

Building a Safer Future

Independent Review of Building Regulations and Fire Safety: **Final Report**

May 2018

Dame Judith Hackitt DBE FREng

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Building a Safer Future

Independent Review of Building Regulations and Fire Safety: Final Report

Presented to Parliament
by the Secretary of State for Housing, Communities and Local Government
by Command of Her Majesty

May 2018



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Foreword



A personal view from Dame Judith Hackitt

In my interim report published in December 2017 I described how the regulatory system covering high-rise and complex buildings was not fit for purpose. In the intervening period, we have seen further evidence confirming the deep flaws in the current system:

- lack of an audit trail as to whether essential safety work was carried out on the Ledbury Estate, and other large panel systems tower blocks;
- a door marketed as a 30-minute fire door failed prior to 30 minutes when tested, revealing concerns around quality assurance and the ability to trace other fire doors manufactured to that specification;
- another tower block fire where fire spread between floors via wooden balconies; and
- a major fire in a car park in Liverpool which came close to encroaching on a block of flats nearby.

It is not my intention to repeat here all of the shortcomings identified in the interim report. However, it is important to emphasise that subsequent events have reinforced the findings of the interim report, and strengthened my conviction that there is a need for a radical rethink of the whole system and how it works. This is most definitely not just a question of the specification of cladding systems, but of an industry that has not reflected and learned for itself, nor looked to other sectors. This does not mean that all buildings are unsafe. Interim mitigation and remediation measures have been put in place where necessary for existing high-rise residential buildings to assure residents of their safety regarding fire risk. It is essential that this industry now works to implement a truly robust and assured approach to building the increasingly complex structures in which people live.

The key issues underpinning the system failure include:

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

- **Indifference** – the primary motivation is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe for people to live in. When concerns are raised, by others involved in building work or by residents, they are often ignored. Some of those undertaking building work fail to prioritise safety, using the ambiguity of regulations and guidance to game the system.
- **Lack of clarity on roles and responsibilities** – there is ambiguity over where responsibility lies, exacerbated by a level of fragmentation within the industry, and precluding robust ownership of accountability.
- **Inadequate regulatory oversight and enforcement tools** – the size or complexity of a project does not seem to inform the way in which it is overseen by the regulator. Where enforcement is necessary, it is often not pursued. Where it is pursued, the penalties are so small as to be an ineffective deterrent.

The above issues have helped to create a cultural issue across the sector, which can be described as a ‘race to the bottom’ caused either through ignorance, indifference, or because the system does not facilitate good practice. There is insufficient focus on delivering the best quality building possible, in order to ensure that residents are safe, and feel safe.

A global concern

England is by no means alone in needing to improve building safety. Scotland has provided some excellent examples of good practice which are included in this report, in particular around supporting resident participation and collaboration. However, at the time of writing, the Scottish Government had commissioned a further review of building regulation, driven by serious structural failures which have occurred there. The Building Products Innovation Council in Australia

has also published its own report, 'Rebuilding Confidence: An Action Plan for Building Regulatory Reform'¹ since I wrote my interim report – it tells a story which could just as easily be applied to us. Extracts from that report are included in Appendix K of this report for easy reference.

A principled approach

At the heart of this report are the principles for a new regulatory framework which will drive real culture change and the right behaviours. We need to adopt a very different approach to the regulatory framework covering the design, construction and maintenance of high-rise residential buildings which recognises that they are complex systems where the actions of many different people can compromise the integrity of that system.

The principle of risk being owned and managed by those who create it was enshrined in UK health and safety law in the 1970s, following the review conducted by Lord Robens, and its effectiveness is clear and demonstrable. The principles of health and safety law do not just apply to those who are engaged in work but also to those who are placed at risk by work activities, including members of the public. It should be clear to anyone that this principle should extend to the safety of those who live in and use the 'products' of the construction industry, such as a multi-occupancy building, where the risk of fire exposes residents to danger.

A decision was taken back in 1975 to specifically exclude consumer safety and building safety from the Health and Safety Executive's (HSE) remit. However, since then, HSE's remit has increasingly extended into certain key areas – e.g. domestic gas safety. This review concludes that there is a strong case for the full effect of the key principle of risk ownership and management to be applied alongside building regulations.

This report recommends a very **clear model of risk ownership**, with clear responsibilities for the Client, Designer, Contractor and Owner to demonstrate the delivery and maintenance of safe buildings, overseen and held to account by a new Joint Competent Authority (JCA).

The new regulatory framework must be simpler and more effective. It must be truly **outcomes-based** (rather than based on prescriptive rules and complex guidance) and it must have real teeth, so that it can drive the right behaviours. This will create an environment where there are incentives

to do the right thing and serious penalties for those who choose to game the system and as a result put the users of the 'product' at risk.

This approach also acknowledges that prescriptive regulation and guidance are not helpful in designing and building complex buildings, especially in an environment where building technology and practices continue to evolve, and will prevent those undertaking building work from taking responsibility for their actions.

An outcomes-based framework requires people who are part of the system to be competent, to think for themselves rather than blindly following guidance, and to understand their responsibilities to deliver and maintain safety and integrity throughout the life cycle of a building.

We must also begin thinking about **buildings as a system** so that we can consider the different layers of protection that may be required to make that building safe on a case-by-case basis. Some of the social media chatter and correspondence I have read whilst I have been engaged in this review shows how far we need to move in this respect. The debate continues to run about whether or not aluminium cladding is used for thermal insulation, weather proofing, or as an integral part of the fabric, fire safety and integrity of the building. This illustrates the siloed thinking that is part of the problem we must address. It is clear that in this type of debate the basic intent of fire safety has been lost.

A **risk-based approach** to the level of regulatory oversight based on a clear risk matrix will be most effective in delivering safe building outcomes. Complex systems that are designed for residential multi-occupancy must be subject to a higher level of regulatory oversight that is proportionate to the number of people who are potentially put at risk.

Transparency of information and an audit trail all the way through the life cycle of a building from the planning stage to occupation and maintenance is essential to provide reassurance and evidence that a building has been built safe and continues to be safe. For example, the current process for testing and 'certifying' products for use in construction is disjointed, confusing, unhelpful, and lacks any sort of transparency. Just as the process of constructing the building itself must be subject to greater scrutiny, the classification and testing of the products need to undergo a radical overhaul to be clearer and more proactive.

¹ Hills, Rodger (2018), *Rebuilding Confidence: An Action Plan for Building Regulatory Reform*, BPIC, Australia.

Where concerns are identified through testing or incident investigation, these findings must be made public and action needs to be taken if these issues are putting people at risk. This industry sector stands out from every other I have looked at in its slow adoption of traceability and quality assurance techniques. These are in widespread use elsewhere and the technology is readily available.

Progress since the interim report – implementation of recommendations and stakeholder collaboration

Since the interim report was published a good deal of progress has been made on some of the interim recommendations. We have also received a wealth of high-quality input from the working groups that were set up in February.

Above all, I have been heartened by the strong support we have had to drive a major culture change throughout the whole system. Reports dating back as far as the 1990s, such as ‘Rethinking Construction’ authored by the eminent Sir John Egan,² highlight many of the cultural issues which needed to be addressed, even then, to develop a modern, productive and safe construction sector. It is good that we start from such a strong and common agreement on the problems to be fixed, but we must also understand and overcome the issues that have stopped change from happening in the past. While conducting this review I have had personal experience of the high level of self-interested advocacy which hampers good independent decision-making in this sector, and gets in the way of much needed progress to a different set of behaviours.

It has become clear to me that the fire safety sector is not as strong or mature as other areas of engineering expertise, such as structural engineering. It is important that the sector looks to how it can implement the findings of this review and embrace closer and professionally robust working with the construction industry.

A radical overhaul to futureproof the system

While this review recommends a different approach, it is far from being a leap of faith. It is built upon confidence of what we know works here in our culture in other sectors, and more importantly in the construction sector.

The Construction (Design and Management) Regulations (CDM Regulations) under the Health and Safety at Work Act have already driven exactly this culture and behaviour change in the very same industry sector in relation to the safety of those employed in constructing and maintaining buildings. Other industry sectors have developed a mature and proportionate way to manage and regulate higher-risk and complex installations. These approaches now need to be repeated in relation to the safety and quality of complex buildings and to the safety of those who live in them. This is not just my view but one that we have heard repeatedly from the many people we have spoken to as part of this review – they have told us that they want to see a revised framework for building regulation, one that is as clear and effective as the CDM Regulations.

There are many people who stand ready and willing to help deliver this level of radical change and are ready to take on the key principles:

- What is described in this report is **an integrated systemic change not a shopping list** of changes which can be picked out on a selective basis.
- **To embed this systemic change will require legislative change and therefore take time** to fully implement. There is no reason to wait for legal change to start the process of behaviour change once it is clear what is coming and what is expected. A sense of urgency and commitment from everyone is needed.
- **We must find a way to apply these principles to the existing stock of complex high-rise residential buildings as well as new builds.** That is a moral obligation to those who are now living in buildings which they bought or rented in good faith assuming them to be safe and where there is now reason to doubt that. This will take time and there will be a cost attached to it. It is beyond the scope of this review to determine how remedial work is funded but this cannot be allowed to stand in the way of assuring public safety.
- We need to **maintain the spirit of collaboration and partnership** which has been a feature of the review process to date. In a sector that is excessively fragmented we have seen during the course of this review a will to work together to deliver consistent solutions. This will be especially important going forward to change culture.

² Egan, John. (1998) *Rethinking Construction: Report of the Construction Task Force*, HMSO, London.

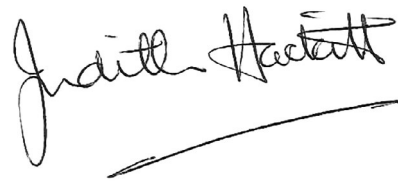
- **The ideas proposed in this report have broader application** to a wider range of buildings and to drive change more broadly.
- There will be those who will be fearful that the change will slow down the build of much needed new housing; however, there is every reason to believe that the opposite will be true. More rigour and oversight at the front end of the process **can lead to significant increases in productivity**, reduction in ongoing costs and to better outcomes for all in the latter and ongoing stages of the process. Improving the procurement process will play a large part in setting the tone for any construction project. This is where the drive for quality and good outcomes, rather than lowest cost, must start.

The criticism about thinking in silos must also be laid in part at the regulatory system that oversees the industry's activities. Viewed from one end of the lens it may matter a lot who 'owns' particular aspects of regulation, be that in terms of government departments or different national and local regulatory bodies. But for those on the receiving end this often results in disjointed and confusing guidance – what often gets described as "too much regulation". The mapping exercise which was explained extensively in the interim report has had a profound effect on thinking and has identified a real opportunity to put joined-up regulation into practice. There is no need for a new regulator to deliver this new regime but there is a need for existing regulators to come together and bring their collective expertise and knowledge to bear in a very different way to deliver a stronger and better regime that will benefit everyone.

The ultimate test of this new framework will be the rebuilding of public confidence in the system. The people who matter most in all of this are the residents of these buildings. The new framework needs to be much more transparent; potential purchasers and tenants need to have clear sight of the true condition of the space they are buying and the integrity of the building system they will be part of. The relationship between landlords and tenants, in whatever ownership model exists in a given building, needs to be one of partnership and collaboration to maintain the integrity of the system and keep people safe. There must be a clear and easy route of redress to achieve resolution in cases where there is disagreement. I have continued to meet with residents and this new framework will ensure that their perspective will not be lost in the future.

One of the greatest concerns which has been expressed to me is whether there is the political will to achieve radical and lasting change. I believe that we have a real opportunity to do this, and to create a system in which everyone will have greater confidence. At the high end of this ambition this country can lead the world in developing a robust and confidence-building approach to the built environment and improving construction productivity. I have felt privileged to work with those who share this ambition and have indicated my willingness to stay engaged in the process of implementation and delivery.

Finally, I want to thank the review team I have worked with over the last 10 months for their dedication and hard work. This has been a challenging review and we have covered a lot of ground. We have all been deeply affected by many of the personal stories we have heard from residents and want to see lasting change result from this review. That is the very least we can all do for the bereaved and the survivors of the tragedy that occurred on 14 June 2017, and for everyone who needs to know that their homes are safe for them to live in.



DAME JUDITH HACKITT

Executive summary

Executive summary

Overview

The interim report identified that the current system of building regulations and fire safety is not fit for purpose and that a culture change is required to support the delivery of buildings that are safe, both now and in the future. The system failure identified in the interim report has allowed a culture of indifference to perpetuate.

More specifically:

- the roles and responsibilities of those procuring, designing, constructing and maintaining buildings are unclear;
- the package of regulations and guidance (in the form of Approved Documents) can be ambiguous and inconsistent;
- the processes that drive compliance with building safety requirements are weak and complex with poor record keeping and change control in too many cases;
- competence across the system is patchy;
- the product testing, labelling and marketing regime is opaque and insufficient; and
- the voices of residents often goes unheard, even when safety issues are identified.

The new regulatory framework set out in this report must address all of these weaknesses if there is to be a stronger focus on creating and maintaining safe buildings. It must strengthen regulatory oversight to create both positive incentives to comply with building safety requirements and to effectively deter non-compliance. It must clarify roles and responsibilities. It must raise and assure competence levels, as well as improving the quality and performance of construction products. Residents must feel safe and be safe, and must be listened to when concerns about building safety are raised.

This new regulatory framework must be delivered as a package. The framework will be based around a series of interdependent, mutually reinforcing

changes where one new measure drives another. In doing so it reflects the reality of most high-rise buildings which operate as a complex inter-locking system. Only this genuine system transformation will ensure that people living in high rise buildings are safe and have confidence in the safety of their building, both now and in the future.

The new framework is designed to:

- **Create a more simple and effective mechanism for driving building safety** – a clear and proportionate package of responsibilities for dutyholders across the building life cycle.³ This means more time will be spent upfront on getting building design and ongoing safety right for the buildings in scope. This will create the potential for efficiency gains; scope for innovation in building practices; and value for money benefits from constructing a building that has longer-term integrity and robustness.
- **Provide stronger oversight of dutyholders with incentives for the right behaviours, and effective sanctions for poor performance** – more rigorous oversight of dutyholders will be created through a single coherent regulatory body that oversees dutyholders' management of buildings in scope across their entire life-cycle. A strengthened set of intervention points will be created with more effective change control processes and information provision.
- **Reassert the role of residents** – a no-risk route for redress will be created and greater reassurances about the safety of their home will be offered, as well as ensuring that residents understand their role and responsibilities for keeping their building safe for themselves and their neighbours.

In making these changes, the new framework will also radically enhance the current model of responsibility so that:

³ Covering procurement, design, construction, occupation, maintenance and refurbishment.

- Those **who procure, design, create and maintain** buildings are responsible for ensuring that those buildings are safe for those who live and work in them.
- **Government** will set clear outcome-based requirements for the building safety standards which must be achieved.
- The **regulator** will hold dutyholders to account, ensure that the standards are met and take action against those who fail to meet the requirements.
- **Residents** will actively participate in the ongoing safety of the building and must be recognised by others as having a voice.

Recommendations

The recommendations for this new framework are explained over the following ten chapters of this report and are summarised below.

The key parameters of a new regulatory framework (set out in Chapter 1) will establish:

- A **new regulatory framework** focused, in the first instance, on **multi-occupancy higher risk residential buildings (HRRBs) that are 10 storeys or more in height**;
- A **new Joint Competent Authority (JCA)** comprising Local Authority Building Standards, fire and rescue authorities and the Health and Safety Executive to oversee better management of safety risks in these buildings (through safety cases) across their entire life cycle;
- A **mandatory incident reporting mechanism** for dutyholders with concerns about the safety of a HRRB.

Improving the focus on building safety during the design, construction and refurbishment phases (set out in Chapter 2) through:

- A set of **rigorous and demanding dutyholder roles and responsibilities** to ensure a stronger focus on building safety. These roles and responsibilities will broadly align with those set out in the Construction (Design and Management) Regulations 2015;

- A **series of robust gateway points to strengthen regulatory oversight** that will require dutyholders to show to the JCA that their plans are detailed and robust; that their understanding and management of building safety is appropriate; and that they can properly account for the safety of the completed building in order to gain permission to move onto the next phase of work and, in due course, allow their building to be occupied;
- A **stronger change control process** that will require robust record-keeping by the dutyholder of all changes made to the detailed plans previously signed off by the JCA. More significant changes will require permission from the JCA to proceed;
- A **single, more streamlined, regulatory route to oversee building standards** as part of the JCA to ensure that regulatory oversight of these buildings is independent from clients, designers and contractors and that enforcement can and does take place where that is necessary. Oversight of HRRBs will only be provided through Local Authority Building Standards⁴ as part of the JCA, with Approved Inspectors available to expand local authority capacity/expertise or to newly provide accredited verification and consultancy services to dutyholders; and
- More **rigorous enforcement powers**. A wider and more flexible range of powers will be created to focus incentives on the creation of reliably safe buildings from the outset. This also means more serious penalties for those who choose to game the system and place residents at risk.

Improving the focus on building safety during the occupation phase (set out in Chapter 3) through:

- A **clear and identifiable dutyholder** with responsibility for building safety of the whole building. The dutyholder during occupation and maintenance should maintain the fire and structural safety of the whole building, and identify and make improvements where reasonable and practicable;

4 The proposed new name for Local Authority Building Control – see Chapter 2.

- A requirement on the dutyholder to present **a safety case** to the JCA at regular intervals to check that building safety risks are being managed so far as is reasonably practicable;
- **Clearer rights and obligations for residents** to maintain the fire safety of individual dwellings, working in partnership with the dutyholder. This will include a combination of transparency of information and an expectation that residents support the dutyholder to manage the risk across the whole building ; and
- A **regulator for the whole of the building (the JCA) in relation to fire and structural safety in occupation** who can take a proactive, holistic view of building safety and hold dutyholders to account with robust sanctions where necessary.

Giving residents a voice in the system (set out in Chapter 4) through:

- Providing **reassurance and recourse** for residents of all tenures by providing:
 - greater transparency of information on building safety;
 - better involvement in decision-making, through the support of residents associations and tenant panels; and
 - a no-risk route for residents to escalate concerns on fire safety where necessary, through an independent statutory body that can provide support where service providers have failed to take action, building on ongoing work across Government.

Setting out demanding expectations around improved levels of competence (set out in Chapter 5) through:

- The construction sector and fire safety sector demonstrating more effective leadership for ensuring building safety amongst key roles including **an overarching body to provide oversight of competence requirements**.

Creating a more effective balance between government ownership of building standards and industry ownership of technical guidance (set out in Chapter 6) by:

- Moving towards a system where **ownership of technical guidance rests with industry** as the intelligent lead in delivering building safety and providing it with the flexibility to ensure that guidance keeps pace with changing practices **with continuing oversight from an organisation prescribed by government**.
- A package of **regulations and guidance that is simpler to navigate but that genuinely reflects the level of complexity** of the building work. This new approach will reinforce the concept of delivering building safety as a system rather than by considering a series of competing or isolated objectives.

Creating a more robust and transparent construction products regime (set out in Chapter 7) through:

- **a more effective testing regime with clearer labelling and product traceability**, including a periodic review process of test methods and the range of standards in order to drive continuous improvement and higher performance and encourage innovative product and system design under better quality control. This regime would be underpinned by a more effective market surveillance system operating at a national level.

Creating a golden thread of information about each HRRB (set out in Chapter 8) by:

- **Obligating the creation of a digital record for new HRRBs from** initial design intent through to construction and including any changes that occur throughout occupation. This package of building information will be used by the dutyholders to demonstrate to the regulator the safety of the building throughout its life cycle.

And in addition:

- **Tackling poor procurement practices** (set out in Chapter 9) including through the roles and responsibilities set out above, to drive the right behaviours to make sure that high-safety, low-risk options are prioritised and full life cycle cost is considered when a building is procured;

- **Ensuring continuous improvement and best-practice learning through membership of an international body** (set out in Chapter 10).

The recommendations in this report relate predominantly to HRRBs which will be overseen by the JCA. However, it is made clear in the following chapters where the review believes that there would be merit in certain aspects of the new regulatory framework applying to a wider set of buildings.

Costs and savings associated with the new regulatory framework

These recommendations will require additional actions from those building and owning HRRBs. However, there are a number of potential benefits from this approach: for example, investing more in upfront design is likely to save financial resources later on in the process.

Research from the USA suggests that net savings in the region of 5% in the costs of the construction of newly built projects are possible where a digital record is utilised (see Chapter 8). In addition, a clearer set of roles and responsibilities could:

- create certainty in the market in terms of what the changes look like and in both the immediate and longer term reduce risks of poor quality

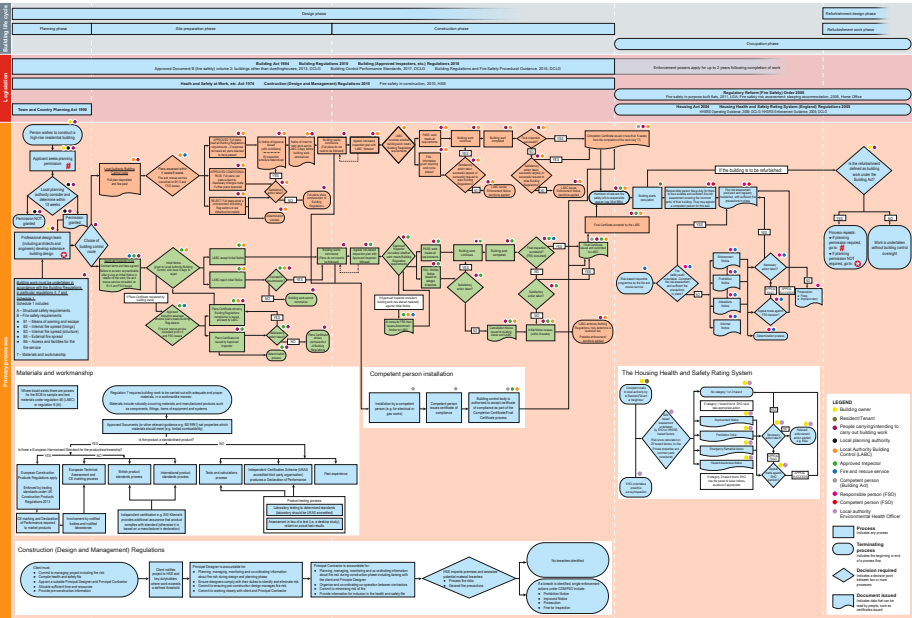
- building work, increasing investor confidence and mitigating the likelihood of any slowing down in the pace of building work; and
- reduce confusion between different actors over who is responsible for specific aspects of the work, and minimise the likelihood of mistakes that need to be rectified, speeding up the transaction process and potentially deliver efficiencies that manifest themselves in greater productivity.

More broadly, investing in improved competence levels could ensure that more skilled workers are able to correct errors and improve efficiency alongside ensuring compliance with the regulations. An improved product testing and marketing regime could also have additional quality benefits, for instance in ensuring sustained product performance.

Mapping the existing and future regulatory frameworks

The interim report included an outline map of the existing regulatory system insofar as it applied to the design, construction, occupation and maintenance of a high-rise residential building. Even though it did not cover all detailed scenarios, it was still **highly** complex – involving multiple routes, regulators, dutyholders and differing (and overlapping) sets of legislation.

Figure 1: Map of the current regulatory system for high-rise residential buildings



The new regulatory framework for HRRBs attempts to move in the opposite direction by making the regime significantly more straightforward and comprehensible whilst also making it more rigorous and effective. At Appendix B we have included an outline map of the new framework based on our recommendations. It is **significantly** simpler. This greater simplicity is because of the following key changes:

- the same regulatory body (the JCA) oversees building safety across the building life cycle;
- the same legislative framework applies across the building life cycle;
- the existing overlaps between different legislation and different regulators (in particular the Housing Act 2004 and the Fire Safety Order 2005) have been removed;
- there are no longer two parallel, but confusingly different, building control bodies providing oversight during design and construction;
- there are a new set of specific JCA interventions across the building life cycle (gateway points and safety case review); and
- self-certification processes (whereby aspects of building work can be signed off by the individuals doing the work without broader regulatory oversight) have been removed.

The report acknowledges there are some areas where complexity remains, especially around oversight of construction products. The review sets a clear direction towards eventual greater simplification although there remains much more to do.

Conclusion

Whilst the recommendations in each chapter are crucial, in isolation they will fail to achieve the systemic change sought. The framework operates as a mutually reinforcing package and requires the implementation of its interdependent components in order for this to be achieved.

Implementing the package proposed in this report may take some time. Whilst some of the recommendations can be delivered in the short term, some will require primary legislation and in the meantime industry must start ‘living’ the cultural shift that is required – the most important element of achieving that will be leadership from within industry.

It is therefore important that government develops a joined-up implementation plan to provide a coherent approach to delivering the recommendations in this report.

The next chapter sets out some of the key parameters that underpin the new regulatory framework. The subsequent chapters set out in detail the recommendations covering each key element of change.

Chapter 1 Parameters and principles of a new regulatory framework

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Introduction

1.1 Chapters 2 to 9 set out in detail how the new regulatory framework to ensure building safety would operate across the building life cycle. In order to achieve the system change that is required, the new regulatory framework will be underpinned by a number of key parameters and underlying principles. In particular this chapter covers:

- the buildings within scope of the new regulatory framework;
- how regulatory oversight of these buildings will be provided;
- the importance of a systems approach to risk management, considering the layers of protection to ensure building safety;
- the rationale behind an outcomes-based rather than a prescription-based building safety system; and
- the need for better incident reporting and whistleblowing in respect of buildings in scope.

Buildings within scope of the new regulatory framework

1.2 Based on its Terms of Reference, this review has primarily focused on creating a stronger regulatory framework for high-rise, multi-occupancy residential buildings. The review has undertaken further work to identify which set of buildings will fall within the scope of the proposed new regime. This has included analysis of existing risk definitions in the Approved Documents, consideration of where the potential impacts associated with a fire are likely to be greatest and where there is evidence that fires are more prevalent in practice. This is set out in more detail in Appendix C.

1.3 In light of this analysis it is most relevant to target the more intensive regulatory framework set out in this report on **new and existing high-rise residential properties which are 10 storeys high or more**. This is because the likelihood of fire is greater in purpose-built blocks of flats of 10 storeys or more than in those with fewer storeys and, particularly after the fire at Grenfell Tower, the rate of fatalities is also greater in such buildings.⁵ For the purposes of this report such buildings will be known as higher risk residential buildings or HRRBs. According to Land Registry and Ordnance Survey information, there are an estimated 2,000 to 3,000 HRRBs.⁶ This 10-storey threshold would, for example, have captured Grenfell Tower as well as Lakanal House and the Ledbury Estate. For the avoidance of doubt, this 10-storey threshold would apply to mixed-use buildings of this height if part of it was residential. Estimating the number of new buildings being constructed which fall into this category is not straightforward. However, the review has looked at the Annual London Tall Buildings Survey of twenty storey (or higher) buildings in London. This is also set out in more detail at Appendix C.

1.4 The government should identify new buildings which will fall into this category through Local Planning Authorities and utilise the experiences of the Ministry of Housing, Communities and Local Government (MHCLG) Building Safety Programme (following the fire at Grenfell Tower) to compile a list of existing residential buildings which fall into this category.

1.5 The new framework is targeted at high-rise residential buildings of 10 storeys or more. However it will also be important to ensure that government can respond quickly in the future, where necessary, to broaden this definition in light of either critical new information emerging (e.g. through incident reporting or whistle-blowing) or experience of operating the new regime. For example, a reasonable ambition might be for government to widen the definition in due course to include a wider set of residential buildings below 10 storeys or other residential buildings where people sleep (such as hospitals or care homes) which are normally less than 10 storeys high and will have vulnerable people sleeping within them.

1.6 Many recommendations in this report are only intended to apply to HRRBs. However in some cases the review suggests applying specific recommendations to a wider set of buildings. This is where it feels proportionate to do so and the recommendation will clearly benefit building standards more broadly. In particular the review identifies two further classes of buildings where specific recommendations should equally apply:

- Other multi-occupancy residential buildings (e.g. blocks of flats below 10 storeys) where the Fire Safety Order already applies.⁷ In this report these buildings are referred to as 'multi-occupancy residential buildings'; and

⁵ It should also be noted that, more generally, fire fatality risk is primarily associated with demographics and behaviour rather than type of building (e.g. very elderly people are at greater risk of dying in a fire than young adults). However the potential impacts associated with a fire are much greater in multi-occupancy residential buildings than in, for example, single residential dwellings.

⁶ This estimate is based on a dataset of residential buildings of 10 storeys or more provided by Homes England. See Appendix C for an explanation of the data sources and the caveats for citing the figure.

⁷ More specifically, where the Fire Safety Order applied to the common parts of that building.

- Institutions and other buildings used as living accommodation where people sleep including hospitals, care homes, hotels, prisons, Halls of Residence and boarding schools. In this report these buildings are referred to as ‘institutional residential buildings’.

1.7 In addition, some recommendations apply to all building work of any scale (and whether commercial, residential or otherwise). This tiered approach will reduce the cliff-edge between the requirements placed on HRRBs and other buildings. It will also reduce the incentives for gaming.

Recommendation 1.1

The new regulatory framework should apply to residential properties which are 10 or more storeys high in the first instance. New HRRBs should be identified by the Local Planning Authority and notified to the regulator. Existing buildings in scope should be identified through other means, learning from the MHCLG Building Safety Programme experience.

Regulatory oversight of HRRBs

1.8 At present, the regulatory framework covering the life cycle of HRRBs involves several different regulators working under several different pieces of legislation. During design and construction of a building, regulatory oversight of the safety of workers and the public during construction work is provided by the Health and Safety Executive (HSE). Regulatory oversight of the standards of design and construction is provided by building control bodies (whether through local authority building control⁸ or private sector Approved Inspectors). These building control bodies are statutorily required, at certain stages in the process, to consult with fire and rescue authorities (FRAs) on fire safety aspects.

1.9 During the occupation of a building, regulatory oversight of the fire safety of the common parts of the building is undertaken by FRAs, with the HSE also able to intervene to protect worker safety in and around the building. In parallel Environmental Health Officers working for local authorities have general (sometimes overlapping) powers under the Housing Act 2004 to uphold minimum housing standards against key hazards such as poor fire safety and poor ventilation. During refurbishment each of the regulators can become involved albeit in overlapping processes designated by several different pieces of legislation.

1.10 This review has considered the most effective and efficient way that regulatory oversight can be provided, in order to support the much stronger focus on building safety.⁹ In light of the events following the tragedy at Grenfell Tower and the analysis at Appendix C it is clear that:

- HRRBs should be subject to closer, more robust and more expert scrutiny across the building life cycle to improve building safety;
- existing regulators should be more astute at appraising building safety and require more

effective tools to offer the level of oversight needed.

1.11 In this context the regulator can learn from how the HSE has delivered its responsibilities. In particular, the new regulatory framework set out in this report will be significantly more effective if regulators can:

- learn to work with industry to embed and enforce dutyholder responsibilities across the building life cycle in the manner that the HSE has applied the Construction (Design and Management) Regulations on construction sites;
- manage risk and deliver robust and focused safety case reviews in the same way that the HSE undertakes them with dutyholders in the context of large-scale chemical plants and offshore oil and gas installations where, as with HRRBs, there are major accident hazards.

1.12 In light of this, the regulatory framework for HRRBs will be significantly enhanced if it is overseen by a new joint competent authority (JCA) whose primary aim would be to oversee building safety within HRRBs across their entire life cycle. **The JCA would comprise the combined expertise and knowledge of Local Authority Building Standards¹⁰ and FRAs, but with the addition of the HSE.** Such an approach would not mean merging those organisations but rather providing a framework for those bodies to work together to more rigorously assess building safety and would create a more unified and consistent intervention process.

1.13 Within this context all three regulators would have specific skills to support the creation and maintenance of safer buildings (see the box below for the sorts of responsibilities that the report suggests the JCA should take on). More specifically:

⁸ In this Report local authority building control services are referred to as LABC – each local authority remains individually responsible for the delivery of building control services in its area.

⁹ Building Safety should be taken to mean the aspects of the Building Regulations connected to (i) fire safety and (ii) structural safety and other relevant requirements that could impact on fire and structural safety.

¹⁰ This is the proposed name for local authority building control services. Chapter 2 sets this out in more detail and the crucial role that current Approved Inspectors can perform in support of building control oversight.

- **Local Authority Building Standards** will bring long-term, technical expertise in the assessment of building safety and wider building standards to the JCA. The expectation would be that they would, on behalf of JCA, continue to predominate during the design, construction and refurbishment stages. However they could also support the proposed safety case review¹¹ process during occupation and, for example, help to identify where changes to existing buildings could reasonably be made to reduce safety risks so far as is reasonably practicable. In those geographical areas where there is a significant concentration of HRRBs, Local Authority Building Standards will need to ensure that they have sufficient competent resource to perform this role.
- **The FRAs** will bring fire safety expertise to the JCA ensuring fire safety measures are properly considered, in place and maintained (for example, by ensuring awareness of measures to reduce the risk of fire and the means to escape from fire). The expectation would be that they would, on behalf of the JCA, continue to provide specific technical fire safety input during the design, construction and refurbishment stages. But the FRAs could predominate, on behalf of the JCA, during the occupation and maintenance phase, particularly in the delivery of the ongoing safety case review process.
- **The Health and Safety Executive** would provide expertise on risk management of major hazards and the process and theory of safety case reviews. It would also help underpin the effective implementation and assessment of the new dutyholder responsibilities given its existing oversight of construction site safety. More broadly the HSE could also offer an independent critique of safety cases, assist with dispute resolution between the other regulators and help establish a sanctions and enforcement regime that more clearly drives dutyholder compliance. This role would take place alongside its existing role in oversight of construction site safety.

1.14 The assumption would be that the three regulators working within the JCA would work on a full cost recovery basis (in a way that supported the set-up and ongoing maintenance of the JCA itself). All key engagements between dutyholders and the JCA would therefore be fully chargeable. This builds on the varying approaches currently applied by building control bodies and the HSE. This would

mean a proportionate approach where those whose work needed the highest level of intervention and oversight paid the highest cost.

1.15 The creation of the JCA is considered to be more appropriate than the creation of an entirely new single regulator that draws building safety expertise away from three pre-existing organisations who would still have critical work to take forward.

1.16 More detailed work on potential JCA models would be required before the necessary governance arrangements and infrastructure can be built and accountabilities drawn. For example, the HSE is a national organisation whereas LABCs and FRAs operate in each locality and work to different boundaries. All three regulators are currently overseen by different government departments. Nonetheless, there are a number of models that can be drawn up where regulators and/or Departments work together to oversee major hazards/risks. The HSE already works in partnership with a range of other regulators, sometimes in JCA-type arrangements. For example the HSE works alongside the Environment Agency in England to oversee Control of Major Accident Hazards (COMAH) sites such as chemical processing plants¹² with a central 'Competent Authority' organising regulator interventions.

Recommendation 1.2

The government should set up a 'Joint Competent Authority'. This should comprise Local Authority Building Standards, fire and rescue authorities and the Health and Safety Executive, working together to maximise the focus on building safety within HRRBs across their entire life cycle. The optimum model for ensuring effective joint working should be discussed with all relevant parties, but should draw on the model set out above. The JCA should design and operate a full cost recovery model.

¹¹ The new 'safety case review' system is set out in Chapter 3 and is the main way that the JCA would hold dutyholders to account for identifying the hazards and risks in their building, describing how risks are controlled and describing the safety management system in place so that building safety risks are reduced so far as is reasonably practicable. This concept aims to take into account what changes might be reasonable to make to the building taking account of the level of risk and the cost.

¹² In addition the HSE delivers the Competent Authority function under the REACH regulations and pesticides authorisations for DEFRA through the REACH.

