

IN THE MATTER OF  
THE GRENFELL TOWER PUBLIC INQUIRY

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FIRST WITNESS STATEMENT OF CARL SPENCER STOKES  
ON BEHALF OF  
CS STOKES & ASSOCIATES LIMITED

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I, Carl Spencer Stokes, will say as follows:

- 1 I am the sole director of CS Stokes & Associates Limited (“CS Stokes”), the corporate entity by which I have carried out business as a Fire Risk Assessor. As such, my references to “I”, “me”, “my”, “myself” and “mine” in this Witness Statement are references to CS Stokes and should be read accordingly, unless specifically stated, or unless the context so implies.
- 2 I have made this Witness Statement (“Statement”) to the best of my recollection, as prompted by those documents which I have reviewed and by my recent visit to Grenfell Tower (“Tower”) on 17 September 2017, I am however mindful that further documents will be disclosed, and evidence given, in due course as the Grenfell Tower Public Inquiry (“GTI”) progresses.

Request for a Statement

- 3 I am providing this Statement pursuant to a request from the Solicitor to the GTI by way of her letter dated 5 June 2018. In that letter, the Solicitor to the GTI asked me to assist the GTI in addressing issues 3, 4, 5, 6 and 9 of the GTI’s List of Issues, and in particular to address the following specific questions (“SQ(s)”) concerning CS Stokes’ involvement with the Tower:

*“1. Describe the nature of [CS Stokes’] involvement in the refurbishment of Tower.*

*2. Identify the parties with whom [CS Stokes] entered into relationships in order to carry out its role, describing the purpose of those relationships.*

3. *What steps did [CS Stokes] take to survey and understand the existing construction and condition of the Tower as part of its work on fire risk assessments for the Tower?*
4. *Was any consideration given to fire safety of the existing construction at this time and/or how the refurbishment may affect fire safety of the Tower?*
5. *What information was taken into account by [CS Stokes] when producing each of its fire risk assessments for the Tower?*
6. *How did [CS Stokes] satisfy itself that the active and passive fire protection measures present in the Tower were compliant with the applicable legislation, regulations and guidance at the time of each fire risk assessment?*
7. *To what extent was [CS Stokes] aware of (a) the design of the refurbishment and materials to be used, in particular on the façade and (b) any changes to the design and materials to be used during the course of the refurbishment?*
8. *What advice, if any, did [CS Stokes] provide about fire safety during the course of the refurbishment? Was that advice accepted or rejected by the relevant parties?*
9. *At the outset and throughout the refurbishment works:*
  - a) *What consideration was given to compliance of the design with the relevant Building Regulations and associated guidance?*
  - b) *Did anyone at [CS Stokes] form a view as to whether the design of the refurbishment of the Tower complied with the relevant Building Regulations and associated guidance, in particular the parts of the Building Regulations relevant to fire safety?*
  - c) *If not, why not?*
  - d) *If so, what was that view?*

- e) *To what extent, if at all, was [CS Stokes] aware of the properties of the ACM panels and insulation used as part of the façade and their fire performance, either through its work on Grenfell Tower or its work on other projects?*
10. *Did CS Stokes carry out any inspections of the Tower during the works or on or around the time that refurbishment works were completed?*
11. *If so, what was the outcome of those inspections?"*

Approach to this Statement

- 4 In seeking to answer the questions posed by the GTI, this Statement is structured in line with the headings listed below:
- i. **A – Background** – in this section I briefly set out my experience in the Fire Service and the formation of CS Stokes.
  - ii. **B – First involvement with the Tower** (SQs 1 and 2) – in this section I describe my first involvement with the Tower as a subcontractor to Salvus Consulting Limited (“Salvus”) and how CS Stokes came to enter into a contract with the Kensington and Chelsea Tenant Management Organisation (“KCTMO”). I also explain the key requirements of that contract.
  - iii. **C – Fire Risks Assessments (“FRAs”)** (SQs 3, 4, 5 & 6) – in this section I provide a summary of FRAs and my approach to undertaking the same for the Tower.
  - iv. **D – Refurbishment** (SQs 7, 8 & 9) – pursuant to CS Stokes’ contract with the KCTMO, when requested to do so, CS Stokes was required to provide certain advice / assistance in addition to carrying out FRAs (see further paragraph 24iv below). In this section, I set out my understanding of Building Control, as well as a thematic summary of CS Stokes’ involvement with some of the aspects of the refurbishment of the Tower between 2012-2016 (“Refurbishment”) under consideration by the GTI.

- v. **E - Post Refurbishment** (SQs 10 & 11) – in this section I set out CS Stokes’ limited involvement with the Tower between the completion of the Refurbishment and the dreadful fire at the Tower on 14 June 2017 (“Fire”).
- vi. **F - Additional matters** – in this section I have discussed some matters which I consider may assist the GTI, but which do not naturally fit into the above sections.
- vii. **G – Summary responses to SQs** – in this section I have provided summary responses to the SQs. These are intended to assist the GTI but should be read in the context of the rest of this Statement, not in isolation.

5 CS Stokes has previously provided to the GTI:

- i. a Position Statement dated 23 February 2018; and
- ii. an Opening Statement which was supplemented by additional Oral Submissions, as part of the Phase 1 Openings heard during the week commencing 4 June 2018.

Much of the same detail is covered in this Statement so as to make this Statement, as far as is possible at this stage, a complete record. Any omissions should not however be taken as a change in position, and the above documents should be read in conjunction with this Statement.

## **A – BACKGROUND**

6 Before joining the Fire Service, I served in HM Forces for 9 years.

### Time in the Fire Service

7 On leaving HM Forces in 1986, I joined the Royal Berkshire Fire & Rescue Service as a probationary firefighter. Along with all new recruits at that time, I spent my first four probationary years gaining experience of different departments, which for me included a period of time in the ‘Fire Safety Department’. The majority of my time, however, was spent as an operational firefighter.



- 8 During that time in which I was seconded to the Fire Safety Department, I would inspect buildings, including high-rise buildings. As well as that initial direct exposure to fire safety, when I joined the Fire Service, all operational firefighters would routinely be involved in visiting premises and advising on fire safety issues. At that time, whilst perhaps not directly equivalent, the work now undertaken by Fire Risk Assessors was undertaken by the Fire Service. As such, in one form or another, I have been involved in fire safety for more than 3 decades.
- 9 In 1994, I transferred to the Oxfordshire Fire & Rescue Service where, after initially being an operational firefighter, I then spent the majority of my time in the Fire Safety Department, save for occasional brief secondments to other departments.
- 10 Following the Regulatory Reform (Fire Safety) Order 2005 ("FSO") coming into force in October 2006, I spent a significant amount of my final 3 ½ years in the Fire Service auditing the significant findings of responsible persons carrying out FRAs. During this time, I was also responsible for monitoring and mentoring new entrants to the Fire Safety Department, as well as supervising experienced officers.
- 11 On 10 December 2007, having undertaken the relevant training course, I was awarded the Fire Risk Assessment Certificate by the Northern Ireland Fire Safety Panel and CS Todd & Associates Limited in recognition of my demonstration of proficiency (verified by examination) as considered necessary within the framework of competency, to enable me to carry out or audit suitable and sufficient FRAs under the FSO. This was the standard course attended by fire safety officers in my Brigade at the time.

On retirement from the Fire Service

- 12 During my final years in the Fire Service, I began considering what I would do after retirement. At the time, the Fire Risk Assessor industry was still relatively new, and many firefighters (including many who, unlike myself, did not have a specific fire safety background), were becoming full-time Fire Risk Assessors on retirement. This seemed to me to be a natural next career step which would suit my skill set, particularly my specific fire safety experience.

- 13 As such, before retiring in September 2009, I set up CS Stokes in the preceding February, with the intention of carrying out FRAs on a commercial basis once I had retired. Since September 2009, I have been carrying out FRAs as CS Stokes, and undertook FRAs for the Tower between 2009 and 2016. I discuss this further at Section C below.

### B – FIRST INVOLVEMENT WITH THE TOWER

- 14 Around the time I left the Fire Service, a former colleague introduced me to Salvus, a consultancy which carries out FRAs and which also provides training / advice on fire issues. I was informed that Salvus was looking for sub-contractors to assist with FRAs, and it was as a sub-contractor to Salvus that I first became aware of the Tower.
- 15 The first time I visited the Tower was on 30 September 2009 for the purposes of carrying out a FRA (“2009 FRA”) – see *CSS/1: CST00000631*. As well as visiting the Tower, I was also provided with various information by the KCTMO, for example see *CSS/2: CST00002454 and CST00001508*. From my first involvement with the Tower, it was apparent that ‘Stay Put’ was the evacuation strategy in place for the residential floors, and that the commercial premises had a fire alarm / evacuation as a strategy which is not unusual for premises of this sort.
- 16 Whilst carrying out the 2009 FRA, my primary point of contact at the KCTMO was Janice Wray, who throughout my involvement with the Tower was the KCTMO’s Health & Safety and Facilities Advisor (albeit her precise title may have changed from time to time). Whilst Ms Wray was my primary point of contact at the KCTMO, I also corresponded with others, including Claire Williams, Alex Bosman, Adrian Bowman and Paul Dunkerton.

#### Tender for work as CS Stokes

- 17 In summer 2010, I was invited to tender for the KCTMO’s FRA work in my own right as CS Stokes (rather than as a sub-contractor for Salvus). Initially I was invited just to tender for the KCTMO’s ‘medium’ risk buildings – see further paragraph 18 below. I

duly tendered for the work and provided costings to Ms Wray based on different sized buildings, following which I was invited to interview on 6 September 2010 (see *CSS/3: CST00002041*).

18 CS Stokes was successful in securing the work for 'medium' risk buildings in 2010, and was subsequently awarded the work for 'low' risk buildings in 2011.

19 Broadly speaking, the difference between 'high', 'medium' and 'low' risk buildings, was as follows:

- i. *High risk* – buildings over 8 storeys, and (regardless of the number of storeys) any sheltered or temporary accommodation;
- ii. *Medium risk* – buildings between 3 and 8 storeys; and
- iii. *Low risk* – buildings below 3 storeys.<sup>1</sup>

20 Importantly, the pricing was not actually based on these 'risk' categories, but was based on the following 'size' categories, which were differentiated by numbers of dwellings, rather than by 'risk' category:

- i. *Very small* – up to 10 dwellings;
- ii. *Small* – 11-50 dwellings;
- iii. *Medium* – 51-100 dwellings;
- iv. *Large* – 101-150 dwellings; and
- v. *Extra-large* – over 150 dwellings.

21 In this way, the 'risk' categories were a different matrix to the 'size' categories on which pricing was based. As such, the pricing structure sat across the risk categories, albeit that there tended to be some correlation, as a 'high' risk building would tend to have a greater number of dwellings.

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<sup>1</sup> As far as I am aware, this categorisation (i.e. 'High', 'Medium' and 'Low' risk) was designated by the KCTMO internally.

- 22 The Tower was a ‘large’ building and thus when carrying out FRAs at the Tower, I initially charged £410.00 plus VAT for new FRAs and £320.00 plus VAT for FRA reviews (see *CSS/4: CST00002367 and CST00001436*). In June 2016, I charged £410.00 for the June 2016 FRA – see 30 June 2016 invoice: *CSS/5: CST00002333 and CST00002334*.

Contract with KCTMO

- 23 In recognition of the risk categories for which I was successful in tendering, CS Stokes entered into the following written contracts:

- i. Contract for ‘medium’ risk buildings signed on 21 October 2010 – (see *CSS/6:* ); and
- ii. Contract for ‘low’ risk buildings signed on 24 August 2011 – (see *CSS/7:* ;  
collectively (the “Contracts”).

- 24 The Contracts related to all of the KCTMO’s buildings within the respective risk categories and both included the same general terms and conditions (“T&Cs”) - see *CSS/8: CST00000005*. Other than the usual clauses one would expect, such as the intended scope of the FRAs (on this see, for example, Part 2, Section 1.3 of the T&Cs), the following terms may of be particular interest to the GTI:

- i. **Part 1, Section 1.1** - “*This Brief specifies the requirements for Fire Risk Assessments (FRAs) in the communal areas ...*” [emphasis added].

This is important as it defines the scope of the FRAs which were to be undertaken. Please also refer to Part 3, Section 4 in this regard. This is in line with the FSO, and sets the parameters within which the matters to be covered by the FRA, listed in Part 2, Section 1.1 and 1.3, are to be considered. I discuss this further at paragraph 36 below. However, this definition plainly did not include the external walls<sup>2</sup> of the

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<sup>2</sup> External walls for these purposes would include concrete walls and any external additional façade.



building concerned as the FSO does not either and I was not asked to approach the FRAs otherwise – see further Section F.

