GRENFELL TOWER INQUIRY

MODULE 5 OPENING WRITTEN STATEMENT ON BEHALF OF BSR REPRESENTED BY BHATT MURPHY, BINDMANS, HICKMAN & ROSE AND HODGE JONES & ALLEN SOLICITORS

PART I: INTRODUCTION

[A.] KEY DEFICIENCIES

1.1. The Phase 1 investigation revealed six key deficiencies that contributed to the failure of the London Fire Brigade ('LFB') response to the Grenfell Tower fire. These were: (1) the lack of knowledge transfer between fire engineering and operational firefighting about construction risks that could lead to building failure, whether by 'cladding systems' or otherwise; (2) the under assessment of high rise premises both in terms of s.7(2)(d) visits, and in the capacity and competence of the Fire Safety department to supplement that work; (3) the insecurities in the incident command management system that made WM Dowden, and others who followed, wholly unable to respond to a fire type that should have been institutionally anticipated and immediately recognised; (4) the chronic underdevelopment of evacuation doctrine and practice with regard to residential high rise buildings and, in particular, the unthinking reliance on 'Stay Put'; (5) the failure of the communication system to enable the necessary information loop to support sufficient situational awareness between incident commander, fireground sectors and control room; and, (6) the incapacity of the control room to act as an early warning system of building failure, or otherwise cope with an incident involving multiple calls from residents seeking advice.

[B.] OVERVIEW

1.2. The BSR understand Module 5 and Part 1 of Module 6 to be a deeper and systemic appraisal of those deficiencies: looking in this module at LFB, and then in Module 6 at the broader conduct of sector and executive governance. The submissions below consider LFB organisational culture [**PART II**], health and safety standards [**PART III**], fundamental flaws in training [**PART IV**], and then deal with the flaws in knowledge transfer about construction risks [**PART V**], premises risk assessment [**PART VI**], incident command [**PART VII**], evacuation [**PART VIII**], and the communication system [**PART IX**]. The control room, national doctrine on high rise firefighting, including properly identifying the risk of cladding systems, and the failure to derive and apply sufficient lessons from previous fires, including (but not limited to) the Lakanal House fire in July 2009, will be addressed in Module 6.

1.3. What is under review in both modules, as regards fire and rescue services ('FRSs'), is why the operational response, that might ordinarily be adept in responding to 'normal' compartment fires, and other 'standard' fire incidents, was so out of its depth when faced

with the unusual, but foreseeable, potentially catastrophic event of high rise building failure. Module 6 will then need to consider the damage done by the readiness of central government to devolve decision making on matters concerning national resilience under a doctrine of localism, when it ought to have known that local organisations were not sufficiently competent.

PART II: ORGANISATIONAL CULTURE

[A.] MANAGEMENT CAPABILITY

2.1. LONG TERM ISSUE: Although the Inquiry will see some notable exceptions, the generation that led LFB in its period up to Grenfell Tower had entered as young adults at watch station level, mostly during the 1980s in accordance with dictates of existing regulations at the time, and worked their way up through the ranks to middle and senior management roles. It was normal for them to have no university education and they appear to have had little training in leadership and management skills. Few leaders of operational firefighters had developed understanding of fire engineering. When the Inquiry comes to hear from Steve McGuirk, Paul Grimwood and Sabrina Cohen-Hatton,[1] it will be dealing with people who remain the exception in their profession because of their post-graduate educated understanding in subject matters of management, fire engineering and psychology of incident command. They had begun to bring their learning into fire services in the years before Grenfell, but their perspectives were yet to embed, and in many ways were actively resisted and are still, even though their ideas are being adapted more generally into mainstream capability.

2.2. Acknowledgement of the importance of management structures and competencies in UK FRSs dates back more than two decades before the Grenfell Tower fire. In 1995 the Audit Commission observed that "*traditional hierarchical roles*" were beginning to be replaced within some FRS management structures, but it remained important for brigades "*to examine critically...recruitment of suitably qualified staff in key areas such as information technology, personnel and management training*". This was necessary to release "*fire*

[1] McGuirk {**SMC00000046/90**} (BSC in Fire Safety Technology and Management and MA in Management), Grimwood {**KFR00000046/1**} (PhD in fire engineering), Cohen-Hatton {**LFB00110660/3 §13**} (BSc and PhD in psychology and a Chartered Psychologist)

officers to concentrate on their own specialist areas, which are becoming increasingly technical".[2]

2.3. The need for reform underpinned the legislative changes thereafter introduced by the Labour Government in enacting the Fire and Rescue Services Act 2004 ('FRSA'). In 2002, the Bain Report endorsed previous findings by HM Inspectorate on Fire Services regarding the "*deficient*" means of developing future FRS leaders, "*insularity of the training and development structures*", "*difficulties*" surrounding issues with "*equality [and] fairness*" and "*resistance to modernisation and change…at all levels by people who often have neither the background nor the proper training to acquire the necessary skills*". "*New leadership and management styles*" were "*required*".[3] The Government White Paper of 2003 advocated university education and fast track promotion, thereby changing the existing "*disincentive to graduates or other ambitious, talented people*", with "*limited opportunities for the development for its staff, and little reward for those who do develop their skills and talents to meet the demands of their job*".[4]

2.4. The Coalition Government commissioned the review by Sir Ken Knight in 2013. He was previously the Government Chief Fire and Rescue Adviser ('CFRA') and before that Commissioner of LFB when the FRSA 2004 came into force. Knight found evidence that fire authorities were simply reducing their management through retirement and decisions not to fill posts, rather than conducting "*a complete review of the structural needs*", and noted the loss of "*wider benefits to services through a reduction in the number of senior management roles that need to be operational – this would allow a greater number of leaders to come from other sectors, bringing business expertise and fresh perspective*".[5] A follow up review by Adrian Thomas, a human resources expert,[6] identified a range of recommendations on the development of management and leadership capability.[7] Still, the

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[2] Audit Commission, *In the Line of Fire, Value for Money in the Fire Service – National Picture* (1995) [Not on Relativity] {**§§96, 99 and 100**}

[3] The Independent Review of the Fire Service, *The Future of the Fire and Rescue Service: reducing risk and saving lives*, chaired by Professor Sir George Bain (2002) ('Bain Report') [Not on Relativity]{**p. 64-65 §§7.36-7.38**} citing *Bridging the Gap: Managing a Modernised Fire Service* (HMFSI 2001) [Not on Relativity]

[4] Government White Paper, *Our Fire and Rescue Service* (2003) ('White Paper') {**HOM00000584/58-59 §§8.1-2, and §§8.5**}

[5] Sir Ken Knight, *Facing the Future: Findings from the review of efficiencies and operations in fire and rescue authorities in England*, (2013) {**HOM00000023**} ('Knight Report') {**HOM00000023/35 §§20-21**} and {**37-38 §26**}

[6] Adrian Thomas, *Independent review of conditions of service for fire and rescue staff in England* (2015) ('Thomas Review') [Not on Relativity] and {**HOM00006132/18**}

[7] Thomas Review {**pp 14-18**}: 'Key findings' included the need for FRS to "*deploy training in effective change management, leadership and employee engagement in addition to Industrial Relations*" (**§3**), "*recruitment and selection academic standards should be immediately raised*" (**§31**), national collaboration in "*recruitment*

number of firefighters, coupled with low academic entry requirement and the mantra of one size fits all development (i.e. "*a firefighter is a firefighter*") posed "*serious challenges to the identification of training of future middle and senior managers*" (p. 62). One interviewee told Thomas, "*My take on the fire and rescue service nationally is that it appears to be 'over managed and under led'…*" (p. 68). The Review concluded "*that the fire and rescue service does not have the leadership quality needed to challenge the barriers to change and to drive through solutions in the face of resistance (wherever that resistance is coming from)*" (p. 68).

2.5. APPLICABLE TO LFB: These conclusions from various sources were applicable to LFB in June 2017. The Brigade had advice from Babcock in 2014 to introduce mandatory formal management accreditation into each level of leadership,[8] noting the very limited training on these matters historically and the lack of consistency on the issue across the country. LFB's own Peer Review in 2015 (conducted in a decade long period when central government abandoned individual brigade inspections) underscored the need for a change in leadership style to incorporate greater "*emotional intelligence leadership*" and to provide better support and mentoring on "*personal qualities and attributes*" of staff.[9] The Brigade commentary on this feedback recognised "*the disconnect that some staff feel in terms of decision making*" and "*a long standing corporate risk on the disconnect between staff groups*".[10]

2.6. The Review also noted that the fact that a number of figures within the leadership, including Commissioner Dobson, were about to retire, presented an "*excellent opportunity to reflect on the key strategic challenges*"[11] which offered an opportunity for a potential "*re-set*"[12] and made reference to an existing management *"culture of seeking the best solution to issues, rather than the most utilitarian"* which *"... sometimes manifests itself*

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including lateral recruitment into 'fast track' management programmes" (**§32**), "*a collaborative approach to the creation of succession plans and senior leader programmes with more cross authority developmental moves*" (**§33**), "*preparatory management training….as part of a strategic workforce development plan*" (**§36**), "*a cadre of managers capable of becoming future fire and rescue leaders*" with "*a standardised industry wide approach to leadership development*" (**§39**), and "*a lateral, industry wide, recruitment scheme*" to "*fast track managers through the experiential requirements and into senior roles*" (**§41**)

[8] {**LFB00102207/6 §1.3**}

[9] {**LFB00048265/27 §20**}

[10] {**LFB00048265/5 §23**}, {**p. 10-11 §5.1-3**} and {**p. 12 §5.4**}

[11] {**LFB00048265/26 §16**}

[12] {**LFB00048265/27 §20**}

in some clunky complex processes, 'sheep dip' training and non-tailored renewal of competencies and training."[13]

2.7. After the Grenfell Tower fire, the internal *People Services Review* completed in December 2017 hoped that the appointment of Commissioner Cotton would have the effect of "*unfreezing*" the organisation and making it more people centred. It was noted, however, that the Brigade still required "*a clear and structured programme of change encompassing in particular, leadership and performance management*", which would need outside consultancy support, better internal talent development, and more external leadership recruitment to combat "*stagnation and lack of new thinking*".[14]

2.8. The renewed HM Inspectorate reporting on LFB in December 2019[15] was especially ordered in the wake of the Grenfell Tower fire. It concluded that "*processes for selecting, developing and promoting middle and senior managers lack[ed] effective recording and openness*" (p. 37), that many managers were not "*trained to train or assess their staff*" (p. 41), and there was not a "*full picture of the talent available*" with "*few opportunities for staff to develop leadership capabilities*" (p. 44). The Brigade had "*no apparent process for identifying or developing staff with high potential to be senior leaders of the future*" and there were "*few opportunities for staff with specialist skills to transfer or progress, owing to their lack of development or a lack of other staff developed enough to replace them*" (p. 45).[16]

2.9. When the Inspectorate returned to assess LFB in 2020 in the wake of the Inquiry's Phase 1 findings, it still found that Chief Officers "*know that senior leaders lack the skills and capacity they need*" to support recognised improvements "*to improve how projects are structured, monitored, reported and assured*" and were consequently obliged to turn to outside experts "*to better manage different work plans...and improve the skills of leaders to manage organisational change*".[17] The Chief Inspector observed that "*the basic*

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[13] {**LFB00048265/31 §37**}

[14] Roe{**LFB00083834/6 §24**}and {**LFB00083845/3-4, 6** and **22-23**}

[15] HMICFRS, *Fire and Rescue Service: Effectiveness, efficiency and people 2018/19, An Inspection of the London Fore Brigade* (December 2019) ('LFB Report') {**SMC00000011**}

[16] See also the findings of HMICFRS, *State of Fire and Rescue: The Annual Assessment of Fire and Rescue Services in England in 2019* (2020) ('Annual Report 2019') {**SMC00000043**} that "*found lack of talent management process almost universally across services*" and "*all too often senior management teams being an echo chamber who sound and think the same*" {**40**} together with "*very traditional models of career development linked to time served*" {**131**}

[17] HMICFRS, *London Fire Brigade: Inspection of the London Fire Brigade's progress to implement the recommendations from the Grenfell Tower Inquiry's Phase 1 report*, October 2020 ('GTI Progress Report') {**INQ00014795/19**}

building blocks of programme and change management are only now being established." If that was a finding in 2020, LFB not only lacked those "*basic*" arrangements to manage, lead and assure its service in June 2017, but no one in the organisation's leadership had sufficiently identified how lacking it was in its capacity to do so. It should be the aim of the Module 5 and 6 hearings to discover why that was so.

[B.] FIREFIGHTING CULTURE

2.10. LONG TERM ISSUE: The shortcomings of leadership reflect a broader feature that firefighting, despite its courageous values and high level of comradeship and public service, remains a conservative vocation that is particularly resistant to change. The Bain Report in 2002 endorsed the criticisms by HM Inspectorate, *Equality and Fairness in the Fire Service* (1999) that "*the watch is a closed culture which… takes on the character of a family rather than a team*"" where "*the emphasis…is on fitting in, not on tolerating diversity*".[18] The White Paper in 2003 explained the continuing problems with recruitment of women and ethnic minorities, both of whom were particularly dis-incentivised to join a watch-based shift culture that is at best "*neither operationally efficient nor family friendly*", but at worst could be a closed peer group prone to bullying and demanding of conformity.[19] The Thomas Review found (in a survey corroborated by FBU research) that around 40% of the workforce claimed to have been bullied or harassed, such that "*Improving the culture of the workplace and creating more respectful relationships, challenging the 'it's only banter' of the watch culture and replacing [it] with 'everyone is valued' is critical to the future effectiveness of the fire and rescue service*".[20] In 2020, HM Inspectors report *State of Fire and Rescue* was still describing some watches as having "*created their own subcultures, which are contrary to service values and have proved impenetrable for new staff*" and "*where teams have worked together for many years, working practices haven't modernised*".[21]

2.11. APPLICABLE TO LFB: Again these features apply to LFB. The Peer Review in 2015 emphasised that difficulties relating to "*trust, openness and respect*" embodied as a '*them and us*' culture that went beyond the division between management and union[22]. Thomas in 2015 particularly noted that "*Distance from London was by no means a rule but distance*

[18] Bain Report {**p. 66 §7.42**}
[19] {**HOM00000584/58-59 §§8.3 and 8.8**}
[20] Thomas Review {**pp. 24, 26**}
[21] {**SMC00000043/41**}
[22] {**LFB00048265/34 §46**}

did seem to allow a greater degree of independent thinking, more flexible thinking, and acceptance of change, from the employee representatives".[23] The HM Inspection of LFB that reported in 2020 equally found that changes understood to be required after Grenfell Tower were "*slow to implement... which is typical of the brigade's approach to organisational change*"[24] and in "*recent years, innovation has been stifled*", staff reported "*a lack of organisational desire for change*", and the Inspector found that many improvement projects have *"been stalled or, in some instances, reversed*".[25]

2.12. TRADITION: In terms of understanding what went wrong at Grenfell Tower, a pertinent focus is that both the management and the crews grew out of the watch and shift culture and its drilled approaches to particular forms of standard firefighting responses. Indeed, those who climb to the heights of leadership will often have excelled within that conservative culture and are part of its self-reinforcing cycle. It is a culture that runs counter to the organisational concept of "*psychological safety*"[26] denoting the degree to which people perceive themselves to be free to speak up to point out errors, or to share new ideas contrary to conventional wisdom or "*the way that things are done*".[27] The leaders of LFB over the previous decade may genuinely believe that LFB was governed by strong and open lesson learning values,[28] but that is more of a reflection that they have spent their working lives outside of organisations where critical and creative thinking could flourish and entrenched plans could be reconsidered if new ideas (and indeed appreciation of risk) justified such reconsideration.