The new JCA in action

The key responsibilities of the JCA (see later chapters for more details) should include:

- a. Creating and maintaining a database of all HRRBs and key dutyholders for those buildings – whether they are in construction or are already being occupied.
- b. Ensuring dutyholders focus on mitigating building safety risks during the design and construction phase, through:
 - undertaking a series of Gateway Point interventions where the JCA would undertake a thorough assessment of dutyholders' understanding and management of the risks they are creating (in order for dutyholders to gain permission for work to proceed or occupation to commence);
 - undertaking an assessment of dutyholders' oversight of the construction process by ensuring that key duties are understood, key 'golden thread' information products produced and proper change control processes in place.
- c. Ensuring key dutyholders' focus on reducing ongoing building safety risks during the occupation and maintenance phase, through:
 - requiring dutyholders to provide periodic safety case reviews to demonstrate that building safety is being maintained and that residents are properly engaged (may also be triggered if a significant refurbishment is planned);
 - requiring dutyholders to make building improvements where necessary to reduce building risks so far as is reasonably practicable.
- d. Handling and assessing immediate ad-hoc building safety concerns made about specific HRRBs by others, namely:
 - through the mandatory reporting of safety concerns by dutyholders;
 - through referrals made by Environmental Health Officers (EHOs);
 - through escalated referrals made by residents of HRRBs to a new independent body.
- e. Requesting testing of construction products that are critical to HRRB building safety on a reactive basis when concerns arise, including information exchanges with all HRRB dutyholders in exceptional circumstances.
- f. Requesting annual reports from product testing houses providing summary details of the types of tests carried out and the numbers of passes and fails reported.
- g. Helping the proposed new government body to validate and assure the guidance produced by industry to meet the outcomes-based goals of the Building Regulations.

A systems approach to risk management

1.17 Alongside the definition of buildings in scope and the creation of the JCA, the new regulatory framework needs to be built around a much sharper focus on how best to ensure building safety in HRRBs. HRRBs are, in general, complex buildings and must be actively assessed as a single, coherent system of inter-dependent components to achieve safe building outcomes. Such an approach should apply throughout the HRRB's life cycle. Dutyholders must be able to show the JCA that they have understood both the ways in which building safety risks are going to be directly managed (e.g. through a fire prevention strategy that incorporates both passive and active fire protection measures) and the wider impacts other building requirements (for example thermal efficiency) can have on that strategy. In addition, the fire prevention strategy must be recognised as an integral part of building design from the outset and the input of those with the knowledge to assess and advise on these matters must be taken into account at the earliest possible stage.

1.18 Schedule 1 of the Building Regulations 2010 and its associated suite of around 20 Approved Documents can lead to design and construction being seen as a set of siloed requirements, generally aligned with trades. This approach can lead to a situation where changes are made to one aspect of a building without sufficient consideration of the secondary effect (e.g. on fire safety). Instead the building must be considered as a single, coherent system.

1.19 To better ensure that a HRRB is considered as a system there needs to be clearer focus by dutyholders (and assessment by the JCA) on:

- ensuring core interactions between component parts that can impact on building safety are understood¹³;
- ensuring common fault conditions that can affect building safety systems have been properly

mitigated (e.g. the ways in which lack of power, lack of water could impact on a serious fire);

- analysis of the building for potential risks (risks may be faults, fires).

1.20 Analysis of the building as a system should be evidence-based and model the totality of the system. This is of relevance to HRRBs as significant numbers will be built using engineered solutions.

1.21 The review recommends an approach in which Government sets the regulatory framework, featuring clear outcomes that will ensure that every building can be constructed in such a way that it is safe to occupy, whilst allowing industry the freedom to develop the detail that sits underneath. Such an approach needs to be adopted by all those creating or regulating buildings.

1.22 This can be exemplified visually by considering preventative measures for risk management before a catastrophic event and mitigation measures post-event. The risk management diagram (see Diagram 1 below) shows the layers of protection which may be in place for a HRRB to prevent and mitigate the risk of a large fire. This is not an exhaustive list of possibilities nor intended to be a demonstration of what needs to be in place for any one particular building, but it is indicative of the approach dutyholders will be required to take and that the JCA will be required to assess.

1.23 Each of these layers of protection form part of an integrated safety strategy for the building. Some layers are physical and inherently provide higher levels of protection when installed e.g. the use of non-combustible materials throughout the building or the provision of full sprinklers. Some layers are system related: in other words a competent person needs to appropriately install and maintain a physical control for it to deliver its protective function. The diagram indicates a non-exclusive range of options to be considered by the

¹³ For example the inter-connected risks between fire, cladding and windows – the shape, size and location of openings in that cladding can have a significant effect on fire spread. Windows are a significant opening, and both the material from which the window is made and the state of the window (open or closed) will change the fire spread up the building and into the higher storeys.

dutyholder. That dutyholder must present the case to the JCA for the layers of protection they are proposing to have installed.

1.24 The dutyholder can also consider the layers of protection from an economic perspective. For example, by comparing the overall reduction in risk over the lifetime of the building relative to the costs (both capital and maintenance) of the measure, against a do nothing where the measure is not introduced. It is also likely that a dutyholder would consider the measures that others in the sector are introducing to compare and contrast their alignment with industry practice.

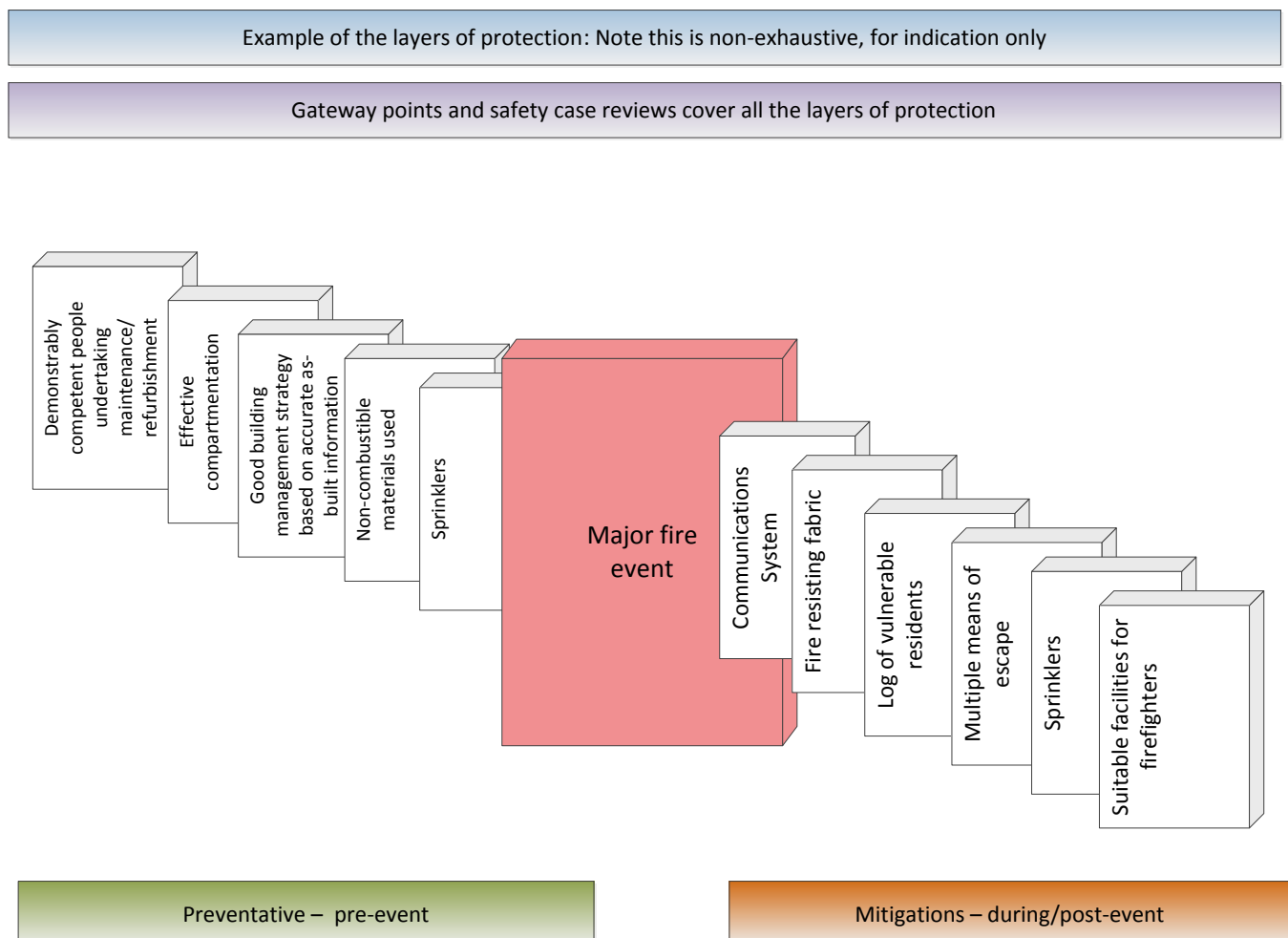
1.25 This approach is applicable to both new and existing buildings, for a new building the full range of potential hardware solutions can be considered, for an existing building some hardware solutions may not be tenable. For example it may not be possible to fit items to an existing building either because of engineering issues or the building being listed. In both new and existing buildings the system level layers of protection are likely to remain.

1.26 What is critical is that building safety does not overly rely on one layer of mitigation or protection to the exclusion of others. This systemic approach, where preventative and mitigation measures are considered as a whole, will assist in the consideration of what is reasonably practicable to do to improve building safety (factoring in cost and impact) as set out in Chapter 3.

Recommendation 1.3

The regulatory framework should treat the building as a single entity (a system encompassing sub-systems) and a new over-arching Approved Document should be published describing the system and the holistic analyses that must be completed when undertaking building work. This should define the requirement to understand the interactions of the system and its comprising subsystems in both normal operation and outside normal conditions.

Diagram 1 – Example layers of protection for a HRRB



An outcomes-based approach to building safety

1.27 The framework for setting out the building standards that HRRBs need to meet will remain outcome-based (meaning that regulations define the outcomes the building work needs to achieve).

1.28 The approach differs from a prescription-based approach (whereby the law states how every aspect of building work must be undertaken). A totally prescriptive system creates an over-reliance on the system by those working within it, discouraging ownership and accountability for decisions. As set out in the interim report, the cumulative impact of the Approved Documents changes an outcome based system of regulation to one that is often inferred by users to be prescriptive. The suite of guidance is very slow to adapt and update as new technologies and techniques become available in the sector. This creates significant scope for gaming of the system in a variety of ways. The aim of this review is to move away from telling those responsible for HRRBs ‘what to do’ and place them in a position of making intelligent decisions about the layers of protection required to make their particular building safe.

1.29 The outcome-based approach proposed is important so that the system is sufficiently flexible to allow those undertaking building work to take a case-by-case approach to delivering safe buildings. This is key for HRRBs, which are more complex in nature and may require bespoke solutions to be considered and applied as practicable. This should also allow the building sector to become more productive by providing a framework to innovate safely.

1.30 An outcomes-based model relies more on robust competence regimes with appropriate levels of assurance. This is, because those undertaking the work, and those appraising it, will need to have sufficient levels of skills, knowledge and expertise to make appropriate judgement calls.

Robust incident reporting, whistleblowing and use of data

1.31 Whilst mechanisms exist to report safety issues around the structural integrity of a building there is no coherent approach to reporting issues during the construction or occupation of buildings in scope. Similarly, there is no specific protection given to anyone who wishes to raise a formal concern.

1.32 There are two potential models of reporting:

- **Confidential reporting, with no requirement to do so** – this is the model used for structural safety through an organisation known as CROSS (Confidential Reporting on Structural Safety). There is a steady flow of incident reporting to CROSS from structural engineers, indicating its relevance, but it relies on a skilled professional to recognise the issue and report it. There is little evidence that the reports are systematically analysed to identify any significant patterns which may require formal follow up.
- **Mandatory Occurrence Reporting** – this is the model used, for example, by the Civil Aviation Authority which operates a mandatory occurrence¹⁴ reporting system. It is incumbent on relevant senior dutyholders within the organisation to report occurrences and near misses on a no-blame basis. This system operates well and includes an effective sanction regime.

1.33 In some cases both of the models above offer additional protections to those doing the reporting ('whistleblowers') – this is the model used, for example, where individuals working for banks/ investment firms etc. have information about the potential misconduct of funds, markets, firms and individuals subject to the Financial Services and Markets Act 2000. Whistleblowers have the specific protections in law under Public Interest Disclosure Act (PIDA) to ensure they don't lose their job or get treated unfairly after whistleblowing.

1.34 Given the hazards associated with poor building work on a HRRB and the need to ensure deliberate cutting of corners is identified, addressed and sanctioned, it is very important to ensure that there is a mandatory occurrence reporting route to the JCA for all key dutyholders. This will be another essential way to hold those involved in creating a HRRB to account.

1.35 The information collected via these routes would provide rich data to inform future policy decisions, for example whether the definition of HRRBs should be amended, or where additional guidance may be required.

Recommendation 1.4

- A system of mandatory occurrence reporting to the JCA similar to that employed by the Civil Aviation Authority should be set up for HRRBs. The requirement to report should be for key identified dutyholders on a no-blame basis. The outputs of these reports (and statistical analysis of this data) should be publicly available. Non-reporting should be regarded as non-compliance and sanctions applied appropriately.
- It would be appropriate for the JCA to be a prescribed person under PIDA.
- For all other buildings the current CROSS scheme should be extended and strengthened to cover all engineering safety concerns and should be subject to formal review and reporting at least annually.

¹⁴ An occurrence means any safety-related event, which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes an accident or serious incident.

Chapter 2 Design, construction and refurbishment

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Summary

2.1 The interim report established that building safety is neither sufficiently prioritised during procurement, design and construction by the people doing the work, nor robustly overseen by the regulator. It observed that responsibility is often handed down through sub-contracting arrangements and the way in which people behave within this system does not always lead to safe building outcomes. The review repeatedly heard that common practices such as design and build contracts and value engineering¹⁵ can often result in uncontrolled, undocumented and poorly designed changes being made to the original design intent. The interim report set out that there are two key drivers for those weaknesses:

- The current regulatory system does not properly identify who the key dutyholders in the procuring, design and construction of buildings should be and the key accountabilities that flow from these roles; and
- The current system does not provide regulators overseeing building work with the necessary powers to hold dutyholders to account and to ensure that appropriate standards are met.

2.2 The recommendations in this chapter set out the proposed new regulatory framework during procurement, design and construction. It both obliges and incentivises the dutyholder to focus on building safety upfront and take responsibility for ensuring that the building that they are working on will be safe for those who will live and work within it. It also sets out a clearer and more robust oversight approach for these buildings in order to hold dutyholders to account.

2.3 Building on the approach in the Construction (Design and Management) Regulations, Part 1 of this chapter recommends establishing dutyholder roles which are more clearly defined and more strongly empowered. The dutyholder will be an identifiable individual/organisation whose

role will support a whole life cycle approach to building safety by enabling future building owners (i.e. dutyholders during the occupation and maintenance phase) to also manage building safety. The handover of relevant high-quality building safety information will be critical in this respect.

2.4 Part 2 of this chapter recommends strengthening regulatory oversight of dutyholders' activities through the creation of a clear set of 'Gateway Points' at key stages in the building life cycle. Requiring dutyholders to satisfy the Joint Competent Authority (JCA) that their plans are robust; that their understanding and management of risk is appropriately detailed; and that they can properly account for the safety of the as-built building, will strengthen the focus on high-quality design and delivery. Creating a system whereby dutyholders will not be able to gain permission for land use, start building work or begin occupation until they meet the necessary requirements at the relevant stage, will also drive the right behaviours.

2.5 Part 3 of this chapter will further facilitate dutyholder accountability by addressing some of the negative consequences associated with 'design and build' and value engineering. It recommends further changes to enable dutyholders to robustly oversee all aspects of building work through a statutory change control process.

2.6 Part 4 of this chapter looks more closely at the regulators within the JCA. It recommends a set of major changes to create a regulatory environment that is more coherent across the building life cycle. This will ensure that building control bodies, the fire and rescue authority (FRA) and the Health and Safety Executive (HSE) can work more coherently together as part of the JCA, with potential conflicts of interest removed.

¹⁵ **Design and build** is a term describing a procurement route in which the main contractor is appointed to design and construct the works, as opposed to a traditional contract, where the client appoints consultants to design the development and then a contractor is appointed to construct the works. **Value engineering** is a systematic and organised approach to providing the necessary functions in a project at the lowest cost. Value engineering promotes the substitution of materials and methods with less expensive alternatives.

2.7 Part 5 of this chapter considers how to create more rigorous enforcement powers. The sanctions and enforcement tools currently available are weak and significantly under-utilised in practice. The recommendations aim to create a more proportionate and effective system that genuinely focuses incentives on the creation of reliably safe buildings from the outset and has serious penalties for those who choose to game the system and place residents at risk. Finally, Part 6 of this chapter discusses the applicability of these recommendations in relation to refurbishment.

2.8 The recommendations will create a strong foundation for buildings to remain safe during their occupation and maintenance (as set out in Chapter 3), given the upfront focus on building safety and provision of information to support long-term building integrity. In addition, the recommendations in this chapter will be reinforced by the recommendations elsewhere in the report to:

- develop competence to ensure that there are people across all key design and construction roles with the relevant skills for the job and that such people are more readily identifiable. In turn, the recommendations in this chapter will drive dutyholders to seek out and employ people that have the appropriate skills and will produce high quality work; and
- improve the transparency of the product testing and labelling regime, which will better enable dutyholders to understand the quality of building materials, particularly because changes to signed-off plans will need to be more clearly assessed by dutyholders and regulators alike.

Recommendations

Part 1 – Creating empowered and responsible dutyholders

Introduction

2.9 Roles and responsibilities for ensuring building work meets the requirements of the Building Regulations are unclear. Responsibility is generally placed upon ‘the person intending to carry out the work’ and ‘the person carrying out the work’¹⁶. This is a vague concept in the context of a large scale construction project which means the dutyholder is not easily identifiable and it is therefore not easy to determine who is accountable. This lack of legal accountability within the current system is exacerbated by industry fragmentation and multiple layers of sub-contracting. It is inconsistent with other contexts where ensuring delivery of ‘user’ safety is a fundamental issue (for example, passenger safety in commercial aircraft).

2.10 It is essential to create greater clarity around:

- the key roles involved in the shaping and overseeing of the procurement, design and construction of buildings; and
- the key responsibilities/accountabilities that should flow from these roles.

2.11 Such an approach will also help to embed the overarching principle that responsibility for understanding and managing building safety must rest with those dutyholders whose building work create the risk. This is a significant culture change but it has the potential to help underpin a more modern, productive and safe building sector.

The example of the Construction (Design and Management) Regulations 2015

2.12 The Construction (Design and Management) Regulations (‘CDM Regulations’) were first introduced in 1994 and are a valuable example of where greater clarity around dutyholder

responsibility has, over time, helped to drive a culture change in construction site safety, with a parallel reduction in construction deaths and injuries. The CDM Regulations are enforced by the HSE and provide a framework that clearly sets out key roles and responsibilities throughout the life cycle of a construction project, with a strong focus on health and safety outcomes. The CDM Regulations are particularly relevant as they oversee all key aspects of construction site health and safety for workers and the general public (although not with the standards of building work itself).

2.13 The current CDM Regulations make those who commission construction work and those who are key in the design and construction process responsible for eliminating, reducing or controlling foreseeable risks that may arise. It also requires dutyholders to collaborate and establish key information products to pass on to future building owners (particularly through the ‘Health and Safety File’).¹⁷ The CDM Regulations apply to all building work, whatever the scale of the work or the size of company doing it. The HSE has worked hard with industry to embed the new requirements of the CDM Regulations and to drive culture change. This is the approach that now needs to occur in respect of building safety too.

Key principles underpinning dutyholder responsibilities

2.14 This review’s objective (in placing greater clarity around specific roles and responsibilities) is different from the CDM Regulations, albeit complementary. The review’s objectives are to ensure that every building is:

- procured, designed and constructed in such a way that the key building safety requirements¹⁸ of the Building Regulations (and all other key aspects of those regulations) are sufficiently prioritised throughout;

¹⁶ Building Regulations 2010 regulation 12 and 13.

¹⁷ The Health and Safety File is required for construction projects involving more than one contractor. It must contain relevant information needed to plan and carry out future work safely and without risks to health when any construction work is carried out on the building after the current project has finished.

¹⁸ Key building safety requirements should be taken to mean the aspects of the Building Regulations connected to (i) fire safety and (ii) structural safety and other relevant requirements that could impact on fire and structural safety.

- designed and constructed so that everyone involved in delivering the building work has the information, instruction and skills they need to carry out their jobs in support of this overall aim; and
- designed and constructed to facilitate the ongoing safe management of the building by future building owners/residents once occupied.

Key roles and responsibilities

2.15 It is necessary to identify the key roles that are most important in initiating, overseeing or influencing activity throughout the procurement, design and construction phase. The key roles¹⁹ for prioritising building safety are the same as those identified in the CDM Regulations. These are the roles best able to understand and manage risks to construction site safety. This approach has the added advantage of consistency and clarity across all regulatory requirements.

Table 1 – Key roles under the CDM Regulations

Key roles under CDM Regulations	Is this role critical in ensuring a focus on building safety?	Why is this role critical?
Clients	✓	Develops and maintains a sense of ownership and responsibility for building safety and regulatory compliance. Identifying the client's responsibilities at the outset will ensure a greater degree of ongoing engagement.
Principal Designers	✓	Maintains the ownership concept on behalf of the client to ensure that Gateway Points are observed and key players are engaged appropriately.
Designers	✓	Ensures accountability and helps create an audit trail in respect of any design changes that can be followed back through the Principal Designer and ultimately to the client.
Principal Contractors	✓	Assumes primary ownership throughout the construction phase, and especially at handover to the occupation and maintenance phase.
Contractors	✓	Ensures accountability and helps to create an audit trail to ensure that any on-site changes can be followed back through the Principal Contractor and ultimately to the client.

¹⁹ These roles could be satisfied by either individuals or legal entities.

Recommendation 2.1

Government should specify the key roles that will ensure that the procurement, design and construction process results in HRRBs that are safe. These should be, as a minimum, those identified in Table 1 above. The definition of these roles should reflect those in the CDM Regulations to avoid unnecessary confusion.

2.16 It will also be important to highlight the key responsibilities for each of those roles. These responsibilities will also overlap somewhat with the CDM Regulations (for example it is equally important in a building safety context for clients to appoint designers/contractors who understand their responsibilities and have the necessary skills, knowledge and experience). Key elements of responsibility across the three core roles of client, principal designer and principal contractor could be as set out in the table below. The expectation would be that dutyholders are able to show the JCA that they have the required leadership, management and competence²⁰ capabilities (including through their organisations where appropriate) to routinely deliver these responsibilities.

Table 2 – Key responsibilities of dutyholders

Key roles	Key responsibilities are to
Clients	• Make suitable arrangements for managing the building work so as to deliver against the core objectives on building safety (and other Building Regulations priorities). • Establish procurement processes that allow sufficient time, resources and prioritisation to deliver the core objectives⁷; • Appoint key dutyholders who'll prioritise building safety and have the required skills, knowledge and experience; • Establish the necessary information management systems to facilitate successful completion and handover of the work; (e.g. the Fire and Emergency File and digital record – see below); and • Co-sign at completion that the work, to the best of their knowledge, meets building safety requirements.
Principal Designers	• Identify how core building safety requirements will be met In the pre-construction phase, controlling foreseeable risks and ensuring that the contractual relationships they enter into are appropriately funded to support core objectives; • Ensure that all those involved in supporting the Principal Designer have suitable skills, knowledge and experience; • Compile Full Plans documentation (see Part 2 of this chapter) for the JCA demonstrating that they have considered and managed the key risks to building safety of the proposed construction so far as is reasonably practicable; • Ensure that information management systems are properly updated and change control mechanisms are utilised (for as long as they remain involved); • Co-sign at completion of works stage (if still involved) that the work meets the Building Regulations requirements.
Principal Contractors	• Make suitable arrangements for the planning, management and realisation of the core objectives in the construction phase of a project. This includes ensuring that the contractual relationships are appropriately funded to support core objectives. In addition it includes: • preparing a construction control plan (see below); • organising cooperation between contractors with suitable skills, knowledge and experience and coordinating their work; • updating information management systems and ensuring • change control mechanisms are properly utilised; • leading demonstration at the completion of works stage that the work meets the requirements of the Building Regulations and ensure the handover of the Fire and Emergency File and the digital record to the future building owner.

²⁰ See Chapter 5 for more details on competence requirements.

²¹ See Chapter 9 for more details on how to make the system of procurement more effective.

2.17 These responsibilities do not prevent small and medium-sized companies from engaging in the design and construction process. Neither do they preclude any particular method of construction (for example, design and build contracts or value engineering). However, they do, as a minimum, require clients to tighten up such processes in order to ensure that they understand how their project is being delivered. As a result of these duties it may be that more clients seek to utilise a Clerk of Works-type role to act as their eyes and ears throughout the construction process.

2.18 More generally, these responsibilities require all dutyholders to implement arrangements to ensure subcontracted work is delivered to the required standard. They also require a greater focus on key safety aspects from the outset (and throughout design and construction) and a much better oversight of changes to signed-off plans. All of these aspects are necessary to create empowered and responsible dutyholders who understand and manage risks in a much more effective way than they currently do.

Recommendation 2.2

Government should allocate broad responsibilities to Clients, Principal Designers and Principal Contractors responsible for HRRBs as set out in Table 2 above.

Key information products

2.19 The review has identified four key information products²² that are integral to greater dutyholder oversight on building safety (and other Building Regulations requirements) throughout procurement, design and construction. A 'golden thread' of good quality information will also enable future building owners to better manage their buildings safely. As soon as detailed work commences the client needs to ensure that a **digital record** of the building work is established and a **Fire and Emergency File** is initiated. Both of these will need to be maintained throughout design and construction and be part of the regulatory oversight process. Formal handover will help enable occupation to commence. This should focus activity throughout, ensure a robust golden thread of key information is passed across to future building owners and thereby underpin more effective safety management throughout the building life cycle.

²² If some of these products can be combined with/aligned into other core CDM/other statutory documentation, then this would have benefits. It is the straightforward availability of the information to the relevant people that is key.

Table 3 – Key information products

Information Product	What is it?	Why?	Who?
The digital record	Digital record of the building as planned, then as built including, for example, products used. Intended to underpin an effective understanding of the constructed building across the life cycle. See Chapter 8 for more specific recommendations.	To underpin more effective delivery during design and construction phases, including more accurate records of the as-built building.	Initiated by the client, handed over and updated and finalised by the Principal Designer and Principal Contractor.
The Fire and Emergency File	Product setting out the key building safety information. The file will be initiated and then updated and ultimately passed across to the building owner (Appendix D sets out more detail ²³).	To ensure that anyone carrying out design, construction or refurbishment work on a building can provide a clear and comprehensive record of the fire strategy for the building and its residents (including those who are vulnerable). This will help to ensure that the future building owner has a proper record of key building safety aspects so that they can understand why the fire and other safety precautions have been provided.	Initiated by the client, handed over, updated and finalised by the Principal Designer and Principal Contractor.
Full Plans	Detailed plans/specification of building works in respect of fire and structural safety as a minimum (alongside the necessary specification in all other aspects of the Building Regulations). See paragraph 2.29-2.32 below.	To demonstrate to the JCA that the building will be constructed so as to be safe, that the risks are understood and well managed and that broader Building Regulations requirements will be met. The JCA must deem this assessment sufficient for work to commence.	Principal Designer has primary responsibility.
Construction Control Plan	Describes how building safety and Building Regulations compliance will be maintained during the construction phase and how change will be controlled and recorded.	To communicate to all those involved in the construction phase of the project. It would help ensure a sufficiently robust focus on sustaining compliance during the construction phase.	Principal Contractor has primary responsibility.

Recommendation 2.3

Government should make the creation, maintenance and handover of relevant information an integral part of the legal responsibilities on Clients, Principal Designers and Principal Contractors undertaking building work on HRRBs. The four information products (the digital record, the Fire and Emergency File, Full Plans and Construction Control Plan) represent a minimum requirement.

2.20 The CDM Regulations apply to all building work (of any scale). This is because the principle of risk ownership has the potential to be applied to all buildings irrespective of size or complexity. Government should also consider applying the system of dutyholders and their responsibilities

more broadly (notwithstanding the need to adjust some aspects, such as the need for a digital record, for some smaller scale work). In the first instance it would be sensible to apply this to other buildings where many people live and sleep and where the need for a heightened focus on fire safety is most necessary.

Recommendation 2.4

Government should consider applying the key roles and responsibilities and information product recommendations to other multi-occupancy residential buildings and to institutional residential buildings whilst bearing in mind necessary adjustments to keep the requirements proportionate.

²³ The Fire and Emergency File builds on the current regulation 38 of the Building Regulations. Almost all stakeholders in the Call for Evidence identified that such information is produced to the necessary quality and passed across.

2.21 The recommendations in Part 1 of this chapter create clearer roles for dutyholders and stronger expectations around what they will do to create safe buildings. However, it will only be effective if it is overseen by a proactive, coherent and powerful system of regulatory oversight. Parts 2-5 set out recommendations for strengthening the regulatory role.

Part 2 – Strengthening regulatory oversight of dutyholders

Introduction

2.22 Alongside the need for a clearer set of dutyholders the interim report also made clear the importance of strengthening regulatory oversight of building work. Regulatory oversight is currently provided by building control bodies that, at specific points in the design and construction process, should also engage with fire and rescue authorities. Building control oversight can be provided by local authority building control services (LABCs²⁴) or by private sector Approved Inspectors (AIs). There are currently significant weaknesses in regulatory oversight at several points in the design and construction process.

Weaknesses at key intervention points

2.23 The review has noted many significant structural and cultural weaknesses in the current system particularly at the three key points where effective, intelligent intervention is particularly important. It noted that **where a planning application is made** for a HRRB there is no statutory requirement for the local planning authority (LPA) to consult the fire and rescue authorities, before determining the application. This may increase the risk that planning permission will be given for new HRRBs where fire service access (in the event of a fire) has not been properly assessed.

2.24 The regulatory framework for ensuring oversight of HRRBs at the **design sign-off stage** is also weak because:

- clients and designers opting to work with AIs are not legally obliged to formally submit full plans for sign-off if they do not wish to do so²⁵; and
- clients and designers working with LABCs are legally obliged to submit 'Full Plans' but:

- the level of detail provided can, in practice, be sparse – even in fundamentally important areas like fire and structural safety;
- whilst the LABC is considering whether the submitted plans look sufficiently robust, building work on those plans can commence despite the absence of formal agreement at that point;
- there is a strict time-limit for consideration by the LABC in law which means that they may be required to accept or reject plans when further, detailed consideration needs to be undertaken;
- plans that are signed off by the regulator can be totally changed once construction begins and further design/value engineering decisions are made;
- statutory consultations with the fire and rescue authorities can be inadequate in practice and where advice between regulators differs there is no formal mechanism for dispute resolution.

2.25 Finally, at the **completion stage** (i.e. the point when building work is completed and needs to be assessed prior to occupation) occupation sometimes begins even before a completion/part-completion certificate is obtained (or even sought). Even where it is sought:

- building control will often have no clear picture of what has changed since the original Full Plans were signed off (and equivalents to Full Plans are not formally required for most high-rise buildings being overseen by AIs²⁶) or what products have been used/substituted, with no reliable way of finding out;
- consideration of the work undertaken by 'competent persons' covered by self-certification schemes does not happen even where that work can affect the fire safety of the building;
- building control bodies have no effective mechanism to ensure high-quality, essential fire safety information is passed to the building owner;
- the fire and rescue authorities has very limited ability to formally assess the fire safety of the as-built building²⁷ (through limitations in both practice and law) even though they will have a key role in ensuring that fire risk in the common parts is mitigated effectively throughout occupation;

²⁴ In this report local authority building control services are referred to as LABCs – each local authority remains individually responsible for the delivery of building control services in its area.

²⁵ There is a voluntary Plans Certificate process but CICAIR (Construction Industry Council Approved Inspector Register) data suggests that this is only utilised in c. 10% of cases.

²⁶ Though where work is overseen by AIs there is a requirement for Amendment Notices to be provided to cover certain significant changes in building work.

²⁷ Under the LABC route there is no formal consultation opportunity; under the AI route there should be a consultation as part of final sign-off but feedback from stakeholders suggests this rarely happens in practice.

Table 4 – The key Gateway Points

Gateway Point	The relevant dutyholder must ...	In order to ...
1	Satisfy the JCA that the planned building will be sufficiently accessible by the fire service, in order for the Local Planning Authority to determine the planning application	Get permission to use the land for the intended purpose
2	Satisfy the JCA (who will conduct a review of the safety features of the proposed design) that their Full Plans show that key building safety risks are understood and will be managed, that robust processes are being put in place and that the design will meet all Building Regulations requirements	Start building work
3	Satisfy the JCA that the signed-off design has been followed (or that any changes since that point are properly verified and acceptable) and that the completed building has met all key building safety (and other Building Regulations) requirements, that all key documents have been handed over, and a resident engagement strategy is in place.	Start occupation

- scope for formal enforcement action (where building work is sub-standard) is limited due to the commercial pressures, local authority financial pressures and the low level of fines imposed by magistrates' courts.

2.26 Such weaknesses must be addressed to ensure rigorous, safety-focused oversight of dutyholders building HRRBs. To do this, new Gateway Points need to be created. This will mean that dutyholders must satisfy a set of robust criteria to move onto the next stage of the planning, design, construction and occupation process. This will create incentives for dutyholders to focus upfront on coherent design and risk management strategies, robust record keeping and stable change control processes.

Gateway Point 1 – Planning Permission

2.27 The planning system clearly needs to focus on swift throughput of all planning applications received. This is essential if the government wishes to meet the housing supply needs of a growing population. Nonetheless, there are some minimum requirements around fire safety that will need to be addressed when local planning authorities are determining planning applications and will require input from those with the relevant expertise. In particular, there is a need for upfront consideration of fire service access to HRRBs to ensure that, in the event of a fire, the building is sufficiently accessible.

2.28 This applies both to new HRRBs and also to any other new buildings which fall within a particular radius of a HRRB where that could impact on fire service accessibility. At present, some individual Local Planning Authorities (LPAs) consult with fire and rescue authorities on accessibility,

but mainly on an informal basis. To address the risk for all HRRBs, LPAs should statutorily consult with the JCA so that the fire and rescue authorities can advise on fire service accessibility issues at that point. To ensure clarity of approach, it will be important to be clear in guidance what issues should be considered by the JCA at the planning stage with a clear focus on issues such as provision for emergency vehicle access to the building. This should not have any significant impact on LPA application throughput and need not require LPAs to develop significant new capabilities to make complex technical assessments.

Recommendation 2.5

The LPA should be required in law to undertake a consultation with the JCA where it identifies that a building is a HRRB. This process should also apply where planning permission for another building in the near vicinity is sought (where such a building might impact on fire service access to a HRRB).

This is the first Gateway Point.

Gateway Point 2 – Full Plans Approval

2.29 The 'Full Plans Approval' process should be the second Gateway Point. It should be radically strengthened to become a thorough assessment of the safety case for the whole building. These plans would sit alongside the new dutyholder requirements for robust record-keeping and change control processes. It should drive a culture change where dutyholders apply more rigour and upfront investment in detailed plans before building work actually commences.

2.30 Informal engagement between dutyholders and the JCA should begin before this Gateway Point begins. However, this should be the point at which the Principal Designer is formally required to present the JCA with Full Plans. This should include dutyholders providing detailed specifications of building works in respect of fire and structural safety as a minimum (alongside the necessary specification in all other aspects of the Building Regulations). This will need to be in an appropriate and accessible format in order for formal consideration to start. This will require a more rigorous and investigatory skill set than is currently required from those responsible for building control. Such plans will need to satisfy the JCA that the layers of protection for that building ensure that risks are reduced so far as is reasonably practicable in the key safety areas. More generally, the plans will also need to show compliance with all aspects of the Building Regulations²⁸. The JCA needs to minimise unnecessary delays in this process to ensure safe building work can be signed off as promptly as possible.

2.31 Only once those plans are fully considered and approved by the JCA (with building control leading) will dutyholders have authority to start building work. There would be appropriate sanctions for dutyholders' starting building work without clearance – see Part 5 of this chapter. This strengthening will better embed building safety at an early stage by²⁹:

- incentivising early and substantial communication between dutyholders and the JCA well before Full Plans are formally submitted (enabling proper oversight at an early stage in the design process before design weaknesses are more difficult to reverse);
- requiring dutyholders to explain in detail their proposed design and their approach to construction before work commences in a way that is standard across other industries;
- requiring dutyholders to show the building work is/will continue to be managed effectively with proper oversight, record keeping and change control processes in place;
- stimulating fewer changes/better change control during construction;
- enabling the JCA to determine its risk-based inspection regime during construction in light of the quality of the case that is presented at this stage.

2.32 This approach will also help to ensure that, where design and build and value engineering are employed, their use cannot compromise key safety aspects and the overall integrity of the proposed design.