- ii. **Part 1, Section 1.5** – there is a requirement to hold “*a current fire risk assessment qualification e.g. from IOSH, NEBOSH, the Northern Ireland Fire Safety Panel or similar ....*” [emphasis added].

As noted above at paragraph 11, I held the relevant qualification from the Northern Ireland Fire Safety Panel.

- iii. **Part 2, Section 1.4** – this section requires that the FRAs CS Stokes carried out “... *should be recorded in a standardised format and example of which must be submitted to the Client for approval by the Client, RBKC and the London Fire Brigade in advance of works commencing.*”

This was important for me as this process confirmed what needed to be in the FRAs. I discuss the form of the FRAs further below at paragraphs 45 to 50.

- iv. **Part 2, Section 1.9** – in additional to carrying out FRAs, I was required to “... *offer fire safety help, advice and support to [KC]TMO managers, employees as and when requested*” [emphasis added].

This is the contractual basis on which, apart from carrying out FRAs, all my additional interactions with the Tower took place. This was the same throughout my involvement with the Tower, even during the Refurbishment, in relation to which I had no further or specific role. I discuss some of the occasions when I was requested to provide this additional advice / assistance on behalf of CS Stokes in sections D and E below.

25 In 2010 (after the contract for ‘medium’ risk building FRAs had been awarded), the KCTMO asked me to carry out a FRA for the Tower (and this was done in December 2010), notwithstanding that the Tower was a ‘high’ risk building (“2010 FRA”) – see **CSS/9: CST00000703 and CST00000704**).<sup>3</sup> The KCTMO also asked for FRAs to be

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<sup>3</sup> Where I provide two references for a specific FRA in this Statement, the first reference corresponds with the Risk Assessment for a specific FRA, and the second corresponds with the accompanying

carried out on its other 'high' risk buildings from 2010 onwards. As set out above, I had previously undertaken the 2009 FRA as a sub-contractor for Salvus and had also undertaken FRAs for other 'high' risk KCTMO buildings during that time.

26 CS Stokes never entered into a written contract for 'high' risk buildings and the Contracts (for the 'medium' and 'low' risk buildings) were never officially renewed after the initial year which they covered. Instead, at all times I operated on the understanding that all the work CS Stokes carried out for the KCTMO was governed by the terms included within the Contracts and the T&Cs.<sup>4</sup> Given that the same T&Cs were included in both of the Contracts, and given that (as discussed at paragraphs 20 and 21 above) the pricing structure sat across all of the risk categories, I did not press for a written contract. So far as I can recall, at no point did the KCTMO request that one was entered into.

27 I discuss the FRAs undertaken by CS Stokes at the Tower further at Section C below.

Additional advice / assistance

28 Between 2010 and 2017, during which time CS Stokes was carrying out FRAs for the KCTMO across their portfolio of properties, I was at various points requested:

- i. often by telephone, to return to buildings where FRAs had been carried out (including but not limited to the Tower), in order to check whether matters raised by CS Stokes in a FRA as needing attention had in fact been attended to, either by the KCTMO or a contractor they had brought in to do the work; and
- ii. usually by way of email correspondence, to provide comment on issues without returning to the relevant properties.

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Schedule of Significant Findings. This is relevant here and at paragraph 31 below. Where later on I just refer to a particular Risk Assessment or Schedule of Significant Findings, I just provide the relevant reference accordingly.

<sup>4</sup> References to "Contract" in the rest of this Statement should be taken to refer to the contractual agreement which continued to exist between CS Stokes and the KCTMO after the initial 1 year periods for the written Contracts ended, as governed at all times by the T&Cs.

CS Stokes did not have a continuing proactive role over and above addressing matters reactively as and when requested to do so by the KCTMO. At all times I understood the above described requests to be part of the additional advice / assistance CS Stokes was required to provide under Part 2, Section 1.9 of its Contract with the KCTMO – *CSS/8: CST0000005*.

- 29 When CS Stokes was asked to carry out pieces of work at the KCTMO's request, I would usually return (if needed) to the relevant building when I was next in London and had sufficient capacity to review the matter raised. I was typically in London for 1 - sometimes 2 - days a week whilst undertaking work for the KCTMO. Where I was required to consider a specific issue (as per paragraph 28i above), I would quite often follow-up my inspection with a letter to the KCTMO. I refer to some of these letters at Sections D and E below.
- 30 Whilst I visited the Tower on various occasions between 2009 and 2017 to undertake FRAs or provide advice / assistance pursuant to Part 2, Section 1.9 of the T&Cs, I was not at any time contracted, retained or appointed, either on behalf of Salvus or CS Stokes (in relation to the Tower or any other KCTMO property):
- i. to physically check, unless separately requested to do so (as per paragraph 28i above), that all or any actions in a particular FRA had been undertaken;
  - ii. to act in an advisory or proactive consultancy role;
  - iii. to have any role in the management of the Tower;
  - iv. to undertake any on-going consultancy and/or supervisory role in relation to the Refurbishment.

**C – FRAs**

- 31 My primary role in relation to the Tower was to carry out FRAs on behalf of Salvus and CS Stokes. As well as the 2009 FRA and 2010 FRA (mentioned above), FRAs were undertaken in:
- i. November 2012 (“2012 FRA”) – *CSS/10: CST00000727 and CST00000729*;
  - ii. October 2014 (“2014 FRA”) – *CSS/11: CST00000092 and CST00000094*;
  - iii. April 2016 (prior to the handover of the Tower to the KCTMO following the Refurbishment) (“April 2016 FRA”) – *CSS/12: CST00000087 and CST00000088*; and
  - iv. June 2016 (after the handover of the Tower to the KCTMO following the Refurbishment) (“June 2016 FRA”) – *CSS/13: CST00000100 and CST00000101*.
- 32 In the rest of this section, I describe the following:
- i. The general approach I adopted when undertaking the FRAs;
  - ii. The form used for the FRAs;
  - iii. The way in which I was requested to carry out the FRAs;
  - iv. The process by which I went about undertaking the FRAs;
  - v. The matters considered as part of the FRAs; and
  - vi. The information which was available when undertaking the FRAs.
- 33 I hope this will at least go some way to answering SQs 3, 4, 5 and 6. Before I move on to these points specifically, however, I have initially tried to explain some of the underlying factors that impacted the way in which the FRAs were undertaken.



General Approach

- 34 I have confined my observations to high-rise buildings for obvious reasons.
- 35 The 2009 and 2010 FRAs were carried out primarily with HM Government's 'Fire Safety Risk Assessment – Sleeping Accommodation' 2006 ("Sleeping Guide") in mind. The FRAs itemised at paragraph 31 above were carried out with the following in mind:
- i. The Sleeping Guide;
  - ii. the LGA Guidance on Fire Safety in Purpose Built Flats (originally issued in July 2011) ("the LGA Guidance"); and
  - iii. The HM Government Guide for Offices and Shops was relevant to those parts of the Tower that comprised of that accommodation accordingly.

In addition, the risk assessment methodology was developed in accordance with the Health and Safety Executive's 5 Steps to Risk Assessment and PAS 79 'Fire Risk Assessment - Guidance and a recommended methodology' ("PAS 79").<sup>5</sup>

- 36 When carrying out a FRA at a high-rise building, I am only required to consider the common parts of the building ("Common Parts"). The glossary on page 177 of the LGA Guidance defines Common Parts specifically as '*[t]hose parts of a block of flats used by occupants of more than one flat for access and egress*'. The FSO does not apply to domestic premises.<sup>6</sup> As discussed previously at paragraph 24i, this position is reflected in the T&Cs. In my view neither the Sleeping Guide nor the LGA Guide seek to include the external walls as part of the FRA, nor did PAS 79. I comment on this further at Section F below.
- 37 My starting point is that the building will have been built in compliance with the Building Regulations in force at the time of construction and thus on the basis of the

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<sup>5</sup> PAS stands for 'Publicly Available Specification' and PAS 79 first came into being in 2005 and was revised in 2007 and 2012.

<sup>6</sup> See s.6(i)(a) and the definition of "domestic premises" in s.2 in the FSO.

principle of 'compartmentation'. This is the underlying fire safety principle on which all fire prevention and safety measures for high rise buildings are based including the 'Stay Put' policy which was in place for the Tower – see further paragraph 38 below. The FRAs address compartmentation directly under the 'Methodology for the completion of this fire risk assessment' heading starting on page 6 of each of the 2010, 2012, 2014, April 2016 and June 2016 FRAs, as well as referencing the Building Regulations Approved Document B ("ADB") and BS 9991.

- 38 It is against the background of compartmentation that 'Stay Put' is, or can be, referred to as the 'evacuation strategy' (see page 180 of the LGA Guidance) for high rise buildings, including the Tower. On 'evacuation strategy', again please see my further comments at Section F below. The premise of 'Stay Put' advice is that because the fire will (or should) be contained in a single compartment (or in a limited number of compartments) which will (or should) be reached by the Fire Service whilst it is still contained within the compartment (or limited number of compartments), it is more dangerous for occupants to try and leave the building 'en masse' by way of total self-evacuation (as opposed to being assisted out of the building by firefighters). As has been attested to by various firefighters who have given evidence to the GTI, this is because self-evacuation risks not only compromising the residents' own safety on the stairs (assuming the lifts are being used for firefighting), but could also compromise Fire Service access to the fire floor and their operational firefighting activities.
- 39 It is for this reason (in line with the requirements of the Building Regulations and Part B of the LGA Guidance) that there was no building-wide audible fire alarm system for the Tower in the residential areas.
- 40 In addition to the guidance available, in the June 2016 FRA, I note the following in relation to compartmentation:
- i. Any other relevant information – "[t]he fire officers did not comment[] either at the time of the audit or in any correspondence after the audit about the buildings layout, the means of escape routes, compartmentation etc."*

- ii. *Hazards introduced by outside contractors & Building work – “If openings are created in fire resisting partitions or compartments suitable preventive measures must be put in place to maintain the fire separation within the building until these openings are closed again”.*
- iii. *Measures to limit fire spread and development – “[t]his building appears to have appropriate fire separation and compartmentation” and “[t]here were no visible breaches of the compartment or wall and ceilings linings at the time of this risk assessment”.*

41 As I have made clear above, and under the ‘Methodology’ section of the FRAs, compartmentation is enshrined in the Building Regulations (see ADB2) and the Building Regulations also then specify the standards to which various active and passive fire safety measures should conform. The assumption from this is that if all active and passive fire safety measures comply with the standards of the Building Regulations, then each measure should ensure that compartmentation is effectively maintained. In turn, any fire should be capable of being extinguished before compartmentation is compromised. I discuss the importance of this and the role of Building Control further below at paragraphs 67v and 80 - 85.

42 When undertaking FRAs at the Tower, I was therefore essentially looking for anything in the Common Parts which would or could negatively impact the integrity of the compartments, thereby undermining the compartmentation principle on which the Tower was built, and in turn the fire safety of the Tower. Where I was given cause to have concern that compartmentation may be compromised, I raised this in the Significant Findings Schedules appended to the relevant FRAs.

43 The ‘compartments’ constituting the residential floor areas in the Tower were, in the main:

- i. the individual flats;
- ii. the lift-lobby areas;
- iii. the refuse chute rooms; and



iv. the staircase enclosure.

44 Pursuant to the scope of the FSO (as discussed at paragraph 36 above), and in line with the Contract, CS Stokes was only required to assess the Common Parts (i.e. (ii) (iii) & (iv) above), as well as the lift-lobby facing side of the flat front doors, but not the flats themselves (i.e. the Common Parts but not all of the compartments). The insides of the flats and the external walls of the building fell outside of my remit (and in my view that of the FSO). Again, I discuss this further below at Section F below.

Form of FRAs

45 Pursuant to CS Stokes' Contract with the KCTMO, I was required to agree a form of FRA with the KCTMO, RBKC and the LFB, as discussed at paragraph 24iii above.

46 Prior to the LGA Guidance, the form of the FRAs was determined by the Sleeping Guide and by reference to PAS 79.

47 Prior to 2011 the LGA Guidance had not been published but I was effectively carrying out 'Type 1' FRA's with elements of 'Type 3' as they came to be categorised when the LGA Guidance when published in 2011. From the 2012 FRA onwards, I recorded in the FRAs (see for example page 7 of the June 2016 FRA – *CSS/13: CST00000100*) that I carried out 'Type 1' FRAs with some elements of 'Type 3'. The 'Type' categories are derived from the LGA Guidance, at paragraph 35 on page 44.