2.13. VIRTUE AS A BARRIER TO CHANGE: None of these previous reports and reviews have sought to ask why this conservative and quite fearful workplace culture continues to prevail in what is understandably perceived to be a courageous vocation. There is a strong societal disinclination to criticise fire services at all. They do things fearlessly in harm's

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[23] Thomas Review {**p. 21**}
[24] {**SMC00000011/23**}
[25] {**SMC00000011/33**}
[26] Amy C Edmundson, *Psychological Safety, Trust and Learning in Organizations*, in R Kramer et al *Trust and Distrusts in Organizations*, (2004) 239-273 at p. 241 "*Psychological safety describes individuals' perceptions about the consequences of interpersonal risks in their work environment. It consists of taken-for-granted beliefs about how others will respond when one puts oneself on the line, such as by asking a question, seeking feedback, reporting a mistake or proposing a new idea... [I]ndividuals engage in a tacit calculus at behavioural micro-decision points, whereby they assess the interpersonal risk associated with a given behaviour against a particular interpersonal climate: 'If I do X here will I be hurt, embarrassed, or criticised?' A negative answer indicates psychological safety, so that the actor can proceed. Thus an action that might be unthinkable in one group can be readily indeed taken in another owing to different beliefs about probable interpersonal consequences.*"
[27] Amy C Edmundson, *The Fearless Organization, Creating Psychological Safety in the Workplace for Learning, Innovation and Growth* (Wiley, 2019) Ch. 6 p. 129-131
[28] Dobson {**LFB00032157/8 §31**}, Brown {**LFB00032166/10-11 §§25-26**}

way that few of us could do, in the face of fire that most of us primordially fear. Those virtues make their attributes hard to question. Their principal union also protects them to a degree that unions for other public servants, like teachers, nurses and social workers, have not always been able to do. Faced with holding her service responsible for error at Grenfell, Commissioner Cotton, still striking in its blindness, chose untenable denial that anything should have been done differently even in hindsight.[29] A way to understand what the Inquiry rightly described as "*remarkable insensitivity*" is that this was a voice that reflects the dominant conservative and still largely unreflective culture and mentalities across the service, and throughout its different working layers.

2.14. BAIGENT'S STUDY: The Inquiry should have regard to Dave Baigent's still pertinent *One More Last Working Class Hero,*[30] an ethnographic study of the culture of the UK FRS from 2001 by an academic sociologist who was previously a member of LFB and the FBU. Chapters 3 and 5 examine the common heroic rush to "*get in*" to the fire, and the extent to which individual and watch identities are not suited for developing sophisticated responses to unexpected events. The analysis resonates with those BSR who sorely wanted "*not heroes, but well trained professionals working to a well-structured plan*".[31] Baigent describes by reference to interviews how this still masculine heroic identity is psychologically predisposed to fight the fires, rather than engage in other strategies, and that of itself is part of the institutional conservatism of the profession.[32] Regardless of assurances of modernisation, the subjective view and the culture of the '*good fireman*' is someone who will "*get in*" to the fire.[33] Personal gratification and adrenaline rush, a sense of heroism and comradeship, remain at play in the service of "*a false monolith of what men are supposed to be*". It is these factors that complicate the aim to bring alternative thinking into the profession.[34] There remains a resistance and cynicism at station level (sometimes with the collusion of Watch Managers) about classroom ideas such as 'Dynamic Risk Assessment', which are seen as theories for "*anoraks*" and not part of the "*real*" job.[35] Despite their often common origins there is a disconnect between firefighters

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[29] Phase 1 Report Vol. IV {**§§27.17-27.19 and §28.55**} and Phase 1 Closing Statement of G4, 6 December 2018 {**INQ00000569/29-30 §3.8**}
[30] D. Baigent *One More Last Working Class Hero: A Cultural Audit of the UK Fire Service* (2001) {**JTO00000002**} and cited the inquiry by Torero {**JTO00000001/17/349-652**}
[31] Phase 1 Closing statement on behalf of G4 firms, 10 December 2018 {**T86/90/5-7**}
[32] {**JTO00000002/9 §1.1.1**}
[33] {**JTO00000002/56-59 §3.7**}
[34] {**JTO00000002/57 §3.7.1**}
[35] {**JTO00000002/86-87 §5.42**}

and officers, with the latter often seen as purely "*pen-pushers*", "*academic*" or lacking in the "*shared experience*" of firefighting and watch life.[36] Fire protection work is not comprehensively valued because it is seen to go against the grain of the heroic "*get in*" identity and is almost pejoratively "*feminised*" in the minds of some firefighters.[37]

2.15. APPLICABLE TO LFB: Although they have not used the same language, other witnesses to this inquiry have described similar problems. Steve McGuirk identifies the challenge of achieving 'buy in' with firefighters to more rigorous premises assessment processes "*…at its core, being a firefighter is about applying practical skills and knowledge in a wide variety of hazardous situations"* such that *"paperwork is accepted as a necessary part of the role, but…can easily be seen as an unwarranted distraction from what may be considered 'the real job'"*.[38] AC Dan Daly has suggested that there are cultural challenges to interesting station firefighters in technical issues, it being "*…fair to say… not always at the top of the list…not necessarily fully [valuing] the learning that can come through protection and prevention routes*".[39] Both Professor Torero and Dr Grimwood have challenged the default propensity to intervene to fight fires, at the expense of considering other tactics, most notably – in this case – conduct that would maximise the declining protection of the means of escape to aid self-evacuation (see [**PARTS IV AND VIII**] BELOW). Dr Cohen-Hatton and others have begun to introduce to UK FRSs what has been established in other risk-based occupations across industry sectors around the world for more than 30 years, namely the ways in which human psychology and unconscious biases are key features of behaviour, especially in stressful high risk work sectors (see [**PART VII**] BELOW). The way in which the 'get in' propensity - conscientiously but fatally - compromised life at Grenfell Tower was encapsulated by WM O'Keeffe's words to the Inquiry: the plan was "*to flood*" the building "*with BA and then firefighting equipment to get hold of it. That's what we do*" and even if an evacuation "*of sorts*" was taking place, the focus was never on facilitating escape, but "*rescue, multiple rescues*".[40]

[C.] OCCUPATIONAL HAZARDS OF LESS FIRES

2.16. DECLINING RESPONSES: Since the Audit Commission report in 1995 it has been estimated that attendance at fires and other calls represent between only 5 and 10% of the working

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[36] **{JTO00000002/83-84 §5.3.1}**
[37] **{JTO00000002/89-90 §5.4.6}**
[38] **{SMC00000046/29 §67(i)}**
[39] **{MET00077774/12}**
[40] O'Keeffe **{T18/40/16 and 42/9-10}**

shift.[41] Due to changes in interior products, smoke alarms and other forms of regulated construction, both occasioned by FRS preventative work and through broader societal changes, the number of fires has massively decreased in the last 30 years. The LFB self-assessment for its Peer Review in 2015 underscored that the frequency of actual firefighting is low. Broadly, out of 100,000 attendances, more than half were false alarms, and half of those remaining incidents were non-fire related issues (such as being stuck in a lift). In other words, only roughly 25% of attendances even relate to any type of fire. Out of 11,000 primary fires that needed to be put out to prevent greater risk to property or life, as opposed to secondary fires that need to put out but pose no immediate risk, only 5,000 were fires in homes.[42] Other than the terrible figures of the year of the Grenfell Tower fire, the annual death toll was 51 people.[43]

2.17. DISASTER HAZARDS: The overall success of modern fire risk management has nevertheless left FRSs exposed to the very occupational hazards that arose at Grenfell Tower and had been foreshadowed throughout the previous decade. Emergency responders must remain informed, trained, active in prevention, and otherwise prepared for foreseeable extreme events, even if the likelihood of their occurrence is thought to be low. An organisation lacks basic resilience unless it is particularly prepared for both the most frequent and worst case scenarios. In practical terms, FRSs have struggled with diminishing experience of taxing fires, which is ordinarily of no consequence, because 'normal' fires require little command, and incidents are responded to by deployed crews applying drilled pre-determined plans and prior banked experience.[44] As Professor Torero argues, regardless of the incident command hierarchies at a fireground, "*direct decision making by those interacting with the fire appears as the primary operational mode*".[45] This is why the early responding crews at Grenfell Tower essentially did their own thing, until it was too late to coordinate in any real way to make a difference. The hazard is therefore the unusual (yet foreseeable), and particularly so with regard to buildings on fire, as opposed to fires in buildings.

2.18. UNSTABLE REGULATION: The additional hazard in the years before Grenfell Tower is that both the sector and the Government knew that the fire safety regulatory field was unstable.

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[41] Audit Commission (1995){**p. 9 §4**}, Bain Report (2002) {**p. 11 §3.6**}, White Paper (2003) {**HOM00000584/26 §3.24**}and the Knight Report {**HOM00000023/4-5 and 11-12**}
[42]{**LFB00032341/9-10**} and diagram at {**34**}
[43] {**LFB00032341/25**}
[44] McGuirk {**SMC00000046/52 §132**}
[45] Torero {**JTOR00000002/16/586-592**}

It was buckling under the growing complexity of construction methods, which fire engineering specialists in the FRSs were unable to keep up with,[46] and operational firefighters were insufficiently taught about.[47] For Module 5 purposes it is important to appreciate that LFB's leadership acknowledged that building failure was not to be regarded as isolated or even a rare event, and doubted the capacity of Building Control under the Building Regulations and the Fire Safety Enforcement Authority under the Regulatory Reform (Fire Safety) Order 2005 ('RRO') to guarantee compliance with fire safety related regulations.[48] However, while some steps were taken by LFB to highlight the problems with the regulatory regime, the question remains whether sufficient training, planning and operational capability was internally developed to meet the foreseeable spectre of catastrophic non-compliance.

PART III: HEALTH & SAFETY STANDARDS

[A.] LEGAL FRAMEWORK

3.1. The dictates of health and safety law prohibited LFB from remaining uninformed and unprepared in relation to the key deficiencies identified in the introduction. Part I of the Health and Safety at Work Act 1974 had the effect of *"(a) securing the health, safety and welfare of persons at work;* [and] *(b) protecting persons other than persons at work against risks to health or safety arising out of or in connection with the activities of persons at work* ..." (s. 1(1))." The two-fold protection is reflected respectively in ss. 2 and 3. Of essential importance to compliance with the Act are the Management of Health and Safety and Work Regulations 1999, which pertinently in this context, require systems to be in

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[46] DCLG's sponsored *Fire Futures* workstreams had reported in December 2010, and found in its paper, *Decentralisation in the fire sector: Empowering and protecting the citizen* {**INQ00014639/10**} that, although the regulatory framework was seen as substantially fit for purpose, *"the key issue... is securing compliance with the regulations and guidance"*, which was *"one of the biggest concerns of the sector"*, such that *"a greater knowledge"* of the built environment was *"needed, along with closer working with the wider fire sector"*

[47] Knight, *Report of the Secretary of State by Chief Fire and Rescue Adviser on the emerging issues arising out of the fatal fire at Lakanal House on 3rd July 2009* (30 July 2009) had indicated there was a need for increased awareness by and operational guidance for operational firefighters of risks arising from *"fire behaviour within high-rise buildings"* {**CLG00007676/10 §5.6.1**}, just as the Lakanal House Coroner had recommended the same in March 2013{**LFB00032158/2-3**} and was assured by Commissioner Dobson that it would {**LFB00032150/5-6**}

[48] Dexter {**LFB00032239/6**} (September 2013) (citing figures of 82 incidents *"involving a structural fire safety failure"* between 1 September 2010 and 31 August 2013 i.e. post Lakanal House including 6 buildings of 4-9 storeys and 7 buildings of 10 or more storeys); Dexter {**LFB00086201/1**} (December 2013) (summarising the shortcomings of Building Control and assessments conducted under the RRO) and Dexter and Reason {**LFB00032749/2 §6(i) and §6(viii)**} (July 2014) (emphasising the ongoing disputes as to the interpretation of the RRO and the consequential risks arising): for further summary of the position see Dexter {**LFB00040774/1-2**}

place to risk assess (Reg. 3), plan, organise, control, and monitor chosen risk preventive and protective measures (Reg. 5), inform (Reg. 10) and train (Reg. 13).

[B.] CORE GUIDANCE

3.2. CONTEXT: It is a feature of the history of health and safety law in this country that its effect began in private sector work places, took time to move to the public sector, and even more time to move into the emergency sector, but after 2010 that is what happened with the intervention of the HSE into UK FRSs. In due course, despite the political commitment of the Coalition Government to localism and decentralisation, the DCLG followed with its own guidance. This suite of FRS standard specific documents were major signposts seven and five years before the Grenfell Tower fire as to the changes that were needed, but which the above analysis of organisational culture would suggest FRSs were not well placed to make.

3.3. HSE INITIATIVE: HSE *Striking the Balance between operational and health and safety duties in the FRS* (March 2010)[49] identified that "*many incidents firefighters face can develop at speed, some can develop in unexpected ways – and firefighters may, from time to time, be confronted with situations outside their experience*". They therefore "*have to prepare individual employees to be able to make decisions in dangerous, fast-moving, emotionally charged and pressurised situations, even when there may sometimes be incomplete or inaccurate information about the incident*". FRSs were put on notice that from thereon HSE Inspectors would consider, amongst other things, "*the appropriateness and effectiveness of the command and control systems in place and used in operations*", "*the extent to which any lack of preparedness contributed to the risks in the particular circumstances*", "*the quality of decision making at an incident as illustrating whether individuals had been adequately prepared for that incident by the service*" and "*how the Fire and Rescue Authorities prepared incident commanders and firefighters for operational incidents, eg by training, provision of equipment and information on hazards, risks and control measures*".

3.4. HSE's *The Management of Health and Safety in the GB Fire and Rescue Service* (October 2010)[50] based on eight inspections carried out by the HSE in 2009 and 2010, made key recommendations, including for "*national guidance on common minimum standards and*

[49] **{LFB00118237/2 and 4}**
[50] **{CWJ00000022/23-24}**

sharing of good practice on how the training may best be delivered", and "*national guidance…on good practice in incident command training*". Services would *"need to ensure that their systems to capture and maintain risk critical information are robust to allow appropriate information to be used and understood at the point of use*", especially by incident commanders. They were duly required to "*provide adequate training for staff gathering and assessing risk critical information*", to have "*a system in place to actively collect relevant risk critical information"*, to "*monitor the effectiveness of these arrangements*" and to ensure "*incident commanders are able to access the information to inform their command decisions*".

