seem ever to have pervaded the design approach to the refurbishment.<sup>18</sup>

*B4 External Fire Spread The requirement of Regulation B4 is that the external walls of the building shall resist the spread of fire over their surface and from one neighbouring building to another... 6.2 External Wall Construction The external surface of the building, which is more than 18m, should have a surface classification of Class 0 (national class) or class B-s3, d2 or better...*

31. In the summer of 2012, the first fateful error was made when Max Fordham recommended Celotex to Sounes of Studio E in the following terms:<sup>19</sup>

*I have done the following calculations to work out how much insulation that we would need to achieve 0.15 overall. The Celotex FR5000 is a solid PIR board, data sheet attached, I think this is the only type of product that will give us the required performance, Kingspan also so [sic] a version of this...*

32. The Celotex literature asserted that *Celotex RS5000 is acceptable for use in buildings above 18 metres in height* and provided a draft specification clause for specifiers.<sup>20</sup> However, and crucially, the Datasheet went on to say, as to certification, that:

*Celotex RS5000 is a premium performance solution and is the first PIR board to successfully meet the performance criteria set out in BR 135 for rainscreen cladding systems. The system tested was as follows...The fire performance and classification report issued only relates to the components detailed above. Any changes to the components listed will need to be considered by the building designer.*

33. It does not appear that the building designer, then or subsequently, considered whether this product was suitable with the components actually being used. It was not: it was dangerous.

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<sup>16</sup> {ART00000186}, 9/5/2012.

<sup>17</sup> {SEA00005302}, email exchange between Sounes and Artelia re Grenfell Tower Regeneration Project – Appointments, 25/07/2012.

<sup>18</sup> {CST00000900\_0014}, 16/08/2012.

<sup>19</sup> {MAX00003091}, 16/08/12

<sup>20</sup> {CEL00000008\_0003}, Celotex RS5000 Product Datasheet

34. On the same day that Max Fordham had recommended Celotex, Exova provided a report on the fire strategy for the existing building. Sounes of Studio E circulated this with the comment that *Please see attached draft fire strategy from Exova. It doesn't deal with the proposed condition.*<sup>21</sup>

35. At about the same time, the residents were receiving a briefing on the proposed works, which was couched in reassuring terms:<sup>22</sup>

*Various cladding options have been shown to residents with the Zinc system most favourable ... VMZ Composite is a system made up of two sheets of zinc and a high density mineral-rich core combining the qualities of zinc with the rigidity and flatness of composite [with a] ... polyethylene core FR (Fire Retardancy) ... inner layer mineral-rich polyethylene (FR)\*... \*Fire Retardancy*

36. From this briefing, the residents were entitled to conclude that Zinc cladding would be used, which would contain a *polyethylene core FR (Fire Retardancy)*, and that RBKC and KCTMO, and their professional team, were focussed on fire safety. In fact, the focus was not on fire safety but on cost. By September 2012, there was concern that the project was over budget.<sup>23</sup>

37. What then of ‘the proposed condition’? On 31 October 2012, Exova produced the first edition of the Outline Fire Safety Strategy which stated that:<sup>24</sup>

*3.1.4 Compliance with B4 (external fire spread) It is considered that the proposed changes will have no adverse effect on the building in relation to external fire spread but this will be confirmed by an analysis in a future issue of this report.*

38. This, of course, might have been a reasonable approach, provided that, thereafter, Exova were provided with the necessary information to carry out such an ‘analysis’ and did so: but, in fact, this never happened. Indeed, the very next day, Exova (who had been chasing the fate of their May fee proposal) were simply told by Artelia how to go about invoicing for their work.<sup>25</sup> No one attempted to ensure that Exova were properly engaged and instructed and Exova failed to use the information it had to warn of the dangers presented by this type of flammable insulation material.<sup>26</sup>

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<sup>21</sup> {SEA00005848}, 16/08/12.

<sup>22</sup> {TMO00837521}, GT Regeneration project, newsletter to residents, 01/08/2012.

<sup>23</sup> {SEA00006111}, Correspondence between Studio E, KCTMO, Appleyards and others attaching Cost Plan nr. 3 in relation to Grenfell Tower works, 12/09/12 and {TMO10001570}, Email chain between Appleyards and Studio E concerning costs plan for the regeneration project, 13/09/12.

<sup>24</sup> {EXO00001754\_0008}.

<sup>25</sup> {EXO00000540}, email re invoicing instructions, 01/11/2012.

<sup>26</sup> See: {PHYR0000004\_0034}.

39. A few days later, another fateful event occurred: Studio E *had a rough ride with the Architect's Appraisal Panel on Thursday evening. They found it "dull" ...and felt the top of the tower could be accentuated.*<sup>27</sup> This seems to have been the origin of the Crown, which was to play such a significant part in the fire and as to which aesthetics, not safety, were always the major concern. As was recorded at a meeting three days later: *The AAP recommended that the treatment of the top of the tower be revised to provide visual interest by way of a 'crown'.*<sup>28</sup>
40. Early in 2013, Studio E provided Curtins with *some drawings related to the crown and over — cladding* and asked them to *have a look over them and sketch something out for the structure required so that we can get an idea of the visual impact.*<sup>29</sup> ‘Visual impact’ was, it seems, what really mattered, and this concern came from the very top at RBKC.<sup>30</sup>
41. However, there was another pressing concern, and that was money. By this stage, there was a gap of more than £3m between the costs being put forward by Leadbitters, and those advised by Artelia. KCTMO were pressing for an explanation for this gulf, saying that *our objective needs to be to bring this project back within budget.*<sup>31</sup> The search was then on for substantial savings, not least on the external façade.<sup>32</sup> Sounes observed that *the obvious targets for savings are: ...Change Zinc cladding material to something cheaper. I think Planning will need a sweetener to swallow this, perhaps copper, ceramic, terracotta or more glass at low level,* to which Artelia commented *Most of your list seems to be omissions or downgrading the spec as opposed to VE.*<sup>33</sup>
42. One consequence of this search for savings was that *due to the cost of Zinc rainscreen they are now considering alternative material and finishes to that of zinc.*<sup>34</sup> Studio E then began to consider this option, and in March they *had CEP come in today to discuss the cheaper ACM cladding option and they will be forwarding samples for possible presentation to Planning.*<sup>35</sup>
43. At about this time, if not before, RBKC and KCTMO should have had very much on its collective mind the necessary concerns about the inter-relationship between overcladding and

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<sup>27</sup> {SEA00006671}, 19/11/2012.

<sup>28</sup> {ART00000526\_0003}, 26/11/12

<sup>29</sup> {CCL00001865} 17/01/13.

<sup>30</sup> {SEA00007266}, Email Chain between Sounes and others regarding Jonathan Bore's choice of colours and materials, 01/02/2013.

<sup>31</sup> {ART00000719\_0002}, email regarding Grenfell Tower cost plan, including analysis of Leadbitter's costs against Artelia's costs, 11/02/2013.

<sup>32</sup> {SEA00007413}, Email from Dawson to Sounes, Dunkerton, Maddison and others regarding discrepancies in budget, particularly on external façade, 26/02/2013.

<sup>33</sup> {SEA00007415}, 26/02/13.

<sup>34</sup> {CEP000006160}, 27/02/2013

<sup>35</sup> {SEA00007505\_0003}, 17/03/2013.

fire safety. Residents at another property managed by KCTMO, Elm Park Gardens, wrote to express their anxiety about fire safety in the wake of the report on Lakanal House:<sup>36</sup>

44. Indeed, KCTMO were clearly giving these issues some consideration in the spring/summer of 2013, as the Grenfell project gathered pace. For example, Wray of KCTMO noted that *ensuring effective compartmentation of our dwellings is the only effective way of containing fire and reducing fire spread from the flat of origin. This was further reinforced to me yesterday at a briefing from the Building Research Establishment on the Lakanal House fire where breaches in fire stopping definitely contributed to fire spread.*<sup>37</sup> And in June 2013, Wray prepared a briefing note on Lakanal House, which observed that:<sup>38</sup>

*Tragically this fire resulted in 6 deaths which clearly led to much discussion about the cause, the contributing factors and most importantly what action is required to ensure fire safety in high-rise residential blocks... Further, I have also outlined the TMO's current position / approach... 5. Review Approved Document B of the Building Regulations - clear reference to External Fire Spread*

45. Meanwhile, as regards GT, the ACM option continued to be investigated and in July Studio E issued a report entitled *Proposed Cladding Materials regarding Grenfell Tower Refurbishment Project.*<sup>39</sup> What is striking in all these discussions is that the question of fire safety did not seem to feature at all. The concern was all about saving money.
46. Studio E were working on their Stage D Report. This specified Celotex FR5000 and incorporated Exova's FSS1.<sup>40</sup> No one at Studio E made any proper evaluation of the FR5000 before specifying it, and FSS1 was obviously inadequate so far as compliance with B4 (external fire spread) was concerned, but neither Studio E, nor anyone else, addressed their minds to these issues.
47. The quest for cost savings went on, and in September 2013, Studio E told Artelia and KCTMO that they had *met with Harley Curtain Wall this morning to discuss the project. They are very keen and have been tracking the project for some time. They are specialists in this type of project: <http://www.harleycurtainwall.com/>. They pointed to Ferrier Point as a being very*

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<sup>36</sup> {TMO10038714}, 01/03/13; see also, {TMO10038888}, Email from Vachino to Johnson and others "Enforcement of Fire Safety Legislation in respect of Leasehold doors", 17/04/2013.

<sup>37</sup> {TMO10038924\_0001}, Email entitled "RE: Fire Risk - Cremorne Estate, London SW10", 01/05/2013; see also, {TMO10024366}, Quarterly Meeting - LFB Fire Safety & KCTMO H&S, 15/05/2013.

<sup>38</sup> {TMO10016215\_0003}, TMO (Janice Wray) briefing note on fire at Lakanal House, 17/06/2013.

<sup>39</sup> {RBK00000783}, 16/07/13

<sup>40</sup> {SEA00008054}, Grenfell Tower Regeneration Project Stage D Report August 2013, 01/08/13.

*similar to Grenfell... Their recurring experience is that budgets force clients to adopt the cheapest cladding option: Aluminium Composite Material (ACM), face-fixed.* <sup>41</sup>

48. This advice, from which no one seems to have demurred, encapsulated a number of things which were going wrong with the project: reliance upon the supposed specialists at Harley without any real due diligence, the choice of ACM and, above all, the obsession with cheapness.
49. Exova were largely absent from the scene between late 2012 and the autumn of 2013. They then issued FSS 2, which contained exactly the same, wholly inconclusive, paragraph about compliance with B4 (external fire spread) as FSS 1.<sup>42</sup> Despite this, and the fact that this remained an ‘outline’ strategy only, Studio E told RBKC BC on 25/10/2013 that they were *now in a position to forward you our proposed fire strategy for Grenfell Tower for comment.*<sup>43</sup> No one was troubled that the strategy was outline only or said nothing about B4.
50. Shortly after this, Exova issued their Outline Fire Safety Strategy for Grenfell Tower (Issue 3).<sup>44</sup> This was in exactly the same terms, and took the matter no further forward. Again, no one seems to have thought it troubling that the strategy was outline only or said nothing about B4. Nor did Exova protest about their lack of information or instruction.
51. Despite this, and despite the fact that everyone knew, or should have known, that fire breaks were crucial to preventing fire spreading between flats (the Taplow House fire), the discussion of this issue was desultory and unfocussed.<sup>45</sup> Exova did not say that they lacked the necessary information to advise properly, and Studio E did not give them that information.
52. Of course, there was not the necessary focus on fire safety because minds were once more turning to what was regarded as the much more important question of money. In February 2014, Artelia advised that the *estimated construction costs of £10.045M...is over the budget (client budget of £8.5M) by £1.55M and we have listed below some suggestions for VE.* <sup>46</sup>
53. Tenders had been sought and obtained. Rydon, at £9,249,294, were by far the lowest tenderer, well below both what their rivals offered and the Artelia estimate.<sup>47</sup> Even so, ‘value

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<sup>41</sup> {SEA00008790}, 27/09/13

<sup>42</sup> {EXO00001499}.

<sup>43</sup> {EXO00000427}.

<sup>44</sup> {EXO00001501}, 05/11/2013

<sup>45</sup> {EXO00000586}, emails between Exova and Studio E re cavity barriers fire resistance, 4/11/13.

<sup>46</sup> {ART00002084}, email - Lim to Williams, Jackson, Maddison, Gibson re review of pre-tender estimates, 13/02/2014.