Recommendation 2.6

Government should ensure that there is thorough assessment by the JCA of detailed design plans for HRRBs and sufficient assurance that dutyholders are in place and relevant responsibilities are being met in order to give permission for building work to legally commence. This should be in line with paragraphs 2.29-2.32.

This 'Full Plans Approval' is the second Gateway Point.

Gateway Point 3 – Completion stage

2.33 The Completion stage (i.e. completion of building work) should be the third Gateway Point. It should be radically strengthened to become a more thorough test of as-built construction work which must be assessed by the JCA and permission granted to enable occupation to commence. As such the Principal Designer and Principal Contractor should be required to present the JCA with sufficient records of the final buildings in the right form to enable a full assessment of building safety (and all other relevant requirements). The client will also need to confirm that relevant Building Regulations requirements are met and the building is therefore safe. Dutyholders will also need to present proper records and a justification for all changes made since Full Plans sign-off.

2.34 This approach will better embed building safety as the transition into occupation occurs. It will ensure that the JCA can fully assess the final building and hold dutyholders to account to ensure they fully demonstrate that they understand the risks created and how they have managed those risks, in particular, since they were given approval to proceed to the construction phase (at Gateway Point 2).

2.35 This Gateway Point will also ensure that the future building owner receives the key golden thread information products, linking the design and construction and the occupation and maintenance phases together. To facilitate this, the future building owner will need to be identified at this

²⁸ Such processes would, as now, be subject to relevant rights to challenge decisions made.

²⁹ A number of these aspects reflect the current Scottish Warrant system of building oversight.

point as part of the golden thread process and will need to complete a pre-occupation Fire Risk Assessment based on the Fire and Emergency File that is ready for occupation as well as a resident engagement strategy to support the principles of transparency of information and partnership with residents (see Chapter 4 for more details).

Recommendation 2.7

Government should ensure that:

- a. the JCA undertakes a thorough test of the dutyholders' as-built construction of HRRBs, supported by clear documentary evidence from the Principal Contractor that the design intent has been delivered as proposed (and any changes are documented and justifiable) and that handover of key golden thread information has occurred. This should be as set out in paragraphs 2.33-2.35 above; and
- b. the building owner must have completed a pre-occupation Fire Risk Assessment and resident engagement strategy. All of this must be signed off by the JCA (and a safety case review cycle established) to enable occupation to commence.

This 'Completion Certificate' process is the third Gateway Point.

2.36 In addition, the government should apply Gateway Points 2 and 3 to other buildings where members of the public may be at risk of a fire safety incident. In particular, it would be sensible to apply this to other buildings where many people live and sleep and where the need for a heightened focus on fire safety is most necessary.

Recommendation 2.8

Government should consider also applying Gateway Points 2 and 3 to other multi-occupancy residential buildings and to institutional residential buildings.

Part 3 – Wider changes to support dutyholders and regulators

Introduction

2.37 There are two further sets of challenges that need to be addressed to help deliver dutyholder accountability and provide greater reassurance to the JCA, particularly at key Gateway Points. First, the absence of any clear processes for controlling, recording or reviewing changes agreed during the construction process makes it difficult to provide robust oversight. There are no over-arching statutory requirements to report or record changes to previously agreed plans even where they will have a substantial impact on building safety (or wider Building Regulations requirements). Rather, building control bodies are currently overly reliant on the need to ensure positive, open and ongoing relationships with contractors (or sophisticated interventions at the Completion stage). As such there needs to be a new statutory change control process for dutyholders – in particular to ensure that any value engineering or changes which take place for any other reason still results in a safe building.

Recommendation 2.9

- a. there should be a clearer, statutory change control process that places requirements on the relevant dutyholder to notify the regulators of significant changes post-Full Plans sign-off. Within that context, two types of changes should be defined – 'major' and 'minor'.

- 'Major' changes would be a limited list of significant changes for example (a) changes in use, changes in number of storeys, changes in number of units or (b) changes which could impact on previously signed-off building safety plans. Major changes would require an update from the dutyholder to the JCA (for reconsideration) before such work is commenced.
- 'Minor' changes (i.e. all other changes) would need to be recorded and identifiable at the completion of the work for dutyholders to demonstrate that Building Regulations are still satisfied.

- b. Government should consider also applying this change control process to other multi-occupancy residential buildings and to institutional residential buildings.

2.38 Second, there are currently around 20 different types of building work which, when done by ‘competent persons’ can be self-certified.³⁰ In these instances building control currently will not consider whether the work undertaken meets the relevant Building Regulations requirements (or its impact on wider building safety) where the person is registered with a competent persons scheme.³¹ Chapter 5 outlines measures to improve the competency of those working on HRRBs. However, it is important for the JCA to be able to take a whole building approach to ensure that all building work can be properly considered. This is critical to ensure that the layers of protection remain in place. Otherwise, the JCA cannot oversee the quality or potential impact of the work undertaken.

2.39 Self-certification as a principle is still acceptable for most buildings. It avoids unnecessary bureaucracy, and the work done by individuals is often high quality. However, as work carried out on HRRBs has a greater potential to impact on fire safety, the review proposes that the work of competent persons is subject to proper scrutiny as standard by the JCA to ensure overall integrity is maintained. Once the new regime is up and running, if the JCA (through operational experience) believes that it is possible to rely solely on self-certification schemes (for example, where they are confident that the specific work has minimal impact on building safety) then they should be able to place reliance on such schemes.

Recommendation 2.10

In HRRBs, building work that is carried out by ‘persons in a competent person’s scheme’ should be subject to full oversight by the JCA to enable it to fully discharge its duties in line with paragraph 2.38-2.39 above.

Part 4 – Models to underpin regulatory effectiveness

Introduction

2.40 As part of the work to strengthen regulatory oversight it is critical to look at the nature of the regulators themselves. As mentioned earlier in this chapter, regulatory oversight is currently provided by LABCs or by private sector AIs. In both

cases, effective joint working with fire and rescue authorities is required to ensure that sufficient expertise is provided on fire safety matters. At present the person undertaking the building work can choose and purchase who specifically provides their building control regulatory oversight. This situation appears to be unique across the UK regulatory environment (for example, it is not possible for car manufacturers or chemical plants to choose who oversees their work to ensure it meets the necessary legal requirements). There is also a lack of clarity between the regulator function and that of a third party verifier providing expert advice to contractors and designers.

Weaknesses in the current structure of building control

2.41 The interim report identified a number of key concerns about the current ability of contractors, etc. to choose between LABC and AIs to provide regulatory oversight of the building process. The unique competitive environment has led to better overall standards of service. However, the part-privatisation of this regulatory function has also led to many serious concerns about the oversight of buildings. For example:

- there are incentives for building control competitors to attract business by offering minimal interventions or supportive interpretations to contractors;
- many building control inspectors work in such an integrated fashion with design and construction teams that there can be a confusion and a potential conflict of interest between a government regulator role and a third-party verification role;
- there are disincentives for building control bodies to use enforcement methods for fear of losing long-term business;
- there can be conflicts of interest where regulatory oversight is offered by companies as part of a commercial package alongside design/engineering support;³² and
- the differences in the statutory (and non-statutory) processes add to the complexity and incoherence and mean there is no level playing field between AIs and LABCs. For example, AIs do not have the right to seek full design plans even when they are looking at the

³⁰ Installers registered with a competent person scheme authorised under the Building Act 1984 for a particular type of work have the right to self-certify that their work complies with all relevant requirements in the Building Regulations. Competent person schemes cover types of work such as the installation of combustion appliances, heating, and ventilation systems, replacement glazing, electrical installations in dwellings, cavity and solid wall insulation in existing buildings.

³¹ Whilst building control bodies do retain the right to consider work covered by such schemes, custom and practice mean this is now very unlikely to happen.

³² Current conflict of interest rules could be made stronger to ensure no AI can simultaneously be a supportive element of the overall building design team and an impartial enforcer of the government’s building safety laws. Fire and rescue authorities can also currently provide both fire engineering support and regulatory oversight on fire safety in respect of the same building.

most complex and high-risk structures. AIs cannot take enforcement action but must hand back cases to LABCs who themselves have not hitherto been engaged in any handed-back projects.

2.42 These inherent structural weaknesses need to be properly addressed to restore confidence and clarity to the system. The current regulatory structure for building control is insufficient if there is to be a greater focus on the creation of safe buildings.

A vision for more effective building standards

2.43 It is important that regulatory oversight of these buildings is done in a manner which is completely independent of clients, designers and contractors and that enforcement can and does take place where that is necessary. Put another way, the ability for dutyholders to choose their own regulator must stop and regulators must be able to enforce as regulators. To address the weaknesses identified in paragraph 2.41 the review therefore proposes a model that:

- ensures the right regulator is in place rather than allowing dutyholders to choose who checks the quality of their work based, potentially, on lowest price and least intervention;
- ensures a clear, single regulatory route for oversight of HRRBs through Local Authority Building Control. This removes complexity by ensuring that only a single set of building control processes is applied by the JCA, based around the statutory Gateway Points and change control processes;
- ensures that the necessary risk-based site inspection regime can be put in place in between Gateway Points without concern that this will cause regulators to lose business;
- removes some of the current disincentives for LABCs to use their sanctions and enforcement toolkit (by removing the risk that long-term business will be lost as a result of robust application of existing law);
- continues to utilise the very valuable contributions made by Approved Inspectors.

2.44 This will change the way in which AIs are appointed and some of their remit but does not completely change the way in which they operate. They now have a choice for individual jobs to either:

- provide accredited consultancy and verification services to dutyholders to help them meet their new responsibilities and navigate the key Gateway Points with the JCA. There would clearly

be an incentive for dutyholders to engage AIs in such a process as this would provide additional assurance to the JCA that proper building safety is being prioritised in the design and construction process; or

- provide extra capacity/expertise to the JCA/LABC where needed in any particular locality (although where utilised LABCs would retain oversight and their processes would be followed). No AI could provide consultancy/verification services to dutyholders and regulatory oversight through LABCs in respect of the same building. Local Authorities run many services where they buy in expertise from the private sector and they could choose to appoint AIs if that was necessary too.

2.45 As a final part of this process, Local Authority Building Control should be newly branded as 'Local Authority Building Standards' given their re-focused role in overseeing standards and dutyholders' key responsibilities during design and construction.

Recommendation 2.11

- a. It should not be possible for a client to choose their own regulator or for a regulator to be unable to apply sanctions against a dutyholder where such action is warranted.
- b. As part of the JCA oversight of HRRBs there should be a single, streamlined, regulatory route for the provision of building control as set out in paragraphs 2.43-2.45 above with oversight solely provided through Local Authority Building Control
- c. The Approved Inspector regime should be utilised such that it can:
 - provide accredited verification and consultancy services to dutyholders; and also
 - expand LABCs' expertise/capacity (whilst always operating under LABCs rules and standards)
- d. But no AI can be used to provide both functions in respect of the same building work (i.e. where regulatory oversight is provided the AI must be completely independent of dutyholders).
- e. This avoidance of conflict of interest should apply to all actors in the regulatory system – so no fire and rescue authority should be able to support the JCA in its oversight of a particular building if it (i.e. the individual or the company) has provided professional design services in respect of that building through its commercial arm.
- f. Recommendations a., b. and c. should also apply to all other multi-occupancy residential buildings and to institutional residential buildings. Recommendation d. and e. should apply to all building work.
- g. Local Authority Building Control should be re-named the Local Authority Building Standards given their new role.

More effective working between Local Authority Building Standards and Fire and Rescue Authorities

2.46 The way in which LABCs currently interact with the fire and rescue authority, should also be improved as part of the new JCA arrangements. In order to maximise the effectiveness of the more

frequent engagement at key Gateway Points, this regulatory relationship needs to become more effective. In particular, key fire safety information needs to be shared in a much more effective manner than now (for example, we understand that some fire and rescue authorities still do not accept electronic transfers of information). Fire and rescue authorities should also have the explicit ability to delay JCA clearance at any Gateway Point if the information provided by the dutyholder does not enable them to undertake a proper assessment. A new dispute resolution process needs to be created as part of the JCA to handle any differences in opinion between fire and rescue authorities and Local Authority Building Standards around the possible amendment/rejection of dutyholder plans.

Recommendation 2.12

- a. As part of the establishment of the JCA, the fire and rescue authorities need to be engaged in a more consistent manner with a robust dispute resolution mechanism established for use by the organisations within it (as per paragraph 2.46).
- b. Comparable processes should also be adopted for other multi-occupancy residential buildings and to institutional residential buildings where Local Authority Building Standards and fire and rescue authority will also need to interact to ensure Building Regulation requirements are met.

Part 5 – An enforcement regime that properly incentivises compliance

Introduction

2.47 The interim report made clear that the current sanctions and enforcement regime that underpins building control oversight is not working. Building control bodies can currently ask for remedial action to be taken when building work will not meet the requirements of the regulations. If remedial action is not taken then an LABC can take enforcement action.³³ In practice building control bodies have primarily relied on informal enforcement to drive compliance.

³³ Where there is a breach of Building Regulations under Section 35 of the Building Act a person is liable on summary conviction by a magistrate's court potentially to an unlimited fine. Under Section 36 a person can be required to remove or alter offending work. There are strict time limits for bringing a prosecution under Section 35. A prosecution must commence within six months of having sufficient evidence to justify a prosecution and two years from the date of the completion of building work.

Weaknesses in the current sanctions and enforcement regime

2.48 In practice, cases of formal enforcement are increasingly rare and the number of cases appears to have fallen by around 75% in the last 10 years, according to recent research by the LABC³⁴ (the professional body covering building control teams working in local authorities). The review has heard that magistrates' court fines are frequently minimal and local authority legal costs are almost never fully recovered. In addition, key stakeholders have identified that enforcement action does not actually lead to unsafe building work being corrected in most cases. These weaknesses are further reinforced currently by the reluctance of individual LABCs to take formal enforcement action (for fear of loss of ongoing business) and reluctance by some Local Authority legal departments to support building control enforcement. In addition, no prosecution can be brought beyond the two-year point, no matter how serious and deliberate the failure in building safety.

2.49 Therefore the enforcement regime cannot serve its primary purpose: to ensure that dutyholder compliance with the legal requirements is far more straightforward and cost-effective than non-compliance. Many of the other recommendations in this chapter will reinforce compliance. However, as part of the greater focus on incentivising the right behaviours, the sanctions regime needs to be strengthened.

A model for more effective enforcement

2.50 There needs to be a range of enforcement methods to secure compliance with the law and to ensure a proportionate response to any breaches. As now, Local Authority Building Standards inspectors should be able to provide written information and advice regarding breaches of Building Regulations following an inspection.

2.51 Beyond that there needs to be a clearer and stronger sanctions and an enforcement framework that includes:

- Improvement/Correction Notices – which would be served on dutyholders when the JCA/Local Authority Building Standards believe that building work (or supporting processes) is in breach of the law and needs to be corrected within a certain period of time. Where significant failings are identified, such a Notice should be servable up to five or six years after building work is completed; and
- Prohibition or 'Stop' Notices – which can be served on dutyholders when JCA/Local Authority Building Standards are of the opinion that the building work (or supporting processes) appears to have serious deficiencies which could impact significantly on building safety. There does not need to be a definitive breach of the Building Regulations for this to be imposed. Stop Notices could also be imposed where a dutyholder commences building work before Gateway Point 2 is satisfied or commences occupation before Gateway Point 3 is satisfied.

2.52 Failure by relevant dutyholders to comply with either type of notice would be a criminal offence. In the most serious of cases, where the non-compliance poses a real and credible risk to safety of building occupants now or in the future there needs to be a move to replicate the full range of penalties assigned in the Health and Safety at Work Act. In determining the appropriate level of enforcement action, JCA/Local Authority Building Standards inspectors will need to exercise discretion and professional judgment according to the circumstances found.

Recommendation 2.13

The sanctions and enforcement regime should be reinforced so that penalties are an effective deterrent against non-compliance. These stronger enforcement tools should generally look to replicate and align with the approach in the Health and Safety at Work Act. More specifically:

- a. the JCA/Local Authority Building Standards should have additional powers to issue formal Improvement and Prohibition (or 'Stop') Notices to dutyholders where there is a sufficient concern about, for example, the degree of oversight of the work; accurate record-keeping; or the likelihood of meeting Building Regulations requirements;
- b. the JCA/Local Authority Building Standards should have the clear power to require changes to work that fail to meet the Building Regulations requirements alongside any broader penalties sought;
- c. time limits for bringing prosecutions against dutyholders should be increased to five or six years for 'major' deficiencies in building requirements identified at a later date;
- d. the JCA cost recovery model should be weighed appropriately to create a fund for enforcement action to be taken where needed; and
- e. the new powers should be available, wherever appropriate, to support either the JCA or Local Authority Building Standards in respect of all non-compliant building work.

Part 6 – Refurbishment

2.53 The key recommendations in this chapter should be taken to equally apply in both a new build and a refurbishment scenario. Therefore the key recommendations around JCA oversight, dutyholders responsibilities, Gateway Points³⁵ and Local Authority Building Standards will be applied where, for example, a new sprinkler system is being installed or the exterior of a multiple occupancy building is being upgraded.

2.54 However, events since the Grenfell Tower fire have further reinforced the need for a continued and determined focus on driving improvements in (fire) safety in the existing housing stock. If there is just a focus on new build, the required improvement in safety in all existing high-rise residential buildings will not be achieved.

2.55 Existing buildings are not currently required to meet current regulations on building safety. Rather, a set of complex legal provisions are applied to such work. Currently, when a building is refurbished, the Building Regulations (including building control arrangements) are applied where the work represents a 'material alteration'. Building work represents a material alteration if it would potentially make a building less safe structurally; more at risk from fire or less accessible for disabled people than required by the Building Regulations that applied at the time the work was originally carried out.

2.56 Where building work can be considered a material alteration, the person doing the refurbishment work is subject to building control oversight. An assessment will then be made about the extent to which those parts of the building being refurbished will impact more generally on whole building. There is no requirement to generally improve the fire safety provisions in the building, merely a requirement that the work should not make the building less compliant in meeting those standards. This is generally referred to as the 'non-worsening provision'.

2.57 Whilst there is a rationale for non-worsening and more generally for not imposing the latest modern building standards on old buildings (which may quickly make continued occupation, or any refurbishment activity uneconomical) large numbers of existing high-rise buildings have increasingly out-of-date fire safety precautions. There is also the

³⁵ Although some minor adjustment may be necessary. For example, during refurbishment a building is likely to remain occupied so the permission to begin occupation would need adjustment.

potential for some refurbishment work to escape the net of scrutiny and be carried out in such a way as to compromise the fire safety of the building.

2.58 Chapter 3 sets out the primary routeway for the JCA to drive improvements in the existing building stock through the new 'safety case review' system. This review recommends a system in which dutyholders identify the hazards and risks, describe how risks are controlled and describe the safety management system in place. Dutyholders will need to demonstrate to the JCA how they are reducing building safety risk so far as is reasonably practicable. This approach takes into account the changes that might be reasonable to make to the building taking account of the level of risk and the cost.

2.59 The safety case review is much broader-reaching than adjustments to the current non-worsening provisions could be. Therefore, where a HRRB has not yet had its first safety case review and seeks to carry out refurbishment work then this will trigger that broader process. The safety case review will then look at the whole building and agree where works need to be undertaken (in addition to the proposed refurbishment work) and set appropriate timescales. Such work would always count as building work and therefore be overseen by Local Authority Building Standards (and fire and rescue authority) on behalf of the JCA. Once the safety case review cycle is established then further major refurbishments may also bring forward the next safety case review.

Recommendation 2.14

Where a HRRB has not yet had its first safety case review and seeks to carry out refurbishment work then this should trigger a full safety case review as set out in paragraphs 2.58-2.59 above.

Once the safety case review cycle is established then further major refurbishments may also bring forward the next safety case review.

Chapter 3 Occupation and maintenance

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Summary

3.1 The interim report found that the current regulatory system during occupation and maintenance is not fit for purpose for higher risk residential buildings (HRRBs). The key drivers for this are:

- overlapping regulatory frameworks (the Housing Act 2004 and the Regulatory Reform (Fire Safety) Order 2005) which make it challenging to ensure that there is a sufficient holistic focus on fire safety for HRRBs;
- the lack of expectation for building safety to be proactively maintained over the building life cycle and for residents to be meaningfully involved; and
- the difficulty of identifying a dutyholder with responsibility for the structural and fire safety of the whole building.

3.2 The interim report stated that a systemic overhaul is required to achieve safe building outcomes, including overhaul of the framework that is in place during the occupation phase. As in the design and construction phase, there must be clear responsibility for the whole building, assigned to a known person who can be held to account. This person needs to demonstrate that appropriate risk mitigation is in place and ensure that there are regular reviews of building integrity (fire and structural safety). There must be clarity about the responsibilities of residents and building owners and more guidance and information for residents. Finally, the identity of the regulator for the whole building needs to be clear to avoid unhelpful overlap and inconsistencies, and the regulator must have a reinvigorated role to incentivise and to sanction those responsible, where appropriate.

3.3 It is important that buildings are considered as a system (as set out in Chapter 1), which in order to be safe requires every aspect of design, construction, refurbishment and maintenance to prioritise safety. Every interaction with the building needs to be considered in terms of how the work may affect the overall system. For example, works done inside individual dwellings can compromise fire safety measures in place across the building.

Once the building is complete and occupied, an ongoing case must be made to the Joint Competent Authority (JCA) that it is safe to provide continued confidence in its integrity throughout its life cycle.

3.4 The interim report recommended as an interim measure that fire risk assessments required under the Fire Safety Order should be undertaken at least annually and when any significant alterations are made to the building. It stated that fire risk assessments should be shared in an accessible way with residents and notified to the fire and rescue authority.

3.5 The recommendations in this chapter set out a new regulatory framework for HRRBs under the new JCA during occupation, providing a continuation of the approach proposed for the design and construction phase. Part 1 of this chapter introduces an empowered dutyholder responsible for making sure that the whole building is safe. Part 2 sets out the new responsibilities of the dutyholder, including responsibility for proactively managing risks and working with residents (by which we mean both those residing in the property and, depending on the ownership model, the landlord or leaseholder of the flat) to ensure that the building remains safe throughout its life cycle. The dutyholder should do this by undertaking regular safety case reviews of the building in which they must demonstrate to the JCA that they are reducing building safety risk so far as is reasonably practicable, maintaining the building's golden thread of information, and properly engaging with residents. Part 3 sets out obligations for residents in recognition of the important role that they play in the whole building safety approach and thinking about buildings as a system. Part 4 describes the coherent and more proactive regulatory oversight regime that will be established, which with a risk-based approach to intervention will create an effective and proportionate system for demonstrably safe buildings.

3.6 In the case of existing HRRBs there will need to be a prioritised programme of review undertaken. The prioritisation will be undertaken by

the JCA and will set a schedule for the first safety case review for all existing buildings. There is no expectation that existing buildings will be required to fully meet current building standards as part of this review process, but there will be an expectation of making improvements in relation to building safety where reasonable and practicable.

3.7 The dutyholder will be required to demonstrate that the building is/continues to be safe for occupation, that the building safety risks are known and being reduced so far as is reasonably practicable to ensure the safety of residents. It will also require the dutyholder to present as full information as possible to enable that review to be done and may require major work to be undertaken to an agreed schedule where the level of risk to residents is deemed to be unacceptable.

3.8 The recommendations in this chapter will be reinforced by the proposals to:

- strengthen resident collaboration and partnership with the dutyholder in order to resolve issues;
- introduce a whole building life cycle approach that starts during procurement and design and supports the construction of safe buildings, including through a stronger change control process and information transfer; and
- improve the competence of people who are involved in the design, construction, refurbishment, occupation and maintenance of buildings.

Recommendations

Part 1 – Creating a clear, identifiable dutyholder

Introduction

3.9 As set out in the interim report, there is no requirement for a clear person or entity to be responsible for the fire and structural safety of buildings in scope. The powers of local authorities under the Housing Act 2004³⁶ allow them to take action against individual landlords and leaseholders on fire safety risk, but do not require someone to take overall responsibility for the safety of the whole building in every case.

3.10 Responsible Persons under the Fire Safety Order are frequently not identified for residential buildings at the point of handover of the building, and so are often not aware of their responsibilities for managing fire safety risk in the common parts (shared areas such as corridors, hallways, etc.). Under the Fire Safety Order, there are usually a number of persons subject to the obligations of Responsible Person for the premises. In residential buildings this is usually the building owner, landlord or managing agent, but may also be any other persons with a degree of control over the premises. The Responsible Person is not required to make their role known to residents and the scheme of the Fire Safety Order does not provide for direct accountability of the Responsible Person(s) to residents, but rather to the appropriate enforcing authority (usually the fire and rescue authority). In residential and mixed-use buildings in particular, identifying the appropriate Responsible Person(s) for the common parts and/or the various workplaces in the building can be highly complex and time-consuming.

3.11 The lack of a consistent approach and the ability to pass down the role to a managing agent means that in practice responsibility and accountability can be diluted or non-existent.

Clear responsibility and accountability

3.12 Chapter 2 details how adapting the Construction (Design and Management) Regulations 2015 (CDM) approach to roles and responsibilities during the design and construction phase will provide greater clarity and therefore a better focus on building safety. There is a similar lack of high level and clear legal accountability in the occupation and maintenance phase of buildings, particularly where there is a mix of tenures. This CDM-style approach can be continued into the occupation phase, by having clear legal accountability assigned to someone with responsibility for the whole building. This will help to ensure that there is a continued focus on safety throughout a building's life cycle, and clear accountability if safety is not sufficiently prioritised.

3.13 There is a wide range of different ownership and management models for high-rise residential buildings and for mixed-use buildings which include residential premises. There are many situations where the building is owned by multiple offshore firms which makes identifying a dutyholder even more challenging. The review understands that a building owner or superior landlord³⁷ is commonly the body with ultimate authority over the building and so should be responsible and accountable.

3.14 It is recommended that the building owner or superior landlord be the dutyholder during the occupation and maintenance phase with responsibility and accountability for building safety covering the whole building. The name and UK contact information of this dutyholder must be notified to the regulator and to residents and any other landlords of dwellings in the building. The contact details must be kept up to date.

3.15 The dutyholder will be accountable, with collaboration from residents and any other landlords of dwellings or premises in the building, for structural and fire safety of the whole building.

³⁶ The Housing Health and Safety Rating System 2005 formed through the Housing Act 2004 assesses likely harm to tenants over 29 identified hazards and provides local authorities with a range of powers to investigate and, where necessary, require landlords to improve standards and remove hazards.

³⁷ Superior landlord means the person for the time being who owns the interest in the premises which gives them the right to possession of the premises at the end of the landlord's lease of the premises.

The dutyholder must retain overall responsibility, be accountable to the residents, and also traceable by the regulator and by residents of their building.

3.16 The dutyholder must nominate a ‘building safety manager’ with the relevant skills, knowledge and expertise to assist in discharging their duties and to be available to residents concerned about safety in their building. They will also need to bring in the right additional expertise (if they do not have it) to undertake work such as fire risk assessments. The dutyholder must notify the JCA, residents, and occupiers of other premises in the building of the name and contact information of the building safety manager, or declare that they will take that role themselves.

3.17 Accountability must remain with the dutyholder. They cannot pass or delegate their *accountability* to the building safety manager, but can delegate the *responsibility* for certain tasks to them. For many buildings the day-to-day management of safety and engagement with residents will be undertaken by, for example, a residential management agent who would most likely be nominated as the building safety manager.

3.18 Where there are multiple owners, all must retain the responsibilities and accountability of the dutyholder role to ensure that they are not able to obstruct the duties being discharged (for example by refusing to release funds) without being held to account. However, in practical terms they may nominate one owner to the JCA as the contact. As has been the case for the CDM model, this approach aims to drive dutyholders to assume greater responsibility and achieve better safety outcomes.

Recommendation 3.1

- a. Government should specify that responsibility for the safety of all parts of a HRRB must be held by a clear, senior dutyholder which should be the building owner or superior landlord.
- b. The JCA and residents must be kept notified of the name and UK-based contact information of the dutyholder (whether that is an entity or a named person).
- c. The dutyholder must nominate a named ‘building safety manager’ with relevant skills, knowledge and expertise to be responsible for the day-to-day management of the building and act as a point of contact for residents. The building safety manager’s name and contact information must be notified to the JCA and to residents and should be displayed in the building.

Part 2 – Dutyholder powers and responsibilities

Introduction

3.19 Once identified, the dutyholder must be enabled to proactively manage safety risks. There are powers under the Housing Act 2004 to require improvement and the removal of hazards relating to fire risk across the whole building, but this is a largely reactive system. The Fire Safety Order is intended to apply to workplaces and other premises to which the public has access, including the common parts of residential premises. For HRRBs there must be new requirements which are properly and proactively regulated for the whole building.

3.20 The fire safety information which should be handed over under Regulation 38 of the building regulations on completion of the construction of the building is often not present or is insufficient, which may mean that an adequate fire risk assessment cannot be undertaken. Even where information is passed on, fire risk assessments are frequently inadequate or not completed at all. For example, following the Grenfell Tower fire, feedback from fire and rescue services on inspections of other high-rise residential buildings indicated that in a significant proportion notices had to be issued for problems such as inadequate risk assessment, poor compartmentation and lack of suitable facilities for firefighters.

3.21 A step change is therefore needed to place greater demands on the new dutyholder to manage building safety effectively. This section sets out how greater powers and responsibilities are necessary with clear, high-level and non-prescriptive duties assigned to the dutyholder to ensure that the onus is on them to continuously manage safety risk in their building as a whole.

3.22 This will help to drive behavioural and cultural change away from reliance on government and regulators to tell building owners what to do. The new framework should not represent a significant additional burden for building owners, or others with responsibility for fire safety in HRRBs, who are already aware of their role and are behaving responsibly under the current system. It will provide greater accountability for those who are not.

Reducing building safety risk so far as is reasonably practicable

3.23 The interim report was clear that there must be a responsibility to give due consideration to what is reasonable and practicable to improve fire safety of existing buildings in order to counteract the inevitable deterioration of buildings, the persistence of fire risk across the building stock, and to take advantage of new technologies and increased knowledge of fire safety.

3.24 The Fire Safety Order is non-prescriptive and already requires, in the parts of residential premises that are covered by the Order, that the Responsible Person must take such fire precautions as may be reasonably required in the circumstances of the case to ensure the premises are safe. Where the Responsible Person implements any preventive and protective measures it must be done following the principles of prevention set out in the Order³⁸, including avoiding risks, evaluating risks which cannot be avoided and adapting to technical progress.

3.25 The new approach would build on these principles but ensure that the whole building is properly, regularly and proactively considered by the dutyholder against the principles of what is reasonably practicable to reduce risk. Compliance will be more effectively driven by establishing a JCA to cover the whole building and undertake regular safety case reviews. This new approach will also remove the uncertainty and overlap of the Housing Act 2004 and the Fire Safety Order in relation to fire safety, ensuring that the dutyholder and regulator roles are clear and transparent.

3.26 The review recommends that the dutyholder should demonstrate how they are reducing building safety risk so far as is reasonably practicable (see box on page 55). This approach takes into account what changes would be reasonable in relation to the risk and the cost, and can therefore be applied to buildings on a case-by-case basis dependent on the overall risks identified and other mitigations in place. This is visualised in the 'layers of protection' diagram in Chapter 1, demonstrating that the totality of the preventative and mitigation measures are to be considered as a whole.

3.27 While what is considered 'so far as is reasonably practicable' would be agreed on a case-by-case basis with the JCA, it will be important that national guidance is produced to establish a consistent approach across the country. This could be achieved through standards set out in approved codes of practice in consultation with stakeholders.

38 Regulatory Reform (Fire Safety) Order 2005, schedule 1, part 3, <http://www.legislation.gov.uk/uksi/2005/1541/schedule/1/part/3/made>

So far as is reasonably practicable

'So far as is reasonably practicable' (SFAIRP) is an outcomes-based approach which will allow the JCA to effectively regulate by placing the responsibility on dutyholders to exercise their judgement when making the safety case to the regulator.

SFAIRP is a narrower term than "physically possible", and implies that a consideration must be made by the dutyholder in which the quantum of risk is placed in one scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time or trouble) is placed in the other. If there is a gross disproportion between them (the risk being insignificant in relation to the sacrifice) the owner does not need to implement those measures.³⁹

The presumption is always on the dutyholder to manage safety and reduce the risk. This can be challenging as it requires the exercise of reasonable judgement by both the dutyholder and regulator.

The Health and Safety Executive (HSE) publishes Guidance and Approved Codes of Practice (ACOP) to set out in plain terms what they believe the law to require of dutyholders to reduce risks so far as is reasonably practicable. ACOPs describe preferred or recommended methods that can be used (or standards to be met) to comply with regulations and the duties imposed by the Health and Safety at Work Act 1974 and The Control of Major Accident Hazard (COMAH) Regulations 2015 for example.

This approach has become common practice in managing health and safety and regulating safety concerns in high hazard facilities, for example large-scale chemical plants and offshore oil and gas installations. In the vast number of cases, the HSE can decide whether they are satisfied that safety has been demonstrated, often by referring to existing 'good practice' where applicable by a process of discussion with stakeholders to achieve a consensus about what is considered SFAIRP in the circumstances.

The ACOPs have a special legal status. If prosecuted for breach of health and safety law, and it is proved that relevant provisions were not followed, it will be for the dutyholder to evidence to the court that the law has been complied with in some other way in order to reduce the risk SFAIRP.

Resident engagement

3.28 As set out in Part 3 of this chapter and in more detail in Chapter 4, the involvement of residents must be at the heart of this new approach and the dutyholder will be expected to develop and maintain a resident engagement strategy supporting the principles of transparency of information and partnership with residents.

Recommendation 3.2

Government should allocate clear responsibilities to dutyholders of HRRBs to:

- a. take such safety precautions as may reasonably be required to ensure building safety risk is reduced so far as is reasonably practicable;
- b. ensure that information management systems are in place in order to maintain relevant documentation and compile and maintain a safety case file (see paragraph 3.34);
- c. ensure that there is a resident engagement strategy and that residents receive information on fire safety in an accessible manner; and
- d. handover all of the relevant information to a new dutyholder when a building changes hands.

³⁹ <http://www.hse.gov.uk/risk/theory/alarpglance.htm>

Safety case and information management

3.29 The interim report is clear that there needs to be a demonstration that appropriate risk mitigation is in place with sufficient layers of protection to ensure that the management of building safety risks does not rely too heavily on one layer of protection, for example compartmentation, without consideration of how to meet building safety objectives.

3.30 While there is currently a requirement under the Fire Safety Order for the Responsible Person to regularly undertake a fire risk assessment of the common parts, broader risk management, including of structural safety of the whole building, is not required. In practice, the review has heard that fire risk assessments often consist of little more than a 'tick box' exercise undertaken by someone without demonstrable competence of fire safety and without consideration of:

- whether fire safety measures may have been removed or damaged within flats;
- whether residents are aware of the fire safety measures in place; or
- what the original design intent was in relation to fire safety.

3.31 It is proposed that the dutyholder presents to the JCA a safety case, at regular intervals, which shows that across the whole building the risks are being managed effectively. The safety case is an evidence-based approach in which the dutyholder identifies the hazards and risks, describes how risks are controlled, and describes the safety management system in place, including emergency procedures in the event of an incident. This approach is tailored to each building and is proportionate because the level of detail and amount of information required is determined by the level of risk.

3.32 At the safety case review, the JCA will assess the safety case and may inspect the building in order to determine whether they are satisfied that the dutyholder is discharging their responsibilities effectively and that the building is safe. Where necessary, they will be able to impose improvement notices (detailing improvements to be made and timeframes to make them). The enforcement and sanctions of the JCA in the occupation phase are set out more fully later in this chapter.

History and development of safety case

The adoption of the health and safety legislation by the UK in 1974 following The Robens Report recognises that good safety management is a matter of balancing the benefits from undertaking an activity, and protecting those that might be affected directly or third parties.

The Health and Safety at Work Act advanced a new, more flexible system of regulation, premised on the ideal of self-regulation by industry. This requires that the risks of harm are to be reduced 'so far as is reasonably practicable' (SFAIRP) through the presentation and maintenance of a safety case.

In most cases, the implementation of the safety case regime has been a reactive measure, adopted following a major event to reduce the risk SFAIRP of something similar happening again.

The success of managing risk in this way can be demonstrated by adoption of the safety case regime across wide-ranging sectors over time, including: nuclear, military, railways, aviation, oil and gas operation, offshore and chemical manufacture.