48 A Type 1 FRA meant that I carried out a primarily visual (non-destructive) inspection of the Tower, plus some additional inspection of the inside of front doors where I could gain access from a resident and was given permission to do so. In those circumstances (which were the 'elements of Type 3' FRA to which I referred), I would check the self-closer and see whether there was a domestic fire alarm system fitted in the dwelling (on this see paragraphs 90iii and 104v below respectively). In 2015 I was also asked to check the Heat Interface Units (see *CSS/14: CST00002800 and CSS/15: CST00002717*), and so had some knowledge of this when conducting the April and June 2016 FRAs.



49 As such, for example in the June 2016 FRA, I noted:

*“This fire risk assessment was carried out when the building was in normal use and only a visual inspection has been undertaken of the buildings structure and no invasive structural investigation was undertaken to complete the risk assessment. If there was any concern about hidden structural damage or lack of structural integrity of the buildings structure this will be raised with the landlords and commented upon within the following report. As far as I am aware the construction and any refurbishments of this building have gone through the Building Regulations process.”*

50 Around the time I was awarded the Contracts, I provided a ‘sample’ FRA and Significant Findings Schedule to demonstrate the format in which I would propose to present the FRAs – *CSS/16: 00003059 and CSS/17: CST00003060*. This was the format I used for the FRAs between 2010 and June 2016; i.e. for all FRAs after the initial 2009 FRA I carried out as a subcontractor for Salvus. I do not believe the LFB were handed the FRAs in my presence, but I do believe that the FRAs were provided to them. I have never received any feedback or criticism of the format of the FRAs from the LFB directly or indirectly via the KCTMO.

Requests to carry out FRAs

51 Initially, in the November of each calendar year, the KCTMO would send me a list of properties to inspect in the next calendar year: the higher the risk category of a particular building, the more frequently it would be assessed. Following receipt of the list, I would then carry out FRAs on the identified buildings throughout the following year, liaising with Ms Wray with regards the practicalities of so doing (arranging access to the building, provision of relevant documents etc. – see further paragraph 67 below).

52 Initially, if I carried out a FRA in a given year for a particular ‘high’ risk building, including the Tower, it was intended that the FRA would be reviewed in-house by the KCTMO the next year, and I would then undertake a fresh FRA the year after that.

53 As can be seen from Ms Wray's email dated 12 May 2015 (13:28) (see *CSS/18: CST* ), in 2015 the KCTMO decided that FRAs should be carried out on 'high' risk buildings every 3 years, with FRAs on 'medium' and 'low' risk buildings to be carried out at least every 4 years. Reviews would then be carried out in-house by the KCTMO annually in those years when a FRA was not undertaken. In relation to the Tower, however, the April and June 2016 FRAs were requested outside of this proposed regime, due to the Refurbishment.

Process of carrying out FRAs

54 The process by which I carried out the various FRAs for the Tower varied slightly by virtue of the circumstances – i.e. the 2009 FRA was the first FRA I undertook for the Tower and thus required further investigation (such as an initial familiarisation with the Tower so as to understand its layout and key features). I cannot remember whether at this point Salvus had any prior knowledge of the Tower which was shared with me or whether I undertook the 2009 FRA 'from scratch'. The 2014 FRA was the first FRA undertaken whilst the Refurbishment was underway and the April 2016 FRA and June 2016 FRA were undertaken in short succession around the time the Refurbishment was completed.

55 The general approach I took to carrying out a FRA was as follows:

- i. I would receive certain information from the client as to the nature of the Common Parts being assessed as well as certain information on the active and passive fire safety measures in place;
- ii. I would then inspect the Common Parts. Where necessary and/or possible, I would speak to those I met whilst inspecting the building (i.e. any residents or, during the Refurbishment, contractors);
- iii. After my inspection I might request additional information, although this was not strictly necessary, as where information was not available this could always be flagged in the FRA / the appended Significant Findings Schedule; and

- iv. I would then prepare the FRA and Significant Findings Schedule, the latter containing the matters which needed to be addressed in 'traffic light' designations based on priority – see further paragraph 68 below.

Matters considered as part of FRAs

- 56 In terms of the FRAs, these were guided by the requirements of PAS 79 and I would work through the individual active and passive fire safety measures at the Tower by reference to (a) section 15.1 of PAS 79;<sup>7</sup> and - from 2011 onwards - (b) the items covered in the LGA Guidance. With this in mind, I would pay particular attention to the matters detailed below (specifics of my considerations in relation to the Tower can be found at Section D below and I discuss the information sources available to me at paragraph 67 below).

*Flat doors, including the transom light areas and any side panels*

- 57 These would be visual inspections only and I would seek to establish, in each case where a fire door was required, whether the door physically looked like a fire door, and whether there was any damage to the door and/or its frame. This would include seeing whether:
- i. there were any pieces missing from the doors;
  - ii. any glass was cracked or damaged;

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<sup>7</sup> "Recommendations

15.1 The fire risk assessment should include, as a minimum, consideration of:

- a) means for detecting fire and a giving warning to occupants;
- b) means of escape from the premises (including means of escape and arrangements for evacuation of disabled people);
- c) fire safety signs and notices;
- d) emergency escape lighting;
- e) means to limit spread and development of fire;
- f) means for fighting fire;
- g) other relevant fire protection systems and equipment; maintenance of facilities to assist firefighters."

- iii. the required intumescent strips and cold smoke seals (“Strips and Seals”) were in place on the doors and letter boxes;
- iv. the doors shut fully; and/or
- v. they had been altered in any way or replaced.

58 If, by knocking on the flat doors, I was able to gain access to the flat, I would also look to see whether:

- i. the self-closers were fitted to the door;
- ii. the door closed fully or ‘ground’ on the floor beneath it as it closed; and
- iii. the inside face of the door was damaged.

59 I did not pre-arrange access to the flats as this would be extremely time-consuming and intrusive (and in many cases not possible – my visits to the Tower would happen in the day when many people were at work or otherwise engaged). I would however knock on some of the flat doors whilst visiting to see whether I could carry out some limited internal inspections of the doors.

60 I discuss the specifics of the various types of doors *in situ* at the Tower at paragraphs 87 - 102 below.

***Lobby doors and any other doors, including those to refuse chute rooms, cupboards and plant rooms***

61 These were visual inspections only, and again, I would ask myself the same questions as for the flat doors above. I would also seek to establish whether the door was locked if it was a cupboard or plant room. If open, then I would be able to inspect the inside of those doors.

***Lifts***

62 Again, I would carry out a visual inspection only, looking to see whether there was any damage and if the lift was in use. If not, I would find out whether it had been reported



as defective and when it was due to be fixed. I always checked when a lift was last serviced by looking at the service log book, which was usually kept in the lift motor room.

*Dry riser*

- 63 Again, this would be a visual inspection only. As part of that inspection, I would look to see whether the riser was damaged (including, for example, damage to the glass panel of the box-housing) and also whether the inlet and the outlets were obstructed (for example, through bicycles being chained to them). If possible, I would check any contractors' labels from last service to see comments that had been made. If these labels were not affixed, I would then check with the KCTMO as to when the last service was, whether the riser had been pressure tested and whether any actions were noted.

*Stair case*

- 64 I would check the means of escape routes, the staircase being one aspect of the means of escape, any obstructions or anything being stored in the vicinity, as well as any damage to the walls which might impact on the staircase as a means of escape.

*Smoke extraction system*

- 65 This would be a visual inspection only and I would look to see whether vents were obstructed. I would check with the KCTMO when the system was last serviced and if anything had been noted.

*Other areas checked*

- 66 This would include the lightning protection, electrical safety, gas safety, heating systems, breaches to compartmentation, emergency lighting, fire alarm systems, if fitted, whether the fire extinguishers were in service date and that the correct ones were in place. The full list is as per the section headings used in each of the FRAs.

Available information sources

67 In terms of the information which I would rely on, this tended to come from the following sources:

- i. ***The KCTMO's online document storage space*** – I was given access to a form of “drop box” (I cannot remember the precise software), in which the KCTMO stored various documents in relation to their buildings (“Online Platform”). When carrying out a FRA, I would check, for example, to see that there were maintenance and/or service records for (provided or installed) fire equipment and/or measures. Although I cannot recall precisely, I believe I was given access to this resource sometime in 2014;
- ii. ***KCTMO staff*** – I would sometimes request, and receive, information and/or confirmation from the KCTMO about specific installed fire safety equipment and/or measures, such as confirmation that these items / equipment had been serviced – see for example *CSS/19: CST00001994 and CSS/20: CST00001200, CST00002071 and CST00001662*. Sometimes this was provided to me specifically for the purposes of a FRA, and at other times I received this information through my general dealings with the KCTMO;
- iii. ***Third party confirmations*** – where a third party had carried out work (e.g. the replacement of the doors by Manse Masterdor in 2012) I would rely on, for example, their confirmation that doors installed were 30 minute fire rated doors – see further paragraphs 88 and 89;
- iv. ***Contractors*** – when carrying out FRAs during the Refurbishment, as the Tower was undergoing significant alteration, I would sometimes ask on-site contractors (either directly or indirectly through the KCTMO) for information, for example about the Automatic Opening Venting system (“AOV”) installed – see further paragraphs 103 - 113 below; and
- v. ***Building Control*** – there were various aspects of the Refurbishment (for example the façade work, the amendments to the lift shafts and fire-stopping etc.) which I

was aware could impact compartmentation and therefore the fire safety of the Tower.

Whilst I can generally see on my inspections where a safety measure is obviously deficient (e.g. a broken door, a triggered warning light etc.), it is not within my remit or expertise to determine whether the materials used for, and installation of, a specific fire measure are/is *de facto* compliant with Building Regulations. I am therefore reliant on others (contractors, surveyors etc.) to confirm whether or not the measure they fabricated, installed or surveyed complies with the Building Regulations. Furthermore, I understand that the ultimate arbiter of whether or not a measure is Building Regulations compliant is Building Control. Where Building Control has provided sign-off, or where it has not raised concerns, I therefore take this to mean that a measure is compliant the Building Regulations.

As discussed further at paragraphs 80 to 85 below, my working assumption at all times was that if all aspects of the Refurbishment works complied with the Building Regulations (as demonstrated by the receipt of Building Regulations Completion Certificate from Building Control (“Completion Certificate”) – *CSS/21:0000064*), then the integrity of the Tower’s compartmentation would be maintained.

- 68 Where there were identifiable concerns, however, these would be raised in the Significant Findings Schedule. This identified the risk or hazard and specified “*actions to be taken*”. These were given priorities (“low”, “medium” or “high”) and the schedule was set up in such a way that it could act as a checklist for the KCTMO to ensure that each of the items were dealt with. When it came to carrying out a new FRA, I would use the previous Significant Findings Schedule as a starting point to ensure that all points raised had been dealt with – see paragraph 119 for an example of how this worked in practice.

69 In the FRAs for the Tower, I included the following statement:

*“You do not have to give a copy of your risk assessment to anybody, not even the fire authority, if you do give them a copy this could be used against you at a later date”.*

I then referred to the relevant sections of the FSO and said:

*“So legally you have to record any significant findings from the risk assessment ... and have this available to be inspected”.*

70 Some have questioned the inclusion of the above wording in the FRAs. However, I was simply setting out to my client my view of the requirements of the FSO. The rationale for inserting the above text into the FRAs is as follows:

- i. The requirement under the FSO is to record the significant findings of the Risk Assessment – there is no requirement to record the Risk Assessment itself, although in practice this is, in my experience, almost invariably done;
- ii. If there is no requirement to record the Risk Assessment itself, it was my view that there was no obligation to produce it to the Fire Service;
- iii. I observed that the Risk Assessment *“could be used against you at a later date”* because, in theory, if the Risk Assessment document was itself critical of the fire safety arrangements that were in place, the Risk Assessment could potentially be used as the basis for a prosecution of the KCTMO pursuant to the FSO or other legislation such as the Housing Act 2004; and
- iv. My working assumption was that the KCTMO would use the FRA and Significant Findings Schedule to take prompt action to rectify any issues raised, such that the FRA would quickly become ‘out of date’, the FRA being only a ‘snap shot’ of the building at the time of inspection.