<sup>47</sup> {TMO10005443}, Artelia UK - Final draft tender report, 11/03/2014.

engineering' was required because *the current KCTMO budget is approximately £8.5m.*<sup>48</sup> From this point onwards, Rydon were clearly going to win the contract, and were working with KCTMO to secure savings, with a target of circa £800k.<sup>49</sup>

54. As ever, there was limitless appetite for investigating cost savings, but little zeal in respect of fire safety. For example, on 2 April 2014, Williams of KCTMO asked Sounes *We had another meeting with the fire brigade (the next quarterly one), and there was a fire engineer liaison chap there. I want to get our fire strategy onto their radar... I thought you had sent me an email about this, but could not find it. I think there were several drawings attached showing the ins and outs. Can you re-send please.*<sup>50</sup> Sounes replied *Attached is Exova's fire strategy and RBKC's markup of our fire strategy plan. I would not show this to the LFB. They are likely to support the severe interpretation of the regulations which Exova believe are unnecessary because this is in an existing building. It is to be superceded [sic] too.*<sup>51</sup>
55. Neither party seems to have queried the fact that there was, in truth, no Exova fire strategy, nor this evasive attitude to the role of the LFB.
56. The search for cost reductions went on unabated. For example, in April 2014, Lawrence reported to Sounes that he had *just been through the info sent to us by Reynobond...to achieve maximum cost saving to the Client.*<sup>52</sup> This was followed up at a meeting May 2014, as to which Lawrence briefed Blake in advance:<sup>53</sup>

*The basis of the meeting is to propose the material change from 'Zinc' to 'ACM – Aluminium' cladding and the removal of the external 'window louvres' so KCTMO can achieve their maximum VE target...Peter Maddison's view at Friday's meeting was that he didn't perceive the change of materials to be a big risk to the project and wants us to continue with site setup, etc as if the contract had been signed. This suits us as well. I've been working Bruce Sounes from Studio E (our novated architect) on details, colours etc for the meeting so I would expect him to lead on our behalf. He already knows the planners from tender stage and the Bouyges project next door that he is working on. He will have all of the actual cladding samples along with 3D rendered drawings to present. His aim will not only be the material change but also to get the cladding colours to be agreed so we can start the planning condition discharge process asap.*

57. What is noticeable about this document is that:

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<sup>48</sup> {TMO10005443\_0015}.

<sup>49</sup> {RYD00003300}, email from Gibson (TMO) to Blake, 13/03/2014.

<sup>50</sup> {SEA00010706}, 02/04/2014; and note that these were internal drawings only.

<sup>51</sup> Ibid.

<sup>52</sup> {RYD00003962}, email from Simon Lawrence to Bruce Sounes and Mark Harris, 23/04/2014.

<sup>53</sup> {RYD00004142\_0001}. 06/05/2014

- (a) The safety implications of the change to ACM received the most cursory attention;
  - (b) Rydon needed to make cost savings in order to get this contract, which was their overriding priority;
  - (c) Studio E were, in effect, acting as advocates/salesmen, and certainly not as disinterested professionals.
58. By the summer/autumn of 2014, both Rydon and Harley were on board, although the contractual position remained unresolved, at least formally. Important consequences flowed for the organisation of the project as whole. From about August 2014 onwards, Sounes seems to have stepped back from day to day involvement, leaving the project in the hands of Crawford. Crawford was not a fully qualified architect and lacked the necessary experience, but was left to sink on his own. He seems, judging from his witness statement, to have taken the view that Studio E now had a very limited design role, but this was not what their Novation provided.
59. At about the same time, Harley, in the person of Lamb, began to prepare detailed design drawings. Of course, they were obliged to consider all aspects of the cladding design, such as the Celotex specification, but they do not appear to have done so. Their design should have taken into account, and complied with, a full fire safety strategy, but there was none such available.
60. August 2014 was a crucial moment for the project. Design team meeting No.1 was held on site on 13 August 2014.<sup>54</sup> The attendees included Lawrence, the Rydon Contracts Manager, Sounes described as ‘Lead Architect Studio E’, Neil Crawford ‘Project Architect Studio E’, and for Harley, Anketell-Jones the Facade Design Manager and Kevin Lamb the Facade Project Designer. This was an ideal opportunity to review where the project was on fire strategy, the design choices already made for the cladding, the necessary future choices, lines of responsibility and how to deal with Building Control. These matters were particularly important give that Crawford and Lamb were new to the project. None of this was done. For example, Crawford noted that the fire strategy was ‘not approved’. This is remarkable, more than two years after Exova had first been involved, and yet no one seems to have been concerned.<sup>55</sup>

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<sup>54</sup> {SEA00011545}.

<sup>55</sup> {SEA00011473}, Studio E Notebook Extract of Grenfell Tower Design Team Meeting minutes regarding Cladding, windows, etc:13/08/2014.

61. Indeed, the Exova position now went from bad to worse. In an email to Neil Crawford (19/9/14), Lawrence stated:<sup>56</sup>

*I'm just catching up on emails, particularly around design and have noticed Exova in the chain. I know that they provided information in the tender for KCTMO but I don't know if they are still working for them. I know that we haven't employed them. So if you are getting some free advice then great otherwise, we will need to look at this.*

62. Crawford replied on 22/9/14: *Thanks for the heads up on the Exova position.*<sup>57</sup>
63. Lawrence responded (22/9/14): *Let's have a chat about this tomorrow after the façade design and get a plan together.*<sup>58</sup> This was both disingenuous and dangerous. At Progress Meeting No.3 on 16/09/14, it had been recorded that: *SL to appoint other consultants (to include fire, DDA, acoustic, SL etc) after the main sub-contractors are on board. SL confirmed that his M&E and façade sub-contractors are on...board and investigations are underway.*<sup>59</sup> Studio E was not at this meeting and so may not have been aware that Rydon had made this commitment. The same note is recorded at Progress Meeting No. 4, on 21/10/14.<sup>60</sup>
64. It does not appear that Rydon ever did contact Exova. In their absence, no one at all was performing the role of advising on the fire safety implications of changes to the design post-tender. Certainly, this expertise was not available within Rydon. Moreover, no one at KCTMO, Artelia or Studio E seems to have followed this up. And so, the cladding was being designed and constructed with an outline fire safety strategy which merely repeated paragraph 3.1.4, as it had done for the previous two years.
65. To make matters worse, on 17 September 2014, Harley raised an RFI about the requirements for fire breaks. Crawford passed this on to Ashton, who replied *I've never seen details of what you're doing to the external walls. Do you have any cross sections/elevations?* Crawford then provided some limited and initial drawings from Harley, and Ashton advised as follows:<sup>61</sup>

*If the insulation in the cavities behind the rainscreen cladding is combustible you will need to provide cavity barrier as shown on your drawing (number 1279 (06) 120) in order to prevent fire from spreading from one flat to the one above even if there isn't a continuous cavity from the top to the bottom of the building.*

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<sup>56</sup> {SEA00011748}.

<sup>57</sup> {SEA00011754}.

<sup>58</sup> Ibid.

<sup>59</sup> {ART00002788\_0002} at paragraph 1.4

<sup>60</sup> {ART00002932\_0002}.

<sup>61</sup> {EXO00000708}.

66. Crawford passed this on to Harley, and Anketell-Jones asked a further query of him:<sup>62</sup>

*The insulation is class 0. Therefore after reading the correspondence below; I believe that the fire barrier in these locations, will not be necessary. Can you confirm that this is acceptable?*

67. Crawford sent this back to Ashton, who offered the following guidance:<sup>63</sup>

*material which has a Class 0 rating is not necessarily non-combustible although the reverse is invariably true. Some Class 0 products will burn when exposed to a fully developed fire. In any case, you need to prevent fire spread from on flat to the flat above as I stated in my earlier email. What isn't clear from the information to hand is whether or not there is a continuous cavity from top to bottom in any part of the cladding (apart from around the column casings) irrespective of the type of insulation?*

68. In relation to this sorry saga, Paul Hyett is rightly very critical (e.g. paras 4.4.37 and 4.4.113).<sup>64</sup>

69. Thus, in a project which had been ongoing for more than two years, the position was that:

- (a) Studio E, and Crawford, really had no idea as to the requirements of the Building regulations in relation to external fire spread. At best, he was acting as a post box;
- (b) Exova had not got to grips with the cladding issues at all, and lacked basic information, but nonetheless felt able to offer advice, advice which was itself dangerously misleading and inadequate;
- (c) Harley were embarked on the detailed design, but lacked a basic grasp of the statutory requirements;
- (d) No one at RBKC, KCTMO, Rydon or Artelia had any grip on what was going on.

70. Despite all this, within weeks, Curtins on behalf of KCTMO made Grenfell Tower Building Control Submission Rev 01.<sup>65</sup> What is extraordinary is that, neither then or later, did either the applicants or Building Control ask basic questions about the adequacy of the submissions being made.

71. In particular, the position relating to fire strategy was completely unsatisfactory. Studio E seemed concerned only to see what they could slip past RKBC, not to look at fire safety in the round. Crawford emphasised to Lawrence:<sup>66</sup>

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<sup>62</sup> {EXO00001430}.

<sup>63</sup> Ibid.

<sup>64</sup> {PHYR0000004\_0110 and \_0145}.

<sup>65</sup> {CCL00003310}, 10/10/14.

<sup>66</sup> {SEA00011750\_0001}, 22/09/2014.

*Ahead of tomorrow's DTM (tomorrow at 9.00 [or was it 10.00?]) just want to flag up the importance of getting John Hoban and Paul Hanson round a table to agree the fire approach to eliminate package risk re fire ratings/ AOV's etc.*

72. Furthermore, when Studio E sent FSS 3 to BC on 29 September, this was a useless document so far as external fire spread was concerned, given that it contained para 3.1.4 above, unamended and it stated *Please see attached the current Exova Study which was written prior to the Fire Strategy Rev B changes and also attached the correspondence with Exova relating to the Rev B changes which we will modify accordingly.*<sup>67</sup>

73. The drastically worrying situation seems to have crossed the mind of Williams at KCTMO in November 2014, when she wrote to Artelia about the cladding:<sup>68</sup>

*I have just been looking at the cladding as our database is asking for costs (I have put something together). However, I do not know if there is any issue of flame retardance requirement? I know at Lacknall House one issue was that the replacement panelling for the asbestos cladding was not flame retardant! I don't know if this is in the specification, but want to make sure it is raised. Please advise.*

74. Booth of Artelia responded that he had a quick review of the NBS spec in the tender docs for cladding and it does specify the cladding must comply with the following standards, one of which I would anticipate requires flame retardance. However as client I suggest you seek clarification from Rydon.<sup>69</sup> Williams took this up with Lawrence, copied to Booth, as follows, later on the same day:<sup>70</sup>

*I am just writing to get clarification on the fire retardance of the new cladding — I just had a 'Lacknall' moment. Compliance standard: The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.*

75. There was no response to this, and neither Williams nor Artelia seem to have followed this up. This was perhaps the last chance to avert disaster, and it was not taken. The email chain should have alerted all concerned to the fact that there was no fire strategy, and there had been no coherent attempt to design the cladding to take proper account of the fire safety issues, but it seems not to have done so.

76. Indeed, the attitude of those charged with dealing with these issues was haphazard and unstructured, at best. For example, a few days after the 'Lacknall House' episode, Crawford emailed Ashton with the observation that he had:<sup>71</sup>

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<sup>67</sup> {SEA00000215}.

<sup>68</sup> {ART00003046\_0002}, 12/11/2014)

<sup>69</sup> {ART00003046\_0001}, 12/11/2014

<sup>70</sup> {RYD00023468\_0001}.

<sup>71</sup> {SEA00000231\_0001}, 20/11/14

*received these mark ups from Building Control regarding the fire strategy on Grenfell Tower. I am due to meet with them on Monday on site and wondered if you had any views on their comments. On the Academy project we had the situation where Tony Pearson managed to argue some of their comments away. If you had any observations particularly where you think there [sic] comments may be excessive I would be grateful to know as I can take these with me to the meeting on Monday.*

77. Ashton responded with some comments, but did not seem perturbed by Crawford's apparent desire to see what he could get away with via a vis Building Control, rather than to look at the matter from a proper fire safety point of view. More troubling still is the fact that there was no 'fire strategy on Grenfell Tower' so far as the cladding and B4 External Fire Spread were concerned, and no one was seeking to devise one.
78. As the experts have explained in great detail (see below), there had been no proper attempt to design appropriate cavity barriers or to accommodate the requirements of the Building Regulations. In due course, Harley prepared non-compliant design drawings, and Crawford on behalf of Studio E purported to approve them, despite this non-compliance, the fact that they required more than one signature and his own lack of qualification.<sup>72</sup>
79. In March 2015, the cavity barrier issue once more sprang into life, and, once more, was dealt with wholly inadequately on all sides. On 3 March, Crawford emailed Ashton as follows:<sup>73</sup>

*Just a quick question relating to Grenfell Tower. As part of the re-clad we are we have added fire breaks around the apartments as per the email below. Can you comment on the level of protection (90+ 30) as to whether this is suitable. My only query might be that we have different levels of party wall at the lower levels- see attached fire plan with some 60 some 120 walls.*

80. On 6 March, Crawford, following a query from Lamb, proffered his own interim opinion *as per telephone conversation I have asked the question of Exova on the fire break but not had anything back. To me the fire breaks would have to follow the ratings of the party walls which are shown on the fire plan attached. You can see some of the low level apartments are separated by 120mins and others by 60mins.*<sup>74</sup>
81. On 26 March, Siderise sent through an extract from ADB. The next day, Crawford passed this on to Hoban of RBKC BC with the comment that *there has been a lot of conversation on site about the cavity fire barrier requirements to be fitted between the existing concrete external*

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<sup>72</sup> See, for example, the window drawings {HAR00003998} and {HAR00003997}, 27/03/2015.

<sup>73</sup> {EXO00001315}.

