Written submission to the Infrastructure Commission for Scotland from the Institution of Engineering and Technology (IET)

The Institution of Engineering and Technology (IET) is an international professional body with over 160,000 members which acts as a voice for the engineering and technology professions. Spanning a range of disciplines from power systems engineering to data analytics, our primary aim is to provide a global knowledge network between business, academia, governments and professional bodies, promoting ideas which enhance the positive role of science, engineering and technology for the society and the economy of the future. While the roots of IET lie in electrical engineering, IET members are multi-disciplinary but primarily create infrastructure based around electricity or data; often both.

General issues of responsibility

Q. 1.1. Do you agree/ that the new regime should go beyond Dame Judith’s recommendation and initially apply to multi-occupied residential buildings of 18 metres or more (approximately 6 storeys)? Please support your view.

Yes, we agree that the new regime should go beyond Dame Judith’s recommendation irrespective of the number of storeys. However, If the height of buildings is going to be a deciding factor we think the number of storeys below ground should also be considered.

While this extension of definition means that buildings are now brought into scope which would not normally be regarded as high-rise, the most obvious effect of the reduction in the height requirement beyond that first suggested in the Hackitt review is that there will be a large increase in the number of buildings which will fall within the new system. Although the stated intention in the consultation document is that the new regime will “apply to all multi-occupied residential buildings over 18 metres”, there is not much guidance on how the regime will apply to existing buildings.

Q. 1.2. How can we provide clarity in the regulatory framework to ensure fire safety risks are managed holistically in multi-occupied residential buildings?

The overall intention of moving away from a passive system reliant on compliance with the building regulations towards a more proactive one, where developers and building owners take responsibility for safety within a tougher regulatory framework, is welcome. However, the proposed system is complex and there are concerns that the complexity of this new regime will make it difficult to implement and oversee. While a whole systems approach
recognises the interdependency inherent in dealing with any building, it can be argued that the main issue is not just 'holistic' management of safety risks – the more important element is that the safety risks are managed by competent persons to a consistent standard. For instance, it is vitaly important that electrical installation and maintenance is always carried out competently. If this is not done, this can undermine the effectiveness of other safety measures. A programme of on-going reform which recognises interdependency issues and risk awareness, together with a new emphasis on accountability and skills development at all levels, within rigorous competency frameworks, is the way forward.

Q. 1.3. If both regimes are to continue to apply, how can they be improved to complement each other?

According to the Implementation Plan published in December 2018, the new regime outlined in the consultation document is just one element in a wide-ranging reform which will involve a review of the present Building Regulations. It is hoped that the end result of these reforms will be to lessen the differences between the two systems. Bearing in mind the intention that in future, the new regime may be extended to a wider range of multi-occupied residential buildings, there is no reason why duty holders of buildings below the height threshold should not follow the same principles and ought to be encouraged to do so.

The Home Office figures quoted in Annex B of the consultation document indicate that fire risk is considerably higher in taller apartment blocks. While this is undoubtedly true, it is also important to identify fire hazard by reference to the source of the conflagration. For instance, it is worth noting that the initial cause of the Grenfell tower fire was a faulty fridge freezer. The Fire Statistics 2017 for England, which were published in March 2017 (i.e. before the Grenfell disaster) show that fires resulting from electrical distribution and electrical appliances were around 24% of all fires and around 8% of fatalities. If the emphasis on "competence" set out in the consultation document is reflected in a renewed drive to tackle the broader issues of competence within the wider construction industry in fields such as electrical installation, the overall effect will be to drive up standards across both systems.

Q. 1.4. What are the key factors that should inform whether some or all non-residential buildings which have higher fire rates should be subject to the new regulatory arrangements during the design and construction phase? Please support your view.

This will involve an assessment of risk in each particular case. It can be argued that irrespective of whether the building is a workplace and/or a place of residence for sleeping, the fundamental issue is that the premises are occupied by human beings and therefore the safety aspects must be brought into consideration irrespective of type or use of the premises.

Q. 1.5. Linked to your answer above, which of the ‘higher-risk workplaces’ in paragraph 42 would you consider to be higher-risk during the design and construction phase?

In this respect the obvious candidates are: hospitals, care homes, colleges, universities and prisons but why is this question restricted to the design and construction phase of new build structures?
Q. 1.6. Please support your answer above, including whether there are any particular types of buildings within these broad categories that you are particularly concerned about from a fire and structural perspective?