71 In any event, I understood that the format of the FRAs had been shared with the LFB, including the above text, (who, as per paragraph 50 above, did not raise any concerns). I made it clear to the KCTMO that the Significant Findings Schedules did need to be



made available to the LFB, should they request them (see paragraph 69 above), and I further understand that the completed FRAs were (at least in some instances) shared with the LFB, who considered the 2012 FRA and deemed it to be a “*broadly suitable and sufficient FRA*”. No issue was taken with the wording set out above or indeed any other aspect of the document (see for example the email chain ending 14 March 2014 (15:07) between the LFB’s Matthew Ramsey and Ms Wray – *CSS/22: CST00002513*)

#### **D – REFURBISHMENT**

- 72 As set out above, at no point did CS Stokes have a specific retainer in relation to the Refurbishment and my knowledge of the same is therefore limited.
- 73 By email dated 10 January 2013 (08:45), Paul Dunkerton (the KCTMO’s Project Manager, Assets & Regeneration Department) provided me with a draft copy of Exova (UK) Ltd’s (trading, at least at that time, as Exova Warrington Fire) (“Exova”) 2012 Fire Strategy Report (*CSS/23: CST00001481 and CST00001981*) and asked me to attend a meeting with the anticipated Main Contractor, JD Leadbitter & Co. (“Leadbitter”) - (*CSS/24: CST00001572*).
- 74 I met with Gareth Jones of Leadbitter and by email dated 6 February 2013 (13:48), I provided estimates for certain tasks which required CS Stokes to consider the design as against the current (2012) FRA – see *CSS/25: CST00002577*. As it transpired, the KCTMO decided not to use Leadbitter, and CS Stokes therefore did not end up undertaking the work which was quoted for. I was never subsequently asked to undertake that work and did not do so. To my mind, this was just a discrete piece of work which Leadbitter were considering asking me to undertake at the beginning of the Refurbishment.
- 75 On 23 January 2014, I met with the KCTMO’s Janice Wray & Claire Williams, Bruce Sounes of Studio E Architecture (“Studio E”) - the Refurbishment architect - and Matt Smith of Max Fordham Limited (“Max Fordham”) - the Refurbishment building

services engineer. Following this meeting I received an email dated 24 January 2014 (11:56) from Ms Williams which said:

*“... thank you for ‘downloading’ your historic knowledge o[f] Grenfell for myself and the consultants to the refurbishment scheme. I am not asking that you attend the fire brigade regular meeting on 12 Feb[ruary 2014] ... our architect consultant felt able to do this now we are better informed” (CSS/26: CST00002055).*

- 76 As can be seen, CS Stokes was not therefore required to provide services beyond that set out in the Contracts. Acting within that remit, I did have various interactions with parties relevant to the Refurbishment between 2012 and 2016. Rather than simply describe in chronological order every single interaction I had with the Tower during the Refurbishment, I have instead thematically commented on certain issues which I hope will better answer SQs 7, 8 & 9, and which I also hope will better assist the GTI with its current lines of enquiry.
- 77 It is worth observing at the outset, however, that to my knowledge at the time, the Refurbishment involved expertise from at least the following;
- i. An architect – Studio E;
  - ii. A design and build contractor – Rydon Maintenance Limited (“Rydon”);
  - iii. A building services engineer – Max Fordham; and
  - iv. A fire engineer (advising on fire strategy) – Exova.
- 78 I was also aware that the LFB would have had sight of the Building Control application for the Refurbishment and be required to approve it pursuant to Articles 45 and/or 46 of the FSO (or be taken to have approved it), as well as the fact that other specialist contractors were involved in, for example, extending the lifts, the dry rising main, and installing the AOV.
- 79 The Refurbishment was thus an extensive project involving a specific number of building professionals.

Building Control

- 80 In respect of Building Control's involvement with the refurbishment, I understood the following:
- i. By way of letter dated 17 September 2014 to Ms Wray (*CSS/27: CST00001536*), I sought a copy of the Buildings Regulations application (I had previously been provided with confirmation that such an application had been made, by Paul Dunkerton on 28 January 2013 (10:09) – see *CSS/28: CST00001226 and CST00002748*), along with any responses from Building Control and the LFB on the same;
  - ii. I was on occasion sent copies of Building Control meeting minutes (although so far as I recall, I did not attend any of those meetings);
  - iii. When appropriate, and when the opportunity presented itself, I would ask questions of the KCTMO or contractors (e.g. Rydon) to satisfy myself that major changes to the Tower (such as those discussed below) were being considered by Building Control (see for example paragraph 120 below); and
  - iv. In June 2016 I was sent a copy of letter of comfort dated 2 June 2016 from Building Control ("Letter of Comfort") – *CSS/29: CST00001489 and CST00002255* and thereafter a copy of the Completion Certificate – *CSS/21: CST00000064*.
- 81 I have been asked whether, at the time of the Refurbishment, I formed a view as to whether the design of the Refurbishment works was compliant with the Building Regulations. In short, my view was that if the design was approved by Building Control (having been produced and considered by various specialist professionals, including those listed at paragraph 77), then the design must be compliant with the functional requirements of the Building Regulations and ADB.
- 82 As I have explained above, as a Fire Risk Assessor, my role was to assess risks to fire safety. Usually when undertaking a FRA one can get a fairly accurate 'snap-shot' of



the *status quo* of a building on the date of inspection, and the FRA is then completed on the basis of that 'snap-shot'.

83 During the Refurbishment, however, the position was different as the Tower was constantly evolving. These changes presented two categories of opportunities where risks can develop:

- i. ***Permanent Changes*** – these were changes such as amendments to the number of flats, alterations to the lift shafts, changes to the external walls etc.; and
- ii. ***Temporary Changes*** – these included additional building equipment on site, partially complete works, the creating of holes for the laying of pipes etc.

84 In respect of 'Permanent Changes', my knowledge of the Building Regulations told me that these potentially presented a risk, depending on the way in which the works were carried out. In respect of the design and materials used, however, my understanding was that these must have been compliant with the Buildings Regulations as approval was given and, at the end of the day, it was for Building Control (on the basis of the representations made to it by the relevant specialist contractors) to confirm whether or not the implemented changes were compliant with the Building Regulations. When the Completion Certificate was provided in July 2016, my understanding was that all such 'Permanent Changes' were compliant with the Building Regulations.

85 In terms of the 'Temporary Changes', these were matters which I picked up in the Significant Findings Schedules appended to my 2014 FRA, April 2016 FRA and June 2016 FRA, and/or matters which I raised with the KCTMO after those occasions when I was requested to return to the Tower at various points,

86 I discuss below some of the changes which were made to key active and passive fire safety measures, and which I considered during the Refurbishment.



Fire Doors

87 During my involvement with the Tower, there were various changes to, and works involving, the doors at the Tower. This meant that, at the time of the Fire, there were various different types of doors *in situ*:

- i. **Replacement Doors** – these were the majority of the flat entrance doors which were installed by Manse Masterdor as part of the KCTMO’s 2012 door replacement programme;
- ii. **Leaseholder Doors** – these were the doors of the Tower’s leaseholder residents which constituted a variety of doors, depending on whether or not the leaseholders opted into the Manse Masterdor replacement, or whether they replaced their doors separately;
- iii. **Refurbishment Doors** – these were the doors which were installed on the new floors 1-3 as part of the conversion of those floors from office / commercial space to new flats; and
- iv. **Original Doors** – these were the original 44mm timber doors which were not changed as part of the 2012 replacement programme or the Refurbishment (e.g. the doors providing access from the lift-lobby areas to the stairs and the refuse chute rooms), which were nominally compliant.

I discuss each of the different types of doors further below but would observe that, as part of every FRA I undertook, I inspected each and every fire door in the building whether that was the front door of a flat (to the extent that I could depending on whether it was opened by an occupant – see further paragraphs 58 & 59 above and 94 below) or a door providing access from the lift-lobby areas to the stairs or the refuse chute rooms.

**Replacement Doors**

88 In 2012, the KCTMO undertook a wide ranging flat-door replacement scheme across its buildings (“2012 Replacement”). This included the Tower. The doors were replaced by Manse Masterdor and I was provided with product literature from Manse Masterdor

which purported that the doors they would be supplying were 30-minute fire rated fire doors ("FD30") - see *CSS/30: CST00002306 and CST00002070*.

There was some initial concern at the time about the requirements necessary for fire doors (see, for example, *CSS/31: CST00001607*). A FD30 rating was however sufficient to maintain compartmentation in accordance with the Building Regulations, and when asked about this, that is what I confirmed (see *CSS/32: 00001388*). As can be seen, I was only able to comment on the information available to me.

89 At the request of Ms Wray and Abigail Acosta (a KCTMO Project Manager) – see *CSS/33: CST00002123*, I attended the trial installation of the first installed fire-door at the Tower on 11 May 2011 (as it so happened this was Flat 16), along with a representative from LHC, the surveyors instructed by the KCTMO to observe the replacement door installations. Afterwards, I provided comments to the KCTMO on LHC's report. The comments I made were concerned with the form of the report, which initially I did not think was sufficiently detailed, not its contents - see *CSS/34: CST00002926* and *CSS/35: CST00000991*. At no point did I, nor was I, required to question the integrity of the construction of the door, which would have been outside of my expertise and role.

90 In relation to the Replacement Doors, therefore, when conducting the FRAs, my primary concerns were the following:

*i. Door surrounds or peripheries*

In order to maintain compartmentation, it is important that there are no breaks in the surround in which the door sits. To the best of my recollection, I did not observe any issues with the surrounds.

When inspecting the Tower on 9 April 2015, I noted that holes had been drilled for pipework, but that these appeared to be fire-stopped - see *CSS/36: CST00001921*. In July 2015, Adrian Bowman of the KCTMO again brought to my attention the fact that holes had been drilled above the fire doors into the flats.

By email dated 16 July 2015 (13:58), I noted that “... *these should all be filled in before the ceiling goes in*” (CSS/37: CST00002724).

If I noted concerns with any aspect of the door, I would, and did, raise that concern. For example, in line 12g of the Schedule of Significant Findings for my June 2016 FRA, I noted that the letter box from the door of flat 24 was missing and should be replaced - (CSS/13: CST00000101). Similarly, on 16 July 2015 (14:04), I raised a concern about a Perspex panel which should have been replaced with a fire rated glazing panel - (CSS/38: CST00002718).

*ii. Strips and Seals*

New fire doors are required to have Strips and Seals, so as to prevent smoke, at ambient temperatures / flame escaping round the sides and/or the head of the door. The Seals expand when a specific temperature is reached, creating a seal between the door and the frame.

There is no requirement to retro-fit combined Strips and Seals to existing fire doors. In respect of the doors in the lift-lobby areas to the stairs, it can be important in some cases not to retrofit Strips and Seals so as to allow a free flow of air for the AOV system – I discuss this further below at paragraphs 98 - 102 below.

*iii. Self-closers*

The fire-doors installed by Manse Masterdor (during the 2012 Replacement) included self-closing devices. In the event of fire, these devices should ensure that a door shuts behind any resident leaving the buildings, thus ensuring that compartmentation is maintained, and that any fire or smoke is contained within the compartment of origin (save of course when the door is momentarily open to allow a resident to leave their apartment).

When I visited the Tower during the Refurbishment, there were a number of occasions where I observed the self-closing devices either not to be present or to be damaged. Where this was observed as part of a FRA inspection, I would raise



this in the FRA (for example, see line 12(i) in the Significant Findings Schedule for in the June 2016 FRA – *CSS/13: CST0000101*). Where this was observed on another occasion, I would raise this with the KCTMO in separate correspondence (e.g. *CSS/39: CST00001425*).

*iv. Alterations or obstacles*

On occasion I observed alterations made to fire doors (e.g. the addition of further locks – see *CSS/40: CST00002679*) and at other times I observed obstacles to the effectiveness of the fire-door such as items being placed in front of the doors and wires trailed through the letter boxes (e.g. a mobility scooter charging outside of a flat – see *CSS/41: CST00000199*). Such alterations or obstacles risked impacting the effectiveness of the fire-door in maintaining compartmentation (as well as adding to the fire loading of the Common Parts) and thus I would raise this when observed.

- 91 As far as I was aware, at all times during my involvement with the Tower, the Estates Services Assistants (or “ESAs”, and at one time called caretakers) for the Tower, who were KCTMO staff, were on a regular basis checking for maintenance of the doors including, for example, checking that the self-closing mechanisms closed the doors. I was given to understand that the ESAs had reporting procedures for damaged / defective doors so that any damaged / defective doors could be repaired or replaced. Occasionally I was asked to look at specific doors, for example when I was asked to go and inspect the flat entrance door for flat 45 – see *CSS/42: CST00001447*.