<sup>74</sup> {EXO00001461}, 06/03/2015.

*wall panels and the new external rain screen aluminium cassettes. Can you please see the proposal by the cladding contractor below and confirm if this is acceptable to you.*<sup>75</sup>

82. Pausing there, this seems to have been an attempt (common on this project) not to address an issue but to seek to pass responsibility for it to someone else. Hoban offered his view on 30 March,<sup>76</sup> and Crawford responded that:<sup>77</sup>

*Unfortunately this problem is not going away. The subject of fire barriers is raising a lot of concern on site not least because of program and cost. I have forwarded a copy of diagram 33 and the typical floor detail and we are all miffed as to why this detail is not a cavity barrier in this location- please see attached. The relationship between the back of slab and cladding remains the same as the original cladding (concrete) is retained and therefore the integrity of this relationship at floor level has not been affected. The new cladding constitutes an additional layer applied on top not a new floor slab interface and therefore the interpretation is that this constitutes a cavity barrier and not a fire stop. This has now become something of an issue on site due to program bottle neck and so your earliest response to this would be appreciated*

83. Again, the buck was being passed, and cost, not safety, was uppermost. Crawford referred the question to Ashton, who, on 31 March, observed that *this isn't something that would necessarily form part of a fire safety strategy for a building. Therefore, it would not have been dealt with in the fire safety strategy for this buildings. I agree with Ben Kay. I believe that a cavity barrier is all that is required in this application. Even if we were to agree with RBKC, it is difficult to see how a fire-stop would stay in place in the event of a fire where external flaming occurred as this would cause the zinc cladding to fail.*<sup>78</sup> Later the same day, Crawford responded that *this was my point as well- metal cladding always burns and falls off, hence fire stopping is usually just to the back of the cladding line.*<sup>79</sup>

84. On the same day, Pearson of Exova sent an internal email to Ashton, containing the following alarming commentary:<sup>80</sup>

*We would not rule out that fire could enter the cavity if there is flaming through the windows. However, if significant flames are ejected from the windows, this would lead to failure of the cladding system, with the external surface falling away and exposing the cavity, eliminating the potential for unseen fire spread.*

85. As to this sequence, Hyett comments: *the above correspondence...is important in terms of illustrating the general and sustained confusion amongst all parties involved, about how the*

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<sup>75</sup> {EXO00000715\_0004}.

<sup>76</sup> {EXO00000715\_0002}.

<sup>77</sup> {EXO00000715\_0001}.

<sup>78</sup> {EXO00001434}.

<sup>79</sup> Ibid.

<sup>80</sup> {EXO00001347}.

*work relating to the cavity barriers, in all its aspects, should be carried through.*<sup>81</sup> This is not merely the wisdom of hindsight. As Ben Bailey of Harley observed at the time, they were *going around in circles.*<sup>82</sup>

86. However, despite this confusion, RBKC BC seemed happy enough, Hoban writing on 1 April that *I would advise you that I have no adverse comments to make on the cladding proposals shown on your drawings 1279 (06) 120 rev. 00, 121 rev. 00 and Harleys drawing C1059-325 rev. C with regards to compliance with Parts B2 and B3 in Schedule 1 of the building regulations.*<sup>83</sup>

87. According to Crawford's witness statement:<sup>84</sup>

*In a meeting which I believe took place in April 2015 (possibly the client design sign off meeting on 30 April 2015), I recall being told by Simon Lawrence (Rydon) something along the lines of that there was "no need to ask any more questions as the cladding has been signed off by Building Control".*

88. This, if true, is a remarkable state of affairs and one which reflects very badly on both men and their respective companies. If this is not true, it is extraordinary that Crawford would make up something like this, and still more so that he would believe that this would somehow exculpate Studio E. In fact, it is clear that Lawrence was well aware of many of the important issues relating to the cladding design, which should certainly have led to the need to 'ask...more questions'. In an email exchange with a third party (not involved with Grenfell), a few days later the 30 April meeting he said that:<sup>85</sup>

*Rainscreen cladding is made up of several components, essentially insulation and a cladding material (in this case Aluminium composite panel) to make the appearance look appealing. The main reason why this type of system doesn't get certified as a 'complete system' is because there are lots of different manufacturers of insulation and cladding. All of which can be mixed and matched providing you install according to their technical guidelines. They are also effectively two separate systems which don't rely on the other to perform. This is unlike a Insulated Render system where the render is actually applied directly to the insulation. So they have to be compatible and tested as a complete system.*

89. Williams was chasing for answers (email of 10 April 2015, and chaser on 10 June 2015):<sup>86</sup>

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<sup>81</sup> {PHYR0000004\_0152}, paragraph 4.4.125

<sup>82</sup> {HAR00003947}, email from Ben Bailey to Ray Bailey, Kevin Lamb and Mark Stapley regarding Grenfell Tower Fire Stopping, 30/03/2015.

<sup>83</sup> {HAR00006596}.

<sup>84</sup> {SEA00014275\_0075} at paragraph 245

<sup>85</sup> {RYD00039517}, 22/04/15 with emphasis added; this email chain may be referring to certification of thermal performance, not fire safety, but the overall point remains valid.

<sup>86</sup> {RYD00043476}.

- 5 *I would recommend that the contractor provides*
1. *The scope of works covering how this cladding? How will the cladding be fixed to the building?*
  2. *What fixings will be used?*
  3. *The fire rating of the cladding and the fixings?*
  4. *The Building Control Officers acceptance of this fixing system and the cladding used?*

90. This related to ‘Grenfell FRA - outstanding items’, but it does not appear this was ever dealt with.<sup>87</sup>

91. The works proceeded on site to completion in the summer of 2016, with not a few construction defects to add to the fundamental design failures which had occurred.<sup>88</sup> In November of that year, the Grenfell Action Group posted the following dramatic, but fully justified and prophetic, warning; they would have been even more concerned if they had been aware of the litany of incompetence, and worse, set out above:<sup>89</sup>

*It is a truly terrifying thought but the Grenfell Action Group firmly believe that only a catastrophic event will expose the ineptitude and incompetence of our landlord, the KCTMO, and bring an end to the dangerous living conditions and neglect of health and safety legislation that they inflict upon their tenants and leaseholders... Unfortunately, the Grenfell Action Group have reached the conclusion that only an incident that results in serious loss of life of KCTMO residents will allow the external scrutiny to occur that will shine a light on the practices that characterise the malign governance of this non-functioning organisation... We have blogged many times on the subject of fire safety at Grenfell Tower and we believe that these investigations will become part of damning evidence of the poor safety record of the KCTMO should a fire affect any other of their properties and cause the loss of life that we are predicting... The Grenfell Action Group predict that it won't be long before the words of this blog come back to haunt the KCTMO management and we will do everything in our power to ensure that those in authority know how long and how appallingly our landlord has ignored their responsibility to ensure the health and safety of their tenants and leaseholders. They can't say that they haven't been warned!*

92. The residents continued to raise concerns about fire safety, and RBKC and KCTMO continued to ignore them:

- (a) On 22<sup>nd</sup> March 17, the GTLA wrote to Councillor Blakeman, to say that they intended to *hire the independent Health and Safety inspector to attend the premises to...carry out full health & Safety inspection of the physical aspect of the premises including*

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<sup>87</sup> See also concerns raised by Carl Stokes, as referred to at paras 117-123 of his witness statement, {CST00003063}.

<sup>88</sup> As Dr Lane made clear in Phase 1, there were defects including mis-positioning, poor manufacture and incorrect installation of cavity barriers, and incorrect orientation of intumescent strips.

<sup>89</sup> {TMO10047933}, Grenfell Action Group blog post on fire safety concerns at Grenfell Tower “KCTMO - Playing with Fire. JW highlight.docx”, 20/11/2016.

*structural problem as well as onsite documentation.*<sup>90</sup> This was forwarded to Laura Johnson, who responded to Robert Black *I am not minded to agree to this request, I find the work that the TMO have undertaken more than sufficient.*<sup>91</sup>

- (b) On the same day, the GTLA asked Johnson, *who is going to pay the ultimate price for the anticipated negligence of the KCTMO, the RBKC or national Grid or the residents of Grenfell Tower!;*<sup>92</sup>
- (c) On 21<sup>st</sup> April 2017, the GTLA wrote to Johnson, referring to the fire in the building in 2010 *which was caused by poor maintenance for which the TMO/ RBKC was responsible...a number of residents are extremely concerned of the same thing happening again.*<sup>93</sup> The email referred to a petition calling for *Independent investigation by independent adjudicator, health and safety inspector and fire brigade inspectors...1.To carry out full health and safety inspection of physical aspect of the premises including structural problem as well as onsite documentation.* The petition was signed by residents from many flats in Grenfell Tower, including many of the deceased. Copies of the petition (not on Relativity) were delivered by hand to by Shah Ahmed, Chair of GTLA, to Councillor Feilding-Mellen and to Black on 30 May 2017.

93. The attitude to these issues of RBKC may be judged from the internal email from Johnson in response to the petition, commenting on the GTLA email of 21<sup>st</sup> April 2017:<sup>94</sup>

*What on earth can we do with this now, we've responded on all of the points raised previously as far as I'm aware there is nothing further we can add...The Council has no intention of appointing independent inspectors for H&S, Fire and Adjudication (although I'm not quite clear what they would be adjudicating on). I am very tempted to respond along the lines that we have answered all the questions before about gas pipes, noises, lifts and asb. If they wish to take legal action then that is their prerogative and we look forward to receiving notice from whomever they appoint.*

#### **D. What was wrong with the cladding (issue 5)**

94. The pivotal role that the cladding system played in the spread of the fire is made plain in the Phase 1 Report:<sup>95</sup>

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<sup>90</sup> {RBK00002326}.

<sup>91</sup> {RBK00002636}.

<sup>92</sup> {RBK00003771\_0003}.

<sup>93</sup> {RBK00033165}.

<sup>94</sup> {RBK00033165}, 21/04/17.

<sup>95</sup> Paragraph 2.13 of the Executive Summary, Phase 1 Report.

- a. *The principal reason why the flames spread so rapidly up, down and around the building was the presence of the aluminium composite material (ACM) rainscreen panels with polyethylene cores, which acted as a source of fuel. The principal mechanism for the spread of the fire horizontally and downwards was the melting and dripping of burning polyethylene from the crown and from the spandrel and column panels, which ignited fires lower down the building. Those fires then travelled back up the building, thereby allowing the flame front to progress diagonally across each face of the tower.*
  - b. *The presence of polyisocyanurate (PIR) and phenolic foam insulation boards behind the ACM panels, and perhaps components of the window surrounds, contributed to the rate and extent of vertical flame spread.*
  - c. *The crown was primarily responsible for the spread of the fire horizontally, and the columns were a principal route of downwards fire spread.*
95. The elements of the cladding system have been explored further by the Inquiry’s experts for the purposes of Phase 2. It is clear from their conclusions that:
- (a) No single element of the cladding system complied with the Building Regulations;
  - (b) Together, the elements combined to fuel, rather than inhibit, the fire; and
  - (c) Responsibility for the dangerous cladding system lies with many parties, including Studio E, Harley, Arconic/Alcoa, Celotex, Exova, Rydon, BBA and KCTMO/RBKC.

### **Rainscreen cladding**

96. Paragraph B4(1) of Schedule 1 (External Fire Spread) of the Building Regulations 2010 provides that *“The external walls of the building shall adequately resist the spread of fire over the walls...having regard to the height, use and position of the building”*. As explained by Hyett, the associated guidance on the performance of rainscreen panels for a building over 18m high means that only materials that are certified as Class 0 (national class), B-s3, d2 or better (European Class) are permissible.<sup>96</sup>
97. The rainscreen cladding specified comprised of two thin aluminium sheets bonded to a core of low-density polyethylene (known as Reynobond “ACP” or “ACM”). The ACP was folded and cut into cassette form, which was installed on the exterior of the building using a combination of attachments. No fire-retardant additive was added to the polyethylene.<sup>97</sup> The external finish of the Reynobond ACP selected was Smoke Silver Metallic Duragloss 5000 Satin.

<sup>96</sup> See paragraph 4.2.41 of Hyett’s Phase 2 Report {PHYR0000004\_0042}.

<sup>97</sup> See paragraph 4.1.37(c) of Hyett’s Phase 2 Report {PHYR0000004\_0019}.