3.33 For new builds, Gateway Point 3 provides assurance of the safety of the building at completion. At this point, the JCA should discuss with the dutyholder and agree what an appropriate frequency of intervention should be dependent on the level of risk and verifies that there has been a pre-occupation fire risk assessment and that there is an initial resident engagement strategy. Safety case reviews should generally take place every five years, but the JCA should have the power to call one earlier if deemed appropriate, including where:

- a significant refurbishment is planned; or
- there has been an incident or significant concerns have been raised from a credible source.

3.34 The safety case file should include:

- information on the building management system in relation to fire and structural safety, records of maintenance, inspection and testing undertaken on the structure and services and evidence that the competence of those undertaking work on the building was sufficient;
- a resident engagement strategy;
- the maintained and updated Fire and Emergency File (see Appendix D) and digital record (see Chapter 8);

- a copy of any fire safety inspections undertaken by the dutyholder and/or regulator; and
- a copy of the latest fire risk assessment and evidence of actions taken and the appropriate competence of the person who performed it.

3.35 The safety case approach requires a greater degree of competence from those involved than the current system. The dutyholder needs to make decisions to actively manage risks. It also requires a good understanding of the building because information in the safety case must demonstrate how the risk is being managed.

3.36 The dutyholder will be responsible for maintaining the ‘golden thread’ of information about the building structure and materials, detailing the maintenance, testing and inspection routine as well as how fire risk assessments have been undertaken and actions implemented:

- For buildings constructed under the new framework described in Chapter 2, a comprehensive Fire and Emergency File and digital record will be transferred from the client to the dutyholder, giving them the golden thread of information needed to manage the building safely, and evidence to inform the safety case. This must be updated by the dutyholder so that it remains accurate and any changes are taken into account in the safety case.
- For existing buildings, there can often be little or no building information held. It will therefore be necessary for the dutyholder to undertake an information gathering exercise to build the data record and reconstruct the design intent for building safety. This may require invasive surveys (where parts of the construction are opened up if necessary). While many building owners and landlords are rightly starting this work now, many (including local authorities and housing associations) will have a portfolio to work through which may take some time. Given the approximately 2,000-3,000 HRRBs, there will need to be a phased programme for the JCA to perform a first wave of safety case reviews for existing buildings on a prioritised basis over a number of years.

3.37 As detailed later in this chapter, the role of the JCA is to oversee this framework.

Recommendation 3.3

The dutyholder for a HRRB should proactively demonstrate to the JCA through a safety case at regular intervals (as determined by level of risk) that they are discharging their responsibilities. The safety case must identify the hazards and risks, describe how risks are controlled, and describe the safety management system in place.

Fire risk assessments

3.38 Within the broader safety case, high-quality fire risk assessments will continue to play an important role in identifying hazards and risks and the actions needed to mitigate them. However, as noted above, it is important that they are undertaken by a competent person (with the right skills, knowledge and experience) appropriate for the complexity of the building. Such competence should not be mandated by Government but it should be for the dutyholder to set out how they satisfied themselves that the fire risk assessor had the required skills, knowledge and experience to work on their building. A new, coherent competence framework, as set out in Chapter 5, will be one way in which the dutyholder will be able to satisfy themselves.

3.39 It was recommended in the interim report that fire risk assessments as required by the Fire Safety Order should be undertaken at least annually and when any significant alterations are made to the building. Given the length of time before first safety case reviews are conducted for some existing HRRBs, it is recommended that fire risk assessments for the whole building are reviewed at least annually until a first safety case review is undertaken, and then as determined with the JCA on a risk basis.

3.40 It is envisaged that the following recommendation is also relevant to buildings outside the scope of this review (buildings not subject to safety case oversight), both in terms of assuring the appropriate competence of fire risk assessors and the regularity with which fire risk assessments are reviewed.

Recommendation 3.4

- a. The dutyholder for a HRRB should demonstrate that the fire risk assessment for the whole building has been undertaken by someone with relevant skills, knowledge and experience and reviewed regularly (dependent on risk and as agreed with the regulator) so as to keep it up to date and particularly if:
 - there is a reason to suspect it is no longer valid;
 - they have received a notice from a regulator; or
 - there has been a significant change to the premises.
- b. The dutyholder should ensure that any recommendations/requirements outlined in the fire risk assessment are undertaken and completed in a timely manner. Fire risk assessments should be reviewed at least annually until a first safety case review has been completed, where this applies.
- c. The government should consider applying this requirement to other multi-occupancy residential buildings.

Part 3 – Residents rights and responsibilities

Introduction

3.41 Residents need to be safe, and feel safe, in their homes, but are also integral to ensuring a building stays safe, identifying and helping to resolve potential fire risks (for example fire doors being wedged open).

Rights

3.42 The more that residents are informed about the fire safety strategy for the building, the better they will be able to play an active and informed role in helping to ensure that it remains safe, and the more they will in turn feel safe in their homes.

3.43 As mentioned in the preceding parts of this chapter, the dutyholder will be expected to develop and maintain a resident engagement strategy supporting the principles of transparency of information and partnership with residents. The dutyholder will have shown the pre-occupation resident engagement strategy to the JCA as part of gaining approval to begin occupation of the building. Residents will receive information about

the layers of protection in place to keep the building safe, and will be included in discussions about changes to their building. The dutyholder will be required to make residents aware of the outcome of safety case reviews and any improvement measures required.

3.44 Chapter 4 (Residents' voice) sets out these new rights in more detail, including enhanced involvement, better information and transparency and a clearer route for escalation and redress, and makes recommendations on this issue.

Responsibilities

3.45 To accompany the improved rights that residents can expect from the new framework, they also have a responsibility towards their fellow residents to ensure that their actions do not compromise the safety of the building. Therefore, there must also be clear obligations on residents to maintain safety measures inside flats to a suitable standard.

3.46 Residents will be expected to cooperate with the dutyholder so that they can discharge their duties – for example by allowing access for maintenance and testing of fire safety systems and for inspection where necessary. It is only by working collaboratively with residents and the landlords of individual dwellings in the building that the dutyholder will be able to effectively manage the building safety risks, and so the dutyholder will need to be able to access flats appropriately for inspection and may require action from tenants, leaseholders or landlords where necessary.

3.47 This is an extension of residents' current obligations. For example the majority of leases and tenancy agreements allow access for inspection or repairs, subject to prior notification. In addition, landlords, housing associations and local authorities can already gain access to flats for an annual gas safety check. It must be clear that for all residents and for landlords of rented properties in HRRBs, these obligations extend to:

- cooperating with the dutyholder (or building safety manager) to the extent necessary to enable them to fulfil their duties;
- ensuring that fire compartmentation from the inside of a flat, including the front doors, is maintained to a suitable standard;
- ensuring that any fire safety systems in the flat that could impact on the fire safety of the building and others are maintained, tested and inspected (or access is permitted to allow

maintenance testing and inspection) to a suitable standard; and, in addition

- there should be an assumption that improvements, where necessary, are permitted by any lease in relation to building safety measures.

3.48 It is vital that any inspections are done in a coherent way and with appropriate notice to minimise disruption and inconvenience for residents. Good communication by the dutyholder, including explaining the principles behind safety decisions, is important in this respect.

Recommendation 3.5

- a. For HRRBs, residents⁴⁰ should have clearer obligations in relation to maintaining safety of flats and should cooperate with the dutyholder (or building safety manager) to the extent necessary to enable them to fulfil their duty to keep the building safe for all those living there.
- b. The dutyholder should educate, influence and inspect to ensure residents meet these obligations and the JCA should be able to intervene where there is any immediate risks to persons.
- c. The government should consider applying this good practice on rights and responsibilities to other multi-occupancy residential buildings.

Part 4 – The JCA role in occupation and maintenance

Introduction

3.49 The interim report describes how regulatory oversight for fire safety in high-rise residential buildings is currently fragmented. The two main regulatory regimes⁴¹ are:

- the Fire Safety Order – enforced by fire and rescue authorities, and applying to the common parts of, and any workplaces within, the building; and
- the Housing Health and Safety Rating System under the Housing Act 2004 – enforced by local authority Environmental Health Officers (EHOs), and applying to the whole building but on a largely reactive basis, with no ability to enforce

against local authority housing, and without a clear focus or access to specialised skills needed on complex fire safety matters.

Neither of these regimes allows a ‘whole building safety’ approach because they do not take a proactive, holistic view of building safety across the whole building.

3.50 As set out in the interim report, in practice enforcement activity across these two key regimes is often weak and not comprehensive. Current regulatory activity relies too much on self-regulation without strong oversight.

A coherent, intelligent regulator

3.51 As set out in Part 1 of this chapter, having a clear dutyholder for the whole building will provide a holistic focus on safety across all parts of the building. The enforcement of this needs to be equally clear, and with the right skill set, to drive the right behaviours and sanction the wrong ones.

3.52 The JCA (see overview in Chapter 1) should have the power to ensure that the dutyholder fully discharges their duties during the occupation and maintenance phase. The JCA, comprising the expertise of Local Authority Building Standards, fire and rescue authorities and the Health and Safety Executive, can evaluate this by:

- assessing structural and fire safety via safety cases provided by the dutyholder (see paragraph 3.54);
- inspecting across the whole of the building where necessary (see paragraph 3.56); and
- imposing Building Improvement Notices and sanctions on dutyholders (see recommendation 3.8).

3.53 As the regulator for building safety in these buildings, the JCA must also have powers to intervene where there are immediate risks to safety. The regulator must have access to the whole building including dwellings where there is reasonable evidence that building and life safety is at risk.

Assessing safety cases provided by the dutyholder

3.54 The regulator will assess the safety case to verify that dutyholders are managing risk effectively, providing a clear evaluation of the safety case which indicates how safe the building is (see further detail

⁴⁰ This relates to both those residing in the property and, depending on the ownership model, the landlord or leaseholder of the flat.

⁴¹ In the social housing sector, landlords are expected to comply with a set of regulatory standards prepared by the Regulator of Social Housing. The ‘Home Standard’ requires homes to be safe, decent and kept in a good state of repair. The Regulator may enforce against failure to comply with this Home Standards, but only if there is likely to be risk of serious harm to existing and future tenants.

in Chapter 4). Within this process they may suggest a range of improvements where appropriate, for example suggesting where:

- the involvement of residents could be enhanced;
- the competence or oversight of tradespeople carrying out work that could affect building safety may require further demonstration; or
- specific building improvements need to be undertaken to reduce risk so far as is reasonably practicable.

3.55 To ensure that such improvements take place, the JCA should be able to serve the dutyholder with a Building Improvement Notice, a statutory enforcement notice which would include timescales for completion of any works. This would be inspected and followed up by the JCA to ensure that work has been completed. A continuing role for building standards inspectors as part of the JCA into occupation will provide expertise in assessing building safety, assessing whether it would be reasonable and practicable to make building improvements, and to assist in overseeing the programme of improvements.

Inspecting across the whole of the building

3.56 The JCA will inspect buildings to verify that information provided is accurate in order to make its assessment (for example that fire safety measures are being maintained), talking to residents where appropriate.

Recommendation 3.6

The JCA should be empowered to regulate across all parts of a HRRB, be clearly identifiable to dutyholders and residents, and should have the following roles in the occupation and maintenance phase:

- hold a register of dutyholders;
- ensure that dutyholders meet their responsibilities through effective inspection, assessment and enforcement; and
- deal with immediate risk – the JCA should have powers of access to inspect the whole building and take action where necessary.

Interaction with the Housing Health and Safety Rating System (HHSRS)

3.57 As detailed, the HHSRS is a largely reactive system. It assesses across 29 hazards, one of which is fire risk and the other 28 cover a range of issues

such as excess cold, crowding and noise. Under the HHSRS, EHOs can take action against landlords and leaseholders and require rectification work. However, the majority of EHOs understandably do not have specialised skills on fire and structural safety matters for this sub set of high-rise, complex buildings. This is why a JCA with a specific focus on the structural and fire safety of HRRBs is recommended.

3.58 Given the important role that the HHSRS plays in keeping dwellings of all types decent and safe to live in across a range of hazards, they will retain the ability to take enforcement action against individual landlords and leaseholders, but there must be close interaction between EHOs and the JCA to ensure that any fire and structural safety concerns are raised to the JCA and that the JCA can hold the overarching dutyholder to account where necessary.

3.59 For other multi-occupancy residential buildings (which are not HRRBs) local authorities and fire and rescue authorities should work more closely in tandem to ensure that the whole building is appropriately inspected and that the distinction being made by regulators between ‘common parts’ and dwellings does not prevent building safety being prioritised.

Recommendation 3.7

- For HRRBs, Environmental Health Officers should raise any fire and structural safety concerns to the JCA.
- For other multi-occupancy residential buildings, local authorities and fire and rescue authorities should work more closely to ensure that the fire safety of the whole building is assessed and regulated effectively.

Sanctions and incentives

3.60 Fire and rescue authorities and EHOs, have a range of powers to inspect, sanction and act where fire risk is identified or key actors do not comply with fire safety requirements. Due to the fragmented regulatory approach however, such powers are often not used to best effect to assure the safety of the whole building.

3.61 Similar to the case made in Chapter 2 for the strengthening of enforcement during the design and construction process, the JCA must have a range of incentives and sanctions at its disposal to hold dutyholders to account during the occupation and maintenance phase. As is currently the case

for fire and rescue authorities and local authority EHOs, the regulator should be able to use statutory enforcement notices to enforce against the dutyholder and to keep residents safe. There should be criminal sanctions as the ultimate sanction.

3.62 The regulatory framework must also incentivise dutyholders to do the right thing. As set out in Chapter 1 regarding the principles of cost recovery, there should be a proportionate approach where those whose work needs the highest level of intervention and oversight should pay the highest cost.

Recommendation 3.8

For HRRBs there should be robust sanctions and strong incentives in place to drive compliance by dutyholders during occupation. The JCA should use a staged approach comprising education, statutory notices, fines and ultimately criminal sanctions.

Chapter 4 Residents' voice

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Summary

4.1 The interim report identified that trust in the building regulation and fire safety system has been shaken. A new, transparent system with clear accountabilities is needed to ensure that residents are safe and feel safe in their homes.

4.2 Many residents report being frustrated by the intermittent and partial nature of information available on safety, and that they do not feel adequately consulted on changes to their building that could impact on safety. In discussions with residents, greater transparency of information on building safety; and consultation and involvement in decision-making processes have consistently been raised as key areas where change is required.

4.3 The interim report identified the need to rebuild public trust by creating a system where residents feel informed and included in discussions on safety, rather than a system where they are 'done to' by others. The interim report recommended that fire risk assessments should be carried out annually and shared in an accessible way with residents.

4.4 No landlord or building manager should be able to treat the views and concerns of residents with indifference. The system should ensure that the needs of all residents, including those who are vulnerable, are taken into account, and it should provide them with the reassurance they need that their homes are safe.

4.5 Residents need to understand the safety systems in place in their building, and to do this they require access to a wide range of information relating to safety. Residents should be involved in the decision-making process for work that could impact on the safety of their homes and they deserve a guarantee that their voices will be heard if they raise genuine concerns. Where issues arise and cannot be resolved with the landlord, building manager or dutyholder, residents should have a clear route to escalate concerns to an independent body. Residents also have an important role to play in maintaining and safeguarding the safety systems in their building.

4.6 The review has received evidence of excellent practice of consultation and resident involvement in decision-making by some organisations. Landlords and building managers have described the business benefits they gain from these collaborative relationships. This chapter does not aim to prescribe how relationships between the dutyholder and residents should work, but it will set out the principles of transparency, collaboration and accountability that should govern their interactions on safety issues.

4.7 The recommendations cover residents of all tenures, to ensure that no voice is excluded. Due to the remit that was set for the review, most of the recommendations focus on the residents of higher risk residential buildings (HRRBs). The government should consider widening the scope of these recommendations, as many of the issues raised may represent best practice for all multi-occupancy residential buildings. Two of the recommendations are not restricted, and relate to residents of all buildings.

4.8 Residents' voice is an area where the government is already considering policy change, for example via its recent consultation on strengthening consumer redress in housing. This theme may also be addressed by the forthcoming Social Housing Green Paper. The government will need to consider the review's recommendations when making proposals for reform in these areas.

4.9 Part 1 of this chapter sets out the way in which residents can be reassured that appropriate and robust layers of protection are in place to keep them safe in their homes, through greater transparency of information. Part 2 proposes a clear, independent route to redress when the system does not work. Part 3 sets out the contribution that residents can make to keeping themselves and their neighbours safe.

4.10 The recommendations made in this chapter form an integral part of wider changes, which will work together to ensure that homes are safe and residents are reassured that they are safe.

- The new role of the dutyholder for the occupation and maintenance phase is vital to reassure residents, as the dutyholder will have responsibility for safety throughout the lifetime of the building.
- Better documentation and information management throughout the lifecycle of a building will create a more transparent system.
- Residents will have greater assurance that those who carry out work in their homes are competent, and that the work is carried out using safe products.
- A robust regulatory regime will underpin the system, and reassure residents that there are stronger sanctions for anyone who neglects their duties.

4.11 A cultural change is required to rebuild trust and ensure that residents feel safe in their homes again. Providing reassurance, recourse and responsibility to residents is one part of a systemic overhaul designed to deliver buildings that are safe now and will be in the future. This will take time, but the review has seen real ambition across the sector for a system that is fair and meets the needs of residents.

Recommendations

Part 1 – Reassurance

4.12 Ensuring that residents have access to information about their building and the safety measures in place is the first step towards a system that involves residents. The dutyholder for a HRRB should be responsible for proactively providing an accessible summary of building safety information to all residents in the building, irrespective of differences in tenure, landlord and building owner.

4.13 The information provided by the dutyholder should be specific to each building, but some core elements will be essential to ensure that all residents receive a comprehensive set of critical information. The information should include a clear evaluation of the safety case, which indicates how safe the building is, and a summary of the most recent fire risk assessment. The outcome of the safety case should be translated into a ‘safety rating’ for the building. This will allow residents to benchmark the safety of their building against others, and incentivise the dutyholder to quickly bring about improvements where required.

4.14 The information should also include any steps that residents need to take within their own homes to maintain the integrity of the installed safety systems. Alongside this, as set out in Chapter 5, residents themselves should be able to access fire safety awareness training where this would be beneficial to fire and building safety. Residents should be provided with the contact details of the building safety manager and dutyholder, as set out in Chapter 3, as well as a clear process for raising any concerns, should this be required. Residents also need to know how they can be involved in decision-making, and work collaboratively with the dutyholder.

4.15 In addition, the dutyholder should notify residents of any relevant notices issued by the new Joint Competent Authority (JCA), Environmental Health Officers (EHOs), the fire and rescue service and other regulators in relation to safety.

Recommendation 4.1

- a. The dutyholder for a HRRB should have a statutory duty to proactively provide residents with a set of information that supports residents to understand the layers of protection in place to keep their building safe.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Greater access to information

4.16 Whilst a summary document will be sufficient to provide some residents with the assurance they seek, others may wish to access more detailed information. Residents should have the right to access both current and historical fire risk assessments, safety case documentation and information on the maintenance of safety systems and changes that could impact on safety. Chapter 8 sets out the golden thread of information that will be produced for a HRRB. It may not be possible to share all of this information, for genuine security reasons, but all non-sensitive information produced during the design and construction, and occupation and maintenance phases could and should be made available. Dutyholders should be able to demonstrate to residents that work is being carried out and checked by suitably competent people, and that the correct materials and products are specified. Residents should be able to understand the level of service that they should be receiving, and what to expect during works. Whilst there must be due regard to the security of buildings, residents deserve transparency of information about their homes.

Recommendation 4.2

- a. Residents of HRRBs should have the right to access fire risk assessments, safety case documentation and information on maintenance and asset management that relates to the safety of their homes.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

However, this good practice is not reproduced across all sectors nor all building owners and managers.

4.20 Better engagement and renewed investment of effort to build a co-operative and positive working relationship will help residents to feel involved and create trust. Residents themselves will often be best placed to support the dutyholder in making decisions that impact on the safety of the building and can help the dutyholder to meet their wider duties.

Resident involvement in decision-making

4.17 Transparency of information is not enough to provide reassurance to residents and make the most of the contribution that residents can make to building safety. Engagement is not a new idea. Standards of engagement for social landlords are set out in the Tenant Involvement and Empowerment Standard⁴² and regulated by the Regulator of Social Housing. Managing agents of private blocks who are accredited by voluntary schemes are required to meet certain standards and should consult leaseholders about decisions on the maintenance of their homes above a certain cost threshold. In certain circumstances the planning system requires engagement with residents before work can be undertaken. Under health and safety legislation⁴³ employers have a duty to consult employees on health and safety matters, including the introduction of any measure that may impact on safety and the information that is shared on health and safety.

4.18 In Scotland, social landlords have a legal duty to actively develop tenant participation, and should have a strategy to enable continuous improvement in enabling tenants to participate. Most social landlords have embedded resident involvement in their culture so that it is simply what they do routinely. This ensures that residents play a key part in local and strategic decisions. The strength of this system is that landlords can be held to account for their activities and performance, not only by tenants themselves but by the Scottish Housing Regulator.

4.19 The review has heard of many individual examples of landlords and building managers in England who already consult their residents meaningfully on proposed changes, and these landlords and building managers often point to the business benefits that they feel this brings.

4.21 It is not for the review to prescribe a means of engagement. A proportionate approach needs to be taken, depending on the context and the specific circumstances of the decision. Not every decision or small piece of work will require engagement with all residents in a building. However, where the work impacts on safety systems or is a significant refurbishment, then the dutyholder should engage with residents in advance of decisions being taken, so that their views and concerns can be heard and taken into account. The dutyholder should also provide feedback to residents on the final decision, and the reasons for it, as well as maintain ongoing communication and updates during the works.

4.22 Resident involvement and engagement should be at the heart of the new system and dutyholders should be able to demonstrate that they have a strategy for resident engagement. The JCA should have a mechanism for checking and enforcing against dutyholders who fall short of the requirement to engage. For example, as set out in Chapter 2, the JCA should review the engagement strategy prior to occupation at Gateway Point 3 and as part of the process which precedes significant maintenance or refurbishment work which falls within its scope. The dutyholder should continue to demonstrate to the JCA on an ongoing basis that there is an effective engagement strategy in place as part of their safety case.

⁴² Home and Communities Agency (2017) Tenant Involvement and Empowerment Standard.

⁴³ This duty is set out in the Safety Representatives and Safety Committees Regulations 1977 (as amended); and the Health and Safety (Consultation with Employees) Regulations 1996 (as amended).

Recommendation 4.3

- a. The dutyholder for a HRRB should have a resident engagement strategy in place to support the principles of transparency of information and partnership with residents. The strategy should outline how the dutyholder will share information with residents, how they inform them of their rights and responsibilities, and how they involve residents in decision-making on changes to the building that could impact on safety.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

The role of residents' associations and tenant panels

4.23 Informed residents can play a key role in monitoring the performance of safety systems and holding building owners to account for weaknesses in performance. There is particular strength in structured engagement via residents' associations and tenant panels, and these groups can play a vital role by collaborating with landlords and building owners to assemble the views of residents and raise common concerns.

4.24 The review has seen very positive examples of the work of tenant scrutiny panels in Scotland. Scrutiny panels identify an issue to investigate, and are given access to a wide range of information from the landlord or building manager on this topic. The scrutiny panel reports on their findings, and the landlord or building manager responds to the recommendations in their report and, where possible, implements the recommendations. In Scotland, this system has resulted in higher levels of resident engagement and positive partnership working, which benefit landlords and building managers and help them to deliver better services and outcomes for residents.

4.25 There is a need for culture change in the relationship between landlords and residents so that the good practice that already exists becomes the norm across the whole sector. This change should be supported and promoted by appropriate government investment to build the capability of residents, landlords and building owners to work co-operatively. This recommendation could be put in to effect quickly, and well in advance of the implementation period required for any legislative changes.

4.26 There is a need for funding for organisations working at both local and national level to support residents of all tenures. These organisations would help to upskill residents' associations and tenant panels and provide advice, guidance and support to residents and dutyholders on effective engagement and good practice in relation to safety issues. Government support for these organisations would be a strong signal of the importance of the role that residents can play in ensuring the safety of their homes.

4.27 These organisations could perform other roles including sharing best practice and providing benchmarking services for landlords and building owners, as well as assisting landlords and building owners in improving the effectiveness of complaint handling. A residents' representative organisation operating on a national scale would be an important advocate for residents, contributing to discussions with government, regulators and providers on their behalf.

Recommendation 4.4

- a. Government should provide funding for organisations working at both local and national level to provide advice, guidance and support to residents, landlords and building owners on effective resident involvement and engagement in order to develop a national culture of engagement for residents of all tenures.
- b. This recommendation should not be limited to the residents of HRRBs – culture change for the residents of these buildings will only happen as part of a wider process of change across the sector.

Part 2 – Recourse

4.28 The review has heard that whilst some residents felt that they had good relationships with the owners and managers of their buildings and that clear systems for reporting safety concerns were in place, this was not universally the case. At present, residents in some buildings do not know whom to contact or how to escalate safety concerns. Some residents have lost confidence in those responsible for safety within the buildings that they occupy.

4.29 The first port of call for residents with concerns on safety should be the building safety manager and dutyholder (or their landlord if they

are a tenant). The dutyholder should provide residents of all tenures with details of a clear internal process to raise safety concerns, and these concerns should be prioritised over more routine issues. In addition to this, where residents have raised concerns about safety and these matters have not been adequately addressed, then there needs to be a clear and direct route of escalation and redress to an independent body. This route should be accessible for residents of all tenures. Such a mechanism must also ensure that residents who raise issues are protected from any form of threat or punitive action for raising their concerns.

4.30 The body will need powers of inspection, the ability to identify serious safety concerns and access to appropriate experts whose competence should include fire safety, electrical safety, structural safety, thermal and water systems such as sprinkler installation and maintenance. It will need to have a mechanism to share intelligence with and escalate concerns to the JCA and other regulators to ensure swift enforcement action can be taken. The government may wish to give consideration to the role of the ombudsman system in relation to this recommendation, and the outcomes of its consultation on consumer redress in the housing market, and in particular the suggestion of forming a single housing ombudsman.⁴⁴

Recommendation 4.5

- a. After internal processes have been exhausted, if residents still have safety concerns about their homes, there should be a clear and quick escalation and redress route available for residents of all tenures to an independent body with access to appropriate knowledge, resources and enforcement powers.
- b. This route of redress should be open to all residents of all tenures, and not limited to those living in HRRBs.

Current routes of redress

There are presently two key overlapping regulatory frameworks connected to ensuring safety in an occupied building:

- Regulatory Reform (Fire Safety) Order 2005
- Housing Act 2004 and Housing Health and Safety Rating System (England) Regulations (HHSRS) 2005.

Whilst residents can raise concerns with the relevant enforcing authorities for these regulatory frameworks, there is no clear route to do so set out in the legislation.

There are currently multiple redress schemes in housing for various issues and types of tenure, but these are fragmented and do not provide a clear quick route to redress on urgent safety matters.

In addition, the Homes (Fitness for Human Habitation and Liability for Housing Standards) Bill is currently before Parliament. If passed, this would grant tenants the right to take action in the courts against landlords who fail to ensure that their property is fit for human habitation. The Bill would strengthen tenants' rights, but the court process does not necessarily provide the quick and accessible route to redress that residents require.

Part 3 – Residents' responsibilities

4.31 Residents themselves have a role to play in identifying and reporting issues that may impact on the safety of the building. In addition to this, they have a responsibility towards their neighbours to ensure that their actions do not compromise the safety of the building.

4.32 Residents need to maintain building and fire safety protection measures in their flats. Residents will need to cooperate with the dutyholder to ensure that essential safety checks can be carried out. This might include allowing gas safety checks or inspections of the fabric of the building to ensure that compartmentation and fire stops are sound. They also have an obligation to ensure that any work that they have done to their property does not impact on the building's safety. For instance, residents should ensure that they install an appropriate fire door if they choose to replace their front door and that any maintenance work that they commission is done by persons who are competent.

⁴⁴ Ministry of Housing, Communities and Local Government (2018) [Strengthening consumer redress in the housing market: a consultation](#).

4.33 This responsibility reinforces the requirement for cooperation between the dutyholder and residents, and for residents to be involved in decisions about safety issues. Communication, including explanation by the dutyholder of the reasons for safety decisions and the requirement for certain safety measures, will ensure that residents understand the reasons for any obligations placed upon them.

Recommendation 4.6

- a. The dutyholder for a HRRB should provide residents with clear information about their obligations in relation to building and fire safety, and residents should meet their obligations to ensure their own safety and that of their neighbours.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Chapter 5 Competence

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Summary

5.1 The interim report established that a lack of skills, knowledge and experience and a lack of any formal process for assuring the skills of those engaged at every stage of the life cycle of higher risk residential buildings (HRRBs) as a major flaw in the current regulatory system. While there are many competent people working within the system, the lack of a coherent and comprehensive approach to competence can seriously compromise the fire safety of HRRBs, for example, where decisions are taken and/or materials are installed by people who do not fully understand the implications of how to achieve good quality building work, and the implications of getting it wrong.

5.2 This review has identified:

- An existing approach to competence which is fragmented, encompassing a range of disciplines and different competence frameworks even within one discipline and without reference to other interacting disciplines. This results in people working within the system focusing on their individual specialism without giving due consideration to how their work may interact with the work of others and failure to see a building as a single entity or system.
- The lack of a coherent approach to competence levels and experience required – or professional qualifications where these may be necessary – and how these qualifications and experience should be evidenced so that they are clearly understood by all those operating within the system.
- In other parts of the world, those engaged to work on more complex buildings require a higher degree of competence and expertise – for example through certification and accreditation – than that required for work on small-scale or simple buildings.

5.3 This chapter sets out recommendations which will create new, demanding expectations around levels of competence for those undertaking work and those overseeing activity on HRRBs. As the interim report stated, the task of raising levels of

competence and establishing formal accreditation of those engaged at every stage of the life cycle of HRRBs can and should be led by those industry bodies which cover the sectors and roles involved in building work. The new regulatory framework set out by this review, and the recommendations set out in this chapter, can only work effectively with strong leadership from within the construction industry and fire safety sector, and the commitment to work together to deliver what is needed.

5.4 Increased levels of competence are an integral part of the proposed new regulatory framework. The recommendations set out in this chapter will be reinforced by recommendations set out elsewhere in this report:

- The package of responsibilities placed on dutyholders will drive a requirement for high quality work from all those involved in the end-to-end process for HRRBs, so that the freedoms provided by an outcomes-based system can only be enjoyed by competent and assured actors.
- The Joint Competent Authority (JCA) will require assurance from the outset that high-quality, safe buildings will be built, and this will help to inform the level of oversight that it gives to any respective building.
- The JCA will become astute at interrogating the work undertaken by these actors, completing the competence loop and ensuring that the skills, knowledge and experience of each of the actors is mutually reinforcing.

5.5 In a sector which is excessively fragmented, this review has seen a will to work together to deliver consistent solutions in the field of competence, and the recommendations and proposals set out in this chapter and Appendix E acknowledge this. The review asks that the government seeks to reinforce this in a similar way to other initiatives to support industry in finding better and more productive ways of working. The Sector Deals supporting the Industrial

Strategy which set out partnerships between the government and industry⁴⁵ may provide a useful model to consider.

5.6 Part 1 of this chapter describes the leadership challenges that the review encourages the construction and fire safety industries to tackle. Part 2 sets out an approach for developing a coherent competence framework with oversight across the range of disciplines involved in working on HRRBs. Part 3 considers the new levels of competence that will be required of regulators and dutyholders in the new regulatory framework. Appendix E sets out a number of proposals brought forward by industry which demonstrates the commitment from individual professional bodies to enhance current levels of competence for those working on HRRBs, and to begin the process of assuring each other of their respective competence where HRRBs are concerned. Appendix E also sets out a consideration of wider issues that the review has heard from stakeholders relating to the competence of those carrying out electrical installation work.

5.7 There is clearly more to do to achieve the longer-term improvement in competence levels that is necessary to fix the current broken system. However, the review welcomes industry's commitment, and in the immediate term, the review would expect industry to begin developing and delivering on the actions and proposals in a coherent and joined up way.

⁴⁵ <https://www.gov.uk/government/publications/industrial-strategy-sector-deals>

Recommendations

Part 1 – Establishing effective leadership

5.8 As well as addressing technical competence, there is a pressing need to see the leadership that is required within the construction industry and fire safety sector to drive the shift in culture. Professional bodies need to demonstrate and deliver this leadership, and those responsible for developing the more coherent approach set out in Part 2 of this chapter should also be responsible for making this happen.

5.9 It is imperative that the lessons that have been learned in other sectors from tragic events on the scale of the Piper Alpha oil production platform disaster in 1988, and the RAF Nimrod air crash in 2006, are quickly absorbed and translated in a way that is relevant to this sector. Every encouragement should be given to cross-disciplinary and cross-sector learning. There is a need for business leaders in construction and the service sectors which support it to reach out to other sectors and to learn from the experience of how they have managed issues such as asset integrity.

Learning from other sectors: The Process Safety Leadership Group⁴⁶

“How industry responds to incidents such as Buncefield and how the regulators respond on behalf of the public is a measure of our society. A decisive and dynamic response with all parties co-operating is the product of a democratic and advanced society.”

Buncefield Standards Task Group, 24 July 2007

In December 2005 at the Buncefield oil storage depot in Hemel Hempstead, Hertfordshire, the overfilling of a storage tank containing petrol led to the largest explosion in Europe since the Second World War. A Major Incident Investigation Board (MIIB) was set up to investigate – its recommendations led to significant changes in the way refineries, oil storage depots and chemical plants operate. Through a new and collaborative approach the chemical and petrochemical industries, regulators from the Competent Authority and trade unions joined together and established first the Buncefield Standards Task Group (BSTG) and then the Process Safety Leadership Group (PSLG)⁴⁷ to address specific topics related to the MIIB recommendations. In 2009 the PSLG published a comprehensive response in the report *Safety and Environmental Standards for Fuel Storage Sites*.⁴⁸

The changes were not just technical. High standards of leadership were seen as essential to ensure effective control of major hazard risks. A set of core principles were established by the Process Safety Leadership Group, which went on to define the organisation and resources required to translate them into practice. In addressing the need for high performance, the PSLG published its *Principles of Process Safety Leadership*⁴⁹, promoting involvement and competence in process safety at board level – this includes a commitment to actively manage process safety, engage with the workforce, monitor performance, share best practice and learn from relevant incidents from across industry sectors.

In seeking to apply the Principles, industry has worked closely with their relevant trade associations to develop and improve sector and cross-sector collaboration.

⁴⁶ The Buncefield Major Incident Ten Years On: A report by the COMAH Strategic Forum (<http://www.hse.gov.uk/comah/buncefield/buncefield-10-years-on.pdf>).

⁴⁷ PSLG was chaired by a senior member of industry and comprised senior representatives from the United Kingdom Petroleum Industry Association, the Tank Storage Association, the United Kingdom Onshore Pipeline Operators' Association, the Chemical Industries Association, the Trades Union Congress, the Health and Safety Executive, the Environment Agency and the Scottish Environment Protection Agency.

⁴⁸ Health and Safety Executive (2009) *Safety and Environmental Standards for Fuel Storage Sites*, Process Safety Leadership Group Final Report (<http://www.hse.gov.uk/comah/buncefield/fuel-storage-sites.pdf>).

⁴⁹ PSLG Principles of Process Safety Leadership (<http://www.hse.gov.uk/comah/buncefield/pslgprinciples.pdf>).

5.10 If learning of this kind from other sectors could be captured by leaders within the industries involved and embedded within them, this would play a key role in accelerating the pace of change, and the development of continuous improvement approaches to competence levels.

5.11 The leadership within the construction and fire safety sectors should also take responsibility for collaborating with others and actively looking to take a holistic approach rather than restricting their views to their own discipline. Just as the proposed new regulatory framework sees buildings as holistic systems, the system of professional and vocational competence also needs to operate in an integrated manner. Individual actors should not operate in siloes but must understand when a dutyholder needs to seek further advice from another profession, and should be compelled by the professional standards and ethics across the entire sector to provide that advice to the dutyholder.

5.12 Similarly, those bodies that are responsible for accrediting their members should ensure that their codes of conduct have the necessary powers to oblige their members to operate within the limits of their own competence as well as proactively engage with other disciplines. As set out in Part 3 of this chapter, the ability to recognise the limits of one's own professional competence, and when it is necessary to bring in others with the right skills, experience and qualifications, will form a key element of the dutyholder role in the proposed new regulatory framework.