*Leaseholder Doors*

- 92 I am aware that the KCTMO (in conjunction with RBKC) sought external legal advice on whether or not they were required / were able to change the Leaseholder Doors (*CSS/43: CST00002056*). I was asked by Ms Wray to assist with drafting a letter to the leaseholders which I did. The final letter was signed off by RBKC’s legal team and was sent out around 26/27 September 2013 - see *CSS/44: CST00001608*. My understanding was that the position reached by the KCTMO, was that the Leasehold Doors had been included with the sale of the leasehold and thus the KCTMO did not have responsibility



for their compliance even though this could have had an impact on compartmentation. This was as distinct from where the occupant was a tenant of the KCTMO, where responsibility for the doors and their compliance rested with the KCTMO.

93 After the 2012 Replacement, when conducting subsequent FRAs at the Tower (the 2014 FRA, the April 2016 FRA and the June 2016 FRA), I would conduct a visual inspection of the flat entrance doors. As the Manse Masterdor Replacement Doors were only provided in a limited number of styles, it was easy to identify those doors which had not been replaced.

94 In respect of the Leaseholder Doors, where it was possible (i.e. where there was a resident present who could let me in), I would ask to inspect the door to see if I could see any markings which would indicate that this was a suitable FD30 door. Where this was not possible, or where I had ongoing concerns, I would note this in the FRA – for example, see line 12h of the Significant Findings Schedule to my June 2016 FRA which notes that a new door was being installed for flat 112 that was not marked as being fire-rated and had no self-closing device. As can be seen, I recommended that confirmation was sought that the door had an FD30 rating and that a self-closing device be fitted (*CSS/13: CST00000100 and CST00000101*).

#### *Refurbishment Doors*

95 When I inspected the Tower for the purposes of undertaking the April 2016 FRA, I noted that Strips and Seals had not been applied to the communal doors off the new lift-lobby areas for the new floors 1 – 3 (i.e. the floors that had been turned into flats as part of the Refurbishment). I noted this in the Significant Findings Schedule to the April 2016 FRA – see line 12c (*CSS/13: CST00000101*). The relevant minutes (*CSS/45: CST00001726*) suggested that Building Control did not require Strips and Seals on these doors

96 As can be seen from an email chain between myself and Andy Jack of the LFB (the LFB's Head of Regulatory Enforcement) ending on 26 May 2016 (09:48), I raised my concern that Strips and Seals had not been correctly applied to the Refurbishment Doors, and the fact that I was uncertain about the position adopted by Building Control

/ Rydon. Mr Jack's response confirmed that I could rely on Building Control, but suggested that it was the safest course of action to raise my concern in the FRA (*CSS/46: CST00002705*); this is what I did – see lines 12c and 12d of the Significant Findings Schedule to the June 2016 FRA (*CSS/13: CST00000101*).

*Original Doors*

- 97 The doors in the lift-lobby areas to the stairs and the refuse chute doors were also fire-doors but were not replaced as part of the 2012 Replacement or the Refurbishment. These doors were not changed and pursuant to the Buildings Regulations, there was no requirement that they should be.
- 98 Part way through the Refurbishment, it became apparent that someone had been retrospectively fitting Strips and Seals to some of the Original Doors to the stair cases from the lift-lobby areas. This came to light on 19 March 2015 (09:40) when Simon O'Connor of Rydon raised concerns about the quality of this work with the KCTMO who in turn noted this to me (see *CSS/47: CST00001990*). I responded later that day (20:25), noting that:

*“[t]he fire service have audited Grenfell Tower ... and at no time have they asked for either in writing or verbally for intumescent strips or cold smoke seals to be retrospectively fitted to fire doors”.*

It was a concern to me that it was not clear why this work was being undertaken, and so I also noted that:

*“I would strongly recommend that the contractor is asked to provide a full list of any fire doors they have retrospectively fitted within intumescent strips or cold smoke seals in [KC]TMO premises and that these doors are inspected for workmanship etc.” – CSS/48: CST00002437.*

- 99 As can be seen from my letter to Ms Wray dated 10 April 2015, I visited the Tower on 10 April 2015, and set out my views on this matter in more detail in that letter – see *CSS/49: CST00001769*.

100 Part of the reason why this concerned me was that I was conscious that the previous ventilation system required a natural flow of air through the staircase and lift-lobby areas which the retrofitted Strips and Seals would, or at least could, prevent. Whilst the specification of whether or not Strips and Seals were to be used was not my responsibility, I appreciated that as they had not been required by Building Control, then this was either because:

- i. There is no requirement to retrofit Strips and Seals under the Building Regulation; and/or
- ii. That the installation of Strips and Seals would negatively impact the AOV system.

101 As option (ii) presented the greater potential for fire safety risk, I was keen to point out that the Strips and Seals should not have been retrospectively fitted. As can be seen from my email to Ms Wray dated 9 May 2015 (11:59) (see *CSS/50: CST00001575*), Rydon's Mr O'Connor told me that the Strips and Seals would not impact the AOV system, but I was not convinced and so said that:

*"I would recommend though that the [KC]TMO get this information in writing from the JS Wright designed of the two AOV systems, via Rydons".*

I was also keen to point out that:

*"... from a Fire Risk Assessment point of view, the work undertaken on the flat lift lobby area to staircase doors of Grenfell Tower is not up to the required standard".*

I also asked for clarification on whether:

*"the [KC]TMO found out if the contractor who undertook the work on these staircase doors also undertook any other similar work in any other [KC]TMO buildings".*

102 At the point of undertaking the June 2016 FRA, having at this point received a copy of Building Control's Letter of Comfort, at Section 12 of the June 2016 FRA, I set out the position *vis-à-vis* the various doors in some detail. Where there was a concern with the



original doors then I raised this in the Significant Findings Schedules: see for example line 12(j) of the June 2016 FRA – see *CSS/13: CST0000101*.

Detection and AOV Systems

103 As part of the Refurbishment works, the AOV system was replaced.

*System prior to the Refurbishment*

104 So far as I recall, the detection and AOV systems in place prior to the Refurbishment included the following:

- i. A fire alarm and warning system in the basement boiler room (manual break glass call points, and bells on the wall);
- ii. A fire alarm and warning system in the roof level lift and water tank rooms (manual ‘break-glass’ call points, bells and automatic smoke detectors on the ceiling of the lift motor room);
- iii. Fire alarm systems in the office / commercial spaces (including the boxing club and nursery) - floors 1-3;
- iv. Smoke detectors in the lift-lobby areas on each floor (“Communal Detectors”);  
and
- v. Individual standard domestic / residential fire detectors / sounders in each flat.

105 The fire alarms ((i) – (iii) above), if triggered, would show on the fire alarm panel in the ground floor lobby / concierge area. If the Communal Detectors (iv) were triggered, then this would also show on the fire alarm panel and would activate the AOVs in the respective lift-lobby area. Prior to the Refurbishment, the concierge area was manned in the day, and if the Fire Alarm Panel was triggered whilst it was not manned, then this would go to the KCTMO’s ‘out of hours’ line. There had never been a building-wide fire alarm and warning system in the Tower during my involvement and I doubt there ever was one because of the Tower’s construction. The control panel in the concierge’s



office pre-refurbishment also covered the fire alarm systems in the Finger Blocks.<sup>8</sup> This may be where the confusion has arisen over some firefighters who have given evidence of a building-wide fire alarm.

*Concerns about the existing systems*

106 In March 2014, I was copied into various correspondence in which, as well as determining that my 2012 FRA was “*broadly suitable and sufficient*” (see paragraph 71), the LFB raised concerns about the AOV system in a Deficiency Notice dated 24 March 2014 - see reference to the same in meeting minutes from 1 April 2014 (*CSS/51: CST00002064 and CST00002874*).

107 Prior to receipt of this Deficiency Notice, on 18 August 2014, I was asked by Ms Wray to undertake the 2014 FRA (see *CSS/11: CST000000092 and CST000000094*). As usual I sought various information in advance of inspecting the Tower, and on 12 September 2014 (08:53), I received an email from Ms Wray saying that “*Claire has asked Rydons to investigate the current state of the ventilation & extraction system...*” with JS Wright and inviting me to a meeting to discuss this – *CSS/52: CST00002281*. At the time, I was preparing to undertake the 2014 FRA and I assumed that this was the reason why I had been invited – as I note in my letter to Ms Wray dated 17 September 2014:

*“I am due to undertake [] a review of the buildings Fire Risk Assessment next Thursday the 23<sup>rd</sup> September, so any answers to the following points will assist me with the FRA review”.*

As can be seen from that letter, I raised various issues, including a number of issues not contained in the LFB’s Deficiency Notice – see *CSS/53: CST00000394*.

108 In the 2014 FRA, I recorded that “[a]s part of the buildings refurbishment this smoke extraction system is being upgraded”, and noted in the accompanying Significant Findings Schedule that:

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<sup>8</sup> The Finger Blocks were Baradon Walk, Testerton Walk and Hurstway Walk.

- a) requisite commissioning certificates would be required;
- b) “*weekly occupier inspections of ... the smoke vents ...*” should be undertaken;
- c) the contractors should provide a scope of works for the new system; and
- d) it should be clarified that inspections are being undertaken.

109 On 13 November 2014 (14:15), I received an email “[/for info” from Ms Wray (see *CSS/54: CST00002002*). This forwarded an email discussion between Rydon and the KCTMO’s Ms Wright in which Rydon’s Simon Lawrence’s said that the:

*“...M&E design team [had] been working hard on finding a solution to the AOV situation where [they] could urgently install now to get Grenfell some protection asap...”*

He said that they were arranging a meeting with their specialists and Building Control to ensure everyone was in agreement with the proposed design. In the meantime, he said that the Tower still had the existing Communal Detectors and visual fire panel alarm covering the building. Whilst the matter was clearly not resolved, it was clear that both the specialist Refurbishment contractors and Building Control were inputting into the solution.

110 On 5 December 2014 (17:24) Ms Wray forwarded me an email discussion between Ms Williams and Rydon’s Mr O’Connor, in which Rydon set out how the existing smoke ventilation system worked. Ms Williams asked Ms Wray if this was something which needed to be run past myself and Ms Wray subsequently sent this on to me, asking if Mr O’Connor’s summary accorded with my understanding. I replied stating;

*“Yes and no. The smoke detector on the floor level activates and the vents on that floor level are open as well as the panel in the old concierges office activates. The issue of the reception/concierges office not being manned you know about. All of the information is in the FRA”* (see *CSS/55: CST00002460*).

111 I see from my letter to Ms Wray dated 10 April 2015 (see *CSS/56: CST00001257*), that when visiting the site on 9 April 2015:

*“I met with the ventilation consultant who is designing the new flat/lift lobby area and staircase ventilation systems for [the Tower], full details of these systems are to be provided. But according to the consultant the systems have been agreed in principle with both the RBKC Building Control department and the London Fire Brigade fire engineering team.” [emphasis added].*

I also then suggested that written confirmation was sought from the consultant to confirm what he had told me verbally.

***Post-Refurbishment***

112 During the Refurbishment, a new AOV system was installed which included new smoke detectors in the lift-lobby areas – see *CSS/57: CST00002905*. As noted in my June 2016 FRA, I had concerns about the changes to the AOV system and noted these in the Significant Findings Schedule (see lines 17a – 19f, 23a, 23b and 23g) (*CSS/13: CST00000101*), including:

- i. It was not clear to me that the fire alarms in the Basement and Roof spaces were working (see line 17a);
- ii. There appeared to be no smoke detector in the ground floor area (see line 17b);
- iii. There was no commissioning certificate available for the new AOV system and detectors (see line 17c);
- iv. The Communal Detectors, rather than simply operating the AOV system as they were supposed to, appeared to also be interfaced with the gas supply to the Tower. As such, if someone was smoking or vaping in the lift-lobby area, for example, the smoke detector would detect the smoke or vapour. Rather than simply opening the vents, this would shut off the gas to the boilers in the Tower basement which in turn would cut off heating and hot water to the flats in the Tower and the Finger Blocks, whose heating/hot water system was controlled centrally from the Tower (see line 17d) (I also raised this earlier with the KCTMO by email dated 23 May 2016 (11:18) – see *CSS/58: CST00001795*);



- v. There was a fire alarm coil in the roof level which did not appear to be connected to anything (see line 17f);
  - vi. There were no operating instructions located near the AOVs (see line 19a);
  - vii. There was no key to operate the AOVs onsite (see line 19c);
  - viii. It was not clear what happened when the fire alarm or AOV system was activated (See line 19e); and
  - ix. There were various confirmations that inspections and services were being undertaken which were not available, and which I therefore asked for (see lines 23a – 23f).
- 113 In noting these concerns, I was aware that, in the Letter of Comfort, Building Control had said that they would not provide the Completion Certificate until:

*“the outstanding applicable paperwork relating to the powered ventilation system has been sent to this office for Councils consideration and the documentation has been reviewed and found to be satisfactory”.*

As such, I understood that the items I raised would be dealt with in any case, but raised them for completeness, as per Andy Jack’s suggested approach – see paragraph 96 above. I was subsequently asked about this by Ms Wray on 5 August 2016, but as I had no further knowledge I referred Ms Wray back to Ms Williams – see *CSS/59: CST00001651*.