98. BBA issued a certificate on 14 January 2008 certifying that Reynobond ACP *may be regarded as having a Class 0 surface in England*.<sup>98</sup> However, this certificate expressly stated at section 6 that testing had been carried out on samples with Grey/Green Duragloss 5000 coating and a metallic grey PVDF finish and that “*these performances may not be achieved by other colours of the product*”.
99. The Reynobond ACP applied to the building was, in fact, highly combustible. It was identified by Luke Bisby in Phase 1 as *by a considerable margin, the most important factor contributing to upward vertical fire spread (and indeed to external fire spread generally)*.<sup>99</sup>
100. Hyett is critical of:
- (a) BBA’s failure to make clear on page 1 of its certificate that the failure to specify a polyethylene core with a fire-retardant additive, or a failure to use only the designated colours, would render any panels non-compliant with Class 0 and Approved Document B;<sup>100</sup>
  - (b) Harley, who knew in early 2015 that ACP would *be gone rather quickly in a fire*,<sup>101</sup> but continued to recommend its use in its cladding systems;<sup>102</sup>
  - (c) Arconic/Alcoa, who continued to supply polyethylene cored ACP products without warning its purchasers of the product’s characteristics in fire and the potential inappropriateness for the use of such products in buildings over 18m high;<sup>103</sup>
  - (d) Studio E, who, he considers, if it had read section 6 of the BBA certificate, *should have reverted to the manufacturer in pursuit of an assurance that the panel colour selected for Grenfell would meet the test requirement necessary* and, in the absence of any satisfactory assurance, *should have insisted on a dedicated test being carried out on the preferred panel colour and refused to specify it without satisfactory certification*;<sup>104</sup>
  - (e) Exova, who, he believes, should have been aware of the dangers associated with ACP and should have ensured that the product was fully and properly tested, certified and

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<sup>98</sup> {BBA00000047}. It is understood that the accuracy of the contents of this certificate will be explored further in Module 2

<sup>99</sup> See paragraphs 858 to 860 of Luke Bisby’s Phase 1 Supplemental Report {LBYS0000001\_0178}.

<sup>100</sup> See paragraph 4.4.86 of Hyett’s Phase 2 Report {PHYR0000004\_0127}.

<sup>101</sup> See internal email exchange between Daniel Anketell-Jones and Ray Bailey in March 2015 {HAR00006585}.

<sup>102</sup> See paragraph 4.4.64 of Hyett’s Phase 2 Report {PHYR0000004\_0120}.

<sup>103</sup> See paragraph 4.4.65 of Hyett’s Phase 2 Report {PHYR0000004\_0120}.

<sup>104</sup> See paragraph 4.4.60 of Hyett’s Phase 2 Report {PHYR0000004\_0118}.

applied in strict accordance with its certification and with all the requirements of ADB2;<sup>105</sup> and

- (f) Rydon, who *should have managed both their cladding sub-contractor and their architect with greater care, and in particular, should have taken a far more pro-active role in ensuring that information as required to support the Full Plans application with respect to Building Regulations was properly reviewed and issued to Building Control.*<sup>106</sup>

## **Insulation**

101. Paragraph 12.7 of ADB2 makes clear that any insulation product used in the external wall construction of a building over 18m in height must be of *limited combustibility*. Table A7 of ADB2 defines materials of limited combustibility. Products should be certified as suitable for meeting the guidance in ADB2 and the Building Regulations before they are selected for buildings over 18m.
102. The insulation specified, and the majority of the insulation applied beneath the rainscreen cladding on Grenfell Tower, was Celotex ‘5000’, which is a polyisocyanurate known as ‘PIR’. Celotex used the prefixes FR and RS interchangeably to describe this product in their marketing and technical literature. A limited number of Kingspan K15 insulation boards were also installed.<sup>107</sup>
103. Celotex actively promoted its ‘RS 5000’ insulation as *acceptable for use in buildings above 18m height*.<sup>108</sup> However, as Hyett explains, this claim was both *erroneous* and *misleading*.<sup>109</sup> In fact, PIR insulation does not meet any of the definitions for materials of limited combustibility set out in Table A7 of ABD2.<sup>110</sup> It is combustible.<sup>111</sup> Kingspan phenolic insulation is also combustible.<sup>112</sup> The fact that combustible PIR had been specified was not picked up by Exova. Hyett describes this as a *serious error*.<sup>113</sup> However, this error is perhaps unsurprising in circumstances where it appears that Exova lacked even a basic understanding of the guidance on insulation in ABD2. Indeed, in an email exchange with Neil Crawford of Studio E, Ashton of Exova stated that cavity barriers would need to be provided *if the*

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<sup>105</sup> See paragraph 4.4.150 of Hyett’s Phase 2 Report {PHYR0000004\_0167}.

<sup>106</sup> See paragraph 4.4.159 of Hyett’s Phase 2 Report {PHYR0000004\_0169}.

<sup>107</sup> See paragraph 344 of Luke Bisby’s Phase 1 Supplemental Report {LBYS0000001\_0084}.

<sup>108</sup> {CEL00000013}.

<sup>109</sup> See paragraph 4.2.19 of Hyett’s Phase 2 Report {PHYR0000004\_0033}.

<sup>110</sup> See paragraph 4.2.18 of Hyett’s Phase 2 Report {PHYR0000004\_0032}.

<sup>111</sup> See section 4.10.1.3 of Luke Bisby’s Phase 1 Supplemental Report {LBYS0000001\_0101}.

<sup>112</sup> See section 4.10.1.4 of Luke Bisby’s Phase 1 Supplemental Report {LBYS0000001\_0101}.

<sup>113</sup> See paragraph 4.2.21 of Hyett’s Phase 2 Report {PHYR0000004\_0034}.

*insulation in the cavities is combustible.*<sup>114</sup> Hyett comments that he is unable to *understand how a fire specialist could be asking if the insulation is combustible when he should know that under paragraph 12.7 of ADB2 it should be of 'limited combustibility'.*<sup>115</sup>

104. This error was also not identified by Studio E. In Hyett's view, ultimate responsibility for ensuring that the insulation materials complied with the requirements of the Building Regulations lay with Studio E.<sup>116</sup> He is also very critical of the services engineers Max Fordham,<sup>117</sup> and of the failure of Building Control to recognise the insulation as non-compliant.<sup>118</sup>

### **Cavity barriers**

105. Hyett summarises the requirements of the Building Regulations and associated guidance in relation to cavity barriers as follows:<sup>119</sup>

- a) *the inner part of any external walls that contain cavities (often known as the 'inner leaf') should act as an impediment to the passage of fire into those cavities.*
- b) *the gaps around the frames of any 'openings' (e.g. door and window frames) should be sealed with material that will also act as an impediment to the passage of fire.*
- c) *the cavities should be sub-divided to inhibit the spread of fire.*

106. There was no overall strategy for the provision of cavity barriers at Grenfell Tower.<sup>120</sup> This led to a catalogue of failures, including a lack of vertical cavity barriers to the window jambs and a lack of horizontal cavity barriers to the window head and sill or at the top of the cavity within the rainscreen system where it adjoined the crown. There were also serious imperfections in the installation of the horizontal cavity barriers at the junctions with columns where the grooves provided a vertical fire path behind the barriers, the junctions with the vertical rainscreen support system where the outer support channels provided a vertical fire path at the top corners of the ACP cassettes, and particularly at the open vertical joint to the rainscreen panels at the leading edge of the intermediate columns.<sup>121</sup>

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<sup>114</sup> {EXO00000708}.

<sup>115</sup> See paragraph 4.4.35 of Hyett's Phase 2 Report {PHYR0000004\_0109}.

<sup>116</sup> See paragraph 4.2.27 of Hyett's Phase 2 Report {PHYR0000004\_0036}.

<sup>117</sup> See paragraph 4.2.26 of Hyett's Phase 2 Report {PHYR0000004\_0036}.

<sup>118</sup> See paragraphs 4.477 to 4.4.79 of Hyett's Phase 2 Report {PHYR0000004\_0125}.

<sup>119</sup> See paragraph 4.3.45 of Hyett's Phase 2 Report {PHYR0000004\_0071}.

<sup>120</sup> See paragraph 4.4.109 of Hyett's Phase 2 Report {PHYR0000004\_0140}.

<sup>121</sup> See paragraph 4.4.130 of Hyett's Phase 2 Report {PHYR0000004\_0153}.

107. According to Hyett, the *fundamental errors in design* [of the cavity barriers] *meant that the Harley construction documentation, which Studio E endorsed, was deeply flawed in concept with the result that the construction documentation was released in a form that provided absolutely no protection against the passage of fire anywhere around the window opening directly into the cavity zone behind the rainscreen.*<sup>122</sup>
108. Lane is equally critical of Exova, who failed to identify in its Fire Safety Strategy the required performance criteria for cavity barriers or the limit on the size of concealed spaces which are undivided.<sup>123</sup> As to Ashton's comment that providing design guidance regarding cavity barriers *isn't something that would necessarily form part of a fire safety strategy for a building,*<sup>124</sup> Lane states *This was entirely wrong advice to give at that time and remains so.*<sup>125</sup>

### **The crown**

109. The concrete columns and beams at the top of the tower were encased in a band of tall Reynobond 55 PE ACM cassettes which extended around the perimeter of the building above level 23. They served no functional purpose and were purely aesthetic.<sup>126</sup> They were also combustible. Bisby's evidence in Phase 1 was that the architectural crown played a *critical* role in contributing to the horizontal progression of fire spread around the building.<sup>127</sup>

### **The windows, window panels and infill**

110. New windows were installed on every floor of the Tower during the refurbishment. The new windows, which were smaller than the originals, were moved outwards so that they were flush with the new cladding system rather than the concrete structure. The changes to the windows significantly compromised the compartmentation of the building in a number of ways, including:
- (a) vertical gaps were created in the internal walls behind the new window frames, which were filled in some places with expanding polyurethane foam and in other places were left open;
  - (b) a horizontal gap was created below the windows;

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<sup>122</sup> See paragraphs 4.4.134 and 4.4.136 of Hyett's Phase 2 Report {PHYR0000004\_0156 and \_0158}.

<sup>123</sup> See Barbara Lane's Fire Safety Engineer Report for Phase 2 {BLARP20000003\_0222}.

<sup>124</sup> See email from Terry Ashton to Neil Crawford of 31 March 2015 {EXO00000715}.

<sup>125</sup> See paragraphs 15.1.38 to 15.1.39 of Barbara Lane's Fire Safety Engineer Report for Phase 2 {BLARP20000003\_0257}.

<sup>126</sup> Dr Lane oral evidence, Phase 1 Day 79/87/14-23.

<sup>127</sup> See paragraph 18 of Luke Bisby's Phase 1 Supplemental Report {LBYS0000001\_0004}.

- (c) the gaps between the windows and the adjacent columns were filled with combustible EDPM; and
- (d) no cavity barriers were installed around the windows.<sup>128</sup>

111. The new window infill panels comprised an aluminium polyester coated outer face and an aluminium inner sheet with an insulating core. The original window panels were left in place, creating a cavity between the old and new panels.<sup>129</sup> Contrary to paragraph 12.7 of ADB2, combustible PIR insulation (both Celotex and Kingspan) was used to form vertical insulation at the edges to the voids behind the window infill panels.<sup>130</sup> Window reveals and sills were covered with UPVC which deformed and melted providing access to escaping heat and flames igniting flammable insulation beneath the sills and reveals around the sides and lintels of the windows, and ultimately into the external cladding and columns (this was a cost saving exercise since the original fire proof birch fixed plywood sills and reveals were replaced with UPVC to recoup part of the deficit caused by Rydon's original erroneous quotation).<sup>131</sup>
112. The infill behind the internal window linings was also required to comply with paragraph 12.7 of ADB2.<sup>132</sup> Contrary to this requirement, the jambs and sills were packed with combustible PIR insulation, manufactured by Celotex and Kingspan.<sup>133</sup> According to Hyett, *Rydon and Studio E were remiss in not resolving this item in a manner compliant with ADB2 guidance as set out under paragraph 12.7.*<sup>134</sup>

#### **E. Why did this happen? Background (Issues 1 and 4)**

113. The background history of political decision making, budgetary assessments and planning is of crucial importance to what followed. RBKC and KCTMO were obsessed with cost and aesthetics, not fire safety, and this explains much of what ensued.

#### **Initial decision to undergo works and budget**

114. Two preliminary issues need to be addressed.

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<sup>128</sup> See Figs 9.6 and 9.8-9.10 and pages 20-25 of Section 9 of Barbara Lane's supplemental Phase 1 Report {BLAS0000009\_0009, 0012-13 and 0022-27}, paragraphs 373-376 of Luke Bisby's supplemental Phase 1 Report {LBYS0000001\_0090} and paragraphs 11.20.22-23 of Section 11 of Barbara Lane's supplemental Phase 1 Report {BLAS0000011\_0074}.

<sup>129</sup> See Fig 8.19 in Section 8 of Barbara Lane's supplemental Phase 1 Report {BLAS0000008\_0020}.

<sup>130</sup> See paragraphs 4.3.88 and 4.4.139 to 4.4.140 of Hyett's Phase 2 Report {PHYR0000004\_0093 and \_0161}.

<sup>131</sup> See RYD00003281, Emails re £212k missing from Rydon's tender bid, 11/03/2014 and BLAR00000004 Barbara Lane, Expert Report, paragraph 9.4.18.

<sup>132</sup> See paragraph 4.4.93 of Hyett's Phase 2 Report {PHYR0000004\_0096}.

<sup>133</sup> See paragraph 4.5.19 of Hyett's Phase 2 Report {PHYR0000004\_0183}.

<sup>134</sup> See paragraph 4.4.149 of Hyett's Phase 2 Report {PHYR0000004\_0167}.