3.5. GOVERNMENT INITIATIVE: DCLG *Fire and Rescue Authorities: Health, Safety and Welfare Framework for the Operational Environment* (June 2013)[51] articulated '*Guiding Principles*' in relation to the promotion of a good health and safety culture.[52] The section on '*Planning and Implementing Operational Policy*' identified the "four pillars" of a safe system of work based on (1) "*generic*", (2) "*strategic*", (3) "*dynamic/incident*", and (4) "*individual*" risk assessments,[53] including that commanders must be taught to carry out 'Operational Decision Making' that is "*sufficiently flexible to allow the Incident Commander to exercise discretion on the resources and the procedures required to resolve the emergency*".[54] In section 9, the Framework emphasised training on 'Human Factors' as essential because "*80 per cent of industrial accidents can be attributed to human actions or omissions*". Thus, services "*should consider the impact of 'human factors' on the safe, effective and timely resolution of an incident*" to include "*not only environmental, organisational and task demands but also human and individual characteristics that influence the behaviour of teams and individuals.*" Understanding these 'human factors' was classed as "*critical to effective health, safety and welfare management*".[55]

3.6. DCLG and *CFRA Fires and Rescue Services, Operational Guidance, Guidance on Operational Risk Information ('PORIS')* (2013)[56] articulated the expectation of FRSs especially with regard to the information gathering duty under FRSA 2004 s.7(2)(d) with regard to: (a) hazard identification and risk assessment;[57] (b) monitoring and measurement

[51] **{SMC00000012}**
[52] **{SMC00000012/8-9 §4}**
[53] **{SMC00000012/19-23 §7}**
[54] **{SMC00000012/23 §7.3}**
[55] **{SMC00000012/32 §9}**
[56] **{LFB00091784}**
[57] **{LFB00091784/20 §5.7}**

of performance on a regular basis;[58] (c) competency of all of the personnel involved, who require "*the appropriate skills to undertake risk assessment ... and be able to interpret and translate information provided prior to and during any incident into decisions and action*";[59] (d) "*the overriding value of having accurate, timely and relevant information*";[60] and (e) the need for input from non-operational professionals regarding building construction, building systems, manufacturing processes – and the corresponding need to determine whether expertise is within the FRS or needs to be drafted in.[61] Appendix C to the PORIS document listed the types of information that FRSs are advised to collect for the purposes of s.7(2)(d), which are "*wide-ranging and varied*",[62] from basic data such as address and occupancy details to "*the construction type of a building including any cladding materials and internal linings*".[63]

PART IV: FUNDAMENTAL FLAWS IN TRAINING

[A.] PROFESSOR TORERO'S ROOT CAUSE

4.1. KNOWLEDGE: The Inquiry already knows that training did not prepare any of the incident commanders on 14 June 2017 who arrived at Grenfell Tower before Assistant Commissioner Roe to recognise a catastrophic breach of compartmentation, or to comprehend its cause as the external cladding façade having become engulfed in external fire spread. The experts to the Inquiry Professor Torero and Mr McGuirk, but presumably Dr Cohen-Hatton as well as both of the other experts cite her work,[64] describe this phenomenon by reference to human error psychology (see [PART VII] BELOW). It caused the previous experience of firefighters to be their greatest impediment. They could not see what they did not know. They had minimal education in appreciating this human factor dimension of incident response.

4.2. DESIGN: Professor's Torero's root cause explanation for their knowledge deficit is that operational firefighters are intentionally trained, across the world, to achieve proficiency in planned or set adaptive firefighting methods, as opposed to encouraging developmental learning, skill and psychology, which can effectively respond to the unexperienced event.

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[58] **{LFB00091784/21 §5.9}**
[59] **{LFB00091784/37 §9.5}**
[60] **{LFB00091784/38 §9.9}**
[61] **{LFB00091784/38 §9.10}** and see also the appendix dealing with construction, cladding and combustible materials at **{LFB00091784/84-85}**
[62] McGuirk **{SMC00000046/16 §22}**
[63] McGuirk **{SMC00000046/16 §22}** and **{LFB00091784/85}**
[64] Torero **{JTOR00000002/16/599-600}**, McGuirk **{SMC00000046/50-51 §§127-132}**

Torero's key point is that training is presently underdeveloped for anything other than 'design' anticipated fires.[65] The essential features of the design are (1) the presumption that compartmentation will hold, (2) a default position to favour direct interaction with the fire (so-called 'defend in place') as opposed to considering other options, such as evacuation and (3) the (unconscious) preference to act out the internal heroic image of the responder, who fights the fire. In fires that coincide with the 'design' this is generally done proficiently, bravely and safely.

4.3. COMPETENCY: The presently trained personnel can discharge firefighting plans, but they are not proficient in formulating new ones. It is the events beyond the design, especially in high rise residential buildings, that cause enormous exposure, because the presumption of regulatory compliance, including having 'Stay Put' as the emergency plan, has meant the delivery of standardised operational tactics with training not previously needing to be extensive or involve a comprehensive understanding of building behaviour.[66] In all sectors, government, private and FRS, competency in fire engineering has not kept up with the complexities of modern design.[67] That is to do with the lower status of fire engineering as an academic and vocational discipline, as against other forms of engineering, causing it still to resemble a regulated trade as opposed to a professional discipline.[68] This lack of competency of those who lead on fire engineering within the services is particularly damaging twice over, because it cannot hold the 'responsible persons' under the RRO to account, and at the same time cannot obtain enough influence within the services to qualify the operational protocols relating to standardised design firefighting.[69]

4.4. TRAINING: Professor Torero cites Robert Holmgren's research on operational training in Sweden that this prescriptive form of education promotes "*consensus, standardization and reliability*", but when "*unexpected problems occur there is a risk...that...learning and routinized acting are not sufficient to understand the origin of the problems and offer guidance about future action*".[70] The problem particularly arises due to the traditional 'rising through the ranks' pathway of senior management discussed above. If such

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[65] Torero **{JTOR00000002/17/649-652}**
[66] Torero **{JTOR00000002/15/565-569}**
[67] Torero **{JTOR00000002/5/112-114}**
[68] Torero **{JTOR00000002/17/616-617}** and Torero, et al, The Warren Centre, University of Sydney, *Fire Safety Engineering, Education Report*, 2019 **{JTO00000004}** see esp. **{6-7}**, **{10-11}**, **{17}**, **{19}**, **{25}**, **{27}** and **{29}**
[69] Torero **{JTOR00000002/17/624-632}** and **{JTOR00000002/17/633-637}**
[70] Holmgren, *Reformed Firefighter Training Program in Sweden: conflicting instructor conceptions of professional learning*, (2014) 4 Nordic Journal of Vocational Education and Training, 1-14 **{JTO00000003/4}**

firefighters/instructors hail from what Professor Torero describes as the "*traditional (firefighting) role of intervention and response*",[71] it is likely that they will reinforce in their students the overall imbalance between technical knowledge on building performance and the default response tendency that favours direct interaction with the fire.[72]

[B.] ORGANISATIONAL IMPEDIMENTS

4.5. LEARNED DEFICIENCY: Many of the deficiencies of the operational response at Grenfell Tower (i.e. flooding the building with breathing apparatus ('BA') wearing crews and equipment and rescue) were the product of this design learning. No one was taught to do, or think, otherwise. For Professor Torero, "*The Grenfell Tower fire has demonstrated that the culture of the LFB is profoundly associated to a traditional firefighting culture that cannot generate the quality of plan formulation required by the modern built environment. This culture prevails across all ranks of the LFB and stifles every possibility for the organic growth of the technically driven culture that values and respects the skills necessary to form a dynamic risk assessment driven plan.*"[73] Indeed, elevation to the senior positions within LFB "*shows a strong bias towards those individuals who have demonstrable skills and attributes when it comes to consistent repetition of pre-defined protocol.*"[74]

4.6. UNINTERRUPTED LEARNING TRADITIONS: Although there are grounds to criticise the outsourcing of training to Babcock, that issue should not distract from the primary blockages with the educational traditions in which LFB operational responders are trained. They are taught by instructors who are largely previous or current serving members of the Brigade who were themselves firefighters in the traditional image and mould,[75] and LFB managers that commission and audit the training tend to also come from the same background. Although, in theory Babcock was contracted to identify training needs and

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[71] Torero {**JTOR00000002/18/658**}

[72] Torero {**JTOR00000002/18/675-676**} and see, e.g. the careers of Reason {**LFB00032747/1 §§§§2-7**}, Brown {**LFB00032166/2-3 §§5-9**}, George {**LFB00032823/2 §§10-19**} Cowup (**LFB00032784/2 §§44-9**}, Utting {**LFB00118918/1-2 §§4-6**} and Cotton {**MET00012492/1**}, {**LFB00118213/2 §§6-9**}

[73] Torero {**JTOR00000002/25/875-879**} citing Baigent, *One More Working Class Hero* (see **PART II §2.14** BELOW)

[74] Torero {**JTOR00000002/25/884-885**}

[75] Groves {**MET00071103/16**}, Ribband Star *Independent Review of Training* (2019){**LFB00067786/12-16 §4.5**} (including Ron Dobson who now consults for Babcock {**LFB00032157/12-13 §§51-52**})

improvement,[76] it essentially did what LFB told it to do: rarely initiated new content and was not expected to identify any risk critical matters.[77]

4.7. CURRICULUM BUREAUCRACY: The unacceptable aspect of outsourcing training services to Babcock is that nearly a decade after the event the service is still subject to teething problems. The origins of the contract lay in what was regarded as a wasteful use of full time LFB staff and a lack of modern teaching facility space. The change cut the costs and gained external facilities.[78] However it also inherited new training demands: both for refreshment and revalidation of traditional firefighting skills that, due to less fires, were no longer practiced through on-the-ground experience, and to produce novel curriculum, from appreciating hazardous features of building design to expanding the rigour of premises risk assessment.

4.8. Importantly, the process did not streamline; it got more bureaucratic. Management, Babcock and independent review confirm this.[79] It also got fundamentally backlogged, particularly with regard to incident command training, which was highlighted as in need of urgent action in 2015, but which it is still catching up on, much to the criticism of the HM Inspectorate since the Grenfell Tower fire.[80] There are notable examples where Babcock was asked to produce training packages, which it did, but LFB did not arrange the logistics of delivering them. These include TCAP 0212 on highly insulated buildings,[81] TCAP 0039 on the use of handheld radios,[82] and the Holcroft House incident command exercise, developed as part of the TCAP 0124.[83] On other occasions, most pertinently the TCAP on High Rise Firefighting, there was indecision as to the direction required, such that the same TCAP proposals were created two years apart.[84] These are the concrete instances of what the Peer Review of 2015 characterised as the "*clunky*" aspect of LFB

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[76] Reynolds {**BAB00000074/3 §§12, 14, 18 and 27**}, Kelly {**MET00072166/10**}
[77] Groves {**MET00071103/11**}
[78] *Future Options Report*, 2008 {**LFB00055128/2 §2**}, Groves {**MET00071103/15**}
[79] Dexter {**LFB00032363/6 §20**}, Kelly {**MET00040010/18**} and {**MET00072166/11**}, Ribband Star {**LFB00067786/32**}
[80] HMICFRS LFB Report (Dec. 2019) {**SMC00000011/36**} HMICFRS, Progress GTI Report (October 2020) {**INQ00014795/4, 9 and 18**}
[81] {**BAB00000006**} and Kelly {**BAB00000075/2-3 §§11-22**} explaining how the package was promptly prepared but never delivered by LFB due to issues connected with LFB's move from Internet Explorer 8 to Internet Explorer 11
[82] {**LFB00037060**} and Dobson {**LFB00110652/5-6 §§17-18**}, which does not explain why it was not delivered
[83] {**BAB00000011**} and {**LFB00004801/29**} noting how there was no evidence to indicate that the exercise "*had been completed and was ever in use*"
[84] The TCAP was drafted in July 2013 {**LFB00051281**}, delayed because of an intention to consolidate with other Lakanal House workstreams {**LFB00086849/1**}, only for it to be re-drafted in the same terms in February 2015 {**LFB00051646**}, but never delivered

management, which bears its own responsibility for the "*sheep dip*" quality of much of the training.[85] The overall impression is that Babcock was trusted only to be passive and compliant, with the institutions never being in a partnership to advance dynamic education reform.[86]

4.9. LOSS OF VISION: Although the BSR would not be in the position to qualitatively assess whether outsourced training got worse, their major concern is that it stayed the same. Babcock became an apparently cheaper, alternative facility, avatar of LFB, and co-dependent on LFB's management shortcomings. It continued to cater to an average middle ground of programme firefighting, excluding comprehension in building design risks to fire safety and worst case scenario preparation for outright building failure and mass evacuation. Like LFB management who failed to embrace psychology of error training that was finally recognised as an essential discipline by the National Operating Guidance Programme in 2015, Babcock was out of its depth in teaching such skills.[87]

4.10. Outsourcing also did not produce the innovation and dynamic command leadership that the Labour Government White Paper envisioned for a reformed National Fire Service College in the previous decade.[88] Officers still got trafficked through their necessary courses with only 'pass' grades, or sometimes not assessment at all,[89] rather than training to excellence in operational command, leadership and management. Rather than reforming the National Fire Service College, it was sold by the Coalition Government and asked to develop itself, in competition with other training providers, leaving Babcock to stand in as a decidedly watered down local substitute.[90] In this much broader respect, LFB remained a depressed learning environment in which the ingenuity and project passions of different officers, such as Phil Butler and Sabrina Cohen-Hatton on the psychology of incident command,[91] or Peter Johnson on FSG command unit training,[92] were not so much rejected as default dampened down or stalled in the system.