The external walls of the Tower

- 114 I have been asked about (i) my awareness of the façade design; (ii) my awareness of the properties of the ACM panels and insulation used as part of the Tower façade; and (iii) my views on the compliance of the design with Building Regulations.
- 115 I cannot remember when I first became aware that the Tower was to be over-clad. As already pointed out, the external walls of a building are not in my view part of the



Common Parts covered by the FRAs (the external walls of a building not being covered by the FSO) – on this see further section F.

116 As set out above, the starting point from which all my considerations / investigations begin, is “*does X, which I observe or am told about, impact compartmentation?*”. With the refurbishment of an old building, like the Tower, this is particularly important, as the underlying structure of the building is designed to support a ‘Stay Put’ policy (for example there being only one staircase), which in turn requires a high degree of compartmentation, not only as constructed, but maintained.

117 When inspecting the Tower for the purposes of the 2014 FRA, I noticed a single piece of cladding, seemingly placed on the outside of the Tower for sample visual purposes. As there was only a single piece, my attention was drawn to it, and I noticed that the panel was placed on timber battens. Through seminars, industry news / updates, conferences etc., I was aware that there was a risk that timber battens used to attach cladding to the external face of a building could act as a conduit for fire spread (I had understood this to be a factor in the high rise fire in Roubaix, France in 2012) and so I raised this in the Significant Findings Schedule for the 2014 FRA saying:

*“The external face of this building is to be over clad. The piece of cladding fixed to the external wall at the moment is on timber battens.” –  
CSS/11:CST00000094.*

In terms of recommended actions I suggested:

*“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?”*

- 118 As with any other matter raised in the Significant Findings Schedule, once I had raised the risk it was for the KCTMO to action the relevant “*actions to be taken*”. Despite the fact that the external walls of the Tower were not covered by the FSO and thus the FRA, I thought it was sufficiently important to raise the issue with the KCTMO and suggest that they check both the cladding and the fixing system had been accepted by Building Control. I was also aware that the issue of external cladding is raised at paragraphs 72 and 85 of the LGA Guidance (although neither paragraph relates directly to FRAs).
- 119 Between the 2014 FRA and the April 2016 FRA, the building was fully over-clad. As I would usually do, when inspecting the Tower for the April 2016 FRA, I took a copy of the Significant Findings Schedule from the previous FRA (the 2014 FRA) and made notes against this, and on sheets attached – see *CSS/60: CST00000002*).
- 120 When inspecting the Tower in April 2016, I spoke to various people, including representatives from Rydon, however I cannot now remember exactly who I spoke to on this occasion. As I had noted the isolated test cladding panel when visiting the Tower in 2014, and in particular the timber battens that were being used at that time, I asked about how the cladding had eventually been fixed to the Tower. As can be seen from my handwritten notes, following discussions with representatives of Rydon, I recorded “*OK FR No Timber*” and “*Cladding external Non Combustible Metal Fixings signed off by B/C*”. I do not remember the precise conversations I had, however my understanding on leaving the Tower after my inspection was that the actual cladding was compliant with the Buildings Regulations and that the obvious presenting issue (the timber battens) had been dealt with as metal fixings were now being used. In addition, as far as I was concerned, if the cladding itself and the system by which it was fixed to the building had been passed by Building Control, the system and component parts would have been compliant with the requirements of the Building Regulations and ADB. That is what I meant by reference to the ‘*new fire rated cladding*’ in the April and June 2016 FRAs.

121 As such, in the April 2016 FRA I noted:

*“New external cladding has been fitted to this building as part of the project of refurbishment / construction work being undertaken on and within this building. The original external face of this building has been over clad, the new fire rated cladding is fixed to the out face of the building by metal fixings and the whole process has been overseen by the RBKC Building Control Department and Officers. They have approved and accepted the fixing system and cladding used.”*

This was repeated in the June 2016 FRA.

122 In respect of the façade generally, and the materials used, my working assumption throughout the Refurbishment was that there would not be any issue with the products themselves used, as they had been specified, designed and fabricated by a large number of experienced, specialist, professional contractors and suppliers, as well as then signed off by Building Control. Nothing was mentioned in the Letter of Comfort *vis-à-vis* the external façade of the Tower, nor was it in the Completion Certificate.

123 If I had known that the cladding itself (in whatever form the materials were used), and the system used to fix it to the external face of the Tower, was even capable of spreading fire to a fraction of the way it did on the night of the 14 June 2017 (which resulted in a catastrophic failure of compartmentation), I would not have regarded the building as safe for anyone to occupy as a dwelling, or indeed for any other purpose. I do not believe any control measures by way of active or passive fire protection would have reduced the risk to health and safety occasioned by the cladding system to an acceptable level and I would have said so in the clearest possible terms. Moreover, I would not have regarded ‘Stay Put’ as an appropriate evacuation strategy and that was the strategy upon which the active or passive fire systems present in the building at time were based.

Firefighting lifts

124 In the FRAs, I note that the two lifts at the Tower were ‘firefighting lifts’. This was based on confirmation from the KCTMO that this was the case, both when I was first



involved with the Tower (see *CSS/61: CST00001269* - and subsequently when I was provided lists of the KCTMO buildings which had firefighting lifts see email dated 6 June 2012 (13:52) – see *CSS/62: CST00002920 and CST00001166* (a copy of which is also at the back of the KCTMO’s Fire Safety Policy – see *CSS/63: TMO00830598*).

- 125 Previously the KCTMO had some concern over whether the lifts were firefighting lifts (see *CSS/64: CST00001781*), however, as the lifts were later listed to be firefighting lifts in the summary document provided to me in 2012, I understood this to mean that the KCTMO had satisfied themselves that these were firefighting lifts. I would have expected the lifts to be firefighting lifts as I understood that they were installed in 2005, at which time all new lifts installed in high rise buildings were required to be firefighting lifts and would have had to comply with EN81 in order for them to be accepted (again by Building Control).
- 126 A firefighting lift has various features (e.g. 2-way communication devices, minimum car size, dedicated power supply, fireman’s control switch etc.). From the information available to me, and from any observations when inspecting the Tower, it seemed that the lifts had these features, except for the fact that there was no escape hatch in the top of the lift car. This was noted in section 19 of the 2014 FRA (and subsequently in my April and June 2016 FRAs – see *CSS/11: CST00000092; CST/12: CST000000087; and CSS/13: CST00000100*).
- 127 It has been queried whether the lifts installed at the Tower can rightly be described as ‘firefighting lifts’ when not all the requirements for a ‘firefighting lift’ were present, e.g. the escape hatch. In light of the date of installation of the lifts and the KCTMO’s documentation, even after this had been queried, I therefore referred to the lifts as ‘firefighting lifts’ in the FRAs, but made sure that I mentioned the fact that there was no hatch. At no point was I given to understand that the primary function of a ‘firefighting lift’ (i.e. the ability for the Fire Service to control the lift) was impaired and on all occasions when attending the Tower, I observed the firefighter override “drop key” switch which sat inbetween the 2 lifts – see further paragraph 129 below. Exova’s Fire Strategy Document of November 2013 which also described them as firefighting lifts – *CSS/65: EXO00001106*.



128 When carrying out a FRA, as well as the confirmation from the KCTMO as to the nature of the lifts and my own observations from inspection, I would also check that the lifts had been serviced and checked by the maintenance company. This information was available to me either in the log-book stored in the Lift Motor Room, or on the KCTMO's Online Platform mentioned above at paragraph 67i.

129 In terms of operating the lift, there was a panel for a standard firefighter "drop key" in between the 2 lifts at the Tower which could be used by the Fire Service. When the "drop key" was turned to the right, I understood that this would take control of the lifts, which would then return to the ground floor and could be used to access a desired floor. On 22 June 2013 (17:53) I suggested to Ms Wray that:

*"the manufacturers hand book [] be provided for the type of lifts in this building giving the sequence of actions needed to activate one lift independently or both lifts at the same time"* – see *CSS/66: CST00002461*.

130 On 12 March 2014 (15:43), I received an email from Ms Williams which said "*Carl, can you please confirm that the lifts are either fireman's or fire fighting – I did not realise there was a difference!*" – *CSS/67: CST00001454*. On the basis of the information provide to me by the KCTMO already (as above), I responded later that day (16:40) confirming what I understood to be the case, which was that the lifts were firefighting lifts – see *CSS68: CST00001426*. In writing this, I was also aware that the LFB had recently considered the lifts and their functionality. As noted in my letter to the KCTMO dated 18 March 2014 (*CSS/69: CST00001818*):

*"During a recent fire service exercise in this building the local fire crews were given instruction on the use of these fire fighting lifts and there are instructions on how to use them as fire fighting lifts in the ground floor level office and the lift motor room"*.

131 As far as I am aware no issues were ever raised by the lift servicing engineers.

132 So far as I understand, the lifts were not changed during the Refurbishment, save for the fact that the lift shafts were extended to allow access to the lower floors (new floors

1 - 3). Although I understood the changes to be only to the lift shafts, rather than the lifts cars, in order to make sure nothing was adversely affected during the Refurbishment, in the Significant Findings Schedule of my June 2016 FRA, at line 19f, I raised the fact that it was unclear whether the Fire Service control for the lift had been moved following the changes to the lift shafts:

*“[c]an it be confirmed that the fire service control for the lifts [have] been moved back down to the street level? If not then this must be undertaken immediately” – see CSS/13: CST00000101.*

#### **E - POST REFURBISHMENT**

- 133 Following the issue of the Completion Certificate, I attended and/or advised on issues in relation to the Tower on a number of occasions pursuant to Part 2, Section 1.9 of the T&Cs, as I had done on all previous occasions. These included the following.

##### Continued work on the AOV

- 134 On 5 August 2016 (11:38), Ms Wray sent me some literature “FYI” on how the new AOV system worked – see *CSS/70: CST00002905* - and I attended the commissioning of the new AOV system. As far as I can remember, the service engineer went through the operation of the AOV system. I asked for the operating sequence to be recorded in writing and a copy provided next to the control panel, something which I had already previously mentioned at item 19a of the Significant Findings Schedule to my June 2016 FRA – see *CSS/13: CST00000101*.

##### LFB pre-audit

- 135 In October 2016, I was asked by Ms Wray to return to the Tower to carry out a ‘pre-audit’ inspection prior to one which was due to be undertaken by the LFB. As explained in my letter to Ms Wray dated 19 October 2016 (*CSS/71: CST00002339*), the purpose of this inspection was to identify *“the items from the significant findings sheets from [the June 2016] FRA [which] are still outstanding”*.

136 Under cover of a letter dated 17 November 2016, the LFB subsequently provided a Deficiency Notice (see *CSS/72: TMO00832135*), which highlighted, amongst other matters, the fact that there were issues with the fire doors onto the stairs – this had been raised under the “*Item 12i, High*” section of my 19 October 2016 letter. In fact the deficiency notice raised fewer concerns than my letter of the 19 October 2016.

Gas works

137 On 24 November 2016 (20:38), I received an email from Ms Wray forwarding on a chain of emails in relation to the boxing in of new gas work - (*CSS/73: CST00001944*). I replied on 25 November 2016 (11:48) stating that:

*“[f]rom a fire safety perspect[ive] as the pipe[s] pass through any compartment floor, wall or ceiling it must be fire stopped to the fire rating of that compartment lining so the wall onto the stair case is 60 minutes”.*<sup>9</sup>

I also asked further questions and concluded by saying:

*“[t]his is a Building Control issue, what are their thoughts? A Building Control final certificate will be needed on completion along with Gas safe certificates etc” – see *CSS/74: CST00001076*.*

138 Later that same day (16:12) I queried the potential risk to compartmentation and highlighted the importance of checking compliance with Building Regulations:

*“But what happens if the fire is in the flat, does that mean that the fire can travel via the boxing to the stairwell?”*

*This is notifiable work so I am assuming that all the work will go through the Building Regulations process and meet all the requirements of the Building Regulations?*

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<sup>9</sup> See also my letter dated 30 January 2017 in relation to relevant fire ratings / timings, referred to at a paragraph 140 below – *CSS/77: CST00001239*.