115. First, as will be seen, the idea and impetus for the refurbishment works came from RBKC not KCTMO. At present, it is clear from the documents available on Relativity that there must be other documents relevant to the initial decision to carry out the works. The Inquiry has now asked RBKC and KCTMO for further documents relating to this issue.<sup>135</sup> Accordingly, it is anticipated that there may be a substantial amount of documentation which will shed further light on the reasons for the decision to refurbish.
116. Secondly, the unique nature of KCTMO must be emphasised. “Tenant management organisations” were envisaged as, and usually are, locally based, grass-roots community formed by groups of tenants and leaseholders to assume responsibility for the management of an individual block or housing estate. KCTMO was unique in that it was an arm’s length management organisation (ALMO) with responsibility for management of the entirety of RBKC’s housing stock (some 9,000 units, including leasehold).
117. There is nothing in law which prevents a TMO from being an ALMO managing the whole of an authority’s stock but the important point is that the title “tenant management organisation” implies local decision-making driven by residents. That is simply not the case here. There was never any possibility that KCTMO could be an organisation where residents exercised effective, or indeed any, control over decision-making. The decision to refurbish and on the scope of the works did not come from the residents of Grenfell Tower: these were matters imposed on them from above.
118. There can be no doubt that Grenfell Tower and the Lancaster Estate in general had suffered from decades of neglect and was in urgent need of refurbishment. In 2009, RBKC commissioned a report from Urban Initiatives, which put forward radical proposals for the regeneration of the area. The Inquiry has now asked RBKC to disclose this report and documents relating to it. The references below are to a Draft Final Masterplan Report (July 2009) which has been obtained.
119. The Final Draft Report identified the severe problems facing the area (at p.10).

*The ward of Notting Barns South suffers substantial issues of deprivation relating to employment, health and crime...Most of the current building blocks in the Study Area are not flexible enough to get adapted to changes in housing demand ... Many suffer from poor energy efficiency and conditions, generating significant maintenance and running costs.*

120. Of Grenfell Tower, the Report said, at p.19:

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<sup>135</sup> Letter of 6 December 2019 from Victoria O’Brien to Bhatt Murphy Solicitors.

*Grenfell Tower: We considered the appearance of this building and the way in which it meets the ground blights much of the area east of Latimer Road Station. It also provides no outdoor space for residents and is likely to be of a type of construction that is hard to adapt. It does contain 120 homes. On balance our preferred approach is to assume demolition.*

121. The vision of the Report is the complete regeneration of the area through investment by a combination of housing associations and private developers, under which all of RBKC's tenants would have been re-housed in low-rise buildings and the area would have become one of mixed tenure, i.e. both socially and privately-owned housing. That vision was not pursued.
122. The decision to undertake the actual refurbishment project was prompted by RBKC receiving £6m in capital receipts from the sale of basements at Elm Park Gardens. This was the main source of funding for the refurbishment, the balance being met from RBKC's housing revenue account (HRA). Then, as now, local authorities were required to keep an HRA under Pt VI, Local Government and Housing Act 1989. In general terms, this is a ring-fenced account under which routine expenditure on housing (e.g. repairs) must be met by income (mainly rents). Capital works can also be funded from the HRA.
123. The idea of the refurbishment project came from RBKC. Part of the rationale behind it was the possibility of converting a section of Grenfell Tower into new flats (RBKC's "Hidden Homes" project). The prime motivation, however, was an attempt to pacify residents of Grenfell Tower who had serious objections to the Kensington Academy and Leisure Centre (KALC) project. There can be no doubt as to the strength of the objections to KALC being expressed by residents: see email, Eddie Daffarn to Johnson 16 September 2011.<sup>136</sup>
124. On 2 November 2011, Jane Tretheway (RBKC Housing and Regeneration Manager) emailed Johnson:<sup>137</sup>

*I thought that I should update you on a useful meeting I had yesterday ... with Mark Anderson and Alasdair Manson from the TMO, regarding the impact of the KALC proposals on Grenfell Tower and Lancaster, and how these may be managed and mitigated. ... This conversation then linked through to the ambitions that the Housing Department has to see the lower floors of Grenfell Tower developed into homes. Also that there is funding potentially available ... from capital receipts from Elm Park Gardens. .... Peter advised that the architects are every aware of the poor quality of the ground floor frontage that Grenfell Tower creates for their scheme, and have been keen to make proposals as to how to improve it. ... The TMO is also keen to investigate the opportunity to clad Grenfell Tower and replace its windows, and will seek to cost this out with a view to investing EPG funds here. This will have the*

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<sup>136</sup> {RBK00030110}.

<sup>137</sup> {RBK00000005}.

*advantage of addressing the investment needs of one of its worst property assets, and prevent it looking like a poor cousin to the brand new facility being developed next door. There may be an option to have a cladding design that links to the design of the Academy, so that the visual appearance of the area is significantly improved ... It is likely that those who oppose KALC in principle will oppose these proposals too, so it is important to build support, and indeed adapt the proposals to meet immediate local requirements and preferences too. ... [emphases added]*

125. On 2 November 2011, Tretheway suggested to Anderson that he explore the possibility with Studio E.<sup>138</sup> On 22 November 2011, she was pressing Anderson as to whether he had met with Studio E because Johnson was due to meet with residents of Grenfell Tower on 29 November and she would like to be in a position to report positively at the residents' meeting, even if specifics have not been firmly proposed at that stage.<sup>139</sup> On 12 December 2011, Anderson provided Johnson with an estimate of £5.5m for the works.<sup>140</sup>
126. In late January 2012, KCTMO then sent a questionnaire to the residents of Grenfell Tower identifying proposed works, including the cladding.<sup>141</sup> On 26 January 2012, Tretheway emailed Anderson asking for KCTMO to prepare a report:<sup>142</sup>
1. *... on the use of the Elm Park Gardens capital receipts, showing that the TMO has reviewed the options for expenditure, and that investment in Grenfell has shown particular benefits for the wider regeneration of the area, the sustainability of the building, resolving a long running problem with the heating system, the potential for Hidden Homes etc., etc. ... I can draft this report fairly straightforwardly, but I need to have a paper from the TMO setting out the options and providing the reasoning supporting the Grenfell option. This is a key part of the project, without which it cannot proceed. I am confident of Cllr Coleridge's support, but it nevertheless needs to go through a process of consultation and challenge, prior to formal political consideration, so the sooner this is delivered the better.*
127. On 31 January 2012, Anderson reported to KCTMO's Operations Committee that: *3.6 RBKC recognises that the KALC Project will have a significant effect upon the Residents of Grenfell Tower ... and is minded ... to fund a 'Legacy' project on the Estate.*<sup>143</sup>
128. Anderson prepared a report seeking the approval of KCTMO Board at its meeting on 29 March 2012 to bid for the use of the capital receipts from Elm Park Gardens on refurbishment of Grenfell Tower.<sup>144</sup> The Board approved his recommendation.<sup>145</sup>

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<sup>138</sup> Email chain {TMO10000963}.

<sup>139</sup> {TMO10000963}.

<sup>140</sup> {RBK00002335}.

<sup>141</sup> {TMO10001007}.

<sup>142</sup> Email chain {TMO10001016}.

<sup>143</sup> {TMO10001001\_0110}.

129. It was only after the decision has been taken to make the bid, and the scope of the works identified, that Anderson raised the proposed works with the Lancaster West EMB in any meaningful way: minutes of meeting of EMB on 17 April 2012 at 8.4.<sup>146</sup>
130. In her report to Cabinet, dated 2 May 2012, Johnson stated, at para.6.3.1, that *the TMO was asked to review the investment needs of its major estates using its Keystone asset management system to identify the highest priority ... capital investment projects.*<sup>147</sup> At para.6.3.2, she said that five investment priorities had been identified but that (at para.6.3.3) *based on the TMO's information on investment need, and the aspirations of the TMO Board and the Lancaster West Estate Management Board (EMB), the recommendation was to use the Elm Park Gardens Capital receipts for Grenfell Tower.*
131. The Inquiry has confirmed that “a small number of documents with ‘Keystone’ in the description” have been identified and will be disclosed. These may shed light on the process that was undertaken. On the face of it, however, any analysis by KCTMO was merely cosmetic: RBKC had already decided to spend the capital receipts on Grenfell Tower and asked KCTMO for an ex post facto justification.
132. Grenfell Tower did, of course, need essential works. The same Cabinet Report records, at para.6.3.2(b):<sup>148</sup>

*Lancaster West: This estate has significant investment needs, particularly around the common areas, heating and hot water system and windows. A child's death occurred following problems with the window opening system at Grenfell Tower and short term measures were implemented to avoid such an event happening again. However a long term solution is overdue. An assessment of estate investment need places Grenfell Tower energy efficiency, external fabric, heating system and windows as the top priorities. The TMO Board also approved the submission of funding bid to the Council for the proposals at Grenfell Tower.*

133. The same paragraph refers to the potential for the creation of additional housing units but notably also mentions the main driver behind the project: ... *the proposed construction of ... (KALC) will have a significant impact on the north of the estate which has given rise to concern from Grenfell Tower residents who immediately overlook the site.*

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<sup>144</sup> {TMO10001095}.

<sup>145</sup> {TMO10001127}.

<sup>146</sup> {TMO10001167}.

<sup>147</sup> {RBK00028612}.

<sup>148</sup> {RBK00028612}.

134. Elsewhere, this reason is put in more colourful language. In an internal Rydon email, dated 10 April 2013, Steve Blake told Zak Maynard: *Reading what's on the internet its a political nightmare, there's a website dedicated to complaining about phase 1 and the scheme in general. It looks like they have been forced into doing something with the tower.*<sup>149</sup>
135. On 7 June 2012, there was a design team meeting at which Appleyards suggested a budget of £7.8m. Anderson indicated that he was happy with that level of spend: funding of £6m had been confirmed and the remainder would be met by KCTMO capital programme.<sup>150</sup> The budget of £7.8m had been prepared on the basis of very limited information by Artelia.<sup>151</sup>
136. The budget had to be revised once Artelia was in receipt of more information at Stage C. The budget had been revised up to £8.998m (as of 6 September 2012) and then £9.28m (as of 12 September 2012).<sup>152</sup> Artelia made efforts to reduce the budget resulting in a total projected cost of £8.921m as of 3 October 2012.<sup>153</sup>
137. On 15 November 2012, Anderson reported to KCTMO board that the revised budget was £9.4m.<sup>154</sup> At that meeting, the Board gave approval for the project progressing to the design and tender phase and for Leadbitter to be appointed to undertake the Pre-construction Agreement phase with a budget of £250,000.<sup>155</sup> Artelia then amended the budget at Stage D resulting in a budget of £9.645m as at 19 December 2012.<sup>156</sup>
138. On 8 January 2013, Anderson reported on the project to KCTMO Board.<sup>157</sup> As at Stage D, the total budget was £9.768m, including a construction cost of £8.415m.<sup>158</sup> His report recorded that *All costs are being charged to the HRA*. The budget was agreed by the Board.<sup>159</sup> On 18 June 2013, RBKC's Cabinet approved an increase in the budget to £9.7m with the increase to be met from the HRA balance.<sup>160</sup>
139. As discussed below, RBKC and KCTMO had become disenchanted with Leadbitter because their estimated costs far exceeded the available budget: see Maddison's consideration of the

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<sup>149</sup> {RYD00001193}.

<sup>150</sup> {TMO00833468}.

<sup>151</sup> Statement of Chweechen Lim paras 13-27 {ART00005817}.

<sup>152</sup> Statement of Chweechen Lim paras 35 and 38 {ART00005817}.

<sup>153</sup> Statement of Chweechen Lim para 42 {ART00005817}.

<sup>154</sup> {TMO10001760} at para.6.2

<sup>155</sup> {TMO10001896}.

<sup>156</sup> Statement of Chweechen Lim paras 46-49{ART00005817}.

<sup>157</sup> {TMO10001900}.

<sup>158</sup> {TMO10001900\_0020} at para.6.2.

<sup>159</sup> {TMO10001908\_0007}.

<sup>160</sup> {RBK00015870\_0002}.

issue at a TMO Programme Board meeting on 25 March 2013.<sup>161</sup> This resulted in the works going out to tender as a Design and Build project and a budget provided by Rydon which was artificially low. Even then RBKC and KCTMO were constantly pressing for savings to be made through “value engineering”.

140. The budget of £9.7m proved inadequate. On 19 June 2014, Johnson recommended to RBKC’s Cabinet that the budget be increased to £10.3m because £9.7m contained no contingency, the increase to be met by a drawdown from the HRA balance.<sup>162</sup>
141. Given that subsequent increases in the budget were readily met from the HRA, why were RBKC and KCTMO so keen at an earlier stage to engage in cost cutting instead of setting a realistic budget? The explanation lies in a report to RBKC’s Scrutiny Committee, dated 16 July 2013,<sup>163</sup> prepared by Johnson which shows that in purely economic terms the refurbishment made no sense. Referring to the Savills report, Johnson noted that Grenfell had a negative Net Present Value over 30 years of a staggering -£340m. Even after completion of the works, the negative value would remain significant: -£1.64m. The proposed cost of the works per unit of £58,000 exceeded Savills’ average unit cost per property of £47,000 over 30 years. Even with this amount of investment, the works did not include significant areas of further investment, such as the renewal of kitchens and bathrooms in the block.
142. Accordingly, from a purely economic perspective, there was every reason for RBKC and KCTMO to keep the costs of the project as low as possible. From their point of view, it made sense to ensure that the bare minimum was spent, which explains the constant pressure from RBKC and KCTMO to reduce the cost of the project through “value engineering”. Such considerations should not, of course, have been allowed to compromise safety. Instead of safety, however, RBKC and KCTMO focussed on cost cutting and the aesthetics of the Tower, e.g. the crown.