Recommendation 5.1

The construction sector and fire safety sector should:

- a. demonstrate more effective leadership in relation to developing a responsible approach to delivering building safety and integrity;
- b. work with other sectors to learn and translate good practice and implement it within the sector; and
- c. develop continuous improvement approaches to competence levels.

Part 2 – Developing a competence framework for HRRBs

5.13 All those engaged at every stage of the life cycle of HRRBs carrying out work that impacts on fire safety, or other building safety risks, should have the proven competence to do so.

5.14 The interim report identified a minimum of six key professions whose work is essential to the fire safety of HRRBs:

- engineers;
- those installing and maintaining fire safety systems and other safety-critical systems;
- fire engineers;
- fire risk assessors;
- fire safety enforcing officers; and
- building control inspectors.

5.15 Since the interim report, the review has also considered proposals which relate to the competence of building designers, including architects; the competence of building safety managers; and ensuring that actors in the process undertake holistic system risk assessment during the design, build, occupation and maintenance phase. Consideration also needs to be given to site supervision and project management. In addition, a much more complex picture has been identified with a number of specialist bodies and trades operating within the construction industry and fire safety sector. Given the challenge of bringing this all together across such a wide ranging landscape, the review considers that it must be overseen by a single body to ensure delivery and consistency.

5.16 While there are many instances of competent people, there is no consistent way to assess or verify their competence. The current approach to levels of competence is disjointed and in places not rigorous enough. This allows individuals to practice with questionable qualifications or without a requirement for competence to be assessed, accredited and reaccredited. There are some examples of good practice within the sector with a range of professional competence frameworks in place, but the absence of a coherent overarching framework or body which provides oversight has led to confusion and a lack of trust. This status quo also means that actors fail to see their responsibility to view a building as a complex system and fail to interact appropriately with other professional skills.

5.17 The interim report tasked professional and accreditation bodies to work together to propose a robust, comprehensive and coherent system covering all disciplines for work on HRRBs. Since the interim report, they have begun that work and have discussed the merits of an overarching body which can provide oversight of competence levels across the range of disciplines. Such a body would be beneficial in providing the oversight and collective

working which is required to provide assurance to the dutyholder and to all those operating within the system.

5.18 Any such competence framework and oversight body should be developed in a way that is coherent and consistent and provides assurance to the dutyholder. If everyone in the supply chain is required to understand and meet robust standards set out in a clear framework, this will drive improved competence across the sector.

5.19 Levels of competence required for those building HRRBs should be maintained and subject to continuing development, continuing education, or meaningful continuing professional development (CPD). This development should be meaningful in terms of fire safety and building safety content. As set out in Appendix E, each professional body should deliver a programme of fire safety-related CPD; this should be mandatory for individuals accredited by the respective professional body. As set out in Part 1 of this chapter every encouragement should be given to cross-disciplinary sharing and learning, and a number of examples from the sector are set out in Appendix E.

5.20 This approach should also be applied to those who undertake vocational training to gain the skills, knowledge and experience required to work in the construction sector.

5.21 To ensure greater robustness in levels of competence, and to ensure that the dutyholder and the JCA have continuing confidence in the competence levels of those undertaking work, competence levels should be reassessed and reaccredited on a defined periodic basis.

5.22 As a minimum, any body which accredits competence in any trade or profession associated with the built environment should themselves be accredited by a rigorous, publicly recognised and accepted method of accreditation, for example by accreditation by the United Kingdom Accreditation Service (UKAS).

5.23 A clear, transparent and easily recognisable method of demonstrating to the dutyholder that the necessary level of competence has been reached by those engaged to carry out work will also be important. There are a number of methods, for example cards or passports, across a range of disciplines which may provide useful models for industry to consider for those working on HRRBs.

Methods of identifying and recognising competence: Examples from individual disciplines and other sectors

ECS Gold Card: The Electrotechnical Certification Scheme (ECS) is a voluntary, industry-led initiative which makes possession of an ECS gold card conditional on completion of an apprenticeship or NVQ Level 3 qualification. Currently, 65,000 installation and maintenance electricians carry ECS gold cards on this basis. Through partnership with the broader Construction Skills Certification Scheme (CSCS), electricians with an ECS gold card are able to access work on construction sites across the UK.

Hot Work Passport: The Fire Protection Association (FPA) has introduced a Hot Work Passport scheme to enhance the level of competence of those involved in work with the potential to produce ignition sources. The Passport Scheme was developed in response to calls from industry for a national benchmark of fire safety knowledge. Over 2,680 Hot Work Passports have been issued to date. Tesco was the first company to implement the Passport Scheme nationwide – all hot work activities that take place in the building, extending or maintenance of any Tesco store are required to be carried out by holders of a valid FPA Hot Work Passport. The FPA Hot Work Passport is valid for five years from the date of completion of the appropriate hot works course.

Quality Mark: The Each Home Counts Review (2016) considered issues relating to consumer advice, protection, standards and enforcement in relation to home energy efficiency and renewable energy measures. The review made recommendations on how consumers can be properly protected and advised when they install energy efficiency and renewable energy measures in their homes. The review proposed development of a 'quality mark' for all energy efficiency and renewable energy measures across those sectors. The industry-led quality mark covers technical competence, quality performance and consumer protection.

Recommendation 5.2

- a. The professional and accreditation bodies working within the construction and fire safety sectors should continue the work started in response to the interim report and present a coherent proposal to government within one year. As a minimum, this proposal should cover the role and remit of an overarching body to provide oversight of competence requirements and support the delivery of competent people working on HRRBs, including:
 - the professional bodies, professions and disciplines in scope;
 - its membership and governance;
 - its role in receiving, agreeing and monitoring the individual competence frameworks for those bodies, professions and disciplines in scope for individuals within their membership or on their register, and/or whether a single competence framework for professional bodies in scope should be established;
 - its role in agreeing and monitoring accreditation and reaccreditation, and the period within which the competence of individuals should be reassessed and reaccredited;
 - its role in establishing a method for demonstrating or proving competence;
 - how the correct balance between construction sector skills and fire safety skills should be balanced; and
 - whether the competence requirements for those working on HRRBs should also be extended to cover other multi-occupancy residential buildings and to institutional residential buildings.
- b. Progress should be monitored by government, with the professional and accreditation bodies providing government with quarterly progress reports.
- c. If government does not consider that the proposed approach provides the necessary assurance to the JCA, or there is evidence that the fragmented approach to the oversight of competence will continue, then government should mandate a body to establish the competence levels required and oversee its implementation.

5.24 The development of a new competence framework, and enhanced competence levels, will take time. In the interim, it may be necessary for certain types of work – where the profession or trade cannot demonstrate the enhanced level of competence, or where there is not sufficient supply of those that do – to be more closely supervised by a competent person. For example, a client may need to consider appointing a role similar to the role of Clerk of Works to provide assurance that work is being undertaken to required standards.

5.25 When the new system to assure competence is in place, it will undoubtedly provide a route for dutyholders to have confidence that the work will be undertaken to the correct standard. For example, when an enhanced level of competence for Fire Risk Assessors is in operation (as set out in Appendix E), the expectation would be that the dutyholder would choose to appoint such a Fire Risk Assessor. If the dutyholder chose to take a different approach, they would need to assure themselves of competence and capability by other means.

Part 3 – The competence of the regulator and dutyholder

5.26 As set out in Chapter 1, a fundamental element of the new regulatory framework for HRRBs is the creation of a newly formed Joint Competent Authority (JCA) comprising the Health and Safety Executive (HSE), Local Authority Building Standards (LABS) and the fire and rescue authority (FRA).

Building Standards Inspectors

5.27 Under this proposed new regulatory framework for HRRBs, the competence required of Building Standards Inspectors will be different. Buildings Standards Inspectors will be expected to be skilled at challenging clients, designers and contractors about their proposals, and to assess the adequacy and suitability of these proposals, and will need additional training to ensure they have the relevant skills to do so. Their competence requirements will need to be consistent between those who are directly employed LABS Inspectors and those private sector Approved Inspectors (AIs) who may be engaged by the Local Authority to increase capacity and/or expertise. Such requirements will also need to broadly apply to Approved Inspectors offering consultancy and verification services to dutyholders.

5.28 The interim report set out the different requirements that currently exist for AIs and Local Authority Building Control (LABC) surveyors and the steps that both the LABC and AIs have taken to raise competence levels. The review welcomes the commitment since the interim report, from LABC and the Association of Consultant Approved Inspectors (with CICAIR) to work together to define a common approach to competence. The review recommends that these bodies continue to work together to develop a new common approach and competence framework which meets the requirements of the new regulatory framework and the new skills required of Building Standards Inspectors when working on HRRBs.

Recommendation 5.3

Relevant parties, along with the relevant professional bodies, should:

- a. Continue to work together to develop a new common approach and competence framework which meets the requirements of the new regulatory framework and the new skills required of Building Standards Inspectors when working on HRRBs, and those offering consultancy and verification services to dutyholders.
- b. This framework should apply to all Building Standards Inspectors whether they are LABS Inspectors and part of the JCA or AIs offering their services to Building Standards or to dutyholders.
- c. Consider whether these competence requirements for Building Standards Inspectors working on HRRBs, and AIs, should also be extended to cover those working on other multi-occupancy residential buildings and institutional residential buildings.

Dutyholders

5.29 Chapter 2 describes how the three core roles of client, principal designer, and principal contractor should ensure that only those with the required skills, knowledge and experience are engaged to work on HRRBs, and that they should be sufficiently competent to fulfil this duty.

5.30 Similarly, during the occupation and maintenance phase the dutyholder, or their nominated building safety manager, must be suitably competent to address safety issues and ensure the integrity of fire and building safety

critical systems, as well as understand when to bring in the right expertise, skills and competence to undertake work such as fire risk assessments. In particular, to ensure that:

- other disciplines and occupiers do not disrupt or undermine fire and structural safety systems; and
- installers of equipment that is not directly related to building safety do not compromise building safety.

5.31 Where this would be beneficial to building safety, residents themselves should be able to access fire safety awareness training to support them to meet their obligations to keep their buildings safe. This training would enable residents to understand any implications of their activities, which relate to the fabric of a building, and where these may potentially compromise building safety.

5.32 While there are a number of specific qualifications that cover the need for competence in fire safety in residential properties, the review has heard that there is a need for a clearer definition, competence framework and accreditation for a role covering building safety management in HRRBs. Existing professional and accreditation bodies are best placed to define these requirements; develop the competence framework, education and training required to deliver this and any accreditation needed; and consider the remit of this role in introducing and overseeing the process by which residents would be able to access fire safety awareness training.

Recommendation 5.4

Relevant parties should work together, along with the relevant professional bodies, to develop and define a robust, comprehensive and coherent system for:

- a. the competence requirements for the role of building safety manager of HRRBs; and
- b. the remit of this role in introducing and overseeing the process by which residents in HRRBs would be able to access fire safety awareness training.

Chapter 6 Guidance and monitoring to support building safety

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Summary

6.1 The interim report stated that while the Building Regulations 2010 are clear about the outcomes to be achieved, they are not adequately clear about where responsibilities lie and who is accountable for delivering them. The statutory guidance (in the form of Approved Documents) as it exists is complex, ambiguous and not user-friendly.

6.2 The review has heard that those undertaking building work often do not have a clear understanding of their roles and responsibilities and the standard that they are expected to achieve. This is partly caused by the complex, inconsistent and ambiguous way in which guidance is written, often accompanied by more apparent prescription than is necessary, and is inconsistent with a system that claims to be outcomes-based.

6.3 This enables a situation where some of those who construct buildings treat the minimum standards in the Approved Documents as a high bar to be negotiated down, rather than genuinely owning the principles of a safe building and meeting the outcomes set out in the regulations. It has also led some to game the system by selecting which bits of guidance and alternative solutions are easiest to achieve.

6.4 The current suite of guidance does not take a systems approach to building work, instead setting out a series of separate objectives to be achieved. This makes it difficult to take a holistic view of building work that prioritises safety as well as other important objectives and considers the best way in which these objectives can be achieved.

6.5 To begin to tackle this, the interim report recommended clarifying the language in Approved Document B and restructuring the suite of Approved Documents. This chapter provides an update on the implementation of the interim report's recommendations and sets out longer term recommendations to improve guidance. Proposals to improve the overarching regulatory framework to ensure that higher risk residential buildings are safe are covered in Chapters 1, 2 and 3 of this report.

6.6 Demonstrating the effectiveness of both the organisations being regulated and the regulatory system itself requires monitoring and reporting. This chapter proposes new monitoring and review structures as part of the assurance of the effectiveness of the regulatory approach and of guidance.

6.7 Part 1 proposes that the future structure of guidance should support a genuine outcomes-based approach to building safety and that the responsibility for developing guidance should be moved to industry (with government support and validation). This is because it should be owned and produced by those who are accountable for managing building safety risk and therefore have a strong incentive to ensure guidance keeps pace with innovation. Part 2 sets out the role of government and a new structure to oversee the system. Part 3 sets out how a systems approach to regulation can be better achieved by ensuring building safety issues are prioritised and making guidance more user-friendly.

6.8 The recommendations in this chapter will be reinforced by the proposals elsewhere in this report to:

- provide a coherent regulatory framework;
- ensure there is accountability on the dutyholder for robust interpretation of guidance; and
- improve the competence of actors in the system to interpret guidance and take ownership in a truly outcomes-based framework.

6.9 This chapter focuses on the guidance to meet the outcomes required by the Building Regulations. However, it is also noted by the review that it would be appropriate for existing fire safety guidance for the Fire Safety Order to be reviewed and, where necessary, updated. It is suggested that the sector buy-in that produced the Purpose Built Blocks of Flats guide⁵⁰ written by the Local Government Association may be a suitable model for reviewing this guidance.

50 Available at: <https://www.local.gov.uk/sites/default/files/documents/fire-safety-purpose-built-04b.pdf>

Recommendations

Part 1 – Ownership of guidance to support an outcomes-based approach

An outcomes-based approach

6.10 The purpose of regulation is to ensure that clear outcomes are set and behaviours adopted to ensure that buildings are safe and fit for purpose. Guidance supports the industry to meet those outcomes. For the regulatory framework to cover all necessary aspects of the building's life cycle, a statutory framework that is consistent and remains relevant to innovation and change within the sector is necessary. It is not realistic to expect guidance to stay ahead of changing practice if it is owned by government, especially in an industry which is as fragmented and diverse as the built environment sector.

6.11 An outcomes-based approach to regulation and a package of guidance that is owned by industry can facilitate innovation and reflect changes in building practices, techniques and technology. This is best-achieved when the industry itself, which wants to innovate, is also required to demonstrate that new technologies, products and materials are safe and in compliance with the outcomes required by the Regulations.

6.12 The new regulatory framework should require industry and regulators to agree solutions which reduce risk 'so far as is reasonably practicable'. The client, designer and contractor must demonstrate that the risks are being managed: that the client, designer and contractor have chosen the appropriate solution to the satisfaction of the regulator. This means that there should be a minimum of arbitrary targets in the guidance, such as distance requirements (which may be based on uncertain and out of date conventions) and a greater emphasis on informed assessment by competent persons and demonstration of safety.

Ownership of guidance

6.13 The interim report concluded that it is not solely for government to write guidance and suggested that a balanced approach with significant input and ownership from industry is more effective.

6.14 This review proposes that the role of government is to write regulations and set outcomes to be achieved, and industry should respond to the regulations by shaping detailed guidance to support the delivery of those outcomes. Government should ensure that the regulations are fit for purpose and that the regulator operates effectively in order to ensure buildings are safe. Government should also ensure that the guidance produced by industry is suitable and sufficient. As such, government should reserve the right to create guidance if industry has not proven that it is able or is deemed unable to produce suitable guidance.

6.15 The diverse elements of the construction industry should work together with government to produce the new suite of guidance. There are good examples from other sectors⁵¹ where industry owns and produces effective guidance. Government should ensure that industry gains appropriate support from independent technical experts throughout this process. The Health and Safety Executive, as part of the Joint Competent Authority (JCA), will be able to provide support and expertise in the process of assisting industry to produce good quality guidance.

6.16 The construction industry is diverse in terms of size, trade, profession and skill and these differences must be taken into account to support the effective transfer of ownership. This will need to be a phased process and industry ownership of guidance should only become the status quo when other parts of the regulatory system are providing sufficient assurance that industry has the necessary leadership structures and competence to provide such ownership. In addition, any process to produce guidance should take account of the views and requirements of small and medium sized enterprises and sole traders.

⁵¹ The Health and Safety Executive and the Financial Conduct Authority all use industry produced guidance

Recommendation 6.1

- a. Government should work towards a long term aim that guidance on how to meet the building regulations is to be owned by industry, while government sets out regulatory requirements and provides oversight of the regulatory system.
- b. Government should reserve the right to create guidance if industry has not proven that it is able or is deemed unable to produce suitable guidance.

Part 2 – Governance roles within government

6.17 The Building Regulations Advisory Committee (BRAC) has a focus on the performance of building regulations. Following the interim report, which stated that the future role of BRAC should be considered, the review believes that BRAC should be replaced by a new structure of advice and assurance.

6.18 The building regulations sit within three functions in government; these are the policy making, regulation making, and engineering professions. In the new environment it is proposed that there are four roles that need to be performed. These are:

- Validation and assurance of industry guidance;
- Reviewing the ongoing performance of the building environment sector;
- Engineering advice so that government can act intelligently in control of the built environment; and
- A periodic review of the effectiveness of the overall system of building regulation.

6.19 The first role is to validate and assure that the guidance produced by industry is fit for purpose. This is a new role and the group that does it should be formulated such that membership is granted to those with a wide purview of the construction process, technical knowledge and demonstrable independence. It is envisioned that their role will take significant direction from the JCA after the JCA's formation.

6.20 The second role is to oversee the ongoing performance of the built environment sector ensuring that the regulatory system delivers safe buildings whilst continuing to encourage innovation and productivity. This role will need to be supported by the collection and analysis

of performance data. An initial view of the performance of the system may be taken from the CROSS (confidential reporting on structural safety) data but this may need to be further enhanced. Mandatory Occurrence Reporting (as recommended in Chapter 1) will improve the data quality since CROSS, as a voluntary reporting scheme, does not receive reports on all incidents.

6.21 The third role should encompass providing expert advice across the whole of the engineering of the built environment. This would be in line with other expert committees across government and ensure that high quality advice on the built environment is available to government. This is to allow government to act as an intelligent client for the JCA and the industry.

6.22 The fourth role is to independently assure the effectiveness of the regulatory system. This should be performed by an independent external expert on a regular basis.

Recommendation 6.2

- a. The government should create a new structure to validate and assure guidance, oversee the performance of the built environment sector and provide expert advice.
- b. There should be a periodic review (at least every five years) of the effectiveness of the overall system of building regulation including accountabilities, responsibilities, guidance, and the effectiveness of the regulator.

Part 3 – Promoting a systems approach through restructured guidance

6.23 The overarching approach to delivering effective regulations and guidance must be that buildings are a system, and the guidance should support those undertaking building work to consider how the different objectives can be achieved as a coherent whole. The suite of guidance should be more user-friendly to facilitate a systems approach to meeting building safety objectives. To help to achieve this, a recommendation for a system level approved document is set out in Chapter 1.

6.24 The interim report recommended restructuring the Approved Documents to mainstream fire safety and structural safety across all types of building work. The expert group

tasked to do this work⁵² have made a number of recommendations to improve guidance; see Appendix F. The review supports these recommendations.

6.25 In addition, it is important to make the Approved Documents more accessible for different audiences. Rapid research carried out by the Ministry of Housing Communities and Local Government (MHCLG) among users shows that access to the current Approved Documents is mostly by qualified professionals, largely architects, designers and enforcement bodies.

6.26 In line with the interim report recommendation on simplifying Approved Document B, the government is working with BRAC and industry experts to redraft Approved Document B into the new user-friendly format for Approved Documents. This includes clarifying the language used, and encouraging a holistic approach to achieving the regulatory requirements related to Approved Document B, by clarifying how Part B of the building regulations interacts with other requirements in the building regulations.

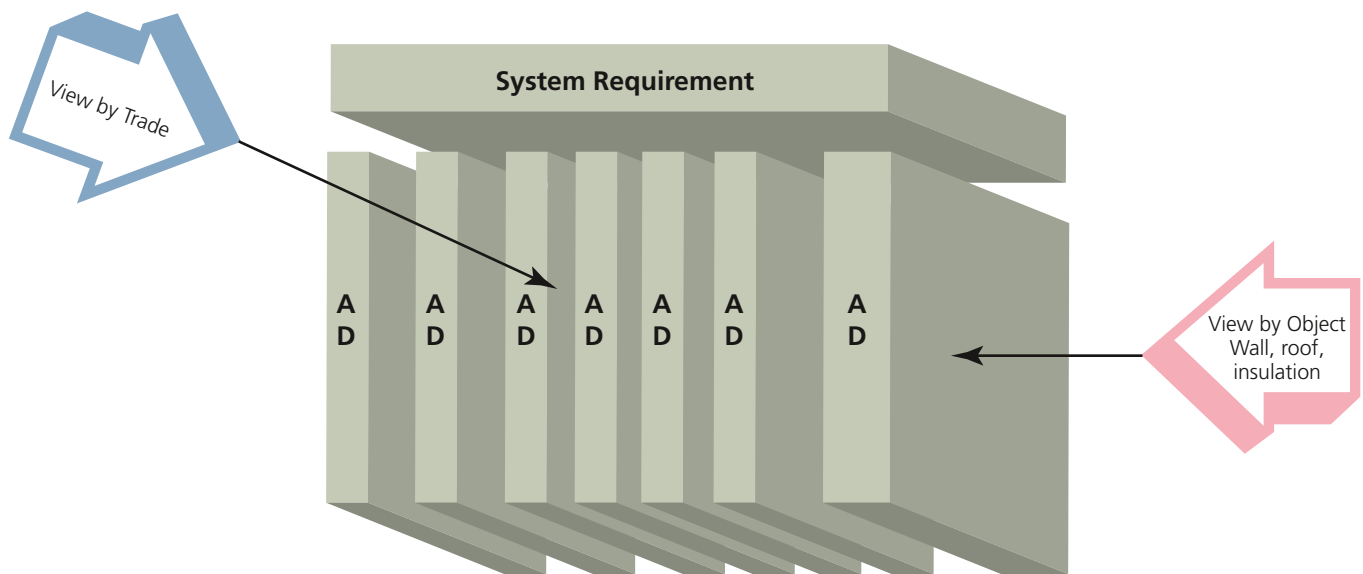
6.27 A further issue identified since the interim report is the complexity of supporting guidance beneath the Approved Documents. The Approved Documents reference various other documents and standards and this increases the confusion and makes it difficult to determine what to do to meet requirements. Table 6.1 below shows the number of other documents referenced within the Approved Documents.

⁵² An Expert Group was commissioned to lead the government response to the recommendation in Dame Judith's interim report to consider how the suite of Approved Documents could be restructured to provide a more streamlined holistic view while retaining the right level of technical detail. The group was chaired by a member of BRAC and consisted of BRAC Members, digital content experts and guidance users from across the construction sector.

Table 6.1 – Number of pages and referenced standards in the Approved Documents

Approved Document	Number of pages in Approved Document	Standards	Other government guidance	Industry guidance	Other government legislation
Part A – Structure	54	86	–	–	–
Part B – Fire safety	256	100	5	23	18
Part C – Site preparation and resistance to contaminants and moisture	52	34	22	54	4
Part D – Toxic substances	10	3	–	–	–
Part E – Resistance to the passage of sound and sound insulation	86	14	1	6	7
Part F – Ventilation	63	13	14	16	4
Part G – Sanitation, hot water safety and water efficiency	55	38	4	11	13
Part H – Drainage and waste disposal	64	87	3	13	2
Part J – Combustion appliances and fuel storage systems	89	59	8	11	3
Part K – Protection from falling, collision and impact	68	10	–	–	4
Part L – Conservation of fuel and power	159	7	12	22	5
Part M – Access to and use of building	69	10	9	7	9
Part P – Electrical safety	22	1	–	–	–
Part Q – Security in dwellings	20	4	–	11	–
Part R – High speed electronic communications networks	18	1	–	2	3
Regulation 7 – Workmanship	22	18	7	–	7
Total	1,107	485	85	176	79

Figure 6.1 – System architecture for guidance: the information reported would only be relevant to the view requested (e.g. a wall, RIBA stage 2 etc.).



6.28 A single, coherent suite of guidance documents (as visualised in Figure 6.1) should be created with multiple points of entry for different users, and the ability to read across functional requirements. Users will include regulators, clients, designers, procurers, contractors, supply chain and for use in education, simple builds, engineered complex solutions, and by RIBA stage. This will make the guidance more user-friendly, assisting with interpretation for different users and helping to ensure that overarching requirements in the regulations are met.

Recommendation 6.3

The Government should take forward the recommendations made by the Expert Group included at Appendix F. To summarise these are:

- clear user friendly language and formatting of the guidance (including Approved Document B);
- multiple points of entry for different users to the document set, to provide clear advice for different types of building work;
- facilitating the prioritisation of fire and structural safety while encouraging a holistic approach that considers all building safety objectives; and
- a building regulation manual to explain the role of the Approved Documents.

Chapter 7 Products

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Summary

7.1 Products used throughout the life cycle of a building have a critical impact on its safety. The interim report set a direction of travel for changes that are needed for products across the construction industry, in particular those products that are used in higher risk residential buildings (HRRBs). Products must be properly tested and certified, and labelled and marketed appropriately. Assessments in lieu of tests (also known as ‘desktop studies’) should only be used in a very limited number of cases. Where they are used, they must be carried out by people who are qualified or competent, and must be properly documented. They may also be subject to review to ensure that suitable materials are being used appropriately on different types of buildings, delivering fit-for-purpose solutions.

7.2 The system that covers product testing, labelling and marketing is at least as complicated as the entire regulatory system that was mapped in the interim report. While it is not for this review to redesign the entire testing system, it is apparent that the current system makes it difficult to know whether the right products are being used. A clearer, simpler and more effective system of specification and testing of construction products is required in order to ensure that those who are responsible for delivering safe building outcomes are supported to discharge their duties.

7.3 While this chapter proposes solutions to a number of the issues identified, the review is conscious of the EU regulation – the Construction Products Regulation (305/2011/EU-CPR) – which covers many construction materials and products including those used in buildings. The CPR lays down harmonised conditions for product marketing. It also has some safety aspects: certain harmonised standards set threshold levels of performance; products covered by the CPR must have CE marking, which references the product standard; and Member States can take action (including withdrawal from the market) where a CE-marked product presents a safety risk. This

is an area where the review’s recommendations may be impacted by the outcome of government negotiations relating to the UK’s exit from the EU.

7.4 This chapter makes recommendations which set a direction of travel for improved product safety, but significant further work is needed in order to create a comprehensive regime that ensures that all products used in construction are properly tested, certified, labelled and marketed. It is important that the government is mindful of the intent of these recommendations and works in a consistent, joined up way to continue to drive improvements in safe products.

7.5 Part 1 of this chapter sets out recommendations to establish a more transparent testing regime, with appropriate retesting, to ensure greater robustness in the testing system. Part 2 considers the range of different test standards and the need to drive continuous improvement in test methods and standards. Part 3 proposes a clearer labelling regime with improved product traceability. Part 4 describes a more effective market surveillance system operating at a national level. These recommendations form a critical element of the proposed new regulatory framework, and will be reinforced by recommendations elsewhere in this report.

7.6 Over the longer term, it is expected that the changes set out in this chapter will lead to the greater use of more standard and better quality-assured systems being constructed off-site and less elemental construction on-site, which in turn will provide greater assurance to the dutyholder, the Joint Competent Authority (JCA), and/or the regulator. In the immediate term, products should no longer be marketed and specified in terms of a single functionality. For example, it is not appropriate for cladding to be marketed only in terms of weatherproofing, instead it should be marketed on its specifications in terms of its performance as part of a sub-system of the building and its suitability for different building types.

Recommendations

Part 1 – Establishing a more transparent testing regime

Restricting assessments in lieu of tests

7.7 The term ‘desktop study’ has commonly been used to describe an assessment in lieu of test, with respect to insulation and cladding systems. The interim report set out a recommendation to significantly restrict the use of these assessments in order to ensure that they are only used in a responsible and appropriate way by competent people.

7.8 Since the interim report, government accepted this recommendation and made a commitment to ‘revise the Approved Documents on fire safety and commission work to produce a new British Standard on when and how such assessments can be used’.⁵³ It is encouraging that government is taking forward the actions proposed in the interim report.

7.9 The Building Regulations 2010 require that external walls on all buildings adequately resist fire spread. On 11 April 2018, government launched a consultation on proposed amendments to Appendix A of the statutory guidance on fire safety (Approved Document B). The proposed revisions to the text would mean that assessments in lieu of tests for any products or systems that fall within the scope of Approved Document B can be used only when there is relevant data and when the assessments are carried out by people who are qualified and competent, in line with established industry principles. The revised text should also have the effect that assessments in lieu of tests relating to the likely fire performance of external cladding systems (measured against the BS8414 test) would only be carried out by competent staff working for an organisation that is accredited to run the BS8414 test itself.⁵⁴ The proposed change does not ban assessments in lieu of tests, as there are some products and systems for which a full-scale physical test is not possible, but it will significantly reduce

their use and ensure that those which are carried out are conducted rigorously and properly recorded for further scrutiny.

7.10 In relation to the testing of cladding materials, there is currently a choice between using products of limited combustibility or undergoing a full system test. Using products which are non-combustible or of limited combustibility is undoubtedly the lower risk option. In the new regulatory framework set out by this review and, as set out in Chapter 2, the greater focus required on key safety aspects from the outset means that the use of lower risk materials would be likely to receive approval by the JCA as a robust layer of protection. Where the person undertaking the work chooses the full system testing option, not only must they ensure that the full system is tested but they will also need to ensure that the potential risks are mitigated by ensuring that the system is properly installed and maintained throughout its life cycle, which creates an ongoing and more onerous responsibility beyond supply and installation.

7.11 In parallel, government has commissioned the British Standards Institution (BSI) to produce a new British Standard that will look specifically at when and how assessments in lieu of tests can be used with respect to BS8414 test results. BSI expects the Standard to be published in Summer 2019. Once the new British Standard is introduced, following it would be the expectation. Until the new Standard is published, there is currently a Standard (BS EN 15725:2010) which specifies how to carry out extended application reports on the fire performance of construction products and building elements.

⁵³ <https://www.gov.uk/government/speeches/grenfell-tower-and-building-safety>

⁵⁴ The British standard describing test methods used to assess fire performance of cladding applied to the external face of a building.

Clearer and more effective product specification and testing

7.12 While the progress made by government since the publication of the interim report is welcome, there remains the need for greater transparency in the testing regime for products critical to the safety of HRRBs. The current pass/fail regime has a number of weaknesses. Products can fail tests several times and pass once, but the record of previous failures is not publicly available. Nor is there a requirement to continue testing to ensure that the product integrity has been maintained during future manufacture. Greater transparency of testing results is required.

7.13 Currently, if a product meets the classification criteria following testing, a classification report sets out the limitations on the use and variation of the product. The 'limitation' section of the report states, for example, that if the classification report is over five years old, its validity should be reviewed to establish that the component materials are still available and are unaltered. As a minimum, manufacturers should ensure that the limitations of a product and how it can and cannot be used in systems are declared, and that the limitation advice is adhered to. This will ensure that there is significantly reduced scope for substitution of any products or materials used as part of a system without further full testing.

7.14 The scope of testing, the application of products in systems and the resulting implications must be more clearly communicated in plain, non-technical and consistent language to ensure the information is accessible and readily understandable by those specifying the products. Part 3 of this chapter also makes recommendations for an improved labelling regime which will facilitate the right products being put together as systems and enable more effective record keeping of this information through the golden thread of building information.

Recommendation 7.1

- a. A clearer, more transparent and more effective specification and testing regime of construction products must be developed. This should include products as they are put together as part of a system.
- b. Clear statements on what systems products can and cannot be used for should be developed and their use made essential. This should ensure significantly reduced scope for substitution of any products used in a system without further full testing. Until such time, manufacturers should ensure that they adhere to the current limitations set out in classification reports in the current regime.
- c. The scope of testing, the application of products in systems, and the resulting implications must be more clearly communicated in plain, consistent, non-technical language.

7.15 Products that are critical to the safety of HRRBs should also be subject to periodic retesting, in order to provide the necessary assurance under the new regulatory framework to the dutyholder and JCA that product quality and integrity has been maintained over time in the production process. Manufacturers of construction products used in buildings where performance standards apply should ensure that products are retested at regular periods (at least every three years). They should also ensure that this testing is verified by an independent third party certification body. Independent third party certification requires the involvement of the certification body in the selection of the product for testing. While the detailed results of third party testing and classification of performance may be confidential to the manufacturer commissioning the testing, in the case of third party certification, details of the materials, products and systems are published along with their performance characteristics.

7.16 Part 4 of this chapter recommends market surveillance of construction products at a national level. The proposed market surveillance body would drive the introduction of risk-based testing, to ensure that inappropriate product substitution or evolution, as well as any element of gaming the system, is tackled. Alongside recommendations set out in Part 3 to improve product labelling and traceability, this will also result in a more effective product recall system being developed. Furthermore, as and when individual issues arise in

HRRBs relating to products installed, the JCA will be able to request testing on a reactive basis to ensure that concerns about products within any given HRRB can be resolved quickly, and similar issues occurring at national level can be quickly identified and resolved.

7.17 It is fully recognised that the recommendations made here are likely to drive the need for more testing than is carried out today and that should indeed be the case. This is likely to lead to additional capacity requirements. It is recommended that this extra capacity should be provided by the certification of additional test houses, rather than increasing the capacity of the existing small number of facilities. This would have the further benefit of avoiding the current issues where the same testing house which has tested and originally certified a given product may also be called upon to effectively ‘mark their own homework’ when or if a product is found to fail in practical application.

7.18 While recognising that details of individual tests remain commercially sensitive and are of a proprietary nature, it is recommended that all test houses should produce an annual report providing summary details of the types of tests carried out and the numbers of passes and failures reported. These reports should be made available to the JCA and, where necessary, to the market surveillance body described in Part 4 of this chapter. Test houses, and those involved in testing, will also have an important part to play in the reporting of serious concerns. As set out in Chapter 1, reporting of test failures will be covered by the mandatory reporting framework. As set out in Chapter 6, in the case of serious findings there will be a role within government to recommend to the JCA that Safety Alerts be issued to restrict or ban known unsafe practices or products.

Recommendation 7.2

- a. Manufacturers must retest products that are critical to the safety of HRRBs at least every three years. Manufacturers should consider the need to test more frequently, focusing especially on the testing of products as they operate in systems rather than individual elements.
- b. The testing of products that are critical to the safety of HRRBs should be subject to independent third party certification.
- c. The introduction of the JCA should drive the introduction of reactive testing when particular issues of concern arise regarding products installed that are critical to the safety of HRRBs.
- d. Additional test houses should be established and certified.
- e. All test houses should produce an annual report providing summary details of tests carried out and the number of passes and failures reported.

Part 2 – Standards

7.19 As set out in Chapter 6, the complexity of the supporting guidance which underpins the Approved Documents also creates confusion. Table 6.1 demonstrates that there are over 500 standards that are referenced in the Approved Documents.

7.20 Test standards provide a method of measuring the performance of materials and products in relation to particular fire characteristics. This can be used to establish the potential risk that the product may have in relation to building safety. As such, standards should be appropriate to the construction material, product and/or system, and also proportionate in terms of the burden to industry.

7.21 The current plethora of standards in relation to the testing of products used in HRRBs, and the health and safety of people in and around those buildings, needs to be simplified. A significantly more streamlined approach to test standards should ensure a more transparent system, and ensure that conflicting standards can be identified and reviewed. A more rigorous approach to reviewing standards should ensure that the standards available in the new regulatory framework are subject to regular review.

7.22 Industry and the users of standards (including regulators, enforcers, manufacturers, and testing and certification bodies) should also commit to the delivery of continuous improvement to the standards and test procedures. Industry and the users of standards should bring forward relevant technical evidence to ensure that standards are maintained under periodic review to keep pace with market developments and innovations in materials, products and systems. All current BSI standards are subject to a five-year review period – however reviews can be undertaken at any time subject to sufficient supporting technical evidence.

7.23 Standards should also be developed further in order to identify any potential failure of test standards, their application, and the manner in which they are used in practice. This will drive higher performance by demonstrating where new test methods need to be developed, and in turn encourage more innovative product and system design under a framework of better quality control.