The statement in paragraph 44 of the consultation document, referring to care homes does not ring true. It declared that care homes: “did not feature in the Home Office data analysis though due to the vulnerability of the occupants, we need further evidence on whether care homes are a type of building of concern”. It may just be a statistical anomaly but certainly in 2004, there was a case of an electrical fire in the Rosepark Care Home in Edinburgh where 14 elderly residents lost their lives. That case featured a risk assessment which was seriously flawed, no fire safety plan and no consideration of a “worst case” scenario (i.e. a fire breaking out at night).

Q. 1.7. On what basis should we determine whether some or all categories of supported/sheltered housing should be subject to the regulatory arrangements that we propose to introduce during the occupation stage? Please support your view.

One example would be instances in which the local authority must identify all locations of sheltered housing (e.g. YMCA premises used to house vulnerable people). Further, the residents' ability to take independent action in the event of a fire.

Q. 1.8. Where there are two or more persons responsible for different parts of the building under separate legislation, how should we ensure fire safety of a whole building in mixed use?

Paragraph 51 of the consultation document already deals with this point: “Where there are two or more responsible persons who share or have duties under the Fire Safety Order in respect of premises contained within the same building, the Order already imposes a duty on them to cooperate and coordinate with each other.” Thus, by implication, the Building Safety Manager and the Accountable Person need to justify to themselves that this co-operation and co-ordination exists.

Duty-holders/CDM/Planning/Processes

Q. 2.1. Do you agree that the duties set out in paragraphs 61 to 65 are the right ones?

Yes. The duties outlined in relation to the extension of CDM roles, reflect an application of health and safety principles to building safety so that the risk is owned by those who create it. Coupled with the system of gateways, which are also proposed in this consultation, the end result will be a layer-based strategy which can encourage a more safety conscious and risk aware culture.

The CDM Regulations are the best we have at the moment. Unfortunately, at present once the building is handed over, the information generally is no longer maintained, and
much is often lost. Under the proposed reforms, creating a series of empowered duty-holders within a system of enhanced accountability is a good step but the key element will be the collation and transfer of information.

Q. 2.2. Are there any additional duties which we should place on duty-holders? Please list.

The duties set out in Annex C of the consultation document set out duties in relation to the collation of information and the establishment of appropriate information management systems to do this. This collection and transfer of information is a key duty but one in which there are complaints within the CDM system as it presently functions. Two other duty holders are apparent within the new regime— the Accountable Person and the Building Safety Manager. The Accountable Person (who is generally the building owner) will often be the client in a CDM situation but could also be a developer of the building. Is there any conflict in the duties outlined for these two roles?

If the proposed changes are implemented there will need to be major education drive which points out that CDM requirements are enhanced and fully integrated within the new regime.

Q. 2.3. Do you consider that a named individual, where the duty-holder is a legal entity, should be identifiable as responsible for building safety? Please support your view.

This is an approach which is consistent with the approach advocated by Dame Judith Hackitt to have a clear and identifiable duty holder for building safety for the whole building during construction, occupation and maintenance so that there is clear accountability and responsibility at the heart of the system. Having a named individual for this role is necessary if that person is to fulfil Dame Hackitt’s declared aim of being a “day-to-day” contact for residents. It is particularly important to have a named individual in the situation where the duty-holder is a legal entity as that legal entity may have responsibility for more than one building.

Q. 2.4. Do you agree with the approach outlined in paragraph 66, that we should use Construction (Design and Management) Regulations 2015 (CDM) as a model for developing duty-holder responsibilities under building regulations? Please support your view.

Since CDM Regs have been in existence in some form since 1994, they have now reached a level of maturity. It seems an obvious choice to avoid a further set of statutory controls, to extend CDM to expressly address Fire Safety. The CDM regulations are intended to mitigate risk during the construction phase of a building. Fire Safety is a risk during construction and for personnel during maintenance operations, the extension to cover normal activities to protect the users of a building would be a rapid and effective approach.

However, the existing CDM Regulations have been criticised as being difficult to enforce and have little in the way of sanctions for under performance. It is noteworthy that the CDM Regulations 2015 do not have an accompanying ACOP unlike CDM Regulations 2007. These regulations have already evolved through several phases and are likely to do so again. For instance, the scope of CDM was significantly broadened in 2015, bringing in facilities management and maintenance activities.
In any case the most dangerous part of any building life cycle is during the occupation phase where changes to the building or lack of maintenance can result in designed-in safety features being compromised (as happened in Grenfell).

Q. 2.5. Do you agree that fire and rescue authorities should become statutory consultees for buildings in scope at the planning permission stage? If yes, how can we ensure that their views are adequately considered? If no, what alternative mechanism could be used to ensure that fire service access issues are considered before designs are finalised?