## **Planning**

143. What is striking about the progress of the planning application is that the look of the Tower took precedence over all other issues. Whilst it is recognised that the planning process is not concerned with the fire safety of the materials used (a matter for Building Control), the focus on the look of the building to the exclusion of all else cannot be read without pain. All those involved in the refurbishment concentrate on the visual aspect of the Tower at a time when

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<sup>161</sup> {TMO10038870}.

<sup>162</sup> {RBK00017739} at 3.2 and 6.2.

<sup>163</sup> {RBK00000365}.

they should have been addressing fire safety. The issue is also focussed on how the Tower will look to others: residents' wishes play no part.

144. From the outset, RBKC's Planning Department's focus on the visual aspect of the works is evident. Following the submission of the planning application by Marc Watterson, of IBI Taylor Young, on 28 October 2012,<sup>164</sup> on 14 December 2012, the planning department provided their comments on the application, including:<sup>165</sup>

*Concern that the proposed cladding does not do enough to improve the appearance of the tower. The visual hierarchy remains poorly defined and the elevational appearance is sombre and lifeless. If anything, the brick infill of the lower levels reduce the open character and definition of the base. There needs to be greater expression of the base, middle and particularly the top. The canopy represents unattractive clutter*

145. When conditional planning permission was given on 10 January 2014,<sup>166</sup> condition 3 relating to the cladding was the detailed provision of drawings or materials *to accord with the development plan by ensuring that the character and appearance of the area are preserved and living conditions of those living near the development suitably protected.*
146. Throughout much of 2014, following the decision to use ACM, there were ongoing discussions about the material to be used for the cladding. On 9 April 2014, there was a meeting at which it was reported that Watterson had struggled to find an aluminium product because of the Planning Department's concerns about physical appearance, in particular face fixings that could be seen were considered unsightly.<sup>167</sup> This led to a specially arranged meeting with the Planning Department on 8 May 2014.<sup>168</sup> What is notable about this document is the extent to which the colour and finish of the ACM was dominating the agenda at a time when no-one was considering fire safety. The meeting led to an email exchange between 8 and 16 May 2014.<sup>169</sup> Having visited other buildings discussed at the meeting, Sarah Scannell of the Planning Department remained unconvinced, leading to yet further efforts to find a finish that would satisfy the planners.<sup>170</sup>

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<sup>164</sup> {RBK00000232}.

<sup>165</sup> {RBK00019168}.

<sup>166</sup> {RBK00000053}.

<sup>167</sup> {TMO00831757} at para.3.2.

<sup>168</sup> {TMO10005900}.

<sup>169</sup> {TMO10005924}.

<sup>170</sup> Email of 16 May 2014, {TMO10005924\_0002}.

147. On 4 June 2014, Scannell emailed Watterson following her visit to a building in Kilburn to look at its cladding.<sup>171</sup> She expressed the view that:

*Officers still believe that the use of any panels of this nature will not provide the high quality appearance necessary for such a visible building in the borough. However, I understand the cost and time implications the project is now under. I would suggest providing us with examples in a different colour (possibly in the bronze tone), maybe with larger panels placed closer together, with a demonstration of the fixings proposed to aim to convince us that panels will be acceptable.*

148. There was a further email exchange between 22 and 24 July 2014.<sup>172</sup> Scannell emphasised in her email that the concern was not just design and visual amenity but also the material's longevity.<sup>173</sup> The proposed fixings remained unacceptable. "Champagne" was the preferred shade. That was not the choice of Cllr Feilding-Mellen who preferred the grey of smoke silver metallic (see email of Sounes 18 September 2014).<sup>174</sup> That email shows the time and effort that was still being put into the issue in September 2014:

*We put all the available samples out in the sun to arrive at this shortlist. ... There was a consensus that the Metallics looked best, given the nature of the existing building and the aspiration for a natural material. ... We toyed with some exotic alternatives but the steer from the Planners was for neutral tones only.*

149. Eventually, a choice which satisfied the Planning Department was made. In their Progress Report of 17 October 2014, Rydon reported that *Cladding condition details have been submitted and review in line with the Planning Officers comments following the mock-up. Main cladding colour to be 'smoke metallic grey' and all cladding panels to be 'cassette' fixed.*<sup>175</sup>

150. The planning process also failed the residents in relation to changes to the area as a result of KALC. It is clear that the residents had expressed genuine concerns about the effect that the changes would have on fire safety.<sup>176</sup>

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<sup>171</sup> Email chain at {TMO10041379\_0003}.

<sup>172</sup> {TMO10007050}.

<sup>173</sup> {TMO10007050\_0004}.

<sup>174</sup> {TMO10049928\_0001}.

<sup>175</sup> {TMO00831995\_0005}.

<sup>176</sup> See for example: Statement of Antonio Roncolato, para.33 - {IWS00000894\_0006}; statement of Sener Macit, para.36 - {IWS00000695\_0007}; statement of Flora Neda, paras 88-89 - {IWS00000887\_0018}; statement of Edward Daffarn, paras 24-25- {IWS00000169\_0009}; statement of Wesley Ignacio, paras 32 and 82 - {IWS00000826\_0005} and {IWS00000826\_0013}.

**F. Why did this happen? Procurement (issues 2 and 3)**

151. The design failures that occurred did not happen through Act of God, or technical impossibility: these were human and institutional failings. Many of these can be traced back to the way in which this project was organised and procured by RBKC and KCTMO.
152. The problems began with the appointment of Studio E, who had been working, with Leadbitters, on the KALC project. It seems that, in 2012 at least, it was expected that these two companies would simply move across to GT. In February 2012, Anderson of KCTMO approached Studio E about working on GT as well. Sounes obviously wanted the work, but was apprehensive as well, telling his colleague Kuszell *We are a little green on process and technicality so I propose some rapid CDP.*<sup>177</sup>
153. Such apprehension was well-merited but did not, unfortunately, prevent KCTMO from offering the work to Studio E or Studio E taking it on. The architects were, indeed, more than ‘a little green’ when it came to designing overcladding for a tower block. Indeed, *the core of the practice's work has rotated around education, sports/leisure, recreational and commercial work with sensitivity towards designing buildings that were environmentally sensitive.*<sup>178</sup>
154. KCTMO do not appear to have carried out any, or any adequate, due diligence to ensure that this was the right firm to design the GT project. Nonetheless, KCTMO appointed Studio E to provide architectural services. On the face of it, this was a conventional and comprehensive engagement, albeit that clearly this was retrospective, since Studio E had been working on the project for more than a year by this stage.<sup>179</sup>
155. Having appointed the wrong architects, KCTMO then proceeded to select the wrong main contractor. In the early stages, it had been expected that Leadbitter would move seamlessly over from KALC. However, by the early part of 2013, it was clear that Leadbitter were looking for a contract sum far in excess of the Artelia estimate or the RBKC/TMO budget: £13m compared with an estimate of circa £9m.<sup>180</sup>
156. By the spring of 2013, Leadbitter’s chances were fading fast, and a different approach to procurement was emerging. Artelia reported internally that:<sup>181</sup>

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<sup>177</sup> {SEA00003567}.

<sup>178</sup> Andrzej Kuszell statement, para 17 {SEA00014271\_0004}.

<sup>179</sup> {SEA00009821}, 11/11/2013.

<sup>180</sup> {ART00006234}, Revised Stage D Budget Cost Estimate with Leadbitter’s comments, 19/12/2012, and {ART00006555}, internal Artelia email chain 15/01/13 to 21/01/13.

<sup>181</sup> {ART00006252}, 21/05/2013, emphasis added.

*Peter Maddison has been over-ruled by Laura Johnson....Also PM not keen on progressing with Leadbitter...Our report: kicking this all off was based upon the objective of preserving programme —This now not so important. Value for money is...Accordingly, we are likely to reprocure scheme via OJEU!...Leadbitter to be stood down...they will be able to bid as with any others in the OJEU process.*

157. RBKC were clearly at the heart of these decisions and cost was by far the most important factor in the decision-making process. The change of direction was confirmed in an Artelia report issued on 24/05/13, with emphasis added:<sup>182</sup>

*In the intervening period and following a meeting the TMO held with Laura Johnson of Royal Borough of Kensington & Chelsea in week commencing 13th May 2013, the TMO have clarified their position relating to a number of contributory factors to the scheme: - Value for Money is to be regarded as the key driver for the project; ... - RBKC/ TMO remain to be convinced that the existing arrangements with Leadbitter can produce value for money and believe entering in to a new, competitive procurement process will give best value to the scheme.*

158. It is clear that the RBKC decision makers must be called in Module 1. Although TMO were, formally, in charge of this procurement exercise, it is clear that the Mephistopheles behind this shabby Faust was RBKC, and that RBKC wished to discount Leadbitter on the grounds of cost. However, buying cheap can come very expensive in the end, as the residents of Grenfell Tower were to discover.

159. In any event, the die was now cast and the procurement process unfolded. In October 2013, a pre-qualification process took place. It should be noted that Rydon scored worst of all the contractors, for both Artelia and KCTMO:

<u>Contractor</u>	<u>Artelia score</u>	<u>TMO score</u>
Mulalley	78.5	60.5
Durkan	76	57.5
Wates	75	56
Keepmoat	60.5	57.5
Rydon	52	50 <sup>183</sup>

160. Despite this, Rydon were allowed to tender, and submitted by far the lowest bid: £9.249m, compared with Durkan at £9.94m and Mulalley at £10.426m.<sup>184</sup> This stage of the process is striking in two respects:

<sup>182</sup> {ART00006232}.

<sup>183</sup> {ART00006535}, Spreadsheet setting out scorings by both AUK and KCTMO of the PQQ submissions, 11/10/2013.

<sup>184</sup> {ART00005805}, updated Final Tender Report, 17/03/2014.

- (a) One would have thought that RBKC, KCTMO and Artelia would have asked themselves how the contractor which had scored so poorly on the PQQ exercise could have submitted a credible tender which was so far below that of their rivals;
- (b) Durkan had raised a post tender query about the fire strategy, and in their tender noted that *the Employers Requirements do not contain a Fire strategy No report has been provided.*<sup>185</sup> No one seems to have picked this point up.

161. It is clear that within KCTMO there was anxiety about cost, and about how Rydon could, even so, have put in such a low tender. At a meeting on 1 May 2014, it was minuted that:<sup>186</sup>

*Peter Maddison gave a progress report on the evaluation of the three tenders which had been received for this project, on both price and quality. Rydons was the preferred contractor, and because there was a very tight perimeter on costs, we would work with them on the detail of their tender... Board members raised the following points:*

1. *It was pointed out that there was a big difference in the prices being offered on page 83. However, Rydons was consistently lower.*
2. *It was queried why there was such a big deviation in tender prices, and whether Rydons had put in a low tender in order to obtain the contract. Confirmation was given that the pre-contract period was being recommended in order to look at these issues...*
3. *It was queried whether we had confidence in Rydons' pricing, and confirmation was given that we had received a very detailed tender report which was also competitive.*

At a meeting later in the same month, it was noted that *the competitively tendered Rydon tender return is £2m less than the anticipated build cost as originally provided by Bouygues (£11,278) [sic].*<sup>187</sup>

162. Nonetheless, the Board resolved to accept Rydon's bid.<sup>188</sup> Once more, the hand of Mephistopheles was present. The Board members approving the bid included Councillors Blakeman and Condon-Simmonds, and Mr Zitron, all Council appointed Board Members.<sup>189</sup>

163. KCTMO duly entered into a contract with Rydon, upon the terms of the JCT Design and Build Contract 2011, as amended.<sup>190</sup> This provided in the usual way that Rydon were to *complete the design for the Works and carry out and complete the construction of the Works in accordance*

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<sup>185</sup> {ART00005805\_0071}.

<sup>186</sup> {TMO10031040}, Minutes of a meeting of RBKC's TMO Board discussing evaluation of tenders received, 01/05/2014

<sup>187</sup> {TMO10041351} TMO Programme Board, 19/05/2014.

<sup>188</sup> {TMO10031040}.

<sup>189</sup> Ibid.

<sup>190</sup> {TMO10041791}, 30/10/2014

*with the Contract Documents*: see Article 1. By the First Recital, it was provided that KCTMO had *supplied to the Contractor documents showing and describing or otherwise stating his requirements (the Employer's Requirements)*.

164. In many situations, a Design and Build arrangement may be very suitable. However, this critically depends upon a number of pre-conditions:

- (a) The Employer's Requirements must have been carefully prepared by competent professionals. In this case, the ERs contained the fatally flawed specification of FR5000;<sup>191</sup>
- (b) The Contractor must either have, or obtain, competent professional resources in order to *complete the design for the Works*;
- (c) There must be clear lines of responsibility amongst the designers, and between the designers and the contractor;
- (d) The Contractor must *carry out and complete the construction of the Works* in a competent fashion.