4.11. LACK OF QUALITY ASSURANCE: The BSR cannot sufficiently assess the quality of the training, because *no one* ever did. The LFB *People Services Review* belatedly found in

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[85] See **PART II §2.6** ABOVE
[86] Kelly {**MET00072166/10**}
[87] See **PART VII §7.10** BELOW
[88] Bain Report (2002) (**p. 73 §7.10**), White Paper (2003) {**HOM00000584/44 §5.14**} (and Table at {**41**})
[89] Groves {**LFB00102138/31 §55**}
[90] {**HOM00045999/11 §§20-22**}
[91] See **PART VII §§7.6-7.9** BELOW
[92] Johnson {**MET00013235/5**}{**T36/219/18-21 and T36/234/7-11**} *Cf.* Harrington {**LFB00102245/9 §§27-35**}, {**LFB00102251**} {**LFB00102267**}

December 2017 that present "*training assurance*" did no more than judge generically as those involved were not subject matter experts ('SMEs') and as such *"not always best placed to judge the content of some operational courses"* and "*to genuinely assure the quality of what the external training provider is delivering*".[93] Deputy Commissioner Mills led a review of quality assurance in LFB in 2018, and made a recommendation, that was accepted, to move quality assurance of training into the portfolio of the Operational Policy department, alongside its other assurance functions.[94] The paper in support of the change[95] identified gaps between policies and training not getting spotted {**§6**}, flaws in assessment processes carried out without recourse to SMEs {**§§10, 12**}, insufficient previous recognition that quality assessment in its own right is a skill for which the organisation lacked competent trained experts {**§11**}, delay in identifying non-compliance with policy in the training {**§13**}, and unnecessary overlap with LFB TCAP assessors and Babcock officers {**§14**}. The problem runs sufficiently deep that in October 2020 HM Inspectorate was still reporting that external expertise was drafted in to provide monitoring and assurance capability as part of "*the basic building blocks of [a] programme*" for change.[96]

4.12. WATCH/SHIFT SYSTEM: From an outsider perspective, the watch/shift 2:2:4 system (of 2 nights and days on duty with 4 days off) appears to pose challenges to improving and transforming competency. This is obviously a loaded subject both nationally and locally because of its implications for terms of employment and industrial relations.[97] However, not only does the watch system promote closed social groups (discussed above[98]), and inhibit more extensive and dynamic preventive work, but it limits the time dedicated to training (especially on the night shift with regulated 'down time' of six hours). It ill-fits co-training with non-operational experts who work ordinary day shifts, especially in the fire safety departments. It is particularly difficult to quality assure the outcome of the computer based training ('CBT') to maintain competency that takes place during the shifts, especially if the Watch Managers have to be trainees, trainers and supervisors of the training during shift hours, without the training to do so. The group variables of how the watches train one another are likely to range widely, but Watch Managers could well be under peer pressure to not quality assure outcomes from colleagues who are close friends.

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[93] {**LFB00083845/27**}
[94] Mills{**LFB00055160/3-4 §§6-11**}
[95] *Review of Training Quality Assurance*, Safety and Quality Assurance Directorate Board {**LFB00055164**}
[96] HMICFRS, GTI Progress Report {**INQ00014795/19**}
[97] LFB Peer Review 2015 {**LFB00048265/28 §§24-25** and **30**} and Brigade Response {**LFB00048265/13 §78**}
[98] See **PART II §2.10** ABOVE

CBT will also inevitably remain standard, because shift systems are not amenable to alternative training timetabling and therefore, will always be somewhat ill-suited to bespoke training, tending to sustain instead a conservative one-size-fits-all model of firefighting. Finally, the watch remains the primary crucible in which the heroic model of fire engagement is forged and maintained, such that at best it will simply enable proficiency in remaining the same. Critical awareness of these issues is unlikely to come alone from this primary forum of the firefighter's workplace.

PART V: FAILURE OF KNOWLEDGE TRANSFER ABOUT CONSTRUCTIUON RISK

[A.] FORETOLD RISK OF A CATASTROPHIC CLADDING FIRE

5.1. Of all the shortcomings in training, the starkest one must be the inability of operational responders to spot the outbreak of a catastrophic cladding inferno. The perverse disconnect between the identification of cladding systems being recognised as a high rise fire hazard for thirty years, but 2017 firefighting being ignorant of that fact is now well established.[99] The failure of foresight overlooked the repeated signposts. The 1999 Select Committee report and evidence, which itself dates back to the early 1990s,[100] was apparently lost to the corporate memory of both LFB and, indeed, the FBU that presciently championed the issue.[101] Reference was made to 'cladding systems' as a construction risk feature in the original Generic Risk Assessment on high rise firefighting ('GRA 3.2') in 2008.[102] It was kept in the 2014 revised version of GRA 3.2, albeit without ever being reflected in the various versions of LFB high rise firefighting policy ('PN633') between 2011 and 2015.[103] The Local Government Association '*Fire safety in purpose-built blocks of flats*' (2011) ('LGA Guide'), which was introduced as part of the remedial response to the Lakanal House fire, noted the risk for the "*external façades of blocks of flats... [to] provide potential for extensive fire-spread*" and the need for "*particular attention [to] be given to any rainscreen or other external cladding system that has been applied and to façades that have been replaced*"[104]. The DCLG 2013 PORIS Guidelines on operational risk assessment required attention to be given to the construction type of a building including

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[99] *Overview of LFB Disclosure – LFB Knowledge of Cladding/External Materials* {**INQ00014546**}
[100] {**LFB00032774/2-4 §§5, 10, 13 and 18-19**} and Glyn Evans oral evidence {**CLG00019484 §§7, 32, 36**} [see also written submissions {**CLG00019484/5 §1.1** and **§2.1**}]
[101] Cowup {**LFB00032783/22-23 §§3.7.1 – 3.7.15**}, Wrack {**FBU00000172/4 §§15-18**}
[102] *Genetic Risk Assessment 3.2 Fighting fires - In high rise buildings* (September 2008){**LFB00089157/8**}
[103] *Genetic Risk Assessment 3.2 Fighting fires - In high rise buildings* (February 2014){**LFB00001255/18-19**}
[104] {**LFB00118893/111 §72.1**}

any cladding materials and internal linings.[105] The revised version of GRA 3.2 in 2014 duly noted the LGA Guide as item 14 of its 'Technical references'.[106] Later in 2014, the National Operational Guidance Programme *Fires in the Built Environment* paper highlighted "*external wall finish – cladding*" and described "*the potential for external fire spread with combustible cladding systems*".[107] It can be debated whether more should have been done but the hazard of cladding was mentioned in the national documents, but did not get acted upon.

[B.] ORGANISATIONAL IMPEDIMENTS

5.2. WARNINGS: Although none precisely on point, there were nevertheless pertinent warnings. The warehouse fire at Atherstone-on-Stour in 2007 caused the death of four firefighters due to the unanticipated fire spread caused by sandwich panels.[108] Ken Knight published Circular 18/2009 in March 2009. It reminded services that "*firefighters and, in particular, Incident Commanders will only be able to make a suitable and sufficient assessment of the risks at operational incidents, including being alerted to critical safety issues, if they are able to recognise building construction types and the impact that these buildings have on fire behaviour*". It added that "*Arrangements should also be in place to ensure personnel can recognise types of building construction.*"[109]

5.3. Immediately after the Lakanal House fire in July 2009, the CFRA's preliminary report stressed the importance of developing operational understanding by way of "*guidance*" and "*clarification*" of "*fire behaviour within high-rise buildings*" and for further consideration to be given "*as to how risk critical information on complex and high rise buildings is made readily available to operational firefighters at an incident*".[110] The statutory letter written by the Lakanal House fire coroner in March 2013 designed to 'prevent the risk of future fatalities' urged that the same connection be forged between developing knowledge about unusual forms of external fire spread and assurance that the knowledge was transferred to incident commanders via their training and to enable them

[105] **{LFB00091784/85}**
[106] **{LFB00001255/36}**
[107] **{LFB00024174/25 and 27}**
[108] In 2012 the incident commanders were prosecuted and acquitted for manslaughter. The Fire Authority pleaded guilty to offences contrary to the Health and Safety at Work Act 1974: **{HOM00024465}**, **{HOM00025017/13}**
[109] **{HOM00023213/5 §4.2}** prompted by the Chief Officer of Lancashire **{HOM00046025/4 §15}**
[110] **{CLG00007676/10-11 §5.6.1 and 5.6.2}**

to "*anticipate that a fire might behave in a manner inconsistent with the compartmentation principle*".[111]

5.4. Although Atherstone-on-Stour concerned a warehouse fire, LFB operational assurance command, including Assistant Commissioners Reason and Cotton, were aware of the report of Warwickshire Fire Services published in 2014. It highlighted "*a lack of understanding of modern methods of building construction by many of the operational crews*" and cited a BRE Global Report which criticised training exercises that failed to teach them "*how to identify signs and symptoms of impending sudden fire growth and how to respond to these signs and symptoms*".[112] Their discussion at the end of 2014, which led to the commission of TCAP 0212 that was drafted but not taught due to internet delivery problems, was that "*fires in highly insulated buildings*" had a broader relevance "*given the unprecedented increase in the development of modern high rise premises across London*".[113]

5.5. COMPETENCE AND TRAINING: None of the training materials, including the undelivered TCAP 0212, transmitted the necessary information that due to cladding systems or other design features, high rise compartmentation could catastrophically fail.[114] GRA 3.2 was the subject of a revision process between 2011 and 2014 largely prompted by the fatal high rise fires in Lakanal House in 2009 and Shirley Towers in 2010, which caused the then recent 2008 publication of the GRA to be deemed out of date.[115] A dedicated section of the GRA underscored the importance of "*training and competence*", including to ensure: "*personnel are adequately trained to deal with hazards and risks associated with high rise fires*"; "*the development of knowledge, skills and understanding for firefighters on the impact of fire on the building's construction, layout, contents and occupant behaviour*"; "*recognition of the signs and symptoms of...risk of rapid and unpredictable fire spread and the adoption of appropriate tactics to mitigate these*"; appreciation of "*evacuation ...tactics*"; and understanding for incident commanders "*when a partial or full evacuation strategy might become necessary in a residential building where a "Stay Put" policy is*

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[111] {**LFB00032158/2-3**} issued pursuant to Coroners Rule 1994, Rule 43 (now replaced by Coroners Regulations 2013, Regulation 28)
[112] {**INQ00014765/68 and 78**} and {**INQ00014766/180 §337**}
[113] {**LFB00088107/1-2**}
[114] *Cf.* TCAP 0212{**BAB00000006/4 and 7**}, High rise training {**LFB00024166/35-36, 38, 45, 64**}, TCAP 0124 {**BAB00000014/4**} and Trainer Guide (Holcroft House) {**BAB00000011**}
[115] By this point firefighters had died at high rise fires in Harrow Court in 2005, Shirley Towers in 2010 and Oldham Street in 2013: Wrack {**FBU00000172/2-3 §8**}

normally in place".[116] When LFB came to formally risk assess the promulgation of a reviewed local high rise policy, PN633, the assessors did so on the express generic assumption that all personnel would receive training on high rise firefighting, including compartment firefighting, as well as a relevant risk assessment in the course of that work.[117] Those assumptions proved to be entirely misplaced for anything other than a standard high rise compartment fire.

5.6. FAILURE OF JOINED UP TRAINING OR DIALOGUE: The Phase 2 disclosure shows that discussion of cladding fire took place in different sections of LFB, but was never transferred to operational firefighters whose knowledge of the risk counted most. Chief amongst the failings was that various slide presentations on 'Tall Building Façades' were adapted by members of the fire safety and enforcement department in 2015 to be delivered in training *only to themselves*, without anyone apparently thinking to translate the slides into a station based package for ordinary firefighters.[118] During 2015, the leaders of Operational Policy, having completed the GRA 3.2 revision and its translation into an updated PN633, attended various high rise sector conferences where the spectre of outright building failure was, at least, mentioned in discussions with the organiser, Russ Timpson.[119] It is an awful indictment of a fire service that its training and dialogue culture was so disjointed that this pocketed awareness of worst case scenarios was never joined up. By comparison, photographs and explanations of cladding fires that had taken place in the UK and across the world at the relevant time were being presented in incident command training by Kent FRS from 2010/2011 onwards.[120]

5.7. MISPLACED CONFIDENCE IN THE SYSTEM: The explanation of officers who did know about global examples of cladding fires, but did not educate their organisation about them, is that the known details of the fires were too limited, and the regulatory framework and compliance were deemed likely to be different to the UK and therefore little was thought to be gained by foreign horizon scanning of that nature.[121] The Inquiry will need to test the genuineness of this explanation, but should it be the case it is an admission of unacceptable

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[116] {**LFB00001255/20-22**}
[117] Utting (February 2015) {**LFB00102564/2**}
[118] {**LFB00032916**} [see for context Green {**LFB00032917/1-2 §§3-4**} and Seal {**LFB00032316/8 §38**}], {**LFB00069812/3**} and {**LFB00024232/1**}
[119] Cowup {**LFB00032784/5-6 §§16, 23, 25**}{**LFB00102565**} and {**LFB00119849/93-94 §211**})
[120] Grimwood {**KFR00000058/1-2 §5**} and {**KFR00000057/12-33**} (including the diagram from BR135 at {**15**})
[121] Seal {**LFB00032316/11 §46**}, Daly {**MET00077774/3**}, Cowup {**LFB00032784/7 §§26-31**}

myopia.[122] In an age of internet, emails and video conferencing it was not difficult to contact colleagues directly involved in responding to and investigating some of these foreign fires and the matter is made all the worse, given that Melbourne fire services who were involved in the Lacrosse Building fire, since referred to as the near-miss Grenfell Tower, were in touch with LFB in June 2015 to share internet links to their own fire, and similar events in China and Dubai.[123]

PART VI: UNDERASSESSMENT OF PREMISES

[A.] FAILURE OF TRAINING AND PLANNING

6.1. The evidence from Phase 1 strongly suggests that there was a continuing culture at station level that saw the exercise of the information collection duty under s.7(2)(d) of FRSA 2004 as simple familiarisation visits.[124] Beyond the criticisms that might be made of North Kensington Fire Station, this was undoubtedly a systemic problem that firefighters (1) failed to enquire as to the detail of the Grenfell refurbishment, (2) would not have been equipped to understand it, even if there had been a proper enquiry, and (3) could not pre-register the potential hazards of external fire spread caused by cladding systems, or other contemporary building features, even though they were documented in core national guidance, and had been identified by domestic and global fire events.

6.2. Steve McGuirk's view is that the PORIS Guidance[125] "*placed a new and significant burden on operational crews in every FRS, but especially in London, given the volume of risk sites in the capital city*".[126] It certainly underscored features of the obligation, but the statutory system under Part II of the FRSA 2004 was created with the purpose to extend express statutory duties on training and information gathering beyond firefighting.[127] Aside from the PORIS Guidance, the HSE *The Management of Health and Safety in the GB Fire and Rescue Service* also counted information gathering and sharing arrangements as essential, not only as a means of fire prevention, but as an inextricable dimension of incident

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[122] Daly {**MET00077774/2-3**} (acknowledging the lack of broad horizon in terms of scanning for international learning and policy making on fire safety)
[123] Robert Purcell email correspondence with Nicholas Coombe (June 2015){**LFB00024196/2**}
[124] WM Dean Ricketts, who undertook the last s.7(2)(d) visit at Grenfell Tower before the fire, could not recall having had any training on PN800 {**T51/78/3**}, on the management of operational risk information {**T51/78/6-7**}, on how to conduct a s.7(2)(d) visit {**T51/76/23**} or in relation to fire spread beyond compartment of origin and the potential for multiple rescues {**T51/77/5**}. The Inquiry's conclusion in Phase 1 was that the ORD entries for Grenfell Tower were "*woefully inadequate*" {**Phase 1 Report Vol IV §27.31**} (which Commissioner Cotton accepted {**T50/92/17-93/5**}) and "*inexcusable*" {**Phase 1 Report Vol IV §27.31**}
[125] See **PART III §3.6** ABOVE
[126] {**SMC00000046/25 §53**}
[127] White Paper (2003){**HOM00000584/16 and 23-24 §§2.6-2.7, §3.14, §3.17**}

command.[128] In any event, modern fire services have always had information gathering duties as part of their obligation to have in place pre-planning arrangement systems. Section 1(1)(d) of the Fire Services Act 1947 mandated "*sufficient arrangements for obtaining by inspection or otherwise....information required for firefighting purposes...*". Section 7(2)(d) read with section 7(1) FRSA 2004 requires a fire and rescue authority to "*make arrangements for obtaining information needed for the purpose*" of "*(a) extinguishing fires in its area, and (b) protecting life and property in the event of the fires in its area*". Neither of these sections has ever excluded notification of building features that could have implications for fire and rescue operations.