Yes, we agree that fire and rescue authorities should become consultees for buildings. One way to achieve this would be for these authorities to be able to view plans setting out structural safety and fire control measures at any early stage and for them to be notified if changes are subsequently made.

Q. 2.6. Do you agree that planning applicants must submit a Fire Statement as part of their planning application? If yes, are there other issues that it should cover? If no, please support your view including whether there are alternative ways to ensure fire service access is considered.

Yes, this document which also includes details of vehicle access and access to water supplies is crucial for planning authorities to allocate the risk attached to a proposed building. It is also in line with the general tenor of the proposals in the consultation document, towards early identification of risk.

Q. 2.7. Do you agree that fire and rescue authorities should be consulted on applications for developments within the ‘near vicinity’ of buildings in scope? If so, should the ‘near vicinity’ be defined as 50m, 100m, 150m or other. Please support your view.

The fire and rescue authorities ought to be consulted on this. High-risk adjacent premises need to be identified at an early stage in the process.

Q. 2.8. What kind of developments should be considered?
• All developments within the defined radius,
• All developments within the defined radius, with the exception of single dwellings,
• Only developments which the local planning authority considers could compromise access to the building(s) in scope,
• Other.

Schools, accommodation for vulnerable members of society, etc. Consider too the judgement of the fire and rescue authorities as well.

Q. 2.9. Should the planning applicant be given the status of a Client at gateway one? If yes, should they be responsible for the Fire Statement? Please support your view.

Yes, transparency throughout the process ought to be a goal.
Q. 2.10. Would early engagement on fire safety and structural issues with the building safety regulator prior to gateway two be useful? Please support your view.

Bearing in mind that assent will be needed on gateway one before getting to gateway two, for smaller developers in particular, it may be an issue of what costs are involved. It may help to expedite a development where speed of completion is an issue (e.g. as happens in refurbishment contracts where unexpected difficulties arise). In larger developments, is this a case where using BIM methodologies may help planning authorities in the initial stages?

Q. 2.11. Is planning permission the most appropriate mechanism for ensuring developers consider fire and structural risks before they finalise the design of their building? If not, are there alternative mechanisms to achieve this objective?

Yes, we agree planning permission, which concerns issues of land use, is the most appropriate mechanism for ensuring developers consider fire and structural risks at the outset, before they finalise the design of their building.

Q. 2.12. Do you agree that the information at paragraph 89 is the right information to require as part of gateway two? Please support your view.

The four information products outlined are a minimum requirement, but questions remain as to who “owns” the information set out in paragraph 89 and in subsequent years what right of access do residents or their representatives have to it? This is a need to clearly define the ownership and responsibility for maintaining a data set that matches the physical product at all times during construction and operation.
Q. 2.13. Are these the appropriate duty-holders to provide each form of information listed at paragraph 89?

Yes. They are the appropriate duty holders to provide this information. It must be collated and updated during the construction phase and then passed on to the Building Safety Manager.

Q. 2.14. Should the Client be required to coordinate this information (on behalf of the Principal Designer and Principal Contractor) and submit it as a package, rather than each duty-holder submit information separately?

Under CDM 2015, the designer and the contractor will co-ordinate this information for the client. The shift towards the client providing this information represents a major change and would accelerate moves towards a more “active” role for the client.

Q. 2.15. Do you agree that there should be a ‘hard stop’ where construction cannot begin without permission to proceed? Please support your view.

This would be in line with an approach within the new system which provides greater incentives and penalties for compliance and non-compliance. Particularly if the client is in control, this is logical.

Q. 2.16. Should the building safety regulator have the discretion to allow a staged approach to submitting key information in certain circumstances to avoid additional burdens? Please support your view.

This is the approach taken in Scotland so there is already a precedent.

Q. 2.17. Do you agree that it should be possible to require work carried out without approval to be pulled down or removed during inspections to check building regulations compliance? Please support your view.

This approach would be in line with taking a more robust stance on enforcement of the new regime. If provisions such as this are not in place, the new regime will be “toothless”.

Q. 2.18. Should the building safety regulator be able to prohibit building work from progressing unless non-compliant work is first remedied? Please support your view.

This approach would be in line with taking a more robust stance on enforcement of the new regime

Q. 2.19. Should the building safety regulator be required to respond to gateway two submissions within a particular timescale? If so, what is an appropriate timescale?
This will depend on circumstances.

Q. 2.20. Are there any circumstances where we might need to prescribe the building safety regulator’s ability to extend these timescales? If so, please provide examples.

The size and complexity of the project will be a determining factor in this instance. Perhaps a scaled approach may be appropriate.