165. None of these pre-conditions were met in the present case.

166. While all this had been going on RBKC and KCTMO had signally failed to develop an adequate engagement in respect of the fire safety strategy for the refurbishment works. As early as May 2012, Exova had submitted their fee proposal.<sup>192</sup> This was an unobjectionable document and, if fulfilled, would have provided a comprehensive service.

167. Nothing then seems to have happened until July, when Dawson of Artelia emailed Ashton of Exova as follows:<sup>193</sup>

*I just wanted to drop you a short note, to confirm that the Client has now confirmed your proposed fee is approved — to which end we would now ask that you engage with Bruce @ Studio E, in respect of the above project forthwith. We are currently reviewing how to formalise consultant appointments — as it may be that we have one main appointment with Studio E who then sub-consult to all other parties (incl yourselves), which may take a week or so to resolve....*

168. There matters stood not for 'a week or so' but until October 2012, when Exova emailed to inquire *the status of our fee proposal*.<sup>194</sup> On 1/11/12, Artelia responded that *Please see*

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<sup>191</sup> {ART00002035\_0073}, Studio E - Grenfell Tower NBS Specification - Revision 1, 30/01/2014, para H92.

<sup>192</sup> {EXO00000385}., 9/05/12.

<sup>193</sup> {EXO00000549, 18/07/12.

<sup>194</sup> Ibid, email of 25/10/12.

*attached for invoicing instructions. KCTMO do not have purchase orders in the conventional sense, but the attached serves to approve the fee proposal.*

169. As so often with this project, the focus was on money rather than quality or safety and matters were dealt with very casually. RBKC and KCTMO never did formalise the appointment of Exova, and no one seems to have made any real effort to find out what they were supposed to be doing, let alone to ensure that they were committed to delivering, and were delivering, a comprehensive fire safety strategy for the refurbishment works.
170. By the spring of 2014, by which time Rydon were, in substance if not in form, the designated main contractor, nothing whatever had been done to formalise or clarify Exova's position. Things then went from bad to worse.
171. Although no formal contract was in place, Rydon attended a Grenfell Tower- Contractor Introduction Meeting with KCTMO and others on 1 April 2014, which recorded:<sup>195</sup>

*5 Novation of Designers*

*5.1 It was confirmed that Studio E and Curtin's have been novated to RYD...*

*5.2 SL advised that he will meet with BS to confirm the schedule of services that Studio E will provide.*

*5.3 Exova completed the fire strategy at tender stage. They have not been novated, but SL will contact them with the view of using them going forward.*

172. In fact, and crucially, Rydon decided that they would not contact Exova, and would keep Studio E very much at arm's length.
173. As to Exova, Chris Holt, a Rydon witness, says in his witness statement:<sup>196</sup>

*I was aware that as the refurbishment was to a residential block of flats, one of the main risk factors would be fire safety. When I started on the project I spoke to Simon Lawrence, the Rydon Contracts Manager, and asked whether I was required to consider aspects of fire safety in my role. Simon informed me that it was not part of my role and that it had been dealt with. I do not know whose role fire safety was.*

174. On these two points, Sounes says in his witness statement, at paras 33 and 372:<sup>197</sup>

*SEAL's appointment documentation with Rydon was not formalised until towards the end of the Project, which in my experience is not unusual...I was aware from early conversations with Simon Lawrence that it was Rydon's intention that SEAL would have less of an intensive role than SELLP had under the KCTMO Appointment...Around this time I believe I asked Simon Lawrence whether Rydon would extend Exova's appointment or appoint another fire consultant. Simon said that Rydon typically did not engage fire consultants on the basis that*

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<sup>195</sup> {RBK00018805}.

<sup>196</sup> 27/9/18, {RYD00094210}.

<sup>197</sup> {SEA00014273}.

*the strategy was established by the client's team and, as contractor, it was responsible for executing it. He regarded it as Building Control's responsibility to raise any concerns and satisfy themselves with the details of the submission.*

175. This will be a matter for investigation in the evidence, but, as a matter of fact, Exova had a very limited role once Rydon became involved, and Studio E's role was downgraded. No one at RBKC or KCTMO seems to have been concerned with either development.
176. In consequence of the Design and Build contractual structure, Studio E were novated to Rydon. The Deed of Appointment provided for a comprehensive Schedule of services,<sup>198</sup> for example, 8. *Seek to ensure that all designs comply with the relevant Statutory Requirements, including Scheme Development Standards* and 13. *Co-ordinate any design work done by consultants, specialist contractors, subcontractors and suppliers.*
177. These obligations were appropriate in principle, albeit that, with the shoddiness typical of this project, they were not entered into until the works were virtually complete. However, no one at KCTMO or RBKC or Artelia seems to have been unduly troubled to find out what Studio E were actually doing, now that they had crossed over from being a professional employed by the client to forming part of a Design and Build team.
178. In this connection, the subject of 'approval' of the Harley detailed design drawings is important. Were Studio E, when they approved such drawings, merely noting that *the design is in accordance with 'architectural intent'*, as Mr Crawford claims: see above? Or were they obliged to *ensure that all designs comply with the relevant Statutory Requirements*, as their Appointment with Rydon prescribed?
179. Procurement goes to the heart of what went wrong here. RBKC and KCTMO:
- (a) Selected an architectural practice which lacked the requisite experience of overcladding tower blocks;
  - (b) Failed to appoint a fire consultant with an obligation to provide a comprehensive fire strategy for the refurbishment;
  - (c) Chose Rydon because theirs was the cheapest bid, even though it was unrealistically low;
  - (d) Failed to clarify or monitor the role of Exova post-novation;
  - (e) Failed to clarify or monitor the role of Studio E post-novation.

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<sup>198</sup> {RYD00094228}, 03/02/2016

180. These failings were exemplified by the failure to follow up Lawrence and Rydon in relation to their commitment at Progress Meeting No.3 on 16/09/14,<sup>199</sup> *to appoint other consultants (to include fire...*, a commitment repeated at Progress Meeting No. 4, on 21/10/14.<sup>200</sup> When Progress Meeting No 5 took place on 18/11/14, the matter of appointing these consultants had disappeared, and it was never to reappear.<sup>201</sup> Why did not RBKC and KCTMO ask about this? Did it not appear strange, and troubling, that Exova (and Studio E for that matter) were never at any of these meetings?
181. This lack of effective oversight extended into many other fields as well. When Williams had her ‘Lacknall’ concern, she was, apparently, content with a vague answer from Artelia and no answer at all from Rydon.

**G. Why did this happen? Fire strategy (issue 6)**

182. Exova never produced a final or comprehensive fire strategy for the refurbishment works, and they never made any proper attempt to clarify what their role was. Ashton purported to give advice despite this, and without ever, it appears, visiting Grenfell Tower.
183. The various FSS produced were only ever ‘outline’. All versions of the FSS produced contained the statement that *the proposed changes will have no adverse effect on the building in relation to external fire spread but this will be confirmed by an analysis in a future issue of this report*. And yet, Ashton never carried out any further analysis or produced a final report.
184. The report was also inadequate in relation to B3, for the reasons explained by Lane.
185. Ashton gave ad hoc advice by email in September 2014 and March 2015, even though his role remained unclear, he had no, or no adequate, information about the design of the cladding and he was unable to proffer any sensible view on the need for, or placement of, cavity barriers.
186. On this major project, where large numbers of people were potentially at fire risk in a tower block, and where there was recent history of serious fires in tall buildings, the situation cried out for: Site visit(s); a clearly defined engagement the obtaining of full information as to the cladding design; clear and formal advice as to fire strategy.
187. None of these were achieved. Nor did Exova say that matters should not proceed without these steps in place. And Exova cannot say that they did not get the information that they needed: as

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<sup>199</sup> {ART00002788}.

<sup>200</sup> {ART00002932}.

<sup>201</sup> {ART00003150}.

Hyett highlights, they received a copy of the Stage C report specifying zinc cladding with FR5000.<sup>202</sup>

#### **H. Why did this happen? Building Control (issue 7)**

188. Building control was carried out by the RBKCBC. The importance of the building control function should not be underestimated. As explained by Beryl Menzies, had RBKCBC carried out its functions correctly, the tragedy of 14 June 2017 may have been avoided altogether.<sup>203</sup>

*the effect of these provisions [of the Building Act 1984 and the Building Regulations 2010 as amended] is that had building control determined that the works as executed on site did not comply with the substantive requirements of the Building Regulations they had means of taking action in an attempt to remove the contravention.*

189. The refurbishment works at Grenfell Tower were controllable in relation to (inter alia) the following requirements of the Building Regulations: B1 (means of warning and escape); B2 (internal fire spread – linings); B3 (internal fire spread – structure); and B4(1) (external walls).

190. RBKCBC failed in its obligations in respect of each of these requirements.

#### **B1 (means of warning and escape)**

191. The full plans application was submitted by Studio E to RBKC on 4 August 2014.<sup>204</sup> The details of the proposed works to support the application were submitted 7 weeks later on 24 September 2014.<sup>205</sup> On 29 September 2014, Studio E submitted the Exova Outline Fire Safety Report Issue 03 to RBKC.<sup>206</sup>

192. The application was littered with issues relating to requirement B1. For example, the drawings did not indicate compliance with the basic principles of AD B or BS 9991 for escape.<sup>207</sup> The Exova Fire Strategy only related to the works in the ground, mezzanine, walkway and walkway+1 levels and to general improvements to the building services. It did not address the actual proposals indicated on the submitted plans.<sup>208</sup> Menzies is *of the opinion that due to the number of issues found in respect of requirement B1 alone, the full plans application should have been rejected when first received.*<sup>209</sup>

#### **B2 (internal fire spread - linings)**

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<sup>202</sup> Paragraph 4.2.21 of his report {PHYR0000004\_0034}.

<sup>203</sup> See paragraph 66 of Menzies' Phase 2 Report {BMER0000001\_0014}.

<sup>204</sup> {RYD00013969} under cover of email from Bruce Soules to John Allen {RYD00014378}.

<sup>205</sup> Under cover of email from Neil Crawford to John Hoban {RYD00018742}.

<sup>206</sup> {EXO00001501} under cover of email from Neil Crawford to John Hoban {SEA00000215}.

<sup>207</sup> See paragraph 332 of Menzies' Phase 2 Report {BMER0000001\_0098}.

<sup>208</sup> See paragraph 329 of Menzies' Phase 2 Report {BMER0000001\_0098}.

<sup>209</sup> See paragraph 334 of Menzies' Phase 2 Report {BMER0000001\_0098}.

193. There is no record of RBKC Building Control requesting details of the internal linings of the building. There is also no record of whether the internal linings were compliant with requirement B2. Menzies describes this as a *procedural failing*.<sup>210</sup>

### **B3 (internal fire spread – structure)**

194. Requirement B3 concerns, amongst other things, the fire resistance of the structure and cavity barriers.

195. The fire resistance of the structure was partially addressed the Exova Fire Strategy.<sup>211</sup> However, Paul Hanson, RBKC’s consultant fire engineer, did not carry out any review of the section that addressed requirement B3. Issues with Exova’s Fire Strategy, such as the statement that compartment floors were to have 60FR rather than the required 120FR,<sup>212</sup> were therefore not identified.<sup>213</sup>

196. The story in relation to cavity barriers is worse. As set out above, there was no strategy in place for the provision of cavity barriers at the Tower. The Exova Fire Strategy itself made no reference to protected shafts, the subdivision of extensive concealed cavities, cavity barriers, or the protection of openings in fire walls,<sup>214</sup> and there were inconsistencies and omissions in the drawings.<sup>215</sup> Menzies is highly critical of RBKC Building Control’s actions in relation to cavity barriers. For example:

- (a) RBKC failed to recognise that no cavity barriers had been indicated to seal the cavities at openings within the walls (for example, around the windows), which was a *“fundamental failing”*;<sup>216</sup>
- (b) Menzies considers John Hoban’s assumption that the steelwork around the windows would act as a cavity barrier<sup>217</sup> to have been unreasonable;<sup>218</sup>
- (c) There were inconsistencies between the locations of the cavity barriers as shown on drawings produced by Studio E and Harley which were not, but ought to have been, queried by RBKC;<sup>219</sup>

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<sup>210</sup> See paragraph 349 of Menzies’ Phase 2 Report {BMER0000001\_0103}.

<sup>211</sup> Section 3.1.3 - Compliance with B3 (internal fire spread (structure)).

<sup>212</sup> See Section 3.1.3 of the Fire Strategy {EXO00001501\_0008} which, as explained by Menzies at paragraph 355 of her Phase 2 Report, was contrary to the requirements in Table A2 of AB B {BMER0000001\_0104}.

<sup>213</sup> See paragraphs 355 and 361 of Menzies’ Phase 2 Report {BMER0000001\_0104 and \_0105}.

<sup>214</sup> {EXO00001501}.

<sup>215</sup> As explained at Section 4 of Hyett’s Phase 2 Report {PHYR0000004}.

<sup>216</sup> See paragraphs 390 and 400 of Menzies’ Phase 2 Report {BMER0000001\_0111 and 0120}.

<sup>217</sup> See paragraph 33(a) of Mr Hoban’s second witness statement {RBK00050416}.

<sup>218</sup> See paragraph 395 of Menzies’ Phase 2 Report {BMER0000001\_0114}.

<sup>219</sup> See paragraph 396 of Menzies’ Phase 2 Report {BMER0000001\_0114}.