6.3. What has changed is that errors in building construction features have become more consequential to FRS operational response in terms of the worst case risk scenarios that they pose, especially with regard to external and unusual fires spread on high rise buildings. The risk particularly arises from renovations to the concrete structure single staircase designs of the post-war period, in which innovation has outstretched competency and therefore the stability of the regulatory system.[129] The burden of risk assessment may be greater for larger metropolitan areas with their volume of high rise and other buildings and resilience hazards requiring attention, but those services are equally funded more extensively and have far more personnel to theoretically meet the challenge, such that education, training, quality assurance and management of human resources are critical, whether or not more funds are also required to improve the task.

[B.] ORGANISATIONAL IMPEDIMENTS

6.4. COMPETENCE AND TRAINING: PORIS requires competency of all personnel involved to "*have the appropriate skills to undertake risk assessment*" and "*be able to interpret and translate, information provided prior and during any incident into decisions and action. For some of those decisions, the outcome will have life safety implications and for many other decisions, these will be made in the pressured environment that results from time restrictions and scarcity or complexity of information*".[130] Various LFB policies acknowledged the necessary connection between competent prior inspection and construction literate incident response, but their treatment of the issue was scant.

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[128] **{CWJ00000022/23}**
[129] Torero **{JTOR00000002/14/495-497 and 507-509}**
[130] **{LFB00091784/37 §9.5}**

6.5. PN800 dealt with the information to be placed on Operational Risk Databases ('ORD'), but its Appendix 3 did no more than require notification of "*Modern methods of construction (MMC) utilised that may present additional risks in the event of fire e.g. lightweight construction methods for appearance / building symmetry / artistic or design reasons*".[131] Appendix 1 to PN633 required s.7(2)(d) visits to high rise buildings to consider "*the likelihood and impact of any fire spread beyond the compartment of origin and the potential for multiple rescues*" and "*any building construction features which may promote rapid or abnormal fire spread, such as sandwich panels, timber-framed construction, atria or voids*".[132] However, there was no training on any of these features, such that Commissioner Cotton's Phase 1 evidence was to disavow the expectations of the policies because "*front-line firefighters…don't have the technical knowledge or ability to be able to do some of those things*".[133] Neither WM Dean Ricketts nor SM Nicholas Davis who carried out and supervised the assessments of Grenfell Tower had any training on those duties at all.[134] Although Babcock produced a CBT module entitled "*7(2)(d) Visits — Policy 800 Information Gathering*",[135] LFB's internal Grenfell Tower review has accepted that the information provided in the Brigade's policies and associated training packages in relation to undertaking s.7(2)(d) visits is not completely aligned. In particular, there is no practical guidance.[136]

6.6. ABSENCE OF ESSENTIAL LINKS: PN800 told station personnel that assistance could be sought from fire safety specialists.[137] However, if there was insufficient training, then s.7(2)(d) visitors would not know what content to look for, or what features to necessarily seek assistance from specialists about. It is for that reason that Steve McGuirk finds that the system of support and information sharing between the station s.7(2)(d) visitors and fire safety experts was insufficiently developed to enable proper risk assessment to take place.[138] He points to the "*failure to have in place…essential links between the fire protection/ fire safety arm of the organisation and the operational arm, and to ensure that*

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[131] PN800 {**LFB00000705/19**}
[132] {**LFB00032741/29**}
[133] {**T50/86/2-22**}
[134] Rickets {**T51/78/3**} {**T51/76/23**} {**T51/77/5**}, Davis {**T51/155**}.
[135] {**BAB00000074/19 §104**} {**BAB00000056**}, {**BAB00000058**}
[136] {**LFB00054565/30 §§132 and 133**}
[137] PN800 {**LFB00000705**} referred station personnel to the Fire Safety Officers who have duties under PN784 (Notification of fire safety information) {**LFB00012734**} that gives a minimal list of hazards (at {**§1.1**}) and briefly cross-refers (at {**§7.1(c)**}) to the Fire Safety Information and Guidance Note ('FSIGN') 113 {**LFB00032111**}
[138] {**SMC00000046/17 §28**}

the operational implications of new risks were fully evaluated and taken into account".[139] The situation can be contrasted with West Yorkshire and Greater Manchester Fire and Rescue Services where Fire Safety Officers have been embedded into s.7(2)(d) visits to ensure that features of buildings are not missed but also a better synergy between fire engineering and operational firefighter knowledge.[140]

6.7. FALSE ASSURANCE: Action 18(b) of the Initial Lakanal House Action Plan had determined to "*Create an inspection regime targeted at high priority buildings*".[141] In February 2013 the Corporate Management Board ('CMB') was informed in a paper presented by AC Dave Brown that "*LFB arrangements in place for the gathering of risk information appear to be robust and largely in compliance with the national operational guidance issued in April 2012. It is not considered necessary or practical to make significant adjustments to current arrangements*".[142] In September 2013, AC Brown presented to the Lakanal House Working Group ('LHWG') on the issue of operational risk assessment and the use of risk and premises information at incidents and indicated that LFB had reviewed DCLG Guidance and were compliant with it as LFB policy was "*...to record risks/hazards beyond that normally expected, including any less obvious hazards and unique control measures in place*".[143] This was undoubtedly an over optimistic assurance.

6.8. THE GEORGE-ELWELL REPORT: The LHWG was told that there was an intention to "*Audit consistency of risk identification and compliance with policy*" and to "*Refresh crew MDT/ORD training/awareness*".[144] This would enable fulfilment of the Action 18(b) of the Lakanal House Action Plan. The audit was led by Tom George (then DAC) which led to the paper written by GM Elwell that was sent to AC Brown in December 2013.[145] The significance of the document is that it clearly undermined the assurances that had been given. It queried "*the capacity of a station / watch in terms of the number of ORD entries that can be effectively entered and revisited with the existing guidance*" and whether "*staff [were] competent to carry out the 7 2 d visits and enter meaningful data and professional*

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[139] {**SMC00000046/28 §64**}
[140] {**SMC00000046/31-32 §70-72**} and {**SMC00000046/32-33 §74-76**}
[141] {**LFB00032825/6**}
[142] {**LFB00028989/19 §33**}
[143] {**LFB00032162/2-3**} Brown {**LFB00032166/8-9 §20-21**}
[144] {**LFB00032162/27**}
[145] George email 14 December 2013{**LFB00032833/9**}

tactical plans". It also doubted that current service standards were sufficient to "*to Quality Assure the relevant extant policies*".[146]

6.9. The report made eight recommendations:[147] (1) PN800 should indicate the detail of the "*types of risk*" to look for; (2) To enhance the quantity of ORD entries, "*face to face meetings should take place between the appropriate managers*" at all levels "*to reinforce the provisions of PN800 and the expectations required*"; (3) The promulgation of the new PN800 should be supported by a series of "*face to face workshops with Station and Borough Commanders ... [to] provide a detailed explanation and expectations*"; (4) A feasibility study should be undertaken to utilise existing Brigade data into identifying at-risk premises for the purpose of prioritisation; (5) An analysis of the spread of the premises requiring work was required across station grounds; (6) Further training should be "*provided to all personnel with a role in the ORD process to ensure they have the skills to meet the competencies required*";[148] (7) Consideration should be given to redefining the KPIs in Service Standard 7 "*to include measurement of the quantity and quality of ORD entries*" (i.e. to make sure that this feature of the job was properly emphasised, because it was not being done properly);[149] and (8) Delay in finalising the Service Standards should be avoided in order to prevent this aspect of the ORD improvement falling behind. AC Brown's brief email response for not taking these matters forward was that "[...] *it doesn't feel to me that any of the recommendations actually deals [sic] with the requirement to 'create an inspection regime targeted at high priority buildings'...* "[150] Despite recognition by Tom George that implementing the recommendations "*would fully discharge [the related Lakanal action point] and significantly improve the process used to collate and share operational risk information*",[151] LFB failed to proceed with the recommendations.

6.10. RESISTANCE TO RADICAL SOLUTIONS: There is evidence that before the Grenfell Tower fire that LFB did not have the leadership or the will to effect radical change in this aspect of its service. Whatever the success of preventative and preparatory measures, Mr McGuirk's view is that it remained a perceived paperwork chore to be tolerated rather than lauded as

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[146] {**LFB00032825/1**}
[147] {**LFB00032825/2-4**}
[148] This was necessary because "*A number of sub-standard examples were found, this could indicate a poor understanding of the rationale and a lack of competency based on the above list in recording relevant risk and tactical planning information at all levels of the process - WM/SM/BC/DAC*" {**LFB00032825/3**}
[149] {**LFB00032825/7-11**} contained a gap appendix gap analysis on the Service Standard 7
[150] {**LFB00032833/9**}
[151] George {**LFB00032823/19 §73**}

an essential feature of the firefighting vocation. However, change was particularly difficult to achieve because the shortcomings in quality and capacity did not matter much most of the time because of overall declining fire incidents. Firefighters got by without information and knowledge, because during standard fires they did not need it.[152] Against that reality it was difficult for LFB to embrace a "*radical approach to use of station personnel*" to enable less busy crews across 112 stations in 32 boroughs with less work to assist those stations that were overloaded in their ORD and s.7(2)(d) commitments.[153] Nothing was done with the suggestion of the Peer Review of 2015 that "*...consideration of more flexible ways of working, including changes to shift patterns and possible variations to cover provision across London to match risk...*".[154]

6.11. RITA DEXTER'S INTERVENTIONS: The lack of change before the Grenfell Tower fire is all the more problematic because, according to Rita Dexter, as an organisation LFB had realised that building failure was not a "*rare event*", that the protections of building control under the Buildings Regulations and risk assessment under the RRO were not sufficiently able and neither was LFB qualitatively or capacity wise up to the task of enforcement.[155] Although work was duly carried out to highlight these matters under Dexter's command there was apparent resistance to its implications, particularly with regard to the efforts of Dexter and others to do more quality assurance auditing.[156] As with other aspects of this problem, there was also little linkage between the efforts of fire safety and operational firefighting. If the *disaster waiting to happen* in the years before June 2017 was caused by the instability of the regulatory system, operational response was not being prepared to assume the worst, especially in relation to its reliance on high rise compartmentation as the foundation of the 'stay put' strategy for residents in the event of a fire.

6.12. INCOMPETENCY AND INCAPACITY: For Professor Torero the entire system is unstable because it is not led by a competent professional engineering framework. Fire engineering remains the poor 'trade' relative of other 'professionalised' engineering, which is heavily biased towards the application of codes and standards, even though the building regulations are no longer structured that way.[157] Without a transformation in the approach to fire

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[152] McGuirk **{SMC00000046/29-30 §67}**
[153] Goodall (April 2013) **{LFB00100318/1}** **{LFB00100319/1 §5}**
[154] **{LFB00048265/7 §31}**
[155] **{LFB00040774}**and **PART II §2.18 and FOOTNOTES 47 & 48 ABOVE**
[156] Turek (15 November 2013) **{LFB00116180}** and Dexter to G Ellis (11 March 2014) **{LFB00084762/2}**
[157] Torero, et al, The Warren Centre, University of Sydney, *Fire Safety Engineering, Education Report*, 2019 **{JTO00000004}** see esp. **{17}**, **{19}**, **{25}**, **{27}** and **{29}**

engineering as a professional discipline sufficiently embedded in FRS, including by training operational firefighters to comprehend and apply core essential principles, then Professor Torero remains pessimistic. His evidence to the Inquiry is, even if all the information on the Grenfell refurbishment had been available, LFB did not have the capacity to correctly interpret it, or to enable incident commanders to carry out an adequate risk assessment in the face of a high rise cladding fire.[158]

PART VII: INSECURITIES OF INCIDENT COMMAND

[A.] PSYCHOLOGY OF ERROR

7.1. The catalogue of problems discussed above provides the pathway to the abiding feature of the Phase 1 evidence: the inability of the incident commanders to comprehend the nature of the fire at Grenfell Tower. Indeed, of all the hundreds of thousands of hours of firefighting experience that deployed to Grenfell Tower, what is notable is how few of them immediately saw that the fire could not be fought and the only option was to facilitate evacuation. The BSR described the predicament of WM Dowden and those who followed him as one "*of looking at the fire without seeing it, and hearing communications on the radio without listening to them*".[159] Without proper training or practice, the incident commanders approached the fire based solely on past experience, which doomed them to error. They could only use their available rules of thumb (or what psychologists call heuristics[160]) to exercise judgment. Heuristics are essential for navigating a norm, but they can become counter-productive in the face of the unfamiliar.[161]

7.2. Phase 2 disclosure, including the evidence and published writing of Dr Cohen-Hatton,[162] shows that for more than a generation applied psychologists who work across sectors with armed services, emergency response, the airline industry, surgeons and other high risk stress related disciplines have predicted the psychological error that would be made in the face of the unknown at Grenfell Tower. In the three years before the fire, the heads of LFB operational assurance, who were raised in the crucible of pre-planned fire engagement,

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[158] Torero {**JTOR00000002/21/797 – 22/804**}

[159] Phase 1 Closing Statement of G4, 6 December 2018 {**INQ00000569/31 §3.10**}

[160] The idea originates from the work of Amos Tversky and Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*. Science vol. 185, 1974

[161] Neutrally speaking a heuristic is a bias that comprehends events in a pre-conditioned way. Daniel Kahneman, *Thinking, Fast and Slow* (Penguin, 2012, p.98) provides a technical definition of heuristic, "*a simple procedure that helps find adequate, though often imperfect, answers to difficult questions*"

[162] See, in addition to the Relativity disclosure, Sabrina Cohen-Hatton, *In the Heat of the Moment – Life and Death Decision-Making From a Firefighter* (Penguin 2019)

were told about the need to incorporate human factors and natural decision making theory into their preparation of incident commanders, but the changes were not made.