Q. 2.21. Do you agree that the Principal Contractor should be required to consult the Client and Principal Designer on changes to plans?

Yes, we agree that the Principal Contractor should be required to consult the Client and Principal Designer on changes to plans.

Q. 2.22. Do you agree that the Principal Contractor should notify the building safety regulator of proposed major changes that could compromise fire and structural safety for approval before carrying out the relevant work?

Yes, we agree that the Principal Contractor should notify the Building Safety Regulator of proposed major changes that could compromise fire and structural safety for approval before carrying out the relevant work.

Q. 2.23. What definitions could we use for major or minor changes?
• Any design change that would impact on the fire strategy or structural design of the building;
• Changes in use, for all or part of the building;
• Changes in the number of storeys, number of units, or number of staircase cores (including provision of fire-fighting lifts);
• Changes to the lines of fire compartmentation (or to the construction used to achieve fire compartmentation);
• Variations from the design standards being used;
• Changes to the active/passive fire systems in the building;
• Other – please specify.

This is an issue for construction professionals and fire authorities. Whether an issue is deemed major or minor may affect provisions in relation to time-scales.

Q. 2.24. Should the building safety regulator be required to respond to notifications of major changes proposed by the duty-holder during the construction phase within a particular timescale? If yes, what is an appropriate timescale?

This will depend on circumstances.
Q. 2.25. What are the circumstances where the Government might need to prescribe the building safety regulator’s ability to extend these timescales?

This will depend on circumstances, particularly the size and complexity of a project, but cannot compromise building safety.

Q. 2.26. Do you agree that a final declaration should be produced by the Principal Contractor with the Principal Designer to confirm that the building complies with building regulations? Please support your view.

Yes, we agree that a final declaration should be produced by the Principal Contractor with the Principal Designer to confirm that the building complies with building regulations. They are taking ownership of the risk. This removes the onus from the client to prepare the declaration, but once delivered places a clear responsibility on the owner going forward.

Q. 2.27. Should the building safety regulator be required to respond to gateway three submissions within a particular timescale? If so, what is an appropriate timescale?

No comment

Q. 2.28. Are there any circumstances where we might need to prescribe the building safety regulator’s ability to extend these timescales? If so, please support your view with examples.

No comment

Q. 2.29. Do you agree that the accountable person must apply to register and meet additional requirements (if necessary) before occupation of the building can commence? Please support your view.

Yes. This is in line with recommendations to provide for clearer responsibility and accountability.

Q. 2.30. Should it be an offence for the accountable person to allow a building to be occupied before they have been granted a registration for that building? Please support your view.
This approach would be in line with taking a more robust stance on enforcement of the new regime

Q. 2.31. Do you agree that under certain circumstances partial occupation should be allowed? If yes, please support your view with examples of where you think partial occupation should be permitted.

Yes, but with appropriate safeguards.

Q. 2.32. Do you agree with the proposal for refurbished buildings? Please support your view

Yes. Buildings undergoing significant refurbishment (i.e. anything requiring planning permission) ought to be treated effectively in the same way as new buildings, with the process starting at Gateway One.

Q. 2.33. Do you agree with the approach to transitional arrangements for gateways? If not, please support your view or suggest a better approach?

The timetable outlined in paragraph 107 seems to be fair.

Safety

Q. 3.1. Do you agree that a safety case should be subject to scrutiny by the building safety regulator before a building safety certificate is issued? Please support your view.

Yes. This is an important safeguard before approval is given for the building to be occupied. However, we must consider the difficulties of gathering information for the safety case in relation to existing buildings. Often the data record is patchy, (e.g. missing documents required to demonstrate compliance with Advice Note 14 (AN14). Also, ‘as built’ drawings are not always a true reflection of final installation.

Q. 3.2. Do you agree with our proposed content for safety cases? If not, what other information should be included in the safety case?

As well as an assessment of “associated risks and hazards” it is important to consider other wider issues, for example the location and size/capacity of various utility services. Particularly in a multi-occupancy buildings issues such as: where the gas and electricity mains are situated; where are they supplied from and; the location of emergency turn-off valves are important. All safety critical systems have considerable interfaces and interactions with the wider system(s) in which they exist. Therefore, the safety case content should include the identification and management of interfaces and interface issues. In relation to additional information, particularly for older buildings, if there is any information on asbestos, it should be included.
In addition to the physical audit of facilities a safety management system must include proper information flows and an agreed prioritisation process to deal with evidence of defects. The safety case should clearly identify any modifications made to the building or services within the building during the previous 5 years. There should also be a review of currently applicable Standards and any areas where there is non-compliance for historic reasons and whether this is a tolerable risk. A well written Safety Case, with good level of compliance and a commitment to good maintenance and record-keeping can help to demonstrate competence.