*Can the utility company please provide a full method statement and schedule of works showing that all the work will meet with the Building Regulations requirements” – see CSS/75: CST00002473.*

139 On 28 November 2016 (14:00), I received an email from tRIOO’s Martyn Wisken noting that:

*“Our pipework must be installed in accordance with IGEM/G/5, this in turn has been written in accordance with the Building Regs – all pipework will be fire stopped between fire compartments. A method statement will be submitted prior to the works” - see CSS/76: CST00001903.*

This led me to believe that the work would be done in such a way that compartmentation would be protected.

140 I was subsequently asked to attend the Tower to inspect the position, which I did on 26 January 2017. My comments on the gas pipes following that inspection are recorded in my letter to Ms Wray dated 30 January 2017 – CSS/77: CST00001239. Sometime later I was asked by Ms Wray whether I could attend a meeting with National Grid to discuss this further. I agreed to do so (see relevant chain of emails – CSS/78: CST00002730), but this meeting did not go ahead.

141 When I attended the Tower on the 17 September 2018, I noticed that some of the emergency lighting units in the stairwell appeared to have been moved down the wall since the last time I attended before the Fire so as to accommodate the boxing in of the gas pipes above them. On certain floors this had obscured the otherwise visible floor numbering (partly or completely). I have no knowledge of who undertook this work or why they did not arrange for the floor numbering to be changed, but I raise this for the GTI’s information and consideration. It was apparent also that not all of the gas pipe work had been properly fire stopped.

LFB letter on external fire spread

142 On 19 April 2017 (see CSS/79: CST00001567), I received an email from Ms Wray that attached a letter from the LFB dated 6 April 2017 regarding external fire spread. This



was circulated following the Shepherd's Court fire (*CSS/80: CST0000028*). Ms Wray states in her emailed that her "...*understanding [was] that [the KCTMO] did not have any blocks with external cladding of this nature...*" and asked if I could confirm.

- 143 I responded the same day (12:20) and said that as far as I knew that was correct (*CSS/81: CST00001284*). I said that the Tower was clad but that the cladding complied with the requirements of the Building Regulations. I said that lots of questions were asked of Rydon and we had received answers back from them – see also *CSS/82: CST00001100*), by which I was referring to the matters discussed at 114 to 122 above,

#### F – ADDITIONAL MATTERS

- 144 In order to assist the GTI, I have set out below a few additional comments on matters arising out of the evidence available to date, in case this should help the GTI with its investigations.

##### The FSO

- 145 There has been some suggestion that the scope of the FSO should be deemed to require Fire Risk Assessors to consider the external façade of a building, rather than just the Common Parts, albeit so far as I am aware no evidence has been adduced to date to substantiate such an interpretation.
- 146 I have never understood this to be the case, nor was this put to me in my training on FRAs (which I received from Colin Todd who ran the Northern Ireland Fire Safety Panel FRA training that I attended, as referred to at paragraphs 11 and 24ii). Furthermore, from my experience (both in the Fire Service and as a Fire Risk Assessor), neither is this the understanding of the profession, nor common practice. In addition, I do not believe the LGA Guidance suggests that the external walls are part of the 'Common Parts' of a building for the purposes of the FSO FRA, neither do any of the 'Types' of FRA identified in that document suggest that the external walls are 'Common Parts'.

Evacuation

147 Whilst it is not my place to comment on the evacuation of residents on the night of the Fire, I would however draw the following to the GTI's attention.

148 It has been raised that the June 2016 FRA states under the heading "[t]he evacuation strategy for this building":

*"For the residents of this building there is a "stay put" evacuation strategy...".<sup>10</sup>*

Although not often referred to, the rest of this paragraph continues:

*"... this means the residents can remain within their own dwelling during a fire incident in this building unless the fire is in their dwelling or that their dwelling is otherwise affected by the fire. In which case they should immediately evacuate their dwelling and call the Fire and Rescue Service. The Fire Service or [KC]TMO employees will arrange for a general evacuation of the whole building, at anytime if this is appropriate to do so. Alternatively the resident can leave their dwelling at anytime if they so wish to do so."*

149 Whilst focus has (unsurprisingly) gone to the use of the words "stay put evacuation strategy",<sup>11</sup> it is also important to note that this paragraph states that:

- i. Residents should evacuate if there is fire in their dwelling or their dwelling is affected by fire;
- ii. The Fire Service and KCTMO should arrange a general evacuation if appropriate; and

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<sup>10</sup> Please note that the first example of an evacuation protocol on page 16 of the DCLG's Generic Risk Assessment 3.2 – Fire Fighting in High Rise Buildings document ("DCLG High Rise Guidance") – **CSS/83: LFB00001255** is 'Stay Put': "evacuation protocols for the building (such as a 'Stay Put' policy, phased or full evacuation. Please see also Approved Document B paragraph 4.27 for further information regarding phased evacuation.

<sup>11</sup> As noted at paragraph 38, this accords with the LGA Guidance.

iii. Residents should leave at anytime they wish to do so.

150 My reasoning for putting that the Fire Service or the KCTMO would arrange a general evacuation if necessary is that:

- i. The DCLG High Rise Guidance GRA 3.2 states that an evacuation plan (where there is a 'Stay Put' policy) should be part of the Fire Service's contingency planning;
- ii. It was the KCTMO who were aware of the particular needs of individual residents;
- iii. As noted at paragraph 50 above, this wording was included in the sample FRA that the KCTMO and LFB had reviewed and which neither organisation had at any point queried.

I do not know for certain whether such a contingency plan was prepared, but I was never made aware of one. That would however, in my view, be an issue for operational firefighting and not FRAs.

151 In a building designed and maintained with appropriate compartmentation, with one staircase and which did not have and did not rely on a building-wide fire alarm (as per the LGA Guidance), I could not have reasonably recommend any other approach than the 'Stay Put' strategy that I did. I would have expected Exova to have advised on the implications of the existing building structure when advising on fire strategy and the LFB to have raised this if they had any concerns.

152 In the FRAs I refer to the fact that the FSO applied to the Common Parts, but the Housing Act 2004 applies to whole building outside the scope of the FSO. This would specifically include the external walls of the building, where the FSO does not.

**G – SUMMARY OF RESPONSES TO SQs**

153 In order to assist the GTI, I have set out below summary responses to the SQs. As noted at paragraph 4vii above, these are not intended to be read in isolation and should be read in the context of the rest of this Statement.

“1. Describe the nature of [CS Stokes’] involvement in the refurbishment of Tower”

154 From 2010, CS Stokes was retained to carry out FRAs and provide advice as and when requested to do so by the KCTMO in relation to various fire safety issues.

155 CS Stokes continued to assist the KCTMO in the same manner throughout the Refurbishment. Naturally, because of the Refurbishment, I received an increased number of requests from the KCTMO to provide advice during the Refurbishment, however CS Stokes was not specifically retained in relation to the Refurbishment.

156 I understood that at all times during the Refurbishment, Exova were retained to provide Refurbishment-specific fire safety / strategy advice.

“2. Identify the parties with whom [CS Stokes] entered into relationships in order to carry out its role, describing the purpose of those relationships.”

157 CS Stokes only ever contracted with the KCTMO.

158 Whilst I was approached by Leadbitter to potentially provide some initial advice, Leadbitter were replaced and I never actually received instructions to undertake this work for Leadbitter or any other contractor.

159 At the request of the KCTMO, I did meet with Rydon following their appointment to provide some historic knowledge to them, but was never specifically retained by them.



"3. What steps did [CS Stokes] take to survey and understand the existing construction and condition of the Tower as part of its work on fire risk assessments for the Tower?"

160 In respect of the construction and condition of the Common Parts (being those areas which CS Stokes was required to assess as part of the FRAs), I would do the following:

- i. Consider any documents provided by the KCTMO, either specifically or which were accessible in their Online Platform;
- ii. Make visual observations from inspections of the Tower; and
- iii. Take into account any information conveyed by others at the site (either residents or contractors).

161 Specifically on 'construction', being neither a construction nor materials specialist, I was reliant on the fact that the Tower was under consideration by various specialist contractors and Building Control. I therefore worked from the basis that the Refurbishment would be undertaken in compliance with the Building Regulations. During the Refurbishment, whilst the works were ongoing, I was reliant on the KCTMO and the various contractors appointed to carry out the Refurbishment to make me aware of any changes in 'construction' which would materially impact the fire safety of the Common Parts, particularly where those were not obvious from a visual inspection.

"4. Was any consideration given to fire safety of the existing construction at this time and/or how the refurbishment may affect fire safety of the Tower?"

162 I was aware that the construction of the Tower, and any changes to it, had the potential to positively or negatively impact the underlying principle of compartmentation on which the Tower had been built. In turn, I was aware of the fact that any changes in construction had the potential to impact the fire safety of the Tower.

163 During the Refurbishment, whilst the Refurbishment works were ongoing, I would raise matters observable in the Common Parts which might negatively impact

compartmentation, either in the FRAs (if observed when undertaking a FRA), or in separate correspondence. Not being a construction or materials specialist, however, I was only able to identify matters which were obvious from a visual inspection.

164 At all times, I worked on the understanding that compartmentation would be maintained, as required by the Building Regulations. As such, when the Completion Certificate was provided in July 2016, I understood this to mean that all construction works undertaken as part of the Refurbishment were now considered by Building Control to be compliant with the relevant legislation. As such, I was led to believe that compartmentation would be maintained and thus the construction of the Tower posed no immediate risk to fire safety.

"5. What information was taken into account by [CS Stokes] when producing each of its fire risk assessments for the Tower?"

165 As set out above, I would rely on:

- i. Documents available in the KCTMO's Online Platform;
- ii. Any documents or information received from KCTMO staff, either specifically on request or otherwise provided during the time CS Stokes was retained by the KCTMO;
- iii. Any information or confirmations (either directly or by way of supplied literature) from any third parties;
- iv. Observations from inspections;
- v. Any information or confirmations received from specialist contractors involved in the Refurbishment; and
- vi. Any communication from Building Control, e.g. the Letter of Comfort and the Completion Certificate.

"6. How did [CS Stokes] satisfy itself that the active and passive fire protection measures present in the Tower were compliant with the applicable legislation, regulations and guidance at the time of each fire risk assessment?"

166 When undertaking FRAs during the Refurbishment, I relied on the sources of information set out at paragraph 165 above. Where I had concerns, these were raised in the FRAs, in particular in the Significant Findings Schedules. At no point did I undertake any destructive or intrusive testing, nor was I required or qualified to do so.

167 When Building Control provided the Completion Certificate, I understood this to mean that they were comfortable that the active and passive fire protection measures in the Tower were compliant with the applicable legislation, regulations and guidance.

"7. To what extent was [CS Stokes] aware of (a) the design of the refurbishment and materials to be used, in particular on the façade and (b) any changes to the design and materials to be used during the course of the refurbishment?"

168 I was broadly aware of changes that were being made to the Tower during the Refurbishment, and by virtue of the work CS Stokes undertook for the KCTMO, was kept reasonably up-to-date throughout the Refurbishment.

169 In respect of the design and materials used on the façade, I was aware that the intention was to fully clad the building with rainscreen cladding. I was not aware of the particular materials and design which were going to be used. As I had no specialist knowledge of cladding materials / design, my understanding of the same would have been limited, even if I had been furnished with such information.

170 My first awareness of the cladding used was when I observed a test panel on the Tower which I observed was affixed with timber battens. For obvious reasons, and as I was aware this had been a problem elsewhere, I raised concern with what I saw.



"8. What advice, if any, did [CS Stokes] provide about fire safety during the course of the refurbishment? Was that advice accepted or rejected by the relevant parties?"

- 171 I provided advice to the KCTMO, when requested, most of which could in the broadest sense be characterised as 'fire safety' advice. CS Stokes was not however retained specifically to advise on fire safety or strategy in the context of the Refurbishment: this was the role of Exova.
- 172 The advice given by CS Stokes is largely record in the FRAs and/or various letters which I sent to the KCTMO following requests to give advice.
- 173 In terms of whether or not any advice given by CS Stokes was accepted or rejected, what I can say is that clearly not all matters I raised were addressed. For example, when I was invited to carry out a pre-inspection of the Tower in October 2016 (before the LFB conducted their own inspection) I raised various outstanding matters which I had previously identified in the June 2016 FRA as requiring action.