[B.] ORGANISATIONAL IMPEDIMENTS

7.3. DECISION MAKING MODEL: On the night of the Grenfell Tower fire, WM Dowden and others referred[163] to using the Decision Making Model ('DMM') contained in PN341.[164] It requires methodical linear reasoning to move from 'deciding' to 'acting' through a sequence of gathering and thinking about information → identifying objectives → planning their execution → communicating and controlling the plan → evaluating its outcome and starting the cycle again. The approach has a pedigree that dates back to John Dewey (1933), '*How we Think*' that started off an area of study on "*thinking about thinking*" in professional and organisational settings.[165] It can still be found in numerous LFB polices.[166] DMM was developed first by LFB and then incorporated into the Fire Services Manual Volume 2: Incident Command (2008) that noted in its main text how "*experienced officers have reported the value they have derived from the Decision Making Model developed by the [LFB]*", but refers only to the source of the approach in management consultancy theories.[167] Further description in Appendix 4 of the Manual does not explain how it would relate to high impact fireground activity. It is described as a general tool of management (giving examples of "*complaints procedures*" and "*welfare issues*") and does not specify incident command as one of them in particular.[168]

7.4. RAPID PRIMED DECISION MAKING: Put simply, the problem with DMM is that it is just not how people think under pressure, especially during emergency incidents. The concept of Naturalistic or Recognition Primed Decision Making ('RPDM'), associated with the work of Gary Klein and others since the late 1980s, shows that when people naturally make decisions in real world settings under pressure, their thinking is more reflexive than

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[163] Dowden {**T9/45/1-9 9/48/12**} and {**T10/39/13 – 40/10**}
[164] {**LFB00012838**}
[165] CFOA, *The Future of Incident Command* (July 2015) {**LFB00118236/44**}
[166] PN342 Dynamic Risk Assessment {**LFB00000236/4**}, PN238 Incident Command Procedures {**LFB00000164/1,4}**, PN435 Tactical Mode Procedure {**LFB00000172/2**}, PN722 Command Support System {**LFB00000179/2**}, PN541 Command support at incidents {**LFB00060622/4**}, PN434 Sectorisation at incidents {**LFB00000234/3, 4, 7**}, PN162 Officer responsibilities at incidents {**LFB00032788/2**}, PN408 Incident Command {**LFB00000730/3,6,14,15**}, PN 424Monitoring Officer {**LFB00000731/3**}, PN828 Recording decisions at incidents {**LFB00000734/5**}, PN431 Incident Commander {**LFB00000174/2,3,4,6**}, PN432 Operations Commander {**LFB00000170/2,4**}, PN433 Sector Commander {**LFB00001755/2**}, PN749 Hose Layer Unit {**LFB00009336/3,8**}, PN421 Performance reviews of the command function {**LFB00001563/5,8,9**} and PN800 Management of Operational Risk Information{**LFB00000705/24**}
[167] {**SMC00000013/18-19**}
[168] {**SMC00000013/120 §1.1** and **121 §1.6**}

reflective, they rely on heuristic appraisals and biases rather than optimum or exact appraisals in their situational awareness (and especially so when the situation is dynamic, complex and stressful), and consequently they do not generate and compare options. Rather they use prior experience to rapidly categorise situations.[169] As summarised in the Literature Review written by GM Phil Butler of LFB and commissioned by the National Operational Guidance programme in December 2013, "*RPD represents a very fast, intuitive process incident commanders undertake when making decisions in rapidly changing environments*".[170]

7.5. It is unclear how DMM became so enshrined as the primary tool for LFB incident command decision making. Appendix 4 of the FRS Manual Volume 2 (2008) on 'Psychology of Command' summarised the RPDM research of Klein,[171] including the fact that it is regarded as the "*best model*" to apply to emergency situations across industry sectors and was "*widely adopted*" in the USA "*at the National Fire Academy, as well as in a number of military, medical, aviation and industrial settings*". An informed reader would have understood that the description of the LFB model in Appendix 3 and RPDM in Appendix 4 were not compatible.[172] Dr Cohen-Hatton and GM Butler co-authored a study by Cardiff University that demonstrated serious practical and psychological defects in using DMM as opposed to more naturalistic goal orientated decision making models.[173] By July 2015, the seminal guidance on the *Future of Incident Command* produced by Chief Fire Officers Association ('CFOA') adopted the Butler Literature Review for the mainstream summary of contemporary applied psychology and concluded that command decision making was much more intuitive and reflexive than recognised under the linear and rational DMM.[174] The CFOA consequently declared that it was "*absolutely critical*"

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[169] G. Klein, *Naturalistic Decision Making* (2008) 50 Human Factors 456-460 {**SMC00000030**} and more generally, G. Klien, *Sources of Power – How People Make Decisions* (MIT 1999) (2020 Revised Issue)

[170] National Operating Guidance, *Incident Command Project Literature Review* (Dec, 2013) {**LFB00046278/8**} and see also McGuirk {**SMC00000046/51 §131**} that its "*logical conclusion... is that, when confronted with a crisis and a need for immediate decisions, commanders will intuitively and reflexively draw upon their experience to make those decisions*"

[171] {**SMC00000013/109-110**}

[172] Butler Literature Review {**LFB00046278/14 and 38**}

[173] S Cohen-Hatton, R Butler, R Honey, *An investigation of operational decision making in situ: Incident command in the UK fire and rescue service* (2015) Human Factors, 57, 793-804 {**LFB00110667**}, see especially summary {**1**} and discussion {**10-11**}: finding that they moved straight from situational awareness to planned execution, without taking the steps to engage in planned formulation.

[174] {**LFB00118236/14**} citing the work of Klein and Amos Tversky and Daniel Kahneman and agreeing that "*Decisions are often influenced by various biases and involve the use of heuristics including those based upon previous experience*"

to produce revised guidance to develop "*command skills, in particular situational awareness and decision making*".[175]

7.6. DECISION CONTROL PROCESS: National Operational Guidance ('NOG') was issued in 2015 that introduced a new Decision Control Process ('DCP') as a means for guiding dynamic risk assessment during an incident, which would offset the risks of RPDM and cognitive biases.[176] The essence of DCP are the three questions (1) Why am I doing this? (2) What do I think will happen? and (3) Is the benefit proportionate to the risk? Despite NOG and CFOA endorsing the change and having GM Butler and DAC Cohen-Hatton in their ranks, LFB resisted. Its *Incident Command Provisional Impact Review* (July 2015) suggested erroneously that DCP was not intended by NOG to replace DMM, and downgraded DCP to a "*useful tool*" for understanding psychology of command.[177] Dr Cohen-Hatton's response corrected the view that DCP was a "*new construct*" and it did evolve DMM into something new.[178] It was also not merely "*an illustration of how people think*" but as demonstrated by peer-reviewed published research studies DCP was shown to have five times greater effectiveness in command decision making.[179]

7.7. RESISTANCE TO CHANGE: LFB's stance on DCP was negative in a way that points to a conservative organisational mentality beyond the subject matter of the issue. A paper presented by AC Cotton to the CMB in November 2015 made reference to DMM being "*engrained*" and "*therefore proposed to incorporate the research and learning*" that had led to the development of the DCP, without any replacement.[180] This was despite recognition of the two research papers by Cardiff University that subjects using DMM "*rarely achieved a high level of situational awareness*" and "*commonly...acted in a rehearsed way, according to the situation presented to them and their prior experiences*". It therefore had to be accepted that "*there is a strong argument for including decision controls in any command training*".[181]

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[175] **{LFB00118236/9-10}**
[176] NOG **{SMC00000023/18-19}** [Diagram and Core Questions]
[177] **{LFB00051817}**
[178] **{LFB00110678/1-2}**
[179] S Cohen-Hatton and R Honey *Goal-Oriented Training Affects Decision-Making Processes in Virtual and Simulated Fire and Rescue Environments* Journal of Experimental Psychology: Applied 2015 American Psychological Association 2015, Vol. 21, No. 4, 395-406 **{LFB00110674}**: finding that DCP is not only quicker but causes people to plan more than they would otherwise do **{11}**
[180] **{LFB00110676/3 §16}**
[181] **{LFB00110676/4-5 §23}**

7.8. The claimed reasons for rejecting DCP at the time were that the research was never carried out on Level 3 and 4 commanders and the change was never subject to an equality impact assessment on officers with dyslexia and other forms of neurodiversity.[182] This opposition is difficult to take seriously. As regards those with learning disabilities, to this day LFB has apparently not equality impact assessed the DMM, let alone DCP.[183] As regards those higher level commanders, the objection would not have helped WM Dowden, but in any event the declining incident attendance of all commanders indicated that Levels 3 and 4 officers would be equally, if not more, at risk in using the orthodox DMM.[184] The better explanation is probably from Graham Ellis who has told the Inquiry that DCP was regarded as simply too "*transformational*" too soon and too "*far reaching*" in its "*consequences for the selection, training and assessment of future incident commanders within LFB*".[185]

7.9. LFB remains the only FRS in the country not to adopt DCP, which HM Inspectorate criticised in 2019 as "*worrying, especially when it is seen alongside the brigade's lack of assurance over the ongoing competence of its incident commanders*".[186] In its Progress Report in 2020, the Inspectorate reported how LFB was still considering some form of fusion between the two models and urged the need to resolve the matter quickly and effectively to coincide with planned training.[187] This overlooks the fact that Dr Cohen-Hatton made it plain to LFB 6 years earlier that the underlying principles of the two models are not only different, but contradictory.[188]

7.10. TRAINING: Cohen-Hatton's attendance at meetings with Babcock suggests that the trainers (unsurprisingly) were not well schooled in DCP, or broader human factors training.[189] GM Butler had written an earlier critical paper to the same effect, with particular concern that Babcock was not set up to learn from the human factors syllabuses developed in other

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[182] Cotton {**LFB00118213/7 §§33-34**}, Ellis {**LFB00118230/8-9 §§41-42**} and Drawbridge {**LFB00110672/2**}
[183] *Cf.* Cohen-Hatton's paper entitled 'Decision Making Model Policy Review' (July 2017) {**LFB00110677/3 §§12 and 21-22**}
[184] McGuirk {**SMC00000046/51 §132**}
[185] Ellis {**LFB00118230/3-4 §17-19**}
[186] HMCIFRS LFB Report {**SMC00000011/21**}
[187] HMCIFRS GTI Progress Report {**INQ00014795/31**}
[188] One of the continuing legacy flaws of DMM is that performance review meetings under PN417, which are essential feature of LFB lesson learning, continue to ask incident commanders about how they made operational decisions in accordance with the orthodox DMM {**LFB00055175/6**}. If that is not how Commanders actually make decisions, it remains an artificial and in hindsight unhelpful way to try to understand the decisions that are made
[189] {**LFB00110671/2 §3**} (Need to ensure upskilling of Babcock, particularly coaching techniques) {**3 §7**} (requesting more information on Optimus that would potentially train the trainers) and {**LFB00110669/2-3**} (Observation that DCP was not being used as a training aid in road traffic pilot exercise and uncertainty as to what extent human factors going to be taught)

industries.[190] Despite the emphasis placed on understanding non-technical human factors in both the NOG and the DCLG *Health, Safety and Welfare Framework*,[191] Babcock training packages only transiently dealt with the role of how previous experiences and expectations could compromise decision making and then referred to the DMM.[192] According to Peter Groves, the post Grenfell Tower fire revalidation processes for incident command training added in teaching on human behaviours that was not in there before.[193]

7.11. SKILLS DECAY: Declining experience of fire incidents meant that the more senior commanders were exposed to skills decay, which as Mr McGuirk has suggested, if anything made them more dependent on their bank of prior experience. By 2015, the problem was well documented at the national level by CFOA, which expressed the concern that it would put FRS in breach of the HSE requirements articulated in *Striking the Balance* to adequately prepare incident commanders.[194] The importance of revalidating incident command capability was acknowledged within LFB,[195] and by Babcock.[196] The CMB committed to various timetables to revalidate the training of all levels of commanding officers, but the progress before 2017 was slow.[197] It was therefore a combination of the declining skills and the incapacity of the organisation to expand those skills to incorporate non-technical human factor knowledge that rendered LFB's incident command management system particularly insecure on the eve of the Grenfell Tower fire.

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[190] **{LFB00110668}**

[191] **{SMC00000012}** and **LFB00110671/2 §3}** (Need to ensure upskilling of Babcock, particularly coaching techniques) **{3 §7}** (requesting more information on Optimus that would potentially train the trainers) and **{LFB00110669/2-3}** (Observation that DCP was not being used as a training aid in road traffic pilot exercise and uncertainty as to what extent human factors going to be taught)

[192] 'Incident Command Situational Awareness' **{LFB00003805/6 and 10}** *Cf.* Foundation for Incident Command (2015) **{SMC00000045/8}** in terms of the range of non-technical factors that required teaching

[193] Groves **{MET00071103/24}**

[194] *The Future of Incident Command* (2015) **{LFB00118236/24-26}** (citing Striking the Balance **{LFB00118237/4}**)

[195] **{LFB00118212/5}**: between 2012 and 2015, on average Station Managers assumed command three times a year for a total of around 4.5 hours; Group Managers did so just once a year for around 3.5 hours and Deputy Assistant Commissioners 1.5 times a year for just over 5 hours

[196] Babcock, *Initial Course Programme Review* (2013) **{LFB00102216/4, 12 and 25}** and Groves **{LFB00102138/42 §§79-80}**

[197] Cohen-Hatton **{LFB00110660/17 §§62-63}** who exhibits a range on papers on the subject but revealing backlog into 2017 **{LFB00118194/3 §10}**

PART VIII: UNDERDEVELOPMENT OF EVACUATION DOCTRINE & PRACTICE

[A.] STAY PUT AND ITS EXCEPTIONS

8.1. The Phase 1 Report found the 'Stay Put' principle to be a "*policy*" and "*article of faith*"[198] rather than understood as a design concept to be departed from especially once multiple persons evacuate a building and where there is a risk of compartmentation breach that could substantially jeopardise the means of escape. The response by Commissioner Roe agrees that 'Stay Put' is "*a fire safety building design concept... not a London Fire Brigade policy*" with a "*long history...rooted in the building regulations for high rise structures*".[199] His reference to the regulatory documents dating back to the 1960s and 1970s demonstrate that, as old as the concept of 'Stay Put' is, so is the attendant recognition of inevitable exceptions once breaches of compartmentation occur, for example as a result of doors not self-closing, or means of escape becoming compromised.[200] The modern most relevant building standard for residential high rise premises, BSI:9991, recognises as a general principle that in some circumstances fire services will decide to evacuate a building.[201] To that end, awareness of "*the types of people in the building (such as disabled people, elderly people...) and any special risks or needs*" is required and the landlords bear responsibility to risk assess vulnerable residents "*to explore the level of need and what they are to do in the event of a fire in their own home or one nearby*".[202]

8.2. For the purpose of Module 3, all of the above begs the question of why the landlord was not more readily prepared, but it also shows that Modules 5 and 6 should consider why evacuation was such an underdeveloped doctrine and practice in emergency FRS high rise fire response.