Recommendation 7.3

A simpler, more streamlined set of standards relating to the testing of products used in HRRBs, and the health and safety of people in and around those buildings, needs to be developed. This should ensure that where new standards are required, these are identified quickly and in the case of conflicting standards, that these are identified and reviewed.

Recommendation 7.4

Test methods and standards should be maintained under a periodic review process in order to drive continuous improvement and higher performance through the development of new test methods, and encourage innovative product and system design under better quality control.

Part 3 – Product labelling and traceability

7.24 The interim report identified confusion over product labelling as a contributory factor to fire safety systems being compromised. Since the publication of the interim report, this review has also identified the challenges of identification of materials and products once delivered to a construction site and when incorporated into built works. When packaging is removed, some materials and products become unidentifiable or untraceable to specific manufactured batches. This can make it difficult to ensure that the right materials and products are being used in the correct applications, and can also make product recall challenging. In this respect, the built environment sector is significantly lagging behind many other sectors and needs to accelerate the adoption of readily available means of providing product traceability.

7.25 Under the proposed new regulatory framework, the expectation for all new HRRBs will be that it will be possible to trace all construction products used in the building in the same manner that products used in car manufacturing can be traced. Alongside recommendations set out in Part 1 to develop a more effective testing regime, this increased traceability, for example through more consistent batch numbering across the manufacture of construction products, will enable a more effective product recall system.

7.26 In light of this, there is a strong case for materials and products to carry permanent marking to ensure their identification and traceability. Digital technology is readily available and used in other sectors, for example in the aviation and automotive sectors. Developments in digital identification technology such as inkjet printing, QR codes, RFID tags, nano particles or bar codes could provide a way for marking solid materials and products, or the packaging of non-solid materials, to ensure their traceability and identification.

7.27 For construction products covered by the Construction Products Regulation, the Declaration of Performance (DoP) provides information on the performance of a product. Each construction product covered by a European harmonised standard or for which a European Technical Assessment has been issued needs this Declaration and has to be CE marked. The review understands that at EU level, smart CE marking is being considered. Smart CE marking would provide a link between the physical product and the DoP in a harmonised digital format. Manufacturers can already today provide the DoP information in a

digital way, but at present DoPs are only available as PDF documents. Consequently, the DoP information cannot be processed electronically, for example to be checked against the performances specified by the designer, to be included in digital planning tools such as BIM, or to ease the burden of documentation.⁵⁵

7.28 A recent UK Research and Innovation project – ‘Persistent Digital Identifiers for Construction Products’⁵⁶ – considered the feasibility and usefulness of developing an identification system that could provide every component in a building with a unique and persistent identification code. The project brought together the NBS (RIBA Enterprises Ltd), BSI and the Construction Products Association (CPA) to consider how a machine-readable, persistent digital token for construction products could be issued through the supply chain, enabling all stakeholders to reference the products they are specifying, sourcing or maintaining in buildings. Similar ‘persistent identifier’ systems are the industry-norm in domains such as academia and the entertainment industry. The review understands that the work on this research project has now been completed, and the partners are aligning the appropriate resources and systems to support a commercial service later in 2018.

7.29 Digital capture and storage of DoPs and digital identification of products would enable validated handover of information at completion of the construction phase. It would also ensure that a digital record of each product could be captured, stored and checked by the dutyholder whenever needed through the life cycle of any given HRRB, and in the event of a fire, information about the products and systems used in the building would be readily accessible to share with the fire and rescue authority.

Recommendation 7.5

- a. The construction products industry should work together to develop and agree a consistent labelling and traceability system, making use of the digital technologies that are already available and learning from other sectors.
- b. The dutyholder for any given HRRB should ensure that the documentation that supports the performance claims for products and systems incorporated within the HRRB should be maintained throughout the life cycle of a building through the golden thread of building information (see Chapter 8).

⁵⁵ Construction Products Association Smart CE marking, <https://www.construction-products.eu/our-topics/smart-ce-marking.aspx>

⁵⁶ ‘Persistent Digital Identifiers for Construction Products’ (Innovate Project Number – 102057), <http://gtr.ukri.org/projects?ref=102057>

Part 4 – Creating a more effective market surveillance regime

7.30 Under the Construction Product Regulation, market surveillance is the responsibility of each member state of the EU. For the pooling of information and cooperation at EU level, the Rapid Information System (RAPEX) is an alert system that facilitates the rapid exchange of information among EU countries and the European Commission.

7.31 At national level there is a case for a much more robust and effective enforcement, complaint investigation and surveillance regime with national reach and significantly greater resources. Alongside recommendations set out in this chapter, this market surveillance of construction products placed on the market would drive the introduction of risk-based testing, provide greater assurance that products deliver in line with their DoP, and would enable a more effective product recall regime to operate. It would also mean that issues with the potential to have national impact, for example the recent case of fire doors being marketed as fire resistant for 30 minutes failing retesting and of course the ACM cladding used on many buildings including the Grenfell Tower, would be identified sooner.

7.32 Alongside a reinvigorated regulator with a stronger enforcement and sanctioning package, a market surveillance regime would provide a comprehensive package of incentives to drive the behaviour change likely to deliver safe buildings. Oversight of this regime could be added to regulation duties that are proposed for the JCA but there may be other appropriate mechanisms.

7.33 The newly formed Office for Product Safety and Standards (OPSS) does not at present cover construction products. As there is a need for the same oversight of construction product safety as the OPSS will provide for consumer product safety, government should consider extending the scope of the OPSS or ensuring that its role and responsibilities are mirrored to cover construction product safety elsewhere in government.

Recommendation 7.6

- a. Government should ensure that there is a more effective enforcement, complaint investigation and market surveillance regime with national oversight to cover construction product safety.
- b. Government should consider whether this could be achieved by extending the remit of the Office for Product Safety and Standards.
- c. The introduction of national level market surveillance should drive the introduction of risk-based testing of products that are critical to the safety of HRRBs.

Chapter 8 Golden thread of building information

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Summary

8.1 The review heard almost unanimous concern surrounding the ineffective operation of the current rules around the creation, maintenance and handover of building and fire safety information. Where building information is present, it is often incomplete or held in paper form and is not accessible to the people who need to see it.

8.2 As mentioned in Chapters 2 and 3, there are currently significant issues in the production, maintenance and handover of building information by those responsible for the design, construction and refurbishment of the building to the dutyholder in the occupation phase.

8.3 The lack of complete, accurate and maintained building information causes a number of challenges:

- It is unclear whether any changes have been made between original design and the completion of construction which may have an impact on the building safety strategy.
- The building owner does not have the required up-to-date information to be able to easily and effectively manage building safety across its life cycle.
- When refurbishing a building, it will be difficult to ascertain what effects any changes may have on building safety.

8.4 The interim report identified the need for a 'golden thread' of information for all higher risk residential buildings (HRRBs), so that their original design intent is preserved and changes can be managed through a formal review process. Equally, access to up-to-date information is crucial when effectively carrying out a fire risk assessment of a building and determining whether any action is required.

8.5 Part 1 of Chapter 2 considers in greater detail the core information products that underpin the golden thread. It also identifies which dutyholders will need to initiate and keep accurate records

during the design and construction phase and hand them over to building owners to maintain throughout the building life cycle. This practice will enable a competent dutyholder to demonstrate building safety to the Joint Competent Authority (JCA) in order to gain permission to move onto the next stage of work.

8.6 The Fire and Emergency File (FEF) and digital record are two key products that form part of the golden thread of information that is to be transferred. The FEF was identified as necessary to set out the critical fire safety⁵⁷ information for the building. The FEF will be initiated and then updated throughout the design and construction phase by relevant dutyholders and is to be passed across to the building owner (Appendix D sets out sample content in more detail). This chapter focuses on the role of the digital record.

8.7 Part 1 of this chapter recommends the creation and use of the digital record throughout the building life cycle. Part 2 recommends an approach to existing buildings. Finally, Part 3 establishes that it is the responsibility of the dutyholder to initiate, hold and maintain this information.

8.8 The purpose of the digital record is to ensure that accurate building information is securely created, updated and accessible, at points throughout the building life cycle. This will support efficient and effective oversight by the JCA.

8.9 The digital record is a critical element of a functioning system, which is designed to enable fundamental change to the current model of risk ownership. It will inform the dutyholder about which gateway point and safety case review processes apply, throughout the life cycle of the building. This will be the responsibility of the newly empowered dutyholder.

⁵⁷ For example, information on escape routes.

8.10 An effective record keeping system in line with the aims of the review will take some time to fully implement for existing buildings, particularly when taking into account the current shortfalls in up-to-date building information available. However, there is no reason why this practice cannot start immediately for buildings which are currently in the design and construction phase.

8.11 Success in implementation will depend upon effective leadership and collaboration, as well as ensuring sufficient resources across the industry. There must also be a strong commitment from industry to improve the standard of records kept and to ensure their maintenance for both new and existing buildings. The aim should be to capture, hold and add to information that will, over time, form as complete a dossier of building information as possible for all HRRBs.

Part 1 – The digital record across the building life cycle

8.12 The review recommends that for new builds, a Building Information Modelling (BIM) approach should be phased in. BIM takes the digital techniques pioneered in other industries such as aerospace and automotive and applies them to construction. It is a process of designing, constructing or operating a building or infrastructure asset using electronic, object-orientated information.

8.13 It also forms part of the wider move towards improved transparency and integrity of information and underpins a greater focus on effective change control. Dutyholders using the digital record effectively can more easily keep a log of the as-built design of the building and the products used in order to satisfy the JCA, before occupation begins.

8.14 Since April 2016, government has required BIM level 2 on centrally procured projects. This was a target established in the 2011 Government Construction Strategy.⁵⁸ The government BIM level 2 mandate was a huge driver for digital record keeping. The digital maturity of the UK construction industry has now grown to be able to deliver digital asset data, and increasingly work in a BIM compliant way.

8.15 The review is aware of the work of BIM4Housing, a cross-sector group whose mission is to assist the building of more and better homes

through digitalisation. The group achieves this by supporting organisations in the housing sector with the adoption of BIM.

8.16 A BIM system will enable the dutyholder to ensure accuracy and quality of design and construction, which are crucial for building-in safety up front. Having BIM enabled data sets during occupation means that dutyholders will have a suitable evidence base through which to deliver their responsibilities and maintain safety and integrity throughout the life cycle of a building. Information can be updated as and when changes are made during the building life cycle.

8.17 The Strategy Paper published for the Government Construction Client Group⁵⁹ refers to studies in the US that indicated net-savings (offsetting set up costs) to be 5% on the construction of newly built projects and 1.5% in refurbishments. The study did not go on to analyse the savings derived from the use of BIM in the operational or facilities management during the occupation phase of the building.

8.18 The BIM4Housing Steering Group believe that there are significant benefits to be realised through the use of BIM during the occupation and maintenance phase by providing improved:

- decision making based on robust data;
- quality and compliance assurance as a result of structured record keeping and contract management; and
- efficiency, through collaboration and innovation.

“For these benefits to be realised there needs to be wider adoption by industry and the supply chain, requiring parties to be bought into the approach and recognise the benefit...embracing BIM in an open, consistent and transferable way is essential to achieving this.”

– BIM4Housing Steering Group

8.19 BIM has been used across the world for many years but recent notable examples include:

- Heathrow Terminal 5;
- The ‘Cheesegrater’ – 120 Leadenhall Street;
- Ministry of Justice prisons; and
- Cross Rail.

⁵⁸ Government Construction Strategy 2011:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61152/Government-Construction-Strategy_0.pdf

⁵⁹ Government Construction Client Group: <https://www.cdbb.cam.ac.uk/Resources/ResoucePublications/BISBIMstrategyReport.pdf>

8.20 The record must be updated and managed in a security-minded way throughout the building life cycle. It must be available to those who are authorised to use it in a secure and accessible format. For example, during construction, suppliers will only need access to certain parts of the information that make up the required model. Further, during occupation, maintenance workers will only need access to information from other parts of the same model. There are existing standards which set out proportionate security requirements for use of BIM.⁶⁰

8.21 Many developers will already have the capability to adopt these standards immediately. However, where they do not, it is important to adopt a realistic timeline to successfully implement such a standard throughout industry. This phased adoption will give industry the time it needs to adapt to these new standards, while taking into account other time restrictive factors such as the increase in skills required across the sector.

8.22 The emphasis remains on the use of BIM as an effective method of ensuring high quality records are kept, exchanged and used. Within this, format is secondary and there may be some limited circumstances (particularly for existing buildings) where the creation of a digital record may not be the only or most effective way of holding or maintaining quality information.

8.23 It is important for the client or asset owner to specify a requirement to deliver information, or work in a BIM compliant fashion. The client needs to set the requirement at contract initiation stage. If it is left to the supply chain it may not be as effective.

Recommendation 8.1

- a. Government should mandate a digital (by default) standard of record-keeping for the design, construction and during the occupation of new HRRBs. This is to include any subsequent refurbishments within those buildings.
- b. Digital records are to be in a format which is appropriately open and non-proprietary with proportionate security controls.

Information requirements

8.24 There is a need to ensure that sufficient information is recorded during construction, and maintained during occupation to best inform the continued safe management of new HRRBs.

8.25 A non-exhaustive example list of the type of information that should be recorded, maintained and available is:

- size and height of the building;
- full material and manufacturer product information;
- identification of all safety critical layers of protection;
- design intent and construction methodology;
- digital data capture of completed buildings e.g. laser scanning;
- escape and fire compartmentation information; and
- record of inspections/reviews/consultations.

8.26 Some of the above information may also be captured within the FEF or the Health and Safety File required under the Construction, Design and Management (CDM) Regulations. These files could also be captured within the digital record if appropriate. These documents, where appropriate, should be BIM level 2 suite of documents compliant.

Recommendation 8.2

Government should work with industry to agree what information must be held in the digital record for new HRRBs.

Part 2 – Existing buildings

Information requirements

8.27 The review has heard that data collection attempts have been hampered by the lack of building safety information held for existing buildings. Access to this information will support the dutyholder to identify and evaluate risks. This will go on to assist the dutyholder to demonstrate to the JCA the safety of that building. The review therefore recommends that a set of minimum building data for existing buildings is included in the safety case as set out in Chapter 3. Where information is not available and cannot be collected, the dutyholder will need to explain why

⁶⁰ <http://bim-level2.org/en/standards/>

this is reasonable and what steps they have taken in mitigation against the (potentially unknown) risks, so far as is reasonably practicable.

8.28 A non-exhaustive list of the types of information that should be recorded, available and maintained for existing buildings are:

- size and height of the building;
- structure;
- fabric;
- escape and fire compartmentation information;
- systems in operation; and
- permanent fixtures and fittings.

8.29 To avoid placing unreasonable requirements on existing building owners where information has not been handed over from the construction phase or from a previous owner, the JCA may require less information than is required for new buildings. Intrusive surveys may be required for some buildings in order to build an accurate record as evidence to support the safety case. This work would be part of the phased introduction of a new regulatory framework for existing HRRBs.

Recommendation 8.3

- a. Government should work with industry to agree the type of information to be collected and maintained digitally (by default) to enable the safe building management of existing HRRBs.
- b. Dutyholders must identify and record where gaps in the above information exist and the strategy for updating that relevant information.

8.31 The JCA will not be responsible for holding this information. However, certain information may be required by the JCA or dutyholder at times in order to oversee or comply with the regulations in exceptional circumstances such as:

- where a product needs to be recalled due to a safety concern; or
- where it is difficult to determine the identity of the manufacturer that is no longer trading.

8.32 Further details on products and traceability can be found in Part 3 of Chapter 7.

Recommendation 8.4

- a. Dutyholders must hold, transfer and update information throughout the life cycle of the HRRB.
- b. Information from this record is to be provided to the JCA in the event that this may be required.

Part 3 – Information accountability

Responsibility for holding information

8.30 In line with the principles of responsibility and security set out in this report, it is for operators within the record-keeping system to practice in a competent manner and hold and manage the required information accordingly for each HRRB. Information will be used by the dutyholder within the safety case to report to the JCA, and must be transferred when building ownership changes to ensure that the golden thread of information persists throughout the building life cycle.

Chapter 9 Procurement and supply

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Summary

9.1 Procurement is the process used to buy the building (the land, the building materials and the time of those who will use those materials to construct the building). The procurement process kick-starts the behaviours that we then see throughout design, construction, occupation and maintenance. The agreements made determine the relationship between those commissioning buildings, those constructing buildings and those occupying buildings. The agreements influence the approach to building work – for example, whether high quality work and safety is prioritised.

9.2 A lack of clear roles and responsibilities, and ambiguous regulations and guidance allow the market to procure without building safety in mind; there is no requirement or incentive to do so. Alongside this, unhelpful behaviours such as contract terms and payment practices which prioritise speed and low cost solutions, exacerbate this situation. These characteristics provide poor value for money and poor building safety outcomes.

9.3 The interim report made it clear that as part of the culture change, procurers must prioritise building safety by commissioning good quality design and using competent people. This can be achieved by thinking carefully about the content of the contracts that are drafted between the procurer and the dutyholder. Business considerations drive developers to look for value for money, but this must be about how to deliver a building with long-term integrity, and the people, products and processes required to do that.

9.4 To support the culture change, those who work in the built environment need to learn from the good practices in other sectors⁶¹ where the need to preserve and protect safety performance has long been an integral part of contract negotiation and agreement.

9.5 Part 1 sets out some of the key issues with current procurement practices and the principles and behaviour that could be applied to these relationships, building on the recommendations in Chapter 2. Part 2 recommends improvements to the tender and contract agreement process to produce safer building outcomes. Part 3 sets out how contractual information may form part of the wider information package recommended in this report.

9.6 The recommendations in this chapter will be reinforced by the proposals elsewhere around:

- clearer roles and responsibilities for dutyholders;
- incentivising dutyholders to use appropriately competent people;
- establishing incident reporting and whistleblowing to flag where procurement practices are encouraging behaviour that will not produce safe buildings;
- clearer labelling and marketing which will help procurers make informed decisions, and where greater guidance on testing will ensure that good quality products are available.

61 For instance the chemical industry and civil aviation.

Recommendations

Part 1 – Procurement relationships

9.7 The way in which procurement is often managed can reduce the likelihood that a building will be safe. The contracting process determines the relationships, competencies and processes that exist between all the parties in the build and management processes. Procurement sets the tone and direction of the relationships between the client, designer, contractor and their subcontractors, as well as determining the formal specification of the building. Issues at this stage, for example inadequate specification, focus on low cost or adversarial contracting, can make it difficult (and most likely, more expensive) to produce a safe building.⁶²

9.8 As part of the accountabilities described in Chapters 2 and 3, it is incumbent on all dutyholders to ensure that the procurement process they use drives the correct behaviours throughout their supply chain. Contracts must clearly outline the roles of client, principal designer and principal contractor, and whilst work can be delegated, these accountabilities cannot be handed down.

9.9 The aim of the procurement process should be to obtain best value, rather than lowest cost. Clients should be aiming to construct buildings that have a long life cycle. The best value is dependent on establishing a collaborative partnership between the client, the contractor and their supply chain – those responsible for the technical detail and those responsible for commercial negotiations need to work together effectively.

Part 2 – Tender process and contract terms

9.10 The requirements within contracts can encourage poor behaviours in the relationships between the client, the contractor and the designer. For example, the low margin for larger contractors sometimes leads them to push technical and contractual risk down to their subcontractors. This process both leads to risk being handled by people who are unable to mitigate those risks appropriately and drives inefficiency in building contracts.

9.11 Payment terms within contracts (for example, retentions) can drive poor behaviours, by putting financial strain into the supply chain. For example non-payment of invoices and consequent cash flow issues can cause subcontractors to substitute materials purely on price rather than value for money or suitability for purpose.

Recommendation 9.1

- a. For higher risk residential buildings (HRRBs), principal contractors and clients should devise contracts that specifically state that safety requirements must not be compromised for cost reduction.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings and to institutional residential buildings.

9.12 The invitation to tender and the bid process must prioritise building safety, and balance the upfront capital cost against quality and effectiveness. The safety requirements must be effectively tested during both the tendering process and the bid review. Shorter timescales in both tendering and construction should be achieved by encouraging efficiency and productivity, not by the use of cheaper and unsuitable materials.

⁶² Similar to the 'Final Report to Government by the Procurement/Lean Client Task Group' 2012

'No process alone will change performance. The Task Group considers it essential that the primary relationships between industry and government clients are improved. This will require clearer definitions of output requirements, greater emphasis on behaviour, relationship quality, maturity, and capabilities. It is also essential that incentives are put in place that align and secure steady and conscious improvement. This advice is consistent with previous industry studies and existing best practice.'

Recommendation 9.2

- a. For HRRBs, tenders should set out how the solution that is proposed will produce safe building outcomes, approaching the building as a system. Those procuring should use the tender review process to test whether this is the case.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings and to institutional residential buildings.

Part 3 – Retention and transfer of contractual information

9.13 The technical and commercial assumptions and formal agreements made during the procurement stage can influence the safety of the building. These may include, but not be limited to, specifications, bid documents and bid assessments.

9.14 In addition to the building information models and information requirement recommended in this report, it will be important that the relevant contractual documentation connected to building safety for all layers within the contracting process and throughout the life of the building is retained by the appropriate dutyholder. This should include, but not be limited to, sign-off, payments and payment terms.

Recommendation 9.3

For HRRBs the information in the contracting documentation relating to the safety aspects should be included in the digital record set out in Chapter 8.

Chapter 10 International examples

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Summary

10.1 The interim report focused on mapping the core elements of building regulatory frameworks in other countries, and identifying common themes and issues. It noted that many of the concerns recognised with the English regulatory framework are shared across different countries. This includes deviations from designs, potential conflicts of interest for third-party inspectors, lack of adequate competence, as well as lack of clarity around roles and responsibilities.

10.2 In terms of regulatory frameworks, it found there was a shift to outcomes-based regulations in many countries during the 1980s and 1990s, although some have since reintroduced elements of prescriptive regulation.⁶³ Accordingly, it concluded that most countries' regulatory frameworks contain elements of both prescriptive and outcomes-based regulation, and there are few examples of either wholly prescriptive or wholly outcomes-based frameworks. In terms of tools and mechanisms within the broader framework, it found that a number of other regulatory regimes require key roles within the framework to be formally licensed. It also noted that some countries have been more proactive in requiring formal accreditation of those engaged in all aspects of high-risk buildings. In addition, it found that there were some examples of requirements for the retrospective upgrade of existing buildings.

10.3 The interim report committed to conducting further research to identify where changes to regulatory frameworks have resulted in improvements to fire safety. It also set out a commitment to identify best practice from a variety of jurisdictions to support policy development. The work of the review since the interim report has considered different regulatory frameworks, looking at them through the lens of whether they could be classified as being broadly outcomes-based or prescriptive. The review has carried out a comparison of these broad frameworks and considered international examples of how

engagement with industry can drive culture change to improve the effectiveness of regulatory frameworks when changes to regulatory frameworks are made. There may also be some alignment between the tools and mechanisms that are recommended by the final report, and those of other countries. However, the focus of the review has been to identify a systemic approach that works for England, whilst being open to continuous improvement and learning from best practice going forward.

10.4 Readily available quantitative data on fire death rates is affected by quality issues, as well as differences between national reporting practices (see box). For these reasons, this review will not seek to provide analysis based on quantitative data alone. Instead, it will consider qualitative evidence to compare prescriptive and outcomes-based regulatory frameworks in different countries. Case studies have been utilised to demonstrate the potential outcomes of both prescriptive and outcomes-based frameworks.

10.5 Whilst recognising the limitations of the available data, it is still possible to conclude that variants of outcomes-based regulatory frameworks have become increasingly popular over time.⁶⁴ Examples of countries which have moved to this approach are Australia, Japan, the Netherlands, New Zealand and the UK.⁶⁵

63 'Outcomes-based' regulatory frameworks are at times referred to as 'performance-based' regulatory frameworks.

64 Meacham, B. J. (2010) 'Accommodating innovation in building regulation: lessons and challenges', *Building Research & Information* 38(6).

65 May, P. J. (2003) 'Performance-Based Regulation and Regulatory Regimes: The Saga of Leaky Buildings', *Law & Policy* 25(4).

Quality of quantitative data

The existing quantitative data does not allow robust direct comparison of fire death and injury rates against different styles of regulatory frameworks. This is because:

- The understanding and application of technical terms vary between countries, and is further complicated by how regulations are applied and monitored during design, construction, and maintenance.⁶⁶
- Some regulatory frameworks allow multiple routes to compliance.
- A number of other factors can also affect fire death rates in a given country, such as fire prevention practices, education, building practices and differences in lifestyle, cultural attitudes and demographics.⁶⁷
- Other relevant regulations, including those for furniture and furnishings, may also have an effect.⁶⁸
- Much of the existing data does not differentiate between building fires and non-building fires.

Case study: United Arab Emirates – limitations of prescriptive regulation

The United Arab Emirates' (UAE) regulatory framework is broadly based on National Fire Protection Association (NFPA) codes. The NFPA codes originate from the US, but are also applied in other countries. In line with the NFPA codes, the regulatory framework in the UAE is highly prescriptive.

There are no regulated checks to see whether any particular product is appropriate in the context of a particular building design. The process of submitting building plans also does not need to include a discussion on the technical aspects of the design.

Recent fires in the UAE have shown that unsafe products had been installed on buildings. The reliance on prescriptive solutions means that where products are not specifically prohibited, there is no system to prevent their use on a building. In addition, there are no requirements for the practicing consultant to demonstrate competence when applying the NFPA codes.

Prescriptive frameworks

10.6 Prescriptive regulatory frameworks define the mechanisms by which the final output must be produced. These frameworks tend to assume that compliance with the rules is equivalent to what is considered to be safe. Regulatory frameworks that are overtly reliant on prescription may fail to provide the expected level of safety, because if this assumption is incorrect, the output will be compliant with the prescription, but not safe.

10.7 Prescriptive frameworks use necessarily simplified design tools and can risk becoming a box-ticking exercise, as the case study on the United Arab Emirates suggests.⁶⁹ These frameworks may not be able to keep pace with innovation in design and construction, and detailed and recurring empirical feedback and technical review is absent. Prescriptive frameworks can therefore result in high compliance costs. Please see Chapter 1 for further discussion on prescriptive and outcomes-based frameworks.

Outcomes-based frameworks

10.8 Outcomes-based frameworks define the outcome that is required. They measure the key functional requirement, namely that buildings are safe, rather than that they are compliant with prescriptive requirements. Outcomes-based regulation can also be seen to play an enabling function, as it is often used to encourage the use of innovative designs.^{70,71} However, such frameworks are dependent on the competence of those within it.⁷²

10.9 Functional requirements should provide a backstop for any omissions from prescriptive guidance in frameworks that offer outcomes-based solutions. As demonstrated in the case study on New Zealand below, widespread issues with the weather-tightness of buildings acted as a tipping point for regulators and industry to recognise systematic failure, particularly with regards to competence and standards.

66 Visscher, H. J., Meijer, F. M. and Branco, J.P. (2012) 'Housing Standards: Regulation' in Smith, S. J., Elsinga, M., O'Mahony, L. F., Eng, S. O., Wachter, S. and Wood, G. (eds.) *International Encyclopedia of Housing and Home*, Volume 3. Oxford, Elsevier.

67 FEMA (2011) 'Fire Death Rate Trends: An International Perspective', *Topical Fire Report Series* 12(8).

68 Winberg, D. (2016) 'International Fire Death Rate Trends', *SP Fire Research Rapport 32*, SP Technical Research Institute of Sweden.

69 Spinardi, G., Bisby, L. and Torero, J. L. (2016) 'A Review of Sociological issues in Fire Safety Regulation', *Fire Technology*.

70 McKinsey Global Institute (2017) *Reinventing Construction*.

71 Meacham, B. J. (2017) 'Toward Next Generation Performance-Based Building Regulatory Systems' http://c.ymcdn.com/sites/www.sfpe.org/resource/resmgr/PBD_Conference/MON-Conference_Proceeding/Monday_Conference_Proceeding.pdf

72 May, P. J. (2003) 'Performance-Based Regulation and Regulatory Regimes: The Saga of Leaky Buildings', *Law & Policy* 25(4).

10.10 The case studies considered below demonstrate that outcomes-based frameworks may be problematic if they are too qualitative or vague, or lack adequate technical specificity. Outcomes-based codes may also lead to problems if those working within the framework lack adequate levels of technical understanding, as this may result in inadequate design rigour and incorrect application of the building methods.^{73,74,75} For outcomes-based regulatory frameworks to yield the right outcomes, robust systems of accreditation and enforcement also need to be in place, as demonstrated in the Norwegian case.

10.11 Overall, outcomes-based regulatory frameworks, along with varying routes to compliance and accreditation, increase technological, performance and contractual risk. Therefore, outcomes-based frameworks can require a more comprehensive regulatory effort to administer than prescriptive frameworks.⁷⁶

Case study: Norway – lessons on competence

In 1997, Norway introduced a regulatory framework based on self-accreditation. Under this framework, self-accredited designers and builders could certify that their own building design or construction complied with the regulations. However, it was identified that the competence of key players within the process was inadequate to allow for self-regulation and the change was partially reversed in 2013, due to the occurrence of widespread building faults.

The principle of self-accreditation remains, but the framework is now based on central approval: the Norwegian Building Authority checks qualifications for responsible enterprises to ensure overall competence and professional management. To ensure overall competence, qualification requirements were included in the regulations in 2016. The effectiveness of the regulatory framework in Norway is therefore heavily reliant on the quality of this system.

Case study: New Zealand – lack of sufficient accountability

When outcomes-based requirements were first introduced to the New Zealand Building Code in 1991, they lacked specificity to allow alternative solutions to be easily developed. Municipal authorities also lacked sufficient specialist expertise to adequately assess the compliance of these alternative solutions. This contributed to widespread problems, for instance with the weather-tightness of buildings.

To ensure consistent interpretation of the Building Code among control authorities, councils, and private organisations carrying out building consent, inspection and approval processes are required to be accredited by an independent Building Consent Accreditation Body, established in 2004.

Further reforms were introduced in 2013, when both the inputs and outputs for outcomes-based solutions were set out in a more rigid framework with specific verification methods.⁷⁷ This reduces the potential for inappropriate and inconsistent outcomes through effective validation rather than prescription.

Industry involvement for a successful culture change

10.12 The effectiveness of regulatory frameworks appears to be largely dependent on how individuals working within the framework interact with it. Trust in the framework may also impact its effectiveness. In the legislative process, consultation with industry stakeholders can result in more effective alternatives, lower administration costs, better compliance and faster regulation.^{78,79} Degrees of consultation vary across countries and consultation can take a variety of forms. However, ensuring dialogue between the government, the regulator and industry beyond the consultation phase is important, as the case studies below demonstrate.

10.13 The case studies on Australia and New Zealand suggest that a lack of true co-operation and joined-up approaches between governments

73 Meacham, B. J. (2010) Performance-Based Building Regulatory Systems: Principles and Experiences – A Report of the Inter-jurisdictional Regulatory Collaboration Committee.

74 May, P. J. (2003) 'Performance-Based Regulation and Regulatory Regimes: The Saga of Leaky Buildings', *Law & Policy* 25(4).

75 The World Bank Group (2013) Good Practices for Construction Regulation and Enforcement Reform – Guidelines for Reformers.

76 Building Products Innovation Council (2018) 'Rebuilding Confidence: An Action Plan for Building Regulatory Reform', Submission to the Building Ministers Forum, April.

77 Spinardi, G., Bisby, L. and Torero, J. L. (2016) 'A Review of Sociological issues in Fire Safety Regulation', *Fire Technology*.

78 Legislation Design and Advisory Committee, Legislation Guidelines 2018 <http://www.ldac.org.nz/guidelines/legislation-guidelines-2018-edition/>

79 Meacham, B. J. (2017) 'Toward Next Generation Performance-Based Building Regulatory Systems'

http://c.ymcdn.com/sites/www.sfpe.org/resource/resmgr/PBD_Conference/MON-Conference_Proceeding/Monday_Conference_Proceeding.pdf

and industry may explain some of the weaknesses in regulatory frameworks. Working together with industry, for instance through adopting an alliance or a partnership model, may also bring other significant benefits: these models can help foster a culture of collaboration. Project alliancing is a contracting method, developed by British Petroleum (BP) in the 1990s, that encourages project participants to work as an integrated team. The client and builder will agree through their contract how to share the pain and the gains as work develops. In alliance contracting models, teams will win or lose financially as a group rather than as individuals, depending on the overall project performance. The New Engineering Contract (NEC3) framework in England is built on similar principles, but these contracts are not utilised as fully as they potentially could be.

10.14 As a project delivery method, alliancing can help ensure a joined-up approach throughout the process, as it emphasises risk sharing. Alliance principles have been utilised in public sector infrastructure projects in Australia, Germany and Finland, where they have contributed to increased productivity in the construction sector and improved the accuracy of costs and scheduled estimates.

10.15 The regulator should play an active role in this as leadership is needed to drive culture change. The case study below demonstrates how the Finnish Transport Agency (FTA) has worked together with the industry to help embed a more collaborative culture in public sector infrastructure projects.⁸⁰ The Finnish example shows that the regulator and government can have significant impact in developing lasting culture change by working together with industry to drive changes in behaviour through training and by providing leadership. In addition, adequate communication and clarity of messages are crucial. Effective feedback loops also play an important role in outcomes-based regulatory frameworks, as the case study on Australia below demonstrates.

Case study: New Zealand – dialogue beyond consultation

Educational seminars and meetings were arranged to explain the introduction of the Building Act 1991 to industry parties, but understanding within industry remained an issue, as demonstrated in the earlier case study on New Zealand.

To combat this, the Building Act 2004 sets out consultation requirements for industry parties seeking changes to verification methods.^{81,82} Verification methods are tests or calculation methods that prescribe outcomes-based ways to comply with the Building Code. In addition, consultation guidelines from the Legislation Design and Advisory Committee apply to the development of legislative instruments, aiming to foster a joined-up approach to industry consultation across government departments.

Case study: Australia – need for better consultation and communication

The Building Ministers' Forum (BMF) is a ministerial-level body consisting of Commonwealth, State and Territory Ministers responsible for building and plumbing policy, and governance of the built environment in Australia. It is empowered to make executive decisions on regulatory reforms in building control.

The recent Building Products Innovation Council submission⁸³ to the BMF highlights transparency concerns surrounding the relationship between the BMF and the building industry. Attention is drawn to the industry's ignorance of the BMF, as well as the lack of processes in place to alert industry to issues under the BMF's consideration. The submission also highlights the lack of feedback mechanisms, along with the need for direct engagement opportunities for industry parties and the public to feed into the work of the BMF.

80 Lahdenpera, P., Petajaniemi, P. and Shervin, H. (2017) 'Advancing the Outcome of Challenging Infrastructure Projects through Project Alliancing' in the World Economic Forum White Paper on Shaping the Future of Construction – Insights to redesign the industry, March 2017.

81 Building Act 2004, Section 29 (New Zealand)

http://legislation.govt.nz/act/public/2004/0072/latest/DLM306358.html?search=ts_act%40bill%40regulation%40deemedreg_building+act_resel_25_a&p=1

82 NZ Building Act 2009, Section 30 (New Zealand)

http://legislation.govt.nz/act/public/2004/0072/latest/DLM306359.html?search=ts_act%40bill%40regulation%40deemedreg_building+act_resel_25_a&p=1

83 Building Products Innovation Council (2018) 'Rebuilding Confidence: An Action Plan for Building Regulatory Reform', Submission to the Building Ministers Forum, April. Available at: <https://www.bpic.asn.au/submenu1491260069/BRR-Summit-2018>

Case study: Finland – lessons on working together with industry to drive a culture of responsibility

The FTA has used project alliancing to improve productivity in the entire industry and to change the culture towards more openness and trust. Gainshare and painshare regimes are common in project alliancing, which help foster a more responsible culture across the supply chain. Core teams in projects utilising alliancing contracts are also encouraged to seek incentive elements for subcontractors that are not part of the alliance.

The FTA stress importance of coaching and industry workshops as routes to embed a more responsible culture into the sector. This can include workshops and workshop evaluations with a teamwork specialist, but also encouraging contractors and subcontractors to adopt the working culture when employed on projects that do not use the alliancing model.

Conclusion

10.16 The review has identified many shared issues and challenges through its consideration of other countries' regulatory frameworks. Prescriptive controls alone are not adequate to ensure the effectiveness of the regulatory framework. Outcomes-based frameworks must be supported by sufficiently competent people and robust systems of accreditation and enforcement to ensure adequate accountability in the wider framework.