- (d) RBKC failed to carry out any on-site inspections of windows or other openings to establish whether cavity barriers had been installed at all or correctly which, in Menzies' view, "*fell below the standard of a reasonably competent*" building control inspector;<sup>220</sup> and
- (e) The lack of cavity barriers at the junction between the cladding system and the crown or within the crown itself ought to have been noted and questioned by RBKC.<sup>221</sup>

197. Hyett is also critical, as he considers that Mr Hoban was guilty of *muddling the issues of Fire Stopping and cavity barriers and a complete misinterpretation of Diagram 33* [of ADB2].<sup>222</sup>

#### **B4(1) (external fire spread - walls)**

198. Beryl Menzies makes the following observation, which explains why the dangerous nature of the cladding system was not picked up at building control stage:<sup>223</sup>

*At the outset, I would like to note that the Inquiry may be anticipating extensive commentary regarding the cladding in this section of my report. In terms of the BCB review I regret there is little to say because as far as I have been able to ascertain an in depth review of the cladding was not undertaken. The disclosures to date indicate that no comprehensive details of the cladding systems were submitted to the BCB for review and the BCB does not appear to have sought details from the applicant or sought to ascertain or corroborate that the materials individually or the cladding system as a whole were in accordance with the recommendations of AD B or BS 9991 for a building of this height and use. The failure to ask for detailed information about the cladding system was, in my opinion, a fundamental failing on the part of the BCB.*

199. Menzies identifies further failings in relation to the cladding. RBKC failed to request that Exova carry out a review of the cladding system's compliance with requirement B4.<sup>224</sup> John Hoban failed to identify during his site inspections that the core of the ACP was exposed and did not ask for details and justification for its use.<sup>225</sup> Hoban further concluded that the Celotex PIR insulation was *fit for purpose*<sup>226</sup> without sight of test data that positively demonstrated compliance.<sup>227</sup> He failed to query the inclusion of styrofoam and Kingspan TP10 insulation in the drawings for the window infill panels when those materials are not of limited combustibility.<sup>228</sup>

<sup>220</sup> See paragraph 403 of Beryl Menzies' Phase 2 Report {BMER0000001\_0120}.

<sup>221</sup> See paragraph 405 of Menzies' Phase 2 Report {BMER0000001\_0120}.

<sup>222</sup> See paragraph 4.4.118 of Hyett's Phase 2 Report {PHYR0000004\_0148}.

<sup>223</sup> See paragraph 408 of Menzies' Phase 2 Report {BMER0000001\_0121}.

<sup>224</sup> See paragraph 430 of Menzies' Phase 2 Report {BMER0000001\_0129}.

<sup>225</sup> See paragraph 439 of Menzies' Phase 2 Report {BMER0000001\_0131}.

<sup>226</sup> See paragraph 43(c) of Mr Hoban's second witness statement {RBK00050416}.

<sup>227</sup> See paragraph 442 of Menzies' Phase 2 Report {BMER0000001\_0131}.

<sup>228</sup> See paragraph 443 of Menzies' Phase 2 Report {BMER0000001\_0131}.

## Further failings by RBKC Building Control

200. RBKC's shortcomings were not limited to its failure to ensure compliance with requirements R1 to R4. Menzies further considers that:

- (a) RBKC failed to verify compliance with Regulation 38 such that a Completion Certificate ought not to have been issued;<sup>229</sup>
- (b) it failed to produce sufficiently detailed site inspection notes;<sup>230</sup>
- (c) it failed to produce and retain records allowing for an overview to be taken of compliance of the project as a whole;<sup>231</sup> and
- (d) it failed to pursue the matter of the gas riser in the stair, which ultimately was detrimental to escape and affected the integrity of the stair as a fire fighting stair.<sup>232</sup>

### I. The wider issues

201. The Grenfell tragedy was avoidable. It happened through human action and inaction. Individuals, firms and institutions are to blame for what went wrong. It will be necessary for the Inquiry to consider carefully the respective culpability of RBKC, KCTMO, the professionals and contractors involved, and others. However, this is not just a story of these individuals and corporations. There are much wider issues here, and a need for broader change. Our clients will come back to these issues in more detail and after further consideration once the evidence has been called, and what follows is intended to be no more than a preliminary indication of their position.

202. The need for change is, of course, urgent. Much of what follows echoes the recommendations of *Building a Safer Future*, the Final Report of Dame Judith Hackitt, published as long ago as May 2018.<sup>233</sup> See, in particular, her 'Personal View':

*Ignorance: regulations are not always read by those who need to, and when they do the guidance is misunderstood and misinterpreted*

*Indifference: the primary motive is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe....*

*Lack of clarity on roles and responsibilities: there is ambiguity over where responsibility lies, exacerbated by a level of fragmentation within the industry, and precluding robust ownership of accountability*

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<sup>229</sup> See paragraphs 533 to 535 of Menzies' Phase 2 Report {BMER0000001\_0148}.

<sup>230</sup> See paragraphs 518 to 529 of Menzies' Phase 2 Report {BMER0000001\_0146}.

<sup>231</sup> See paragraphs 536 to 546 of Menzies' Phase 2 Report {BMER0000001\_0148}.

<sup>232</sup> See paragraph 560 of Menzies' Phase 2 Report {BMER0000001\_0153}.

<sup>233</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/707785/Building\\_a\\_Safer\\_Future\\_-\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/707785/Building_a_Safer_Future_-_web.pdf).

*Inadequate regulatory oversight and enforcement tools: ...Where enforcement is necessary, it is often not pursued. Where it is pursued, the penalties are so small as to be an ineffective deterrent.*<sup>234</sup>

203. However, in relation to the key issue of the use of combustible materials in cladding systems, our clients may well wish to submit that that the Inquiry should go further than Dame Judith who observed that ‘a totally prescriptive system creates an overreliance on the system by those working within it, discouraging ownership and accountability for decisions’.<sup>235</sup>
204. Turning, then, to the wider issues, our clients are very concerned about the cost-cutting culture which lay at the heart of this project. The instruction from RBKC to KCTMO was unambiguous: *Value for Money is to be regarded as the key driver for the project,*<sup>236</sup> (with emphasis added). Of course, public money should be spent wisely, but it cannot be the sole, or even the most important, factor. Safety must always come first, and be the focus of attention, at all times: the key driver. The change from zinc to ACM was an important instance of this obsession with cost: not so much choosing cheaper materials known to be unsafe, but a concentration on cost at the expense of all else.
205. Another theme running through this story is the fragmentation of the construction industry in the 21<sup>st</sup> century UK. As has been noted above, no one person or organisation was ever taking responsibility for anything. The buck was passed and continues to be passed, but no one was prepared to say ‘the buck stops here’. The evidence of Mr Ashton of Exova typifies this problem.<sup>237</sup>
206. This issue was raised in terms on the very day the fire occurred by the Leaseholders’ Association and these are key questions for the Inquiry to answer:

*It is widely acknowledged by authoritative sources in the Fire Brigade that the material of the cladding used by Rydon did not meet health and safety requirements in the “true” sense, i.e. is a fire risk as it is combustible (7). The crucial question that we as a Residents Association have is, who signed off that the refurbishment delivered by Rydon in 2016 met all the required health and safety standards?*<sup>238</sup>

207. In this connection, the Inquiry should consider changes which have been proposed for the construction industry and those implemented in other industries. See, for example:

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<sup>234</sup> Cited with approval by Hyett, paras 2.1.13 and 2.1.14, PHYR0000002, \_0007.

<sup>235</sup> For adverse reaction to this approach, see e.g.: <https://www.insidehousing.co.uk/insight/insight/the-hackitt-review-key-recommendations-at-a-glance-56337>.

<sup>236</sup> {ART00006232}.

<sup>237</sup> Witness statement, paras 5.9 and 5.10 {EXO00001621}.

<sup>238</sup> {RBK00000186}, 14/06/2017.

- (a) The RIBA proposals for a new Plan of Work for Fire Safety;<sup>239</sup>
  - (b) The Senior Managers and Certification Regime, which was introduced in 2016 in the banking sector, following the 2008 financial crisis and which aims to *establish healthy cultures and effective governance in firms by encouraging greater individual accountability and setting a new standard of personal conduct.*<sup>240</sup>
208. That there is a need for an improved regulatory system, and stronger individual accountability, has been emphasised by those at the heart of this Inquiry, the survivors and bereaved families. In their Green Paper Response, Grenfell United called for a new system of regulation and an improved system of regulation, so that *an accountability framework backed by law would mean that a named person is responsible for people's safety in any social housing tower block...there would be consequences for individuals who prioritise profit over people's safety. It would mean individual failures could lead to sanctions including criminal liability and even fines or prison.*<sup>241</sup>
209. There are two further 'big picture' issues which are related to fragmentation. The first is the casual and informal way that all concerned in this project conducted themselves. Most of the key errors, both of commission and omission, took place during email exchanges. Pre-email, those involved would have had to speak or meet, or contact each other formally. This email ethos was not the sole problem here, of course, but it did not help; the Inquiry might reflect upon how accountability and rational decision-making can be carried through and enforced in the digital age. That there was something seriously amiss here can scarcely be doubted. By way of example, consider the following invoice entry: *8 men no work for 1 day machines up in air to look like working...£ 880.00.*<sup>242</sup>
210. Related to these issues of fragmentation and informality, and perhaps at the core of the problem, is the fact that this was a Design and Build Contract. In a previous era, a project like this would have been designed by a Borough Architect, who was employed full time by a Local Authority, and subject to limited commercial pressures. The Authority would have engaged a Main Contractor, and the Borough Architect would have administered the contract. An alternative procurement route, especially for more specialist work, would have seen the Authority engage a private firm of architects, who would then have performed a similar role to

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<sup>239</sup> <https://www.building.co.uk/communities/whos-responsible-for-fire-safety-its-time-to-give-the-industry-clarity-post-grenfell/5095585.article> and <https://www.architecture.com/knowledge-and-resources/resources-landing-page/plan-of-work-for-fire-safety-consultation>.

<sup>240</sup> <https://www.fca.org.uk/firms/senior-managers-certification-regime>.

<sup>241</sup> [https://housingnet.co.uk/pdf/Grenfell\\_United\\_Social\\_Housing\\_Green\\_Paper\\_Response\\_FINAL.pdf](https://housingnet.co.uk/pdf/Grenfell_United_Social_Housing_Green_Paper_Response_FINAL.pdf)

<sup>242</sup> {OSB000000007}, OSB invoice to Harley, 01/10/2015}.

the Borough Architect. In more recent times, many public projects have adopted the Design and Build model. And, of course, the ‘inhouse’ resources of Local Authorities have been reduced massively, or eliminated altogether.

211. Under Design and Build there is a danger that the Architects, once novated, are squeezed out of the process. They are, after all, now a cost burden for the Design and Build Contractor. That certainly seems to have happened here. And there is no independent professional person to administer the contract and ensure that the design intent is fulfilled. As has been observed in this context:

*the horrific fire at Grenfell Tower...may emerge as the latest, and most tragic, manifestation of decreasing oversight that architects have been warning about for so long... D&B...[produced] a transfer of risk, with the balance of power shifting from the contract administrator (a role most often fulfilled by the architect) to the builder. With the architect no longer acting on behalf of the client, and often taking their place as just another subbie within the builder's extensive supply chain, the custody of quality was left up to those consultants, often from a cost background, remaining by the client's side.*<sup>243</sup>

212. Finally, and underpinning all these individual points, the residents of blocks like GT must, in the future, be at the centre of the process. They are the real experts: they live in these blocks all the time and are well aware of the attendant problems and challenges. As Dame Judith observed in her Final Report (and see, in particular, recommendations 4.1 to 4.6): *4.11 A cultural change is required to rebuild trust and ensure that residents feel safe in their homes again.* It is those who take the risk who should set the risk, not the builders, not the manufacturers and not the proposed new regulator on his/her own. Residents of social housing must be allowed to consider with appropriate experts how long materials, cladding, insulation, fire breaks, surrounds and doors should last under fire conditions.

213. This ‘cultural change’ needs to extend to the Inquiry process itself. We support the view expressed by INQUEST that *the government and Inquiry team must listen to the voices of bereaved families who have made practical and insightful suggestions for change to establish best practice, not just for this Inquiry but for future disasters.*<sup>244</sup> The national oversight mechanism proposed by INQUEST should be adopted, to avoid the risk that Inquest/Inquiry recommendations are left to gather dust., and more lives are put at risk in the future.<sup>245</sup>

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<sup>243</sup> <https://rcka.co.uk/article/heart-matter-architects-need-key-role-construction-process/>.

<sup>244</sup> <https://www.inquest.org.uk/Handlers/Download.ashx?IDMF=db974ce3-f8ac-4a96-b003-d51232c8a84b>, and see May 2019 Inquest report released by INQUEST, Family reflections on Grenfell: No voice left unheard, <https://www.inquest.org.uk/Handlers/Download.ashx?IDMF=47e60cf4-cc23-477b-9ca0-c960eb826d24>.

<sup>245</sup> <https://www.inquest.org.uk/Handlers/Download.ashx?IDMF=db974ce3-f8ac-4a96-b003-d51232c8a84b>.

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