[B.] ORGANISATIONAL IMPEDIMENTS

8.3. FUNDAMENTAL GAP: Steve McGuirk's evidence is that the requirement for incident commanders to consider the need for evacuation in the event of a fire was contained in many UK FRSs' standard operating procedures ('SOPs'), but that the efficacy of that requirement was compromised by the fact that there was no or very little specific guidance

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[198] Phase 1 Report {**Vol IV §28.54**}
[199] Roe {**LFB00060655/3-6 §6-14**}
[200] CP3 Ch. IV Precautions against Fire (1962){**LFB00083846/6**}{**13 §301**}{**14-15 §§306, 310**}, **17-18 §801 and Appendix**}, CP3 (1971) {**LFB00060985/9-10 §2.1**}{**13-14 §2.3**}{**15-16 §2.4**}{**26 §4.2-4.3**}{**34-35 §8.1-8.2**}, BS9991 (2015){**LFB00083839/13 §0.2.1**}{**36**}{**150 §A.1**}
[201] BS9991 (2015){**LFB00083839/13 §0.2.1**}
[202] {**LFB00083839/18 §0.8(d)**}{**31 § 4.6**} {**143 §54**}{**173 -174 Annex E**}

as to how, in practical terms, this should be done.[203] The now recognised gaps, as far as LFB is concerned, began with its own lead role in the drafting of GRA 3.2. It required prior preparation of "*an operational evacuation plan ...in the event the "Stay Put" policy becomes untenable*".[204] It also emphasised that training and competency assurance should extend to appreciation of "*evacuation...tactics*", and understanding "*when a partial or full evacuation strategy might become necessary in a residential building where a "Stay Put" policy is normally in place*".[205] PN633 thereafter redrafted the premise that it "*may be necessary to undertake a partial or full evacuation in a residential building where a "Stay put" policy is normally in place*", but framed the requirement primarily with regard to the adverse effect that an evacuation could have on firefighting operations.[206] It also required that advice provided by the control room "*should be re-evaluated throughout an incident and this may require a change in the advice given*" including that "*in exceptional circumstances an IC may consider informing control that their advice to FSG callers should be altered e.g. to attempt to leave their property*".[207] However, nothing was said about the 'when' and the 'how' of the 'exceptional' change. LFB does not dispute that there were no clear parameters in its policies and training for when and how a 'Stay Put' strategy should be disapplied and what alternative strategies should be put in place.[208] There was also no contingency planning for situations where a 'Stay Put' strategy is no longer tenable for an entire building.[209]

8.4. ATTACHMENT TO THE STATUS QUO: One of the real enigmas about the Lakanal House fire is that rather than prompting LFB to fill its evacuation gap, it produced a renewed commitment to 'Stay Put'. Aside from the tragic loss of 6 lives, the next most important numbers from Lakanal House is that of the 108 people in the building at the start of the fire, only 38 required assistance to evacuate, meaning that the bulk of the resident population rescued themselves.[210] There remains conceptual confusion and debate about the meaning and division of labour when it comes to 'rescue', 'escape', and 'evacuation' (whether by way of planning or emergency compulsion).[211] Without developed doctrine,

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[203] McGuirk {**SMC00000046/79 §216**}
[204] {**LFB00042532/19**}
[205] {**LFB00001255/20-22**}
[206] {**LFB00001256/13 §§7.46-7.47**} and see also {**§§2.31-2.32**}
[207] {**LFB00001256/14 §7.51**}
[208] Roe {**LFB00060655/9 § 21**}
[209] Roe {**LFB00083834/8 §28**}
[210] Lakanal House Fire Operational Review Report (2012){**LFB00028723/5 §1.2.7**}
[211] See, for example, Roe {**LFB00083834/9 §33**} and Wrack {**FBU00000170/15 §§47**}

these concepts are too easily categorised in binary terms between 'do nothing' and 'all out at once'. The assumption is also too often made that FRSs alone do the rescuing, and the residents cannot be co-responders in their fate. It is apparent from the communications in the post-Lakanal period that LFB were wary of uncontrolled high rise evacuations and wanted to renew faith in 'Stay Put', rather than qualify it.[212] The Lakanal House coroner recommended that LFB raise awareness amongst residents of high rise residential buildings of the dangers of fire and what to do in the case of a fire. In the reply in May 2013, it is telling that LFB focussed primarily on developing a set of publications aimed at reinforcing the 'stay in place advice' and its relationship with the more generic 'get out stay out' advice.[213]

8.5. ALTERNATIVE APPROACH: The Inquiry will hear from Dr Grimwood and the alternative approach that was taught to Kent FRS with incident commanders from 2010 onwards, which developed the so-called ICE (later RICE) technique.[214] RICE stands for **R**escue **I**ntervention **C**ontainment **E**scape. Its central premise is that, unlike LFB policy, or indeed Professor Torero's critique of design fire planning, it does not assume that compartmentation will hold or that residents will not self-evacuate. It also counsels against default engagement with the fire [i.e. **I**ntervention], before establishing by rapid reconnaissance of the staircase that compartmentation can be operationally relied upon.[215]

8.6. As compartmentation will generally prevent internal fire and smoke spread, even for a limited period, as it did in Grenfell, then the use of stairwell protection reconnaissance teams above the fire compartment is a suitable standard technique (provided of course, that it is not self-determined, or done unilaterally, in the manner FF O'Beirne conducted it at Grenfell). The technique has evolved to use four triggers that would favour evacuation over other features, namely (1) fire development, (2) smoke travel, (3) self-evacuation and (4) compromised staircase.[216] It also envisages that the stairwell can be split into sectors, so as to facilitate conveyor belt staged evacuation.[217] LFB policy has been developed since

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[212] See, e.g. Anthony Dowsett (July 2009) **{LFB00102960/2}**, Dan Daly (July 2009) **{LFB00102961}**, Andy Snazell (February 2011) **{LFB00109470}**, Dany Cotton (February 2014) **{LFB00117227}** and see also report relating to the fire at Madingley, Cambridge Road Estate, Kingston in July 2012 (fire on 17th floor of a residential block of 60 flats) in which 80 people had evacuated and the investigating officer had queried whether the Stay Put principle should continue, but his advice was not accepted **{LFB00028515/64}**

[213] **{LFB00004640/3}** (see also **{LFB00001784/1-2}**)

[214] For a summary, see the Post-Grenfell Twenty Questions sheet on the subject **{SMC00000004}**

[215] See the original Tactical Bulletin F15 (2006) **{KFR00000050/5 §§20-22}** and SOP F4.1 (2014) **{KFR00000049/15 §§3.38-3.42}**

[216] South East Group SOP F4.1 **{KFR00000049/15 §§3.38-3.42}**, McGuirk **{SMC00000046/84 §225}**

[217] Operational Information Note 68/19 **{KFR00000038/5}**: see figures 1 and 2

the Grenfell Tower fire to incorporate aspects of the Kent/SE approach, including stairwell protection and dedicated monitoring, and identifying a set of triggers that would justify departing from 'Stay Put'.[218] The question for the Inquiry should be why a technique that had been developed in training, assessment and firefighting in Kent FRS since 2010, and before that in Malaysia, was so underappreciated in national firefighting before the Grenfell Tower fire, given that it could have made a significant difference on the night of the fire.[219]

8.7. PANIC MYTH: The gap in evacuation doctrine is not a flaw of practical oversight. Phase 1 evidence contained considerable assumptions that evacuees would panic and endanger themselves and the firefighters, but no evidence has been disclosed in Phase 2 to establish the solid empirical foundation to justify that fear. In 2005, the Office of the Deputy Prime Minister published in-depth research on evacuation behaviour during the collapse of the World Trade Centre ('WTC') on 9/11,[220] which was cited as a Technical Reference (Item 6) at the end of Part 1 of GRA 3.2.[221] Of the core findings from this unparalleled study of survivors of mass escape from a high rise building, the research, led by Ed Galea of Greenwich University, found that the overwhelmingly dominant behaviour of evacuees was rational, that the instance of extreme reaction and panic behaviour was extraordinarily rare, and that one of the foremost features of the escape was affiliative behaviour between groups, including strangers.[222] These very same attributes were evident from the conduct of the BSR in Grenfell, including triggers that caused residents to group and act together within the building.[223] The findings reflect the long term move in applied group psychology to debunk the myth that crowds predominantly panic in an emergency, replacing it with empirical research that identifies affiliative, adaptive, communal and resilient behaviour.[224] There is a wealth of evidence from these recent studies on disasters

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[218] See Revised PN633 (2020) {**LFB00105468/ 3 §4(a),** {**24 §5.25**}, {**25 §5.38**}; and {**21-22 §5.10**}

[219] McGuirk {**SMC000000046/80 §219**}

[220] Office of the Deputy Prime Minister, '*Fire Research Technical Report 6/2005 Collection and Analysis of Human Behaviour Data appearing in the mass media — Evacuation of the World Trade Centre*' {**CLG10000080**}

[221] {**LFB00001255/36**}

[222] {**CLG10000080/5-7, 22-23 and 99**}

[223] Anthony Mawson, *Understanding mass panic and other collective responses to threat and disaster*, Psychiatry 68(2) (2005) 95-113

[224] Key articles on the subject include: Anthony Mawson, *Understanding mass panic and other collective responses to threat and disaster*, Psychiatry 68(2) (2005) 95-113; John Drury et al, *The Mass Psychology of Disasters and Emergency Evacuations* (Sussex University Report, 2007); Jacob Binu et al, *Disaster Mythology and Fact: Hurricane Katrina and Social Attachment*, 123 Public Health Report (2008) pp 555-566; John Drury et al, *Representing Crowd Behavior in Emergency Planning Guidance: 'mass panic' or collective resilience?* (2013) Resilience, pp 18-37; and John Drury et al, *Facilitating Collective Psychosocial Resilience in the Public in Emergencies Based on the Social Identity Approach*, (2019) Frontiers in Public Health, Article 141

that "*far from panicking, crowds in emergencies are frequently able to respond intelligently and in a coordinated and effective manner to their collective predicament – acting as the first responders*"[225].

8.8. DISABLED AND VULNERABLE RESIDENTS: GRA 3.2 provided that "*Fire and Rescue Authorities must also have effective arrangements in place to handle fire survival guidance calls from residents and others when they believe they are unable to leave the building due to disability, poor mobility, illness or the affects of fire*".[226] However, as Steve McGuirk accepts, there appears to have never been any dedicated thinking around how to evacuate residents whose mobility was impaired in an emergency situation.[227] This is a considerable oversight given that LFB (and other FRSs) were on notice of the overall significant percentage of mobility impaired people in high rise social housing buildings, especially given the ageing population.[228]

8.9. The modern consensus, in Colin Todd's words, is that fire is "*classist and ageist*".[229] For those reasons one of the conclusion of the global review conducted by Justin Francis is that *"It is not acceptable to have no plan on how mobility impaired people will be evacuated during an emergency"*.[230] There is also an unlawful gap in the UK fire safety system in which the RRO requires the 'responsible person' to risk assess and evacuation plan for all residents, whereas the guidance contained in Section 79 of the LGA Guide advices that in 'general needs' buildings it is "*usually unrealistic to expect landlords and other responsible persons to plan for this or to have in place special arrangements, such as 'personal emergency evacuation plans'*".[231] For LFB this provides no answer as how such guidance to 'responsible' persons could be anticipated to coincide with the GRA 3.2

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[225] John Drury and Clifford Scott, *Contextualising the Crowd*, (2011) 6 Contemporary Social Science, 275-288, 284

[226] **{LFB00001255/20}**

[227] McGuirk **{SMC00000046/83 §223}**

[228] See, e.g., J Francis, *Report to Analyse Evacuation Methods from High-rise Buildings and Identify Fire and Life Safety Improvements for this Vertical World*, Winston Churchill Memorial Trust (September 2019) **{SMC00000009/22 and 34-35}**

[229] Todd **{T168/146/15-17}** and see also Bain Report (2002) **(p. 13 §3.14)** ("*People are more likely to suffer a fire if the household has young children, if the household is in financial difficulties or the person has a disability*"), LGA Guide (2011) **{LFB00118893/25 §16.11}** ("*Older people and people with certain disabilities may require particular consideration to be given to their needs in the event of fire*") and Theresa May, Reform Event Speech (2016) ("*Nor should we forget that, whilst fire does not discriminate, those most at risk are not those living in modern houses with expensive appliances and insurance to protect them when things go wrong. The victims of fire, too often, are the vulnerable within our society – older people, those living alone, and those whose behaviours, lifestyles or housing puts them at greater risk.*" (Home Secretary speech on fire reform - GOV.UK (https://www.gov.uk/government/speeches/home-secretary-speech-on-fire-reform))

[230] **{SMC00000009/35}**

[231] **{LFB00118893/120 §§79.9-79.11}**

requirement on FRSs to engage in contingency planning for residents with mobility and other vulnerabilities.[232] There remains little evidence to indicate that LFB were sufficiently focussed on the distinct dangers facing disabled and/or vulnerable egress from 'general use' high rise residential buildings, either as part of its duties under s.149 of the Equality Act and/or the Human Rights Act 1998, or simply as a matter of humanitarian concern.

PART IX: LACK OF ADEQUATE COMMUNICATION SYSTEM

[A.] SYSTEMIC APPROACH

9.1. Professor Johnson emphasises to the Inquiry that the effectiveness of communications at a fireground is not about the equipment alone, but the overall quality of the communication system that procures and utilises the equipment. The 'systemic approach' which he commends envisages that "*Equal attention is allocated to technical systems, to organisational issues, and to the role of individuals in sustaining mutual situation awareness during a major incident*".[233] He identifies within LFB a culture of 'making do' with equipment that was long term regarded as deficient and would not pass muster if a formal 'safety case' was required, as can be the case under various health and safety regulations.[234] In referring to the core principles in the Cabinet Office Guidance on resilience and telecommunications, five considerations inform the 'systemic' approach that should prevail on the development and maintenance of fireground communications. These are: (1) look beyond technical solutions to consider processes and organisations; (2) identify and review the critical communication activities that underpin your response arrangements; (3) ensure diversity of your technical solutions; (4) adopt layered fall-back arrangements; and (5) plan for appropriate interoperability. LFB communications systems did not enjoy these features.[235]

9.2. What is at stake for a communication system at a fireground is the achievement of 'situational awareness'. It is the subject of extensive academic literature.[236] Professor Johnson provides a general definition as "*the ability of individuals and teams to perceive information in their environment, to interpret and comprehend the meaning of that*

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[232] {**LFB00001255/20**}
[233] Johnson {**CWJ00000119/17 §2.4.3**}
[234] Johnson {**CWJ00000119/167 §6.17**: as can be required in sectors by schedule 15 of the Health and Safety at Work Act 1974 (e.g. The Offshore Installations (Safety Case) Regulations 2005, Reg. 7 {**CWJ00000102/7**})
[235] Johnson {**CWJ00000119/33-35 §2.20**}{**CWJ00000014/1-3**)
[236] M. Endsley, *Toward a theory of situational awareness in Dynamic Systems* (1995) 37 Human Factors Journal, 32-64 {**CWJ00000027/24-27**} and the summary of the core principles in J.R. Lawson and R. Vettori, *Federal Building and Fire Safety Investigation of the WTC Disaster* {**CWJ00000023/146-147 §5.6.6**}

information and then to use it in a way that helps anticipate future events and hence informs their subsequent actions".[237] The dramatic absence of 'situational awareness' during the WTC response was exemplified by an incident commander who admitted that he would have known more about events if he watched them at home on television.[238]

9.3. All of the incident commanders at Grenfell Tower suffered from lack of this situational awareness. The problem lay in the equipment, but it also lay in the *quality* of the interpersonal communications at the fireground and with the control room. Crew Resource Management ('CRM') is a concept that places a premium on interpersonal communications amongst teams in high stress situations.[239] The absence of developed CRM organisational culture within LFB is relevant to the failure at the Grenfell incident ground of those senior officers, and less senior but highly experienced officers, either to intervene at all, even when they believed that the building was on fire,[240] or, if they did intervene, to achieve no recognition of their concerns.[241] The failings in this quarter are likely to relate to the extent to which LFB remains inflexibly against speaking up in its hierarchies, even though other disciplined vocations, including the cockpit, the operating room, and military launchpads, have made it professionally safe – and indeed a duty – to do so.