10.17 International evidence points to the need for wide culture change, requiring an intelligent client to interact with an intelligent regulator. The review has aspired to adopt this principle in the way in which it has engaged with industry throughout the review process. The partnership between those regulated and those regulating is important. Active leadership from both government and industry can have a significant impact on driving change, and further comparative learning is required to better understand how to drive culture change in this way.

10.18 Regulatory frameworks are often rooted in historical events and local practices, and as such they cannot be easily transferred from one jurisdiction to another. Identifying best practice, however, is important. There is much to be learned from work being undertaken across the globe as a result of the Grenfell Tower fire – for example the ongoing reviews of building regulations in Scotland and in Australia. It is clear that there is no single solution, and that it would be beneficial to find effective ways of sharing learning and good practice.

10.19 There is an opportunity for the reforms recommended in this review, and the further work that will be undertaken by the government as part of the implementation process, to set a new standard internationally for building regulation. The Inter-jurisdictional Regulatory Collaboration Committee (IRCC) promotes international collaboration and information-sharing to help develop regulatory practices in member countries. It focuses on developing and helping to implement 'best current practice' approaches in outcomes-based regulatory frameworks. Re-joining the IRCC

would be an effective way to ensure that lessons learned in other jurisdictions are considered and reflected in policy decisions taken here.

Recommendation 10.1

The government should re-join the Inter-jurisdictional Regulatory Collaboration Committee (IRCC).

Appendices

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Appendix A: List of recommendations

Below are all the recommendations made in this report.

Parameters and principles of a new regulatory framework

Recommendation 1.1: The new regulatory framework should apply to residential properties which are 10 or more storeys high in the first instance. New HRRBs should be identified by the Local Planning Authority and notified to the regulator. Existing buildings in scope should be identified through other means, learning from the MHCLG Building Safety Programme experience.

Recommendation 1.2: The government should set up a 'Joint Competent Authority'. This should comprise Local Authority Building Standards, fire and rescue authorities and the Health and Safety Executive, working together to maximise the focus on building safety within HRRBs across their entire life cycle. The optimum model for ensuring effective joint working should be discussed with all relevant parties, but should draw on the model set out above. The JCA should design and operate a full cost recovery model.

Recommendation 1.3: The regulatory framework should treat the building as a single entity (a system encompassing sub-systems) and a new over-arching Approved Document should be published describing the system and the holistic analyses that must be completed when undertaking building work. This should define the requirement to understand the interactions of the system and its comprising subsystems in both normal operation and outside normal conditions.

Recommendation 1.4:

- a. A system of mandatory occurrence reporting to the JCA similar to that employed by the Civil Aviation Authority should be set up for HRRBs. The requirement to report should be for key identified dutyholders on a no-blame basis. The outputs of these reports (and statistical analysis of this data) should be publicly

available. Non-reporting should be regarded as non-compliance and sanctions applied appropriately.

- b. It would be appropriate for the JCA to be a prescribed person under PIDA.
- c. For all other buildings the current CROSS scheme should be extended and strengthened to cover all engineering safety concerns and should be subject to formal review and reporting at least annually.

Design, construction and refurbishment

Recommendation 2.1: Government should specify the key roles that will ensure that the procurement, design and construction process results in HRRBs that are safe. These should be, as a minimum, those identified in Table 1 – Key roles under the CDM Regulations. The definition of these roles should reflect those in the CDM Regulations to avoid unnecessary confusion.

Recommendation 2.2: Government should allocate broad responsibilities to Clients, Principal Designers and Principal Contractors responsible for HRRBs as set out in Table 2 – Key responsibilities of dutyholders.

Recommendation 2.3: Government should make the creation, maintenance and handover of relevant information an integral part of the legal responsibilities on Clients, Principal Designers and Principal Contractors undertaking building work on HRRBs. The four information products (the digital record, the Fire and Emergency File, Full Plans and Construction Control Plan) represent a minimum requirement.

Recommendation 2.4: Government should consider applying the key roles and responsibilities and information product recommendations to other multi-occupancy residential buildings and to institutional residential buildings whilst bearing in mind necessary adjustments to keep the requirements proportionate.

Recommendation 2.5: The LPA should be required in law to undertake a consultation with the JCA where it identifies that a building is a HRRB. This process should also apply where planning permission for another building in the near vicinity is sought (where such a building might impact on fire service access to a HRRB). This is the first Gateway Point.

Recommendation 2.6: Government should ensure that there is thorough assessment by the JCA of detailed design plans for HRRBs and sufficient assurance that dutyholders are in place and relevant responsibilities are being met in order to give permission for building work to legally commence. This should be in line with paragraphs 2.29-2.32. This 'Full Plans Approval' is the second Gateway Point.

Recommendation 2.7: Government should ensure that:

- a. the JCA undertakes a thorough test of the dutyholders' as-built construction of HRRBs, supported by clear documentary evidence from the Principal Contractor that the design intent has been delivered as proposed (and any changes are documented and justifiable) and that handover of key golden thread information has occurred. This should be as set out in paragraphs 2.33-2.35; and
- b. the building owner must have completed a pre-occupation Fire Risk Assessment and resident engagement strategy. All of this must be signed off by the JCA (and a safety case review cycle established) to enable occupation to commence.

This 'Completion Certificate' process is the third Gateway Point.

Recommendation 2.8: Government should consider also applying Gateway Points 2 and 3 to other multi-occupancy residential buildings and to institutional residential buildings.

Recommendation 2.9:

- a. there should be a clearer, statutory change control process that places requirements on the relevant dutyholder to notify the regulators of significant changes post-Full Plans sign-off. Within that context, two types of changes should be defined – 'major' and 'minor'.
 - 'Major' changes would be a limited list of significant changes for example (a) changes in use, changes in number of storeys, changes in number of units or (b) changes which could impact on previously signed-off building safety plans. Major changes would require an update from the dutyholder to

the JCA (for reconsideration) before such work is commenced.

- 'Minor' changes (i.e. all other changes) would need to be recorded and identifiable at the completion of the work for dutyholders to demonstrate that Building Regulations are still satisfied.
- b. Government should consider also applying this change control process to other multi-occupancy residential buildings and to institutional residential buildings.

Recommendation 2.10: In HRRBs, building work that is carried out by 'persons in a competent person's scheme' should be subject to full oversight by the JCA to enable it to fully discharge its duties in line with paragraph 2.38-2.39.

Recommendation 2.11:

- a. It should not be possible for a client to choose their own regulator or for a regulator to be unable to apply sanctions against a dutyholder where such action is warranted.
- b. As part of the JCA oversight of HRRBs there should be a single, streamlined, regulatory route for the provision of building control as set out in paragraphs 2.43-2.45 with oversight solely provided through Local Authority Building Control.
- c. The Approved Inspector regime should be utilised such that it can:
 - provide accredited verification and consultancy services to dutyholders; and also
 - expand LABCs' expertise/capacity (whilst always operating under LABCs rules and standards)
- d. But no AI can be used to provide both functions in respect of the same building work (i.e. where regulatory oversight is provided the AI must be completely independent of dutyholders).
- e. This avoidance of conflict of interest should apply to all actors in the regulatory system – so no fire and rescue authority should be able to support the JCA in its oversight of a particular building if it (i.e. the individual or the company) has provided professional design services in respect of that building through its commercial arm.
- f. Recommendations a., b. and c. should also apply to all other multi-occupancy residential buildings and to institutional residential buildings. Recommendation d. and e. should apply to all building work.
- g. Local Authority Building Control should be re-named the Local Authority Building Standards given their new role.

Recommendation 2.12:

- a. As part of the establishment of the JCA, the fire and rescue authorities need to be engaged in a more consistent manner with a robust dispute resolution mechanism established for use by the organisations within it (as per paragraph 2.46).
- b. Comparable processes should also be adopted for other multi-occupancy residential buildings and to institutional residential buildings where Local Authority Building Standards and fire and rescue authority will also need to interact to ensure Building Regulation requirements are met.

Recommendation 2.13: The sanctions and enforcement regime should be reinforced so that penalties are an effective deterrent against non-compliance. These stronger enforcement tools should generally look to replicate and align with the approach in the Health and Safety at Work Act. More specifically:

- a. the JCA/Local Authority Building Standards should have additional powers to issue formal Improvement and Prohibition (or 'Stop') Notices to dutyholders where there is a sufficient concern about, for example, the degree of oversight of the work; accurate record-keeping; or the likelihood of meeting Building Regulations requirements;
- b. the JCA/Local Authority Building Standards should have the clear power to require changes to work that fail to meet the Building Regulations requirements alongside any broader penalties sought;
- c. time limits for bringing prosecutions against dutyholders should be increased to five or six years for 'major' deficiencies in building requirements identified at a later date;
- d. the JCA cost recovery model should be weighed appropriately to create a fund for enforcement action to be taken where needed; and
- e. the new powers should be available, wherever appropriate, to support either the JCA or Local Authority Building Standards in respect of all non-compliant building work.

Recommendation 2.14: Where a HRRB has not yet had its first safety case review and seeks to carry out refurbishment work then this should trigger a full safety case review as set out in paragraphs 2.58-2.59.

Once the safety case review cycle is established then further major refurbishments may also bring forward the next safety case review.

Occupation and maintenance**Recommendation 3.1:**

- a. Government should specify that responsibility for the safety of all parts of a HRRB must be held by a clear, senior dutyholder which should be the building owner or superior landlord.
- b. The JCA and residents must be kept notified of the name and UK-based contact information of the dutyholder (whether that is an entity or a named person).
- c. The dutyholder must nominate a named 'building safety manager' with relevant skills, knowledge and expertise to be responsible for the day-to-day management of the building and act as a point of contact for residents. The building safety manager's name and contact information must be notified to the JCA and to residents and should be displayed in the building.

Recommendation 3.2: Government should allocate clear responsibilities to dutyholders of HRRBs to:

- a. take such safety precautions as may reasonably be required to ensure building safety risk is reduced so far as is reasonably practicable;
- b. ensure that information management systems are in place in order to maintain relevant documentation and compile and maintain a safety case file (see paragraph 3.34);
- c. ensure that there is a resident engagement strategy and that residents receive information on fire safety in an accessible manner; and
- d. handover all of the relevant information to a new dutyholder when a building changes hands.

Recommendation 3.3: The dutyholder for a HRRB should proactively demonstrate to the JCA through a safety case at regular intervals (as determined by level of risk) that they are discharging their responsibilities. The safety case must identify the hazards and risks, describe how risks are controlled, and describe the safety management system in place.

Recommendation 3.4:

- a. The dutyholder for a HRRB should demonstrate that the fire risk assessment for the whole building has been undertaken by someone with relevant skills, knowledge and experience and reviewed regularly (dependent on risk and as agreed with the regulator) so as to keep it up to date and particularly if:
 - there is a reason to suspect it is no longer valid;

- they have received a notice from a regulator; or
 - there has been a significant change to the premises.
- b. The dutyholder should ensure that any recommendations/requirements outlined in the fire risk assessment are undertaken and completed in a timely manner. Fire risk assessments should be reviewed at least annually until a first safety case review has been completed, where this applies.
 - c. The government should consider applying this requirement to other multi-occupancy residential buildings.

Recommendation 3.5:

- a. For HRRBs, residents should have clearer obligations in relation to maintaining safety of flats and should cooperate with the dutyholder (or building safety manager) to the extent necessary to enable them to fulfil their duty to keep the building safe for all those living there.
- b. The dutyholder should educate, influence and inspect to ensure residents meet these obligations and the JCA should be able to intervene where there is any immediate risks to persons.
- c. The government should consider applying this good practice on rights and responsibilities to other multi-occupancy residential buildings.

Recommendation 3.6: The JCA should be empowered to regulate across all parts of a HRRB, be clearly identifiable to dutyholders and residents, and should have the following roles in the occupation and maintenance phase:

- a. hold a register of dutyholders;
- b. ensure that dutyholders meet their responsibilities through effective inspection, assessment and enforcement; and
- c. deal with immediate risk – the JCA should have powers of access to inspect the whole building and take action where necessary.

Recommendation 3.7:

- a. For HRRBs, Environmental Health Officers should raise any fire and structural safety concerns to the JCA.
- b. For other multi-occupancy residential buildings, local authorities and fire and rescue authorities should work more closely to ensure that the fire safety of the whole building is assessed and regulated effectively.

Recommendation 3.8:

For HRRBs there should be robust sanctions and strong incentives in place to drive compliance by dutyholders during occupation. The JCA should use a staged approach comprising education, statutory notices, fines and ultimately criminal sanctions.

Residents' voice

Recommendation 4.1:

- a. The dutyholder for a HRRB should have a statutory duty to proactively provide residents with a set of information that supports residents to understand the layers of protection in place to keep their building safe.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Recommendation 4.2:

- a. Residents of HRRBs should have the right to access fire risk assessments, safety case documentation and information on maintenance and asset management that relates to the safety of their homes.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Recommendation 4.3:

- a. The dutyholder for a HRRB should have a resident engagement strategy in place to support the principles of transparency of information and partnership with residents. The strategy should outline how the dutyholder will share information with residents, how they inform them of their rights and responsibilities, and how they involve residents in decision-making on changes to the building that could impact on safety.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Recommendation 4.4:

- a. Government should provide funding for organisations working at both local and national level to provide advice, guidance and support to residents, landlords and building owners on effective resident involvement and engagement in order to develop a national culture of engagement for residents of all tenures.

- b. This recommendation should not be limited to the residents of HRRBs – culture change for the residents of these buildings will only happen as part of a wider process of change across the sector.

Recommendation 4.5:

- a. After internal processes have been exhausted, if residents still have safety concerns about their homes, there should be a clear and quick escalation and redress route available for residents of all tenures to an independent body with access to appropriate knowledge, resources and enforcement powers.
- b. This route of redress should be open to all residents of all tenures, and not limited to those living in HRRBs.

Recommendation 4.6:

- a. The dutyholder for a HRRB should provide residents with clear information about their obligations in relation to building and fire safety, and residents should meet their obligations to ensure their own safety and that of their neighbours.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings.

Competence

Recommendation 5.1: The construction sector and fire safety sector should:

- a. demonstrate more effective leadership in relation to developing a responsible approach to delivering building safety and integrity;
- b. work with other sectors to learn and translate good practice and implement it within the sector; and
- c. develop continuous improvement approaches to competence levels.

Recommendation 5.2:

- a. The professional and accreditation bodies working within the construction and fire safety sectors should continue the work started in response to the interim report and present a coherent proposal to government within one year. As a minimum, this proposal should cover the role and remit of an overarching body to provide oversight of competence requirements and support the delivery of competent people working on HRRBs, including:
 - the professional bodies, professions and disciplines in scope;
 - its membership and governance;

- its role in receiving, agreeing and monitoring the individual competence frameworks for those bodies, professions and disciplines in scope for individuals within their membership or on their register, and/or whether a single competence framework for professional bodies in scope should be established;
- its role in agreeing and monitoring accreditation and reaccreditation, and the period within which the competence of individuals should be reassessed and reaccredited;
- its role in establishing a method for demonstrating or proving competence;
- Its role in establishing a method for demonstrating or proving competence;
- how the correct balance between construction sector skills and fire safety skills should be balanced; and
- whether the competence requirements for those working on HRRBs should also be extended to cover other multi-occupancy residential buildings and to institutional residential buildings.
- b. Progress should be monitored by government, with the professional and accreditation bodies providing government with quarterly progress reports.
- c. If government does not consider that the proposed approach provides the necessary assurance to the JCA, or there is evidence that the fragmented approach to the oversight of competence will continue, then government should mandate a body to establish the competence levels required and oversee its implementation.

Recommendation 5.3: Relevant parties, along with the relevant professional bodies, should:

- a. Continue to work together to develop a new common approach and competence framework which meets the requirements of the new regulatory framework and the new skills required of Building Standards Inspectors when working on HRRBs, and those offering consultancy and verification services to dutyholders.
- b. This framework should apply to all Building Standards Inspectors whether they are LABS Inspectors and part of the JCA or Als offering their services to Building Standards or to dutyholders.
- c. Consider whether these competence requirements for Building Standards Inspectors working on HRRBs, and Als, should also be

extended to cover those working on other multi-occupancy residential buildings and institutional residential buildings.

Recommendation 5.4: Relevant parties should work together, along with the relevant professional bodies, to develop and define a robust, comprehensive and coherent system for:

- a. the competence requirements for the role of building safety manager of HRRBs; and
- b. the remit of this role in introducing and overseeing the process by which residents in HRRBs would be able to access fire safety awareness training.

Guidance and monitoring to support building safety

Recommendation 6.1:

- a. Government should work towards a long term aim that guidance on how to meet the building regulations is to be owned by industry, while government sets out regulatory requirements and provides oversight of the regulatory system.
- b. Government should reserve the right to create guidance if industry has not proven that it is able or is deemed unable to produce suitable guidance.

Recommendation 6.2:

- a. The government should create a new structure to validate and assure guidance, oversee the performance of the built environment sector and provide expert advice.
- b. There should be a periodic review (at least every five years) of the effectiveness of the overall system of building regulation including accountabilities, responsibilities, guidance, and the effectiveness of the regulator.

Recommendation 6.3: The Government should take forward the recommendations made by the Expert Group included at Appendix F. To summarise these are:

- a. clear user friendly language and formatting of the guidance (including Approved Document B);
- b. multiple points of entry for different users to the document set, to provide clear advice for different types of building work;
- c. facilitating the prioritisation of fire and structural safety while encouraging a holistic approach that considers all building safety objectives; and
- d. a building regulation manual to explain the role of the Approved Documents.

Products

Recommendation 7.1:

- a. A clearer, more transparent and more effective specification and testing regime of construction products must be developed. This should include products as they are put together as part of a system.
- b. Clear statements on what systems products can and cannot be used for should be developed and their use made essential. This should ensure significantly reduced scope for substitution of any products used in a system without further full testing. Until such time, manufacturers should ensure that they adhere to the current limitations set out in classification reports in the current regime.
- c. The scope of testing, the application of products in systems, and the resulting implications must be more clearly communicated in plain, consistent, non-technical language.

Recommendation 7.2:

- a. Manufacturers must retest products that are critical to the safety of HRRBs at least every three years. Manufacturers should consider the need to test more frequently, focusing especially on the testing of products as they operate in systems rather than individual elements.
- b. The testing of products that are critical to the safety of HRRBs should be subject to independent third party certification.
- c. The introduction of the JCA should drive the introduction of reactive testing when particular issues of concern arise regarding products installed that are critical to the safety of HRRBs.
- d. Additional test houses should be established and certified.
- e. All test houses should produce an annual report providing summary details of tests carried out and the number of passes and failures reported.

Recommendation 7.3: A simpler, more streamlined set of standards relating to the testing of products used in HRRBs, and the health and safety of people in and around those buildings, needs to be developed. This should ensure that where new standards are required, these are identified quickly and in the case of conflicting standards, that these are identified and reviewed.

Recommendation 7.4: Test methods and standards should be maintained under a periodic review process in order to drive continuous

improvement and higher performance through the development of new test methods, and encourage innovative product and system design under better quality control.

Recommendation 7.5:

- a. The construction products industry should work together to develop and agree a consistent labelling and traceability system, making use of the digital technologies that are already available and learning from other sectors.
- b. The dutyholder for any given HRRB should ensure that the documentation that supports the performance claims for products and systems incorporated within the HRRB should be maintained throughout the life cycle of a building through the golden thread of building information (see Chapter 8).

Recommendation 7.6:

- a. Government should ensure that there is a more effective enforcement, complaint investigation and market surveillance regime with national oversight to cover construction product safety.
- b. Government should consider whether this could be achieved by extending the remit of the Office for Product Safety and Standards.
- c. The introduction of national level market surveillance should drive the introduction of risk-based testing of products that are critical to the safety of HRRBs.

Golden thread of building information

Recommendation 8.1:

- a. Government should mandate a digital (by default) standard of record-keeping for the design, construction and during the occupation of new HRRBs. This is to include any subsequent refurbishments within those buildings.
- b. Digital records are to be in a format which is appropriately open and non-proprietary with proportionate security controls.

Recommendation 8.2: Government should work with industry to agree what information must be held in the digital record for new HRRBs.

Recommendation 8.3:

- a. Government should work with industry to agree the type of information to be collected and maintained digitally (by default) to enable the safe building management of existing HRRBs.

- b. Dutyholders must identify and record where gaps in the above information exist and the strategy for updating that relevant information.

Recommendation 8.4:

- a. Dutyholders must hold, transfer and update information throughout the life cycle of the HRRB.
- b. Information from this record is to be provided to the JCA in the event that this may be required.

Procurement and supply

Recommendation 9.1:

- a. For higher risk residential buildings (HRRBs), principal contractors and clients should devise contracts that specifically state that safety requirements must not be compromised for cost reduction.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings and to institutional residential buildings.

Recommendation 9.2:

- a. For HRRBs, tenders should set out how the solution that is proposed will produce safe building outcomes, approaching the building as a system. Those procuring should use the tender review process to test whether this is the case.
- b. The government should consider applying this requirement to other multi-occupancy residential buildings and to institutional residential buildings.

Recommendation 9.3: For HRRBs the information in the contracting documentation relating to the safety aspects should be included in the digital record set out in Chapter 8.

International examples

Recommendation 10.1: The government should re-join the Inter-jurisdictional Regulatory Collaboration Committee (IRCC).

Appendix B: Mapping the new building safety regulatory framework – construction and occupation of a higher risk residential building (HRRB)

See attachment at the back of this report.

Appendix C: HRRBs – analysis, definition and numbers

Analysis and Definitions

As set out in Chapter 1, there is a need to define the high-rise residential buildings that the new regulatory framework should apply to. The review has looked at the existing risk criteria, in particular the way that buildings in the Approved Documents⁸⁴ are classified – specifically in Approved Documents A on Structural Safety and B on Fire Safety. The review has also sought to identify the key parameters of ‘higher risk’ buildings (in respects of fire frequency) through further analysis of the Home Office’s Fire Statistics.

Approved Documents A and B both set out a range of approaches according to the assessed risk level. In these documents risk is based on the defined level of the tolerability of risk of failure in relation to a structural collapse or fire. In Approved Document A, risks are based on ‘building consequence classes’ with the highest risk groups generally being those where the highest number of people will gather (whether for work or residential purposes). The highest risk categories where the most stringent measures are required on buildings above 15 storeys.

Approved Document B sets out relevant ways of meeting the fire safety requirements which can vary in accordance with two key criteria. The first is the ‘purpose group’ utilising the building. Typically requirements are greater for residential dwellings than offices, industrial buildings and shops/commercial premises. The second key criterion is building height. Typically requirements are greater for buildings six storeys and above (approximately 18 metres) and then ten storeys and above (approximately 30 metres) where the most stringent requirements are applied. There are also provisions, generally related to means of escape in the event of a fire (for example, the width of a stairway), that

depend on the number of people expected in parts of a building. These variations are broadly intended to even out the risks inherent in different types of buildings. None of the other Approved Documents do this directly or explicitly.

In addition the review has closely considered Home Office Fire Statistics on fires attended by fire and rescue services and the fatalities in those fires. In particular it has found that:

- there is a higher rate of fire-related fatalities in residential properties than in any other type of building. The rate of fatalities (per 1,000 fires) in residential properties is more than three times as high as in other properties where people sleep (such as hospitals and hotels/hostels) and very significantly higher than in other building types, such as for offices, shops and restaurants⁸⁵;
- when combining the Home Office statistics with those from the English Housing Survey⁸⁶, and looking at high-rise purpose-built residential accommodation, there is a much higher rate of fires in relation to the height of a purpose-built residential building with more than double the rate of fires in buildings of 10 or more storeys than in those below that height;
- there is a higher rate of fire-related fatalities in high-rise purpose-built residential accommodation of 10 storeys or more with around three times as many fatalities as compared with purpose-built flats below 10 storeys. There is little difference between the rate of fire-related fatalities in purpose built blocks of flats that have one to three storeys and those with four to nine storeys⁸⁷;

⁸⁴ The suite of statutory guidance documents which give specific examples of how the outcome-based goals in the Building Regulations 2010 can be met.

⁸⁵ Based on data for April 2010 to September 2017 from tables 0205 and 0301 available here: <https://www.gov.uk/government/collections/fire-statistics#fire-statistics-data-tables>, Table 0301 is updated annually, and unpublished quarterly data have therefore been provided for this report.

⁸⁶ Unpublished breakdown of English Housing Survey.

⁸⁷ The difference before Grenfell was much lower, with rates of 6.0 fatalities per 1,000 fires for purpose-built flats of 10 or more storeys, compared with 4.8 fatalities per 1,000 fires in purpose-built flats four to nine storeys high. Based on data for April 2010 to September 2017 from tables 0205 and 0301 available here: <https://www.gov.uk/government/collections/fire-statistics#fire-statistics-data-tables>, Table 0301 is updated annually, and unpublished quarterly data have therefore been provided for this report.

In light of this analysis it is most relevant to target the more intensive regulatory framework set out in this report on **new and existing high-rise residential properties which are 10 storeys high or more.**

Estimates of the numbers of HRRBs

It is estimated that there are between 2,000 and 3,000 HRRBs in England. This range is based on analysis of a dataset provided by Homes England. The dataset was created using data from the Land Registry, Ordnance Survey, Energy Performance Certificates and LandMark. These datasets are all well-established and are sufficiently robust for deriving the key estimates for this report. However, any building that did not have an Energy Performance Certificate and that had missing data for the building height was excluded. This is likely to affect those buildings completed after 2014 as that was the last time that Ordnance Survey completed its last comprehensive survey and buildings completed since then without an Energy Performance Certificate will be excluded. The degree of underestimation is unknown but not expected to be significant. To reflect these caveats with the data quality, the number is expressed as a range of 2,000–3,000 in this report.

It has not been possible to calculate a robust estimate for the number of new HRRBs that are completed in a typical year in England. However, to provide some context, the annual London Tall Buildings Survey gave the following estimates for buildings with 20 or more storeys in London:⁸⁸

- Applications to start construction in 2016 – 83 (down from 119 in 2015),
- Cases where construction began in 2016 – 48 (up from 29 in 2015)
- Cases where construction of a building completed in 2016 – 26 (up from 10 in 2015).

⁸⁸ [New](#) London Architecture, London Tall Buildings Survey 2017, page 5.

Appendix D: Outline of the Fire and Emergency File

As set out in Chapter 2, the Fire and Emergency File (FEF) should become a clearer obligation on client, Principal Designer and Principal Contractor to initiate, update, finalise and then pass across to the building owner to help them better understand how to effectively manage their building in a fire/emergency situation.

Fire is an emergency situation that can affect essentially any building and, accordingly, the FEF must always contain:

- a copy of the fire strategy design report for the building which details the strategic measures that are provided in the building to satisfy Parts B1 to B5 of Schedule 1 of the Building Regulations (for which guidance to assist with compliance is provided in Approved Document B). See box below for more details.
- For each of parts B1 to B5 the FEF should then include:
 - a. all relevant technical specifications
 - b. product datasheets
 - c. operation and maintenance manuals
 - d. inspection and commissioning records.

A standard Fire and Emergency File would include:

- all assumptions in the design of the fire safety systems such as fire load, any risk assessments or risk analysis;
- all assumptions in the design of the fire safety arrangements regarding the fire safety management of the building including emergency procedures;
- escape routes, escape strategy and muster points;
- details of all passive fire safety measures e.g. compartmentation, cavity barriers, fire doors, duct dampers and fire shutters;
- details of fire detector heads, smoke detectors, alarm call-points, fire safety signage, emergency lighting, dry or wet risers and other firefighting equipment, exterior facilities for fire and rescue services;
- details of all active fire safety measures such as sprinkler systems, smoke control systems;
- information about any elements of the fabric and services that may adversely affect the 'general fire precautions' in a fire (e.g. cladding);
- any other high-risk areas in the building e.g. heating machinery;
- information on the requirements of the fire safety equipment including operational details, manuals, software, routine testing, inspection and maintenance schedules; and
- provisions incorporated into the building to facilitate the evacuation of disabled and other potentially vulnerable people.

In addition there are other emergency situations that can occur which can impact on building safety including structural collapse, explosion, flooding, electrocution, exposure to harmful substances and threat from terrorist/criminal activity. One of the significant risks created by these emergency situations (not just a fire emergency) is the possibility of panic resulting in crowding in escape routes and at exits where people may be put at risk

of significant harm – emphasising the importance of ensuring that routes and exits have been designed, specified and constructed with this risk in mind.

- Some of these risks are mitigated by compliance with other Building Regulations with their own Approved Documents. These are listed as follows:
 - Structure – Approved Document A.
 - Combustion appliances and fuel storage systems – Approved Document J.
 - Protection from falling, collision and impact – Approved Document K.
 - Access to and use of Buildings – Approved Document M.
 - Electrical Safety – Approved Document P.
 - Security in Dwellings – Approved Document Q.
- Relevant professional bodies can help determine the specific scope of information to go in the FEF for each of these regulations. For instance, for Part A Structure it may only be necessary to ensure that there is a reference to the current version of the structural engineer's report and to include any summary/extracts that are needed to highlight points of interface with other safety issues. Whilst, for Part J, it may be appropriate for there to be a significant amount of specification.

Appendix E: Competence

Summary

1.1 Since the interim report, a range of organisations have undertaken an exercise to better understand the existing requirements in relation to competence levels for those working on higher risk residential buildings (HRRBs). Part 1 of this appendix sets out a number of proposals that they identified to enhance current competence levels and the assurance of those levels. It is important that these proposals are viewed and developed in the context of the recommendation in this report that industry should develop a coherent proposal to Government within one year for an overarching body to support the provision of competent people to undertake building work by overseeing competence requirements and assuring their skills, knowledge and experience. The review would expect industry to begin developing and delivering on these proposals, seeking Government support where this is needed, and in a joined up way with the development of a proposal for an overarching body. Industry should also consider whether these proposals for those working on HRRBs should also be extended to cover other multi-occupancy residential buildings and to institutional residential buildings.

1.2 Part 2 of this appendix sets out a consideration of wider issues that the review has heard from stakeholders relating to the competence of those carrying out electrical installation work.

Part 1 – Proposals from Industry

Continuing professional development

1.3 Career development, learning and education, and its active management should be considered essential for those working on HRRBs. Qualifications and training are only part of the answer – continuous professional development (CPD) throughout a career is needed to ensure levels of competence remain relevant. There are existing examples of good practice throughout professional disciplines, and internationally, and every encouragement should be given to cross-disciplinary sharing and learning.

Continuing Professional Development: Examples of good practice

In structural engineering, the Institution of Structural Engineers states that career long learning and development and its active management should be a requisite for all engaged in the discipline. There are sanctions in place to remove membership from those who do not submit, when requested, details of their ongoing CPD activity up to three years retrospectively. Having established specialist examinations in the seismic and off-shore sector, the Institution of Structural Engineers will be implementing a specialist diploma in fire structural safety later this year.

The Royal Institute of British Architects (RIBA) Expert Advisory Group on Fire Safety has recommended that RIBA introduce mandatory fire safety CPD and periodic testing to strengthen RIBA member awareness of the requirements to ensure the life safety of building users.

In New Zealand, Engineering New Zealand (formerly the Institution of Professional Engineers New Zealand) is the professional body representing 20,000 professional engineers from all disciplines. It is also the registration body for Chartered Professional Engineers in New Zealand. Engineering New Zealand requires (of all practising grades) completion of at least 40 hours of CPD per year, making an annual declaration to confirm compliance. Assessment of achievement is based on learning and its application, not the total hours spent: the emphasis is on the quality and relevance rather than the quantity of CPD. Each year a random sample of members have CPD Practice Reviews. At least once every six years members are reassessed to show whether they have taken the necessary steps to keep engineering knowledge up-to-date and are still able to practice competently.⁸⁹

⁸⁹ Institution of Civil Engineers (2017), *In Plain Sight: Reducing the risk of infrastructure failure. An interim report*. Engineering New Zealand: engineeringnz.org

Proposal: There is a role for each professional body to deliver a programme of fire and system safety-related CPD, and for this to be mandatory for individuals accredited by the respective professional body.

Engineering

1.4 Operating under a Royal Charter, the Engineering Council is the regulatory body for the UK engineering profession, setting and maintaining standards of professional competence and commitment, and holding the national register of professional engineers and technicians. The award of professional registration titles Engineering Technician (EngTech), Incorporated Engineer (IEng), Chartered Engineer (CEng) or Information and Communications Technology Technician (ICTTech) is based on demonstration of competence and commitment. The UK Standard for Professional Engineering Competence (UK-SPEC) sets out the competence and commitment required for professional registration. It also includes examples of activities that demonstrate the required competence and commitment.

1.5 Professional Engineering Institutions (PEIs) are able to tailor the UK-SPEC to their own disciplines. In 2016, the Engineering Council approved the concept of Recognised Standards to enable PEIs to develop contextualised standards for specific occupations. This framework could be utilised to provide greater assurance of engineering competence to work on HRRBs.

Proposal: The relevant Professional Engineering Institutions (PEIs) should work with the Engineering Council to develop a contextualised standard for chartered and incorporated engineers working on HRRBs.

Those installing and maintaining fire safety systems and other safety-critical systems

1.6 There are a number of disciplines installing what are termed 'active' and 'passive' fire safety systems and those who may interact with, or impact, those systems through their own discipline or as an occupier or resident. These systems may include, but are not limited to:

- insulation, roof sheeting and cladding products;
- specialist external cladding and rain screen products;

- passive fire protection systems including fire doors, fire seals and fire resisting glazing systems;
- fire, heat, smoke and gaseous detection and alarm systems;
- sprinkler and water mist systems (also known as automatic water suppression systems);
- fire extinguishing systems, including portable appliances;
- gaseous and other specialised suppression systems;
- fire and smoke ducts, ventilation and control systems;
- water pumps, hydrants and internal firefighting installations;
- fire cables and control systems; and
- emergency lighting and signage.

1.7 There are a number of organisations responsible for those who install and maintain fire safety systems and other safety-critical systems in HRRBs and a number of training and accreditation schemes that exist in this area. Due to the range of professions and disciplines involved in the area of active and passive fire safety systems, there would be merit in the respective awarding and accrediting bodies to come together to develop a comprehensive and coherent framework to oversee the range of disciplines and to consider the development of an enhanced level of competence.

Proposal: All bodies representing active and passive fire safety system installers should come together to agree a comprehensive and coherent framework for assuring competence levels for those installing and maintaining fire safety and other safety-critical systems for HRRBs, and any enhanced levels of competence that may be necessary.

Fire risk assessors

1.8 There are currently five schemes for accrediting fire risk assessors. Each scheme registers risk assessors who demonstrate the competencies identified by the Fire Risk Assessment Competency Council (FRACC). In 2011 FRACC published national competence criteria – 'Competency Criteria for Fire Risk Assessors'⁹⁰ – with which all applicants to schemes are expected to be familiar. However, at present the framework does not extend to an enhanced level of competence to cover HRRBs.

90 https://www.ife.org.uk/write/MediaUploads/Documents/FRACC_Competency_Criteria.pdf

Proposal: The Fire Risk Assessment Competency Council (FRACC) should develop and introduce an enhanced level of competence for fire risk assessors undertaking work on HRRBS.

Fire Safety Enforcing Officers

1.9 The NFCC is the national, professional voice of fire and rescue services (FRSs), and works to drive consistency of approach for all FRSs. There are three key elements which relate to competence levels within the fire service:

- Inspecting Officers carrying out audits.
- Inspecting Officers Building Regulations consultations (this may include fire engineers where appropriate).
- Operational crews (operational crews fall outside of the remit of the proposal presented here).

1.10 In 2013 a 'Competency Framework for Business Fire Safety Regulators'⁹¹ was published by CFOA (the Chief Fire Officers Association, the predecessor to the NFCC) to encourage a common and consistent approach to the training requirements for regulators. The Competency Framework divides regulatory roles into three levels:

- Fire Safety Advisor.
- Fire Safety Risk Assessor.
- Fire Safety Inspector.

1.11 The Competency Framework definitions set out that only a fire safety inspector with the requisite skills, attitude, knowledge of the sector for regulation and relevant legislation should undertake activities associated with high-rise, high risk and complex buildings. The Competency Framework requires review as it is now over four years' old and the cross-referencing of previously attained qualifications and skills needs to be completed.

1.12 The Competency Framework is based on National Occupational Standards which describe competent performance in terms of outcomes of an individual's work and the knowledge and skills they need to perform effectively.