9. At the outset and throughout the refurbishment works: (a) What consideration was given to compliance of the design with the relevant Building Regulations and associated guidance?; (b) Did anyone at [CS Stokes] form a view as to whether the design of the refurbishment of the Tower complied with the relevant Building Regulations and associated guidance, in particular the parts of the Building Regulations relevant to fire safety?; (c) If not, why not?; (d) If so, what was that view?; and (e) To what extent, if at all, was [CS Stokes] aware of the properties of the ACM panels and insulation used as part of the façade and their fire performance, either through its work on Grenfell Tower or its work on other projects?"

- 174 CS Stokes had no Refurbishment-specific role, and was not asked to specifically address compliance of the design of the Refurbishment with the relevant Building Regulations and associated guidance, as various specialist, professional contractors were involved in the Refurbishment. I understood that all designs would go through the

Building Control and fire safety process, and that the completed works would be inspected by Building Control.

- 175 I do however have a general appreciation of the requirements of the Building Regulations, and where (for example, from observations made when attending the Tower or from documents provided to me) there seemed to be a potential conflict with the Building Regulations, I would raise this with the KCTMO.
- 176 Indeed, as noted above, at one point I contacted Andy Jack of the LFB to ask whether and to what extent I should raise matters, even though I knew the matters were to be considered by Building Control. Mr Jack's advice was that whilst I could rely on Building Control, as a matter of best practice, it would be sensible for me to raise any concerns. As such, this is what I did in the FRAs.
- 177 In terms of my awareness of the properties of ACM panels and insulation used at the Tower, as noted previously, I am not a construction nor a materials specialist. As such, prior to the Fire, my knowledge of the existence and properties of the materials installed at the Tower was limited. Whilst at times it can be hard to separate what I knew prior to the Fire and what I have come to understand in the aftermath, I am fairly confident that prior to the Fire I was not specifically aware of ACM panels (i.e. I was not aware of them as being a specific type of panel), nor was I aware that they were a composite panel including combustible material. Similarly I do not recall having any specific knowledge of the type of insulation installed, nor its properties. What was important to me was to raise the issue of the cladding being used (and its fixing) with the KCTMO, so that compliance with Building Regulations was assured.
- 178 The fact that I had a broad understanding, but no knowledge of the specifics of the materials used, can be seen by the fact that when I queried the test panel installed at the Tower, I was able to pick up the fact that timber battens were being used (which for obvious reasons presented a fire-risk), but did not (because I did not have the requisite knowledge to do so) raise specific queries about the type of panel.

“10. Did CS Stokes carry out any inspections of the Tower during the works or on or around the time that refurbishment works were completed?”

179 The April and June 2016 FRAs were undertaken around completion of the Refurbishment, but not specifically as part of the Refurbishment process.

“11. If so, what was the outcome of those inspections?”

180 As detailed above, I raised various matters in the Significant Findings Schedule for the June 2016 FRA which needed to be addressed. I then re-emphasised those matters which remained incomplete when returning in October 2016 to carry out the pre-audit requested by the KCTMO.


#### CONCLUDING REMARKS

181 As with CS Stokes' Position Statement, I trust that this Statement assists the GTI for present purposes, however, should the GTI require any additional comment and/or clarification, I would be happy to provide the same to the extent that I am able to do so.

#### STATEMENT OF TRUTH

I believe that the facts stated in this Statement are true.

I confirm that I am willing for this Statement to form part of the evidence before the GTI and be published on the GTI's website.

Signed:  .....

**CARL SPENCER STOKES**

Dated: 28 September 2018



**Index of Documents  
referred to in the  
First Witness Statement  
of  
Carl Spencer Stokes**

<b>Document Number</b>	<b>Description</b>	<b>GTI Reference</b>
CSS/1	2009 FRA	CST00000631
CSS/2	Email dated 24 September 2010 (14:43) from Keith Fifield to Carl Stokes	CST00002454 CST00001508
CSS/3	Email dated 31 August 2010 (17:10) from Janice Wray to Carl Stokes	CST00002041
CSS/4	Initial proposed charges for FRAs at the Tower	CST00002367 CST00001436
CSS/5	Invoice dated 30 June 2016	CST00002333 CST00002334
CSS/6	'Medium' Risk Contract	CST
CSS/7	'Low' Risk Contract	CST
CSS/8	General Terms and Conditions	CST00000005
CSS/9	2010 FRA and Schedule of Significant Findings	CST00000703 CST00000704
CSS/10	2012 FRA and Schedule of Significant Findings	CST00000727 CST00000729
CSS/11	2014 FRA and Schedule of Significant Findings	CST00000092 CST00000094

CSS/12	April 2016 FRA and Schedule of Significant Findings	CST00000087 CST00000088
CSS/13	June 2016 FRA and Schedule of Significant Findings	CST00000100 CST00000101
CSS/14	Letter dated 14 October 2015 from Carl Stokes to Janice Wray	CST00002800
CSS/15	Letter dated 16 December 2015 from Carl Stokes to Janice Wray	CST00002717
CSS/16	Sample Fire Risk Assessment	CST00003059
CSS/17	Sample Schedule of Significant Findings	CST00003060
CSS/18	Email dated 12 May 2015 (13:28) from Janice Wray to Carl Stokes	CST
CSS/19	Email dated 14 March 2013 (15:33) from Carl Stokes to Adrian Bowman	CST00001994
CSS/20	Email dated 17 March 2014 (14:19) from Janice Wray to Carl Stokes	CST00001200 CST00002071 CST00001662
CSS/21	Completion Certificate	CST00000064
CSS/22	Email dated 14 March 2014 (15:07) from Matthew Ramsey to Janice Wray	CST00002513
CSS/23	Exova's draft 2012 Fire Strategy Report	CST00001481 CST00001981
CSS/24	Email dated 22 January 2013 (08:45) from Paul Dunkerton to Carl Stokes	CST00001572
CSS/25	Email dated 6 February 2013 (13:48) from Carl Stokes to Gareth Jones	CST00002577

CSS/26	Email dated 24 January 2014 (11:57) from Claire Williams to Carl Stokes	CST00002055
CSS/27	Letter dated 17 September 2014 from Carl Stokes to Janice Wray	CST00001536
CSS/28	Email dated 28 January 2013 (10:09) from Paul Dunkerton to Carl Stokes	CST00001226 CST00002748
CSS/29	Letter of Comfort	CST00001489 CST00002255
CSS/30	Product literature from Manse Masterdor	CST00002306 CST00002070
CSS/31	Email dated 15 June 2011 (11:18) from Abigail Acosta	CST00001607
CSS/32	Letter dated 24 June 2011 from Carl Stokes to Abigail Acosta	CST00001388
CSS/33	Email dated 6 June 2011 (09:32) from Abigail Acosta to Carl Stokes	CST00002123
CSS/34	Email dated 18 May 2011 (19:46) from Carl Stokes to Janice Wray	CST00002926
CSS/35	Letter dated 23 May 2011 from Carl Stokes to Janice Wray	CST00000991
CSS/36	Letter dated 10 April 2015 from Carl Stokes to Janice Wray	CST00001921
CSS/37	Email dated 16 July 2015 (13:58) from Carl Stokes to Adrian Bowman	CST00002724
CSS/38	Email dated 16 July 2015 (14:02) from Carl Stokes to Adrian Bowman	CST00002718



CSS/39	Email dated 21 July 2011 (19:23) from Carl Stokes to Abigail Acosta	CST00001425
CSS/40	Email dated 22 July 2015 (16:51) from Carl Stokes to Adrian Bowman	CST00002679
CSS/41	Letter dated 19 October 2016 from Carl Stokes to Janice Wray	CST00000199
CSS/42	Letter dated 28 July 2015 from Carl Stokes to Janice Wray	CST00001447
CSS/43	Counsel's advice dated 24 May 2011	CST00002056
CCS/44	Letter dated 26 September 2013 from Cynthia Vachina to Leaseholders	CST00001608
CSS/45	Minutes of Building Control Meeting - undated	CST00001726
CSS/46	Email chain ending 26 May 2016 (09:48) between Carl Stokes and Andy Jack	CST00002705
CSS/47	Email dated 19 March 2015 (09:40) from Simon O'Connor to Claire Williams	CST00001990
CSS/48	Emails dated 19 March 2015 (20:25) from Carl Stokes to Janice Wray	CST00002437
CSS/49	Letter dated 10 April 2015 from Carl Stokes to Janice Wray	CST00001769
CSS/50	Email dated 9 May 2015 (11:59) from Carl Stokes to Janice Wray	CST00001575
CSS/51	LFB Meeting Minutes dated 24 March 2014	CST00002064 CST00002874
CSS/52	Email dated 12 September 2014 (08:53) from Janice Wray to Carl Stokes	CST00002281

CSS/53	Letter dated 17 September 2014 from Carl Stokes to Janice Wray	CST00000394
CSS/54	Email dated 13 November 2014 (14:15) from Carl Stokes to Janice Wray	CST00002002
CSS/55	Email dated 6 December 2014 (14:09) from Carl Stoke to Janice Wray	CST00002460
CSS/56	Letter dated 10 April 2015 from Carl Stokes to Janice Wray.	CST00001257
CSS/57	Email dated 5 August 2016 (11:38) from Janice Wray to Carl Stokes	CST00002905
CSS/58	Email dated 23 May 2016 (11:18) from Carl Stokes to Claire Williams	CST00001795
CSS/59	Email dated 8 August 2016 (11:21) from Carl Stokes to Janice Wray	CST00001651
CSS/60	Handwritten notes on 2014 FRA Significant Findings Schedule	CST00000002
CSS/61	Email dated 3 March 2010 (12:26) from Andrew Furness to Janice Wray	CST00001269
CSS/62	Email dated 6 June 2012 (13:52) from Janice Wray to Carl Stokes	CST00002920 CST00001166
CSS/63	KCTMO Fire Safety Policy	TMO00830598
CSS/64	Email dated 28 February 2011 (14:07) from Janice Wray to Carl Stokes	CST00001781
CSS/65	Exova's Fire Strategy Document - November 2013	EXO00001106
CSS/66	Email dated 22 June 2013 (17:53) from Carl Stokes to Janice Wray	CST00002461

CSS/67	Email dated 12 March 2014 (15:43) from Claire Williams to Carl Stokes	CST00001454
CSS/68	Email dated 12 March 2014 (16:40) from Carl Stokes to Claire Williams	CST00001426
CSS/69	Letter dated 18 March 2014 from Carl Stokes to Claire Williams	CST00001818
CSS/70	Email dated 5 August 2016 (11:38) from Janice Wray to Carl Stokes	CST00002905
CSS/71	Letter dated 19 October 2016 from Carl Stokes to Janice Wray	CST00002339
CSS/72	Letter dated 17 November 2016 from LFB to Janice Wray enclosing Deficiency Notice	TMO00832135
CSS/73	Email dated 24 November 2016 (20:38) from Janice Wray to Carl Stokes	CST00001944
CSS/74	Email dated 25 November 2016 (11:48) from Carl Stokes to Janice Wray	CST00001076
CSS/75	Email dated 25 November 2016 (16:12) from Carl Stokes to Janice Wray	CST00002473
CSS/76	Email dated 28 November 2016 (14:00) from Martyn Wisken to Carl Stokes	CST00001903
CSS/77	Letter dated 30 January 2017 from Carl Stokes to Janice Wray	CST00001239
CSS/78	Chain of emails re meeting with National Grid ending 27 March 2017 (09:34)	CST00002730
CSS/79	Email dated 19 April 2017 (23:04) from Janice Wray to Carl Stokes	CST00001567
CSS/80	Letter dated 6 April from the LFB to Laura Johnson	CST00000028

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Dated: 28 September 2018

CSS/81	Email dated 24 April 2017 (12:20) from Carl Stokes to Janice Wray	CST00001284
CSS/82	Email dated 19 April 2017 (23:17) from Carl Stokes to Janice Wray	CST00001100
CSS/83	DCLG High Rise Guidance – GRA 3.2	LFB00001255



CS1  
Dated: 28 September 2018

IN THE MATTER  
OF THE  
GRENFELL TOWER PUBLIC INQUIRY

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FIRST WITNESS STATEMENT  
OF  
CARL SPENCER STOKES  
ON BEHALF OF  
CS STOKES & ASSOICATES LIMITED

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