[B.] ORGANISATIONAL IMPEDIMENTS

9.4. REPEAT ISSUE: The rapid failure of the BARIE radio equipment once it was used by the crews inside Grenfell Tower was long foreshadowed over a number of fatal high rise and other disasters. The investigations into the Lakanal House fire established that crews stopped relying on BA radio[242] and the Lakanal House Operational Response Report recognised that "*radio communication difficulties…thought to be caused by combination of the building height and construction, the amount of radio traffic and possibly some defective radios*".[243] This finding should have wreaked of déjà vu, given the repeated

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[237] Johnson {**CWJ00000119/17 §2.4.4**}
[238] Lawson and Vettori {**CWJ00000023/146**}
[239] {**CWJ00000119/86 §4.16.11-12**} and see summary {**CWJ00000068/2**}: many accidents "*are caused by the inability of crews to respond appropriately to the situation in which they find themselves. For example, inadequate communications between crew members and other parties…* [or] *a breakdown in teamwork…*" See also **PART II §2.12** ABOVE
[240] SM Egan {**Phase 1 Report, Vol. II §14.43**} ("*I'm going to make an assumption that the officer in charge has got this under control …they would've considered it already*")
[241] WM Harrison {**Phase 1 Report Vol II §§14.39-40**}
[242] {**CWJ00000095/54/14**}
[243] {**LFB00001843/61 §9.3.11**}

recommendations identifying transmission and confusion in mass incidents.[244] Studies of the WTC operation had documented critical problems in radio transmission and channel overflow.[245] After Oldham Street in Manchester in 2013, the FBU had pushed for a sustained review of radio communications equipment, with necessary new control mechanisms to mitigate risks arising.[246] The FBU had made the same suggestion as a result of the Bethnal Green Road fire in 2004.[247] Dr Grimwood's report into Harrow Court in 2005 had recommended that SOPs should include contingency plans for communications failures.[248]

9.5. POLICY ASSUMED FAILURE: As a result, the default assumption of failure of BA communications was written into GRA 3.2,[249] which required communications contingency plans to be made for loss of communications and communication 'blind spots', both through s.7(2)(d) information gathering and the creation of alternative strategies to overcome the problem.[250] Similar considerations were written into PN633,[251] with Appendix 1 expressly requiring "*potential communications problems*" to be given consideration during s.7(2)(d) visits.[252] While this may have made sense as a means of hazard identification, it is remarkable to an outsider that in age of technology the doctrine was designed to risk manage the fact that the equipment was not suitable for purpose.

9.6. FORSAKING RADICAL OPTIONS: The Coroner's Rule 43 letter after Lakanal House sought only consideration of whether additional BA radios were required, as well as extending the available channels for communication.[253] The nature of the recommendation did not prompt LFB to more radical options, notwithstanding that by the time of the Peer Review of 2015 the feedback on breathing apparatus communications indicated that "*there may be*

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[244] The criticism dates back to Kings Cross (1987) {**CWJ00000053/103-104 §§29-31**}; Harrow Court, Hertfordshire (2005) recommending review of technology used and re-training concerning correct use of channels, effective communication and procedures {**CWJ00000089/39-40 §§22-24**}; 7 July bombings (2005) {**CWJ00000049/35 §156**} and {**CWJ00000007/20-22 §§2.19-2.30**}; and with "*BARIE roving*" recognised in the Peer Review Self-Assessment {**LFB00032341/84**}

[245] {**CWJ00000023/49-50, 146-151**}, CLG Incident Ground Communications Report, responding to 9/11 (2008) {**CWJ00000119/62 §4.6.5**}: recommending inter alia, standardising the installation, testing, and maintenance of radio installations in the existing built environment, and exploration of whether to modify channel assignment {**CWJ00000092/11**}

[246] Investigation Report {**CWJ00000072/39** and **71**} and FBU Report {**CWJ00000098/57-58**}

[247] {**CJW00000099/16**}

[248] {**HOM00008004/46**}

[249] {**LFB00001255/9**}

[250] {**LFB00001255/18-19 and 38**}

[251] {**LFB00001256 §2.9, §4.8 (j), §4.13 and §7.72**}

[252] {**LFB00001256/19**}

[253] {**LFB00067807/6**}

examples of this failing and not being 'fit for purpose'."[254] From its own post Lakanal research, LFB knew that the effect of concrete and steel in high rises on low-powered BARIE sets was the main cause of loss of communications, all of which suggested the issue was structure and congestion, and not the narrower reasoning that it was only caused by unusual bulk deployment of crews.[255] When released internally within LFB, David Kennett of the Fire Safety Enforcement Team raised concerns in April 2012 about the issues with radios at Lakanal, and the fact that this would be a common issue across similar London high rises. No recommendations were made, and it was suggested nothing could be done.[256] There was some provisional discussion about replacing BARIE sets, but nothing came of it.[257] Of significance, LFB's Communication Department's draft response to the Lakanal Rule 43 letter had recommended that commanders should be trained on how to overcome communication issues, but also that a whole sale review was required.[258] None of these suggestions were contained in the final response to the coroner, which focussed on acquiring more sets and better training, and they were not pursued.[259]

9.7. TRAINING AND POLICY GAPS: Despite the undertaking to the Coroner, the training and policies put in place were deficient to deal with the various problems. Firefighter development training 'BA020P – Search and Rescue (Comms)' dealt with the practicalities of BA deployment and not the disadvantageous usability issues. There was also nothing in the course to train individual skills for s.7(2)(d) testing or generate sufficient CRM, or practical alternatives, when things went wrong at a fireground.[260] As mentioned above, the training package proposed under TCAP 0039,[261] which planned a communications study on the use of handheld radios and Airwave in 2013 at Lakanal House, was not delivered, due to internet service provider difficulties and then *"long grassed due to IT issues"* [262].

9.8. While they may not have been a panacea,[263] there was a lack of sufficient policy or training on the use of either leaky feeders ('LFs') or radio repeaters.[264] PN466 anticipated the need

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[254] **{LFB00048265/43 §86}**
[255] Johnson **{CWJ00000119/82 §4.14.2}**, Dobson {L**FB00032150/8 §9-15} {LFB00041759/1}**
[256] Kennett email (24 April 2012)**{LFB00049878/1 §8}**
[257] A'Court email (26 June 2013) **{LFB00109951/1}**
[258] **{LFB00098636/2-3}**
[259] **{CWJ00000119/78 §4.13.7} {LFB00042089/8}**
[260] Johnson**{CWJ00000119/122 §§5.10.1-2}**
[261] **{LFB00037060}**
[262] **{LFB00041959}{LFB00048068/1}**, **{CWJ00000119/122 §§5.10.1-2}**
[263] Dobson**{CWJ00000010/72-75** and **99-100}**
[264] Johnson **{CWJ00000119/193 §7.12}**

to deploy LFs, but does not explain how to use them.[265] PN700 did explain how, but training was only given to extended BA teams pre-Grenfell, and there was very limited acknowledgment of anyone trained on it at Grenfell, as it was seen as a specialist command function.[266] The policy also focussed on underground rather than high rise, despite the different challenges posed.[267] At Grenfell, is it also the case that telemetry repeaters and cables were deployed into Grenfell Tower, rather than the radio repeaters and leaky feeder cables that would have supported voice communications.[268] Given that the option of using this technology was expressly written into both GRA 3.2 and PN633, it is astonishing that operational responders should have been insufficiently trained to understand the difference.[269]

9.9. Finally, despite the general requirement to consider "*potential communication problems*" in Appendix 1 of PN633,[270] there is nothing corresponding about actual testing for radio blind spots and specific transmission problems, either in PN633 or in PN800.[271] LFB staff raised the possibility of testing as part of s.7(2)(d) visits and outcomes recorded on the ORD, but this was not done. There was also never a systematic testing policy for BARIE equipment, subject to a formulated method and protocol.[272]

9.10. ORGANISATIONAL FAILURE TO LEARN AND ADAPT: Professor Johnson's analysis doubts the capacity for long lasting change when there is no central repository of inquiry, inquest and FRS and other investigation learning, as well as there being no national investigatory mechanism.[273] The absence of these independent national structures, otherwise common in high risk related fields,[274] caused: (1) a loss of communication of information about previous incidents and accidents that should inform future risk assessments; (2) the risk of maintaining status quo or short term solutions, especially without access to the bank of evidence that would have supported a more compelling case for change; (3) bias towards existing procurement decisions, not least because of the resources and training put into them (i.e. the sunk cost fallacy); and (4) potentially fragmented and localist responses to

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[265] **{LFB00000173/30 §29.36}**
[266] **{LFB00001762}{CWJ00000119/194-195 §§7.12.4-17.12.7}**
[267] Johnson **{CWJ00000119/195-196 §7.12.8}**
[268] Johnson **{CWJ00000119/176 §7.2.10** and **178 §7.14}**
[269] GRA 3.2 **{LFB00001255/33}**, PN633 **{LFB00001256/17 §7.72}**
[270] PN633 **{LFB00001256/19}**
[271] PN800 Management of Operational Risk Information**{LFB00000705}**
[272] Johnson **{CWJ00000119/108-110 §5.4.2-5.4.5}**
[273] Johnson **{CWJ00000119/94-95 §§4.19 and 4.20}**
[274] E.g. healthcare and air accident

what were nationwide problems. A similar suggestion was made to the Government CFRA in October 2008, but the work was not pursued in the light of the then policy to encourage a sector led approach to advice and guidance.[275] In 2013, the Manchester Coroner's Regulation 28 letter on the Oldham Street fire also recommended the national coordination of lesson learning.[276] This kind of oversight structure that correlates the reports and recommendations of all inquests and inquiries as long been sought by the organisation INQUEST to that effect.[277]

PART X: CONCLUSION

10.1. The organisation that courageously came to the aid of Grenfell Tower in June 2017 presents as full of problems that need solving in the service of its future and the needs of the public facing the next disaster. Others have said it in different ways, but the BSR are entitled to raise the issue of trust. LFB is an organisation that does not trust itself. The people at the top do not trust each other. The supervisors do not trust their subordinates. The supervised mistrust their supervisors. The stations mistrust the management. Other than when fighting ordinary fires, firefighters do not trust themselves. As the Inquiry opens this part of its investigation, LFB is not trustworthy.

10.2. It is a measure of the problem that the two inquiry experts who have worked independently of UK FRS – Professor Johnson and Professor Torero – do not believe that LFB can change without outside intervention. Professor Johnson seeks an external investigation mechanism, to "*avoid the conflict of interest that arises when FRS staff examine the conduct of their FRS colleagues*".[278] Professor Torero's stance is further reaching. He would: (1) Release the FRS from dependency on a decision making model predominantly based on pre-existing plan execution, and enable it to develop multiple plan formulations based on genuinely dynamic approaches to unfolding fires;[279] (2) Transform both the education, but also the internal image, of the traditional firefighter, he and she no longer needing to be the hero in the story;[280] (3) Profoundly reformulate

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[275] Knight {**HOM00046025/19 §§38-39**}{**HOM00009381/1**}

[276] {**CWJ00000098/47-48 §5(10)**} and {**CWJ00000098/70**}: Chief officer replied that remained a matter of local framework as opposed to national SOPs {**CWJ00000098/79**}

[277] See INQUEST Parliamentary Briefing dated 30 October 2019 which called for *"The establishment of a 'national oversight mechanism'. An independent, public body with the duty to collate, analyse and monitor recommendations and their implementation arising from post death investigations, inquiries and inquests"*: https://www.inquest.org.uk/Handlers/Download.ashx?IDMF=db974ce3-f8ac-4a96-b003-d51232c8a84b

[278] Johnson {**CWJ00000119/94-95 §4.20.5**}

[279] Torero{**JTOR00000002/25/860**}

[280] Torero {**JTOR00000002/25/875-876**}

the hierarchy of the organisation, making space for those who are competent and talented to conduct plan formulation and alter the existing bias in elevating leadership from those who have simply been proficient in pre-existing plan execution and who are too aligned with the image of the traditional firefighter;[281] and (4) Ensure that engineering and officers are able to sufficiently impact on each other's knowledge, as well as ensuring engineering impacts on the knowledge of operational responders.[282] None of this will be stable unless and until the changes in professional qualification, development and recruitment of fire engineers takes place. Otherwise, "*the increasing complexity of building systems will drive society in unidentified paths towards irresponsible deregulation by incompetency*".[283]

10.3. Until then it is difficult to dispute that those in high rise social housing dwellings will be the most at risk. It is these buildings with their vulnerable populations and state imposed budget reductions, which attract the most cost cutting and least competent assessors, all of which become the drivers of inequality and the further cause of destabilisation of already unstable fire services.[284] The changes cannot happen without broader transformation that diversifies the ranks of the service, not simply out of respect for equality, but because of the need to diversify the competencies available to it. However, no FRS will ever lead itself out of these current deficiencies, and therefore what is required is a long term ongoing multi-disciplinary national transformation process, which should include FRS personnel, but must be led by others. This group needs to have external leadership "*because the current culture of the Fire and Rescue Services does not allow for the required level of self-criticism and introspection*".[285] The question of reform can no longer be a closed conversation. The Panel will have to decide how much it will prompt these endeavours. But as with other aspects of this once in a generation inquiry; if not now, when?

DANNY FRIEDMAN QC & IFEANYI ODOGWU

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6 August 2021

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[281] Torero **{JTOR00000002/25/880-885}**
[282] Torero **{JTOR00000002/26/912}** and Figure 1
[283] Torero **{JTOR00000001/8/248-251}**
[284] Torero, et al, The Warren Centre, University of Sydney, *Fire Safety Engineering, Education Report*, 2019 **{JTO00000004/29}**
[285] Torero **{JTOR00000002/27/931-936}**