1.13 In addition, to enhance professionalism of FRSs it is agreed that a coherent and comprehensive set of professional standards across all areas of FRSs work should be developed. These professional standards should draw upon existing standards where appropriate, and should be developed on an ongoing basis. The Fire and Rescue National Framework for England (a revised version is to be brought into effect on 1 June) will require all FRSs in England to implement these standards which Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) as the fire and rescue inspectorate in England will have regard to as part of their inspections.

1.14 Although the Competency Framework sets out a quality assurance framework, it is considered appropriate for all fire safety inspectors and surveyors to be accredited with a nationally recognised professional body to ensure a robust approach to quality assuring levels of competence within the sector. For consistency NFCC should consider identifying and working with an appropriate professional body that could provide third party accreditation of the competence of inspecting officers that FRSs can adopt.

1.15 It is also important to note that while the term 'Fire Safety Enforcement Officer' primarily refers to inspecting officers working within local FRSs, it also includes officers appointed by the Crown under the Crown Premises Inspection Group. Other Enforcing Authorities such as Local Housing Authorities also have specific duties in relation to fire safety (under the Housing Act 2004). Taking into account any future legislative changes, the competence of local authority housing officers may need to be assessed in line with the overarching principles of these proposals.

⁹¹ <http://www.cfoa.org.uk/22122>

Proposal:

- a) The NFCC should seek to ensure that fire and rescue services comply with the Competency Framework for Business Safety Regulators.
- b) The Competency Framework for Business Safety Regulators should be developed through a national standard for England that could be adopted throughout the United Kingdom.
- c) Fire and rescue services should ensure that they have sufficient capacity through suitably qualified Fire Safety Officers to effectively implement Integrated Risk Management Plans, Risk Based Inspection Programmes and discharge their statutory fire safety duties in relation to:
 - (i) inspection and audit;
 - (ii) statutory consultations;
 - (iii) undertaking enforcement action as appropriate; and
 - (iv) carrying out any additional activities which may be introduced as part of this Independent Review.
- e) Building on the competence requirements set out in the Regulator's Code,⁹² NFCC should work with a suitable body to ensure fire and rescue services can introduce third party accreditation of the competence of Inspecting Officers with a recognised accreditation or professional body.

and to consider current and future competence levels of those on the Register, and joining the Register, in relation to fire safety design issues specifically relating to HRRBs.

Proposal: Government and the Architects Registration Board, working with partners, should consider current and future competence levels of those architects on the Register of Architects, and those joining the Register, in relation to the fire safety design issues specifically relating to those architects involved in designing HRRBs.

Building Control Inspectors

1.18 Currently, under the Construction Industry Council Approved Inspectors Register's (CICAIR) designation order, CICAIR registers Approved Inspectors (AIs) to provide building control services for all types of building work in England and Wales. AIs have a duty under the CICAIR Code of Conduct to recognise and work within the limits of available competence and/or resource. In line with the specific recommendations in Chapter 2, CICAIR's approval process could be strengthened by using the statutory powers in the Building Act 1984 and the Building (Approved Inspectors etc.) Regulations 2010 to restrict the approval of AIs to certain defined project categories. An AI would then need to satisfy CICAIR that they have sufficient experience and competence to be granted approval to work on the project categories the AI is seeking approval to undertake.

1.19 At present, although the membership of Local Authority Building Control (LABC) – the professional body covering building control teams working in local authorities – currently includes all local authority building control departments in England and Wales, it is not a requirement for them to belong to the national LABC organisation. If, under a new regulatory framework, LABC is to have responsibility for determining a level playing field of competence, then it will be necessary to ensure that every local authority building control (or 'local authority building standards' under the proposed new terminology) team falls within its remit.

Architects

1.16 Under the Architects Act 1997, the Architects Registration Board (ARB) is required to set the UK standards for education for graduates and entry to the Register of Architects. To fulfil this obligation the ARB prescribes the qualifications and practical training experience required for entry to the Register. The ARB additionally sets the requirements for re-entry to and retention on the Register and issues a Code setting out the standards of professional conduct and practice expected of all architects on the Register.

1.17 The ARB is currently undertaking a review of the UK standards for education for graduates and entry to the Register of Architects. Since publication of the interim report, the review has heard from stakeholders that there is the opportunity now for government and the ARB, working with partners, to use the ARB's current review to look critically at the level of fire safety design within those standards

⁹² <https://www.gov.uk/government/publications/regulators-code>

Proposal:

- a) The approval of AIs should be restricted to certain defined project categories and individual AIs should satisfy CICAIR that they have sufficient experience and competence on a case-by-case basis to be granted approval to work on HRRBs.
- b) Local authority building control departments (or 'local authority building standards' under the proposed new terminology) should be required to become members of the national LABC body.

1.22 In the proposed new regulatory framework, this will continue to be critical for all building work⁹⁴. The bodies that own the relevant competency frameworks and scheme operators which cover electrical installation work will also have a role to play in working with other professional bodies to develop a proposal for an overarching body to support the provision of competent people undertaking work on HRRBs, and assuring their skills, knowledge and experience.

Part 2 – Electrical Installation Work

1.20 While originally outside of the immediate remit of this review, the review is mindful of the importance of Part P of Schedule 1 to the Building Regulations 2010, which requires that anyone carrying out certain types of electrical installation work in a home must make sure that the work is safe⁹³. The review has heard that Part P should be modernised and improved, and recommendations made in Chapter 6 will ensure that Part P is reviewed and improved as necessary, along with the suite of other Approved Documents.

1.21 It is important that the competence of those undertaking electrical installation works – where this may impact on building safety – is assured and verified. Electrical work covered by Part P allows for self-certification by electrical installers (whereby aspects of building work can be signed off by the individuals doing the work without broader regulatory oversight), if they are a member of one of the Government-authorised competent person schemes. Electricians registered with these schemes must demonstrate their ability and ongoing competence, and that their work meets the correct standards. The schemes operate on a qualified supervisor model: not all those carrying out work must be fully qualified but all work must be adequately supervised by a fully qualified person. Government-authorised scheme operators maintain a register of electrical installers who have been assessed as competent to self-certify the compliance of their own work. This should simplify the task of finding a competent, registered electrician.

⁹³ The safety of fixed electrical installations is principally covered by three pieces of legislation – Part P of the Building Regulations 2010, the Electrical Safety, Quality and Continuity Regulations 2002, and the Electricity at Work Regulations 1989. The current regulatory framework sets out the types of electrical work that are required to be notifiable to a local building control body. Only certain types of work need to be notified to building control under Part P – installation of a new circuit, replacement of a consumer unit and work in special locations (bathrooms, shower rooms and swimming pools).

⁹⁴ As Chapter 2 sets out self-certification as a principle will still be acceptable for most buildings, however work carried out on HRRBs has a greater potential to impact on fire safety and therefore the work of competent persons will need to be subject to proper scrutiny by the JCA with the option available to reintroduce self-certification schemes if deemed to be justified based on the JCA's experience.

Appendix F: Expert Group recommendations to improve the Approved Documents

The Government should immediately start work to improve the current suite of Approved Documents by:

- (R1) carrying out further research with the construction industry to understand who uses Approved Documents, how they are used and where they are used to influence how they should be developed in the future and to understand what other guidance is used by the construction industry in order to comply with building regulation requirements.
- (R2) making publicly available online a single searchable pdf which contains all of the content from the current Approved Documents in one place.
- (R3) reinstating the Building Regulations Manual that sets out the overall purpose of the regulations is to deliver safe and healthy buildings throughout their life. This should include setting out how the functional requirements interact with each other, the key stages in the process and what all stakeholders responsible for compliance must have regard to and when undertaking Building work, including the construction or refurbishment of a building.

To start the transition to the future goal of clearer guidance the Government should:

- (R4) carry out a radical design and content review of the current suite of Approved Documents using the Crystal Clear (plain English) standard or similar. As part of this review the Government should review and clearly delineate between statutory guidance and good practice advice contained in the Approved Documents. When reviewing the Approved Documents, the government should consider adopting a similar approach to the HSE and should carry out early engagement with industry.
- (R5) explore how the current information in Approved Documents can be transferred onto a digital platform. Government to consult with relevant parties to understand how digital

delivery could better meet the needs of the users. As part of this assessment the government should establish the cost of a digital suite and consider how it can improve the visual design of the guidance, in particular its tables, diagrams and worked examples so that the digital solution is more visually appealing and follows current good practice in design for screen and mobile access, including the density of the text

- (R6) consider an engagement strategy with industry and other delivery partners (including building control bodies) to communicate and train practitioners on the transitional arrangements and involve them in developing the long-term solution to encourage greater ownership and advocacy on the new digital approach.
- (R7) consider oversight of the current Approved Documents and develop a long-term model to ensure that the future guidance can be relied on as a route to compliance and remains free of vested interests. Assess the costs and resources involved in ensuring the guidance is reviewed to ensure it remains relevant and continues to be seen as impartial by the industry. The Building Regulations Advisory Committee and other key delivery partners should be consulted on the most effective and efficient way to achieve this [and what the guidance should be called and badged].
- (R8) consider whether the route for agreeing and signing off Approved statutory guidance and advice can be streamlined and improved to allow quicker updates of the documents in line with the latest developments in science and construction technology.

Appendix G: Stakeholder engagement

The work of the review has been carried out as an ongoing dialogue with industry, the fire sector, experts and residents, and there have been many opportunities to engage, including through the call for evidence, roundtables, bilateral meetings and working groups.

Working closely with the sector is a critical first step towards shifting the culture and mindset across the whole building industry, so that everyone takes ownership and responsibility for delivering safe buildings. Culture change such as this must be led by the sector for it to be meaningful and lasting.

Dame Judith has always been clear that the voice of residents would be heard as part of her independent review. She and the Review Team have met with residents, Residents' Associations and representative groups in Manchester, Edinburgh and London at roundtable sessions. Drop-in sessions for those impacted by the Grenfell tragedy gave survivors and the broader community an opportunity to share their views with the independent review team.

Call for evidence, roundtables and bilateral meetings

The first phase of the review included a call for evidence, which was issued in Autumn 2017. Over 250 submissions were received from a diverse range of stakeholders, including the construction, housing and fire sectors, independent experts in relevant fields and residents. Roundtable sessions were held to allow the construction and housing industries, fire sector and residents to inform the review's direction of travel. The publication of the interim report in December prompted further written submissions, and subsequent meetings.

A list of organisations that sent written evidence is below.

Summit and working groups

After the publication of the Interim Report, a Summit held in January launched the next phase of work. Six working groups were set up to inform the work of the review, building on the directions of travel set out in the interim report.

The working groups were made up from representatives from a wide range of organisations and experts in the field. Working group chairs were encouraged to work with each other and consult as widely as possible with other organisations. During this time the review continued to receive written submissions and engage with a wide range of stakeholders through bilateral meetings.

A list of organisations that contributed to the working groups is below.

Appendix G.1: Organisations that sent written evidence

A & F Consulting Engineers LLP	Bespoke Building Control Ltd
A2Dominion	Bevan Architects
Académie des Technologies	Blatchford Brown Ltd
Access and Building Consultancy	Bolton at Home
Access Association	British Approvals for Fire Equipment
Acivico Ltd	British Automatic Fire Sprinkler Association
Adexsi UK Ltd	British Board of Agrément
Advanced Smoke Group	British Electrotechnical and Allied Manufacturers Association
Affinity Sutton	British Institute of Facilities Management
Alarmscom	British Plastic Federation
Allies and Morrison	British Property Federation
All-Party Parliamentary Fire Safety Rescue Group	British Rigid Urethane Foam Manufacturers' Association
All-Party Parliamentary Group on Leasehold and Commonhold Reform	British Safety Council
Architectural and Specialist Door Manufacturers' Association	British Standards Institution
Arup	British Woodworking Federation
Ascent Fire Safety	Buckinghamshire Fire and Rescue Service
Aspire	Build UK
Association for Specialist Fire Protection	Building Engineering Services Association
Association of British Insurers	Building Regulations Advisory Committee
Association of Consultant Approved Inspectors	Building Research Establishment
Association of Residential Managing Agents	Building Services Research and Information Association
Association of Retained Council Housing	Building Products Innovation Council
Atelier Ten	Buro Happold
Atkins	Business Sprinkler Alliance
Australian Academy of Technology and Engineering	Butler & Young Group Ltd
Australian Institution of Fire Engineers	Cadent Gas Ltd
AXA	Calderdale Council
Bail and Berry Ltd	Camden Leaseholders' Forum
Balfour Beatty Plc	Catalys Consulting Ltd
Barrow-in-Furness Borough Council	Catalyst Housing
Basildon Borough Council	Centre for Window and Cladding Technology
Bassetlaw District Council	Centre Scientifique et Technique du Bâtiment
BB7	Certsure LLP
Belfast City Council	Chartered Institute for Environmental Health
Belimo Automation UK Ltd	Chartered Institute of Architectural Technologists
Berneslai Homes	

Chartered Institute of Building	Exova Warringtonfire
Chartered Institute of Environmental Health	Fareham Borough Council
Chartered Institution of Building Services Engineers and the Society of Façade Engineering	Federation of Environmental Trade Associations
Chartered Trading Standards Institute	Federation of Master Builders
Chartered Institution of Civil Engineering Surveyors	Federation of Private Residents' Associations
Chelmsford City Council	Federation of Tenants and Residents Associations
Cherwell and South Northamptonshire Building Control Service	Fellows of the Canadian Academy of Engineering
Cheshire Fire and Rescue	Fellows of the Netherlands Academy of Technology
CICAIR Ltd	Finishes and Interiors Sector
Citizens Advice Bureau	Fire Brigades Union
City University	Fire Cubed LLP
Clarion Housing Group	Fire Doors Complete Ltd
Coltraco Ultrasonics Ltd	Fire Industry Association
Confederation of Co-operative Housing	Fire Ingenuity LLP
Construction Industry Council	Fire Protection Association
Construction Industry Training Board	Fire Protection Ltd
Construction Leadership Council	Fire Safety Europe
Construction Products Association	Fire Sector Federation
Council for Aluminium in Building	Fläkt Woods Ltd
Crawley Homes	Flamerisk Safety Solution Ltd
Crown Commercial Services	FM Global
Croydon Council	Fortis Living
d+b facades UK Ltd	FS Consulting
Defence Infrastructure Organisation	Genesis Housing
Delft University of Technology	Gentoo Group
Department for Business, Energy & Industrial Strategy	German Federal Institute for Materials Research and Testing
Department for Education	Glass and Glazing Federation
Department of Health	Greater London Authority
Department of the Built Environment, Eindhoven	Greater Manchester Combined Authority
Design Fire Consultants	Greater Manchester Fire and Rescue Service
Designing Buildings Ltd	Greenfields Community Housing
Devon and Somerset Fire and Rescue Service	Greenwich University
Digital Built Britain	Grenfell Fire Forum
Door and Hardware Federation	Grundfos
Ealing Council	Guild of Architectural Ironmongers
East Sussex Fire and Rescue Service	Hackney Council
Eastwood and Partners Consulting Engineers	Hammersmith and Fulham Council
Electrical Contractors' Association	Hampshire County Council
Electrical Safety First	Hampshire Fire and Rescue Service
Electrical Safety Roundtable	Harlow Council
Engineered Panels in Construction Ltd	Hazards Forum
Engineering Council	Health and Safety Executive
Essenden Design Ltd	Health and Safety Lawyers Association
European Fire Safety Alliance	Heatrae Sadia
European Fire Sprinkler Network	Hertfordshire Fire and Rescue Service
	HETAS Ltd
	Historic England

Home Builders Federation	London Housing Association
Home Group Limited	Manchester City Council
Housing Ombudsman	Mayor of London
HSS Engineers Bhd	McAlpine
Human Tissue Authority	MD Warranty Support Services Ltd
Humberside Fire and Rescue Service	Meinhardt (UK) Ltd
Hyde Group	Merseyside Fire and Rescue Service
Hyndburn Borough Council	Metropolitan Housing
Independent Expert Advisory Panel	Midland Heart
Institute of Fire Safety Managers	Milton Keynes Council
Institute of Residential Property Management	Mineral Insulated Cable Company Limited
Institution of Civil Engineers	Mineral Wool Insulation Manufacturers Association
Institution of Engineering and Technology	Ministerial Building Safety Group
Institution of Fire Engineers	Modern Masonry Alliance
Institution of Gas Engineers and Managers	National Assembly for Wales
Institution of Occupational Safety and Health	National Association of Professional Inspectors and Testers Limited
Institution of Structural Engineers	National Association of Rooflight Manufacturers
International Fire Consultants	National Federation of ALMOs
Jacobs Engineering Group	National Federation of Roofing Contractors Ltd
JGA Fire Engineering Consultants	National Federation of Tenant Management Organisations
Kent Fire and Rescue Service	National Fire Chiefs Council
Kier Group Plc	National Fire Protection Association
Killa Design	National Fire Sprinkler Network
Kingspan Insulation Ltd	National House-Building Council
Knauf Insulation UK	National Housing Federation
L&Q Group	National Landlords Association
Laing O'Rourke	National Tenant Organisations
Lakanal House Group	National Trust
Lancashire Fire and Rescue Service	Network Homes Ltd
Lareine Engineering	Newcastle City Council
LB Building Control Limited	NIG Commercial
Leasehold Advisory Service	Nordic Fire Safety
Ledbury Estate Action Group	North Wales Fire and Rescue Service
Lichfield District Council	Northamptonshire Fire and Rescue Service
Local Authority Building Control	Northern Ireland Executive
Local Building Standards Scotland	Notting Hill Housing
Local Government Association	Nuclear Industry Fire Safety Co-ordinating Committee
London Assembly	Omega Fire Engineering Limited
London Borough of Camden	Ontario Building Officials Association
London Borough of Havering	Optivo
London Borough of Lambeth	Oxford City Council
London Borough of Newham	PA Housing
London Borough of Tower Hamlets	Parliamentary Office of Science and Technology
London Borough of Waltham Forest	Passive Fire Protection Forum
London Borough of Westminster	Peabody Housing
London Councils	
London District Surveyors Association	
London Fire Brigade	

Peaks and Plains Housing Trust
 Places for People
 Plymouth City Council
 Plymouth Community Homes
 Portsmouth City Council
 Powys County Council
 Probyn Miers
 Province of Ontario's Ministry of Municipal Affairs
 PRP Architects
 Residential Landlords Association
 Retained Firefighters' Union
 Rockwool Group
 Royal Academy of British Architects
 Royal Academy of Engineering
 Royal Berkshire Fire and Rescue Service
 Royal Institute of British Architects
 Royal Institute of Chartered Surveyors
 Salford City Council
 Salix Housing
 Scottish Fire and Rescue Service
 Scottish Government
 Scottish Review Panel of Building Standards (Fire Safety)
 SE Controls
 Sefton Council
 Shelter
 Sherwin-Williams Company
 Shropshire Fire and Rescue Service
 Singapore Building & Construction Authority
 SKArchitects Ltd
 Smoke Control Association
 Solihull Building Control
 South Wales Fire and Rescue Service
 South Yorkshire Fire and Rescue Service
 Southend-on-Sea Borough Council
 Southern Housing
 Southwark Council
 Staffordshire Fire and Rescue Service
 Stockport Metropolitan Borough Council
 Structural – Safety
 Surrey, East Sussex, West Sussex Fire and Rescue Services
 Survitec Group Ltd
 Sutton Borough Council
 Swansea Council
 TAROE Trust
 Technical University of Ostrava
 Telford Homes
 Tenos Ltd

The Concrete Centre
 Together Housing
 Toronto Fire Services
 Tower Blocks Network
 Tpas
 Tratos Ltd
 Trenton Fire Ltd
 TROX UK Ltd
 TrustMark
 UK Phenolic Foam Association
 UL LLC
 Underwriter Laboratories
 Unipol Student Homes
 United Kingdom Accreditation Service
 University of Aberdeen
 University of Cambridge
 University of Central Lancashire
 University of Edinburgh
 University of Leeds
 University of Melbourne
 University of Ulster
 University of Warwick
 UPP Ltd
 Vale of Aylesbury Housing Trust
 VK Architects & Engineers
 Waltham Forest Housing Association Ltd
 Wandsworth Council
 Watson Wild & Baker Ltd
 Welsh Government
 West Midlands Fire Service
 West Yorkshire Fire and Rescue Service
 Westminster City Council
 WFP Fire & Security
 Winchester City Council
 Wintech
 WM Housing Group
 Wood Protection Association
 Wythenshawe Community Housing Group
 Zurich Insurance Plc

We would like to thank other individuals and independent experts who have contributed to the review.

Appendix G.2: Working Groups

Working Group 1: Design, Construction and Refurbishment

Association of Consultant Approved Inspectors
Build UK
Construction Leadership Council
Health and Safety Executive
Institution of Civil Engineers
Institution of Fire Engineers
Local Authority Building Control
National Fire Chiefs Council
National House Building Council
Royal Institute of British Architects
Royal Institute of Chartered Surveyors

Working Sub-Group 1b: Procurement

Chartered Institute of Building
Construction Industry Council
Crown Commercial Services
Home Builders Federation
Kier Services
Local Government Association
Telford Homes

Working Sub-Group 2: Occupation and Maintenance

Association of British Insurers
Association of Residential Managing Agents
British Institute of Facilities Management
Health and Safety Executive
Leasehold Advisory Service
Local Government Association
National Fire Chiefs Council
National Housing Federation
Royal Institute of Chartered Surveyors

Working Sub-Group 1 & 2: Golden Thread

Construction Products Association
Digital Built Britain
Local Authority Building Control
National Fire Chiefs Council
National Housing Federation
Health and Safety Executive
Institution of Fire Engineers

Working Group 3: Regulations and Guidance

Build UK
Building Research Establishment
Construction Products Association
Fire Industry Association
Health and Safety Executive
Local Authority Building Control
National Fire Chiefs Council

Working Group 4: Competence

Build UK
Chartered Institute of Building
Construction Industry Council
Construction Industry Council Approved Inspectors Register
Construction Industry Training Board
Engineering Council
Fire Industry Association
Fire Protection Association
Institution of Fire Engineers
Local Authority Building Control
National Fire Chiefs Council
Royal Institute of British Architects
Royal Institute of Chartered Surveyors
University of Edinburgh, School of Engineering

Working Group 5: Residents' Voice

Association of Residential Managing Agents
British Property Federation
Camden Leaseholders Forum, nominated by The
Leasehold Advisory Service
Confederation of Co-operative Housing
Fire Industry Association
Local Government Association
National Federation of Tenant Management
Organisations
Optivo, nominated by National Housing Federation
Shelter
TAROE Trust
Tpas

Working Group 6: Quality Assurance and Products

British Board of Agrément
British Standards Institution
Building Research Establishment
Construction Products Association
Fire Industry Association
Fire Protection Association
Institution of Fire Engineers
National Fire Chiefs Council
United Kingdom Accreditation Service
University of Central Lancashire, Centre for Fire and
Hazards Science

Appendix H: Glossary

Approved Document	Guidance approved under section 6 of the Building Act 1984 to provide practical guidance on ways to comply with the requirements in the building regulations.
Approved Document B	Guidance on ways to comply with the fire safety requirements in Part B of Schedule 1 to the Building Regulations 2010.
Approved Inspector (AI)	Bodies approved under Part 2 section 49 of the Building Act 1984 to carry out building control functions as an alternative to local authority building control. Almost all are private sector bodies.
Architects Registration Board	Architects Registration Board was established by section 1 of the Architects Act 1997 to regulate the architects' profession in the UK. Registration with the Board allows the use of the protected title architect.
assessment in lieu of test	An assessment carried out in lieu of a physical test. The term is particularly associated with cladding systems and is also referred to as a 'desktop study'.
building control	A statutory process of assessing plans for building work and building work on site to decide whether the plans and work comply with the requirements in the building regulations.
building control bodies	A local authority or an Approved Inspector who assess conformity with the building regulations.
(Building) Improvement/Correction Notices	A statutory enforcement notice which would include timescales for completion of any works.
Building Regulations Advisory Committee (BRAC)	The Committee (appointed under the Building Act 1984 Part 1 Section 14) advises the Secretary of State in England on proposals to make or change building regulations and the system in which they operate. The Committee also provides expert advice to the Secretary of State on related matters such as the health and safety, welfare and convenience of people in and around buildings; energy conservation and the sustainability of buildings.
building safety	'Building safety' refers to fire safety and structural safety. This may also apply to other disciplines such as electrical and gas safety, where these could impact on the fire safety of the building.
building safety manager	Named individual (natural person) with the relevant skills, knowledge and expertise to be responsible for the day to day management of the building and act as a point of contact for residents on building safety.
common parts	Those parts of a domestic property (such as a block of flats) which is used in common by the occupants of more than one flat (such as the corridors and fire-escape routes).
compartmentation	Construction provided to prevent the spread of fire to or from another part of the same building or an adjoining building. For example, compartment walls and floors with a rated period of fire resistance are provided to separate individual flats.

competent person scheme	A scheme authorised under the Building Act 1984 by which registered installers are able to self-certify certain types of building work without the involvement of a building control body.
Completion stage	The point at the end of the construction process when building work is completed and needs to be assessed prior to occupation.
construction control plan	One of the core information products that dutyholders must produce during the design and construction phase – it describes how building safety and Building Regulations compliance will be maintained during the construction phase and how any changes to the Full Plans signed off at Gateway Point 2 will be controlled and recorded.
design and build	A term describing a procurement route in which the main contractor is appointed to design and construct the works, as opposed to a traditional contract, where the client appoints consultants to design the development and then a contractor is appointed to construct the works.
desktop study	An assessment carried out in lieu of a physical test. The term is particularly associated with cladding systems and is also referred to as an ‘assessment in lieu of test’.
dutyholders	Those key roles (whether fulfilled by individuals or organisations) that are assigned specific responsibilities at particular phases of the building life cycle.
Fire and Emergency File	One of the core information products that dutyholders must produce during the design and construction phase and it must be handed over to the building owner on occupation. This file will contain specified information and will help the building owner to better understand how to effectively manage their building in respect to fire/emergency situation.
fire engineer	A person with the ability to apply scientific and engineering principles, rules and expert judgement, based on an understanding of the phenomena and effects of fire and of the reaction and behaviour of people to fire, to protect people, property and the environment from the destructive effects of fire.
fire risk assessment	A systematic examination of the building structure, fabric and services to assess the likelihood of fire and the impact to those who may be affected if a fire occurs. Under the Regulatory Reform (Fire Safety) Order 2005, a fire risk assessment must evaluate the risk from fire to relevant persons (persons lawfully on the premises and/or persons in the immediate vicinity who are at risk from fire on the premises) for the purpose of identifying the general fire precautions needed to comply with the provisions of the Order.
Full Plans Approval	Under the new regulatory framework building work to create/refurbish an HRRB will require dutyholders to submit detailed design plans that will be subject to assessment by the Joint Competent Authority (JCA). Until the JCA approve these detailed plans as properly managing the building safety risks (and meeting other Building Regulations requirements) then building work will not be allowed to commence.
Gateway Points	This is the key stages in the building life-cycle of which the dutyholder has to satisfy the Joint Competent Authority (JCA) that their plans are robust; that their understanding and management of risk is appropriately detailed; and that they can properly account for the safety of the as-built building.
Health and Safety File	This is a file prepared under regulation 12 (5) of the Construction (Design and Management) Regulations 2015.

higher risk residential building (HRRB)	Multi-occupancy higher risk residential buildings (that are 10 storeys or more in height. They are the primary focus of the new regulatory framework set out in this report.
Joint Competent Authority (JCA)	The proposed new combined regulatory oversight body for HRRBs, comprising the Health and Safety Executive, Local Authority Building Standards and fire and rescue authorities.
life cycle of building	The life of a building covering procurement, design, construction, occupation, maintenance and refurbishment.
Local Authority Building Control	In this report local authority building control services are referred to as Local Authority Building Control – each local authority remains individually responsible for the delivery of building control services in its area.
mandatory occurrence reporting	Reporting of any safety-related event which, if not corrected or addressed, could endanger residents or employees.
non-worsening (of compliance)	A requirement in regulation 4(3) of the Building Regulations 2010 that building work must be carried out so that, after it has been completed, the building or controlled service or fitting complies with all relevant requirements or, where it did not previously comply, is no more unsatisfactory in relation to that requirement than before the work was carried out.
outcomes-based system	The system defines the outcomes or performance level to be achieved not the way those outcomes must be met
prescriptive system	The system defines the prescribed criteria to be met not the outcome to be achieved. Meeting a desired outcome or performance level is presumed if the prescribed criteria are met.
Principal Contractor	Under the Construction (Design and Management) Regulations 2015 a principal contractor is a contractor appointed by the client to take lead control during the construction phase of any project where there is more than one contractor involved.
Principal Designer	Under the Construction (Design and Management) Regulations 2015 a principal designer is a designer who is an organisation (or, in some cases, an individual) appointed by the client to take lead control of the pre-construction phase of any project where there is more than one designer involved.
Public Interest Disclosure Act	Public Interest Disclosure Act 1998 protects workers from detrimental treatment or victimisation from their employer if, in the public interest, they make certain types of protected disclosures.
‘Stop’ Notices	A new sanction so that where the JCA/Local Authority Building Standards are of the opinion that the building work (or supporting processes) has serious deficiencies then work can be stopped until resolved to the satisfaction of the JCA.
resident engagement strategy	A plan for delivering resident engagement, outlining how the dutyholder will share information with residents, how they inform them of their rights and responsibilities, and how they consult residents on changes to the building which could impact on safety.
Responsible Person	Under the Regulatory Reform (Fire Safety) Order 2005, a responsible person is generally an employer or, in premises which is not a workplace, the owner or other person who has control of the premises in connection with carrying on of a trade, business or other undertaking (whether for profit or not).

safety case	An evidence based approach in which the dutyholder identifies the hazards and risks, describes how risks are controlled and describes the safety management system in place for a HRRB. The safety case file is then assessed by the JCA.
value engineering	Value engineering is a systematic and organised approach to providing the necessary functions in a project at the lowest cost. Value engineering promotes the substitution of materials and methods with less expensive alternatives.

Appendix I: Abbreviations

ACOPS	Approved Codes of Practice
ACM cladding	Aluminium Composite Material cladding
AI	Approved Inspector
ARB	Architects Registration Board
BMF	Building Ministers' Forum (Australia)
BS	British Standard
BS EN	British Standard From European Standard
BSI	British Standards Institution
BIM	Building Information Modelling
BRAC	Building Regulations Advisory Committee
CEng	Chartered Engineer
CFOA	Chief Fire Officers Association
CDM Regulations	Construction, Design and Management Regulations
CICAIR	Construction Industry Council - Approved Inspectors
COMAH	Control of Major Accident Hazards
CPA	Construction Products Association
CPD	continuing professional development
CROSS	Confidential Reporting On Structural Safety
CSCS	Construction Skills Certification Scheme
DoP	Declaration of Performance
ECS	Electrotechnical Certification Scheme
EHO	Environmental Health Officer
EngTech	Engineering Technician
FEF	Fire and Emergency File
FPA	Fire Protection Association
FRA	Fire and Rescue Authority
FRS	Fire and Rescue Service(s)
FRACC	Fire Risk Assessment Competency Council
FSO	Regulatory Reform (Fire Safety) Order 2005
FTA	Finnish Transport Agency
HHSRS	Housing Health and Safety Rating System
HSE	Health and Safety Executive
HRRB	Higher risk residential buildings
IRCC	Inter-jurisdictional Regulatory Collaboration Committee
JCA	Joint Competent Authority
LABC	Local Authority Building Control

LABS	Local Authority Building Standards
LPA	Local Planning Authority
MHCLG	Ministry of Housing, Communities and Local Government
NFCC	National Fire Chiefs Council
OPSS	Office for Product Safety and Standards
PEIs	Professional Engineering Institutions
PIDA	Public Interest Disclosure Act
PSLG	Process Safety Leadership Group
QR code	Quick Response code
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC 1907/2006)
RFID tags	Radio Frequency Identification tags
RIBA	Royal Institute of British Architects
SFAIRP	so far as is reasonably practicable
UK-SPEC	UK Standard for Professional Engineering Competence

Appendix J: Legislation and publications

Legislation

Architects Act 1997
 Building Act 1984
 Building Act 2004 (New Zealand Legislation)
 Building Act 2009 (New Zealand Legislation)
 Building Regulations 2010
 Construction (Design and Management) Regulations 2015
 Control of Major Accident Hazard (COMAH) Regulations 2015
 Financial Services and Markets Act 2000
 Furniture and Furnishings (Fire Safety) Regulations 1988
 Health and Safety at Work etc. Act 1974
 Housing Act 2004
 Housing Health and Safety Rating System (England) Regulations 2005
 Public Interest Disclosure Act 1998
 Regulatory Reform (Fire Safety) Order 2005

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The World Bank Group (2013) Good Practices for Construction Regulation and Enforcement Reform – Guidelines for Reformers. <http://documents.worldbank.org/curated/en/662881468170967367/Good-practices-for-construction-regulation-and-enforcement-reform-guidelines-for-reformers>

Appendix K: Extracts from ‘Rebuilding Confidence: An Action Plan for Building Regulatory Reform’

Since the interim report was published, the Building Products Innovation Council in Australia published the report ‘Rebuilding Confidence: An Action Plan for Building Regulatory Reform’, of which some relevant extracts are below.

Action Plan – Summary

Paragraph 1

‘Australia’s building and construction industry, is facing a problem of national significance that has adverse implications for the industry’s competitiveness, and potentially, for the health and safety of the community.’

Paragraph 2

‘... Yet, the framework under which this major sector of the Australian economy operates is fragmented, needlessly complex and is proving unable to ensure that new buildings provide the levels of health, safety and amenity intended by Governments in legislation and expected by the community.’

Paragraph 3

‘The existing building regulatory framework is increasingly incapable of dealing with modern industry issues and rapid change in the design and procurement of buildings and building and plumbing products. It often fails to facilitate early identification of defective work, fails to hold to account those responsible for building or building product defects when detected, and fails to support building owners who unwittingly inherit responsibility for unresolved defective work.’

Paragraph 4

‘... Multi-unit apartment buildings are large and complex projects, requiring careful design and governance when compared to other forms of housing. They often utilise non-traditional building methods and access new forms of building products. However in many jurisdictions, they

are permitted to be overseen and/or built by non-licensed builders or developers with little or no prior experience in large building projects.’

Page 13

1.2 Jurisdictions

1.2.1 Lack of appetite and resources for enforcement

‘... In the rush to construct as many houses and buildings as possible to boost economic activity (as well as house a rapidly growing population), jurisdictions appear to have turned a blind eye to all manner of building non-compliance. By doing so, jurisdictions have traded away building compliance and quality in favour of lowest cost options, speed and volume of buildings completed.’

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1.4 Professional Practices and Oversight

1.4.5 Technical compliance trumps fitness for purpose

Many building practitioners focus narrowly on issues of technical compliance with the NCC and regulations while overlooking or ignoring their wider responsibility to ensure fitness for purpose on buildings. In fact, fitness for purpose is seen exclusively as the building designer/specifier’s responsibility in response to the developer or building owner’s brief, with those further along the supply chain content simply to ensure that the right boxes get ticked and the right forms submitted. Even if those in the supply chain are concerned about the fitness for purpose of the buildings they are involved with, their primary responsibility is to deliver what they have been contracted to deliver.

Appendix L: Biography of Dame Judith Hackitt DBE FREng

Dame Judith was Chair of the Health and Safety Executive from October 2007 to March 2016. She previously served as a Health and Safety Commissioner between 2002 and 2005. She was made a Dame in the 2016 New Year Honours for services to health and safety and engineering, and in particular for being a role model for young women. She was awarded a CBE in 2006.

In April 2016, she was appointed as Chair of EEF, The Manufacturers' Organisation.

Dame Judith is a chemical engineer and graduated from Imperial College in 1975. She worked in the chemicals manufacturing industry for 23 years before joining the Chemical Industries Association (CIA) in 1998. She became Director General of CIA (from 2002 to 2005) and then worked in Brussels for the European Chemical Industry Council (CEFIC).

She was elected Fellow of the Royal Academy of Engineering in July 2010 and currently chairs its External Affairs Committee. Dame Judith is a Fellow of the Institution of Chemical Engineers (IChemE) and was President of IChemE from May 2013 to May 2014.

Dame Judith is also Chair of Semta (the Science, Engineering and Manufacturing Technologies Alliance), and a non-executive director of the High Value Manufacturing Catapult.

Mapping the new building safety regulatory framework – construction and occupation of a higher-risk residential building (HRRB)