More guidance is needed on the content of the safety case, to clearly specify what is required as a minimum. It can also be argued that a template may be useful, not least for the those who have to access compliance.

Buildings are owned and managed in different ways. Managing agents, for instance, are not always in control of all aspects of a development. A safety case can reinforce the need to inform and take account of all aspects of safety in a building. The necessity to submit proposals for review is thus an important safeguard. On a broader note, this consultation exercise is a “once in a generation” chance to get things right.

Q. 3.3. Do you agree that this is a reasonable approach for assessing the risks on an ongoing basis? If not, please support your view or suggest a better approach.

Yes, a safety case is a “living” document, which requires updating as circumstances and changes occur. Importantly, the systemic effects of proposed changes need to be assessed for any change to the risk profile. In the case of well managed buildings with good record keeping and management processes then a five-yearly review (where there have been no significant changes) seems reasonable.

Q. 3.4. Which options should we explore, and why, to mitigate the costs to residents of crucial safety works?

Any changes to the leasehold reform embracing aspects such as the provision of a sinking fund will have a significant effect. The development of the notion of “commonhold” offers interesting possibilities.

Q. 3.5. Do you agree with the proposed approach in identifying the accountable person? Please support your view.

This seems a reasonable approach.

Q. 3.6. Are there specific examples of building ownership and management arrangements where it might be difficult to apply the concept of an accountable person? If yes, please provide examples of such arrangements and how these difficulties could be overcome.

The creation of Special Purpose Vehicles created under the PFI schemes are an example of practices which could be radically changed under the proposed new system. Another possibility might be a building with ‘social housing residents’ which also includes private residents / landlords and tenants (e.g. if the local authority decided at some future date to sell off part of the property). Any tenancy agreement or deeds should therefore, refer to the ‘accountable person’. Not all these arrangements, however, may be “above board”. The sub-letting of properties and arrangements such as Airbnb are examples of
practices which also need to be considered. While these practices will generally be a breach of lease conditions, these situations present practical difficulties for both the accountable person and the building safety manager.

Q. 3.7. Do you agree that the accountable person requirement should be introduced for existing residential buildings as well as for new residential buildings? Please support your view.

The risks may be greater in existing buildings. Therefore, it is important that this regulation applies to all buildings within scope subject to a reasonable transition period and the introduction of modifications “as far as reasonably practical”. The objective must be to endeavour to create a unitary system as far as possible while allowing for the challenges in relation to both the physical fabric of the structure and also in relation to both poor original record-keeping and a lack of knowledge of past refurbishment which can be encountered in existing buildings.

Q. 3.8. Do you agree that only the building safety regulator should be able to transfer the building safety certificate from one person/entity to another? Please support your view.

Yes. The BSR is a “fit and proper person” to do this task and will impartially judge the transfer. It should only be a short “hiccup” in any conveyancing process.

Q. 3.9. Do you agree with the proposed duties and functions of the building safety manager? Please support your view.

Yes, but the role as set out in the consultation document appears to be a “safety manager with a clip-board”. The person needs an intimate knowledge of the building and the building services. He/she needs to be competent for that role, not just a caretaker but also possessing good communication skills.

Q. 3.10. Do you agree with the suitability requirements of the building safety manager? Please support your view.

Yes to some extent, this may depend on the size and complexity of the building. In practice the person at “ground level” will be a building safety liaison officer who will act as a co-ordinator while the person named as the Building Safety Manager may in fact be an organisation, although a named person has to be identified and contact details available.

Q. 3.11. Is the proposed relationship between the accountable person and the building safety manager sufficiently clear? Please support your view.

Yes, provided competency requirements are met.

Q. 3.12. Do you agree with the circumstances outlined in which the building safety regulator must appoint a building safety manager for a building? Please support your view.

As a default position, this logical but not ideal.
Q. 3.13. Do you think there are any other circumstances in which the building safety regulator must appoint a building safety manager for a building? Please support your view with examples.

No comment

Q. 3.14. Under those circumstances, how long do you think a building safety manager should be appointed for?

A minimum 6 months probationary period followed by 12-month contracts, as a temporary measure.

Q. 3.15. Under what circumstances should the appointment be ended?

Perhaps if there are problems in any probation period, questions arising from competence or a conflict of interests.

Q. 3.16. Under those circumstances, how do you think the costs of the building safety manager should be met? Please support your view.

The accountable person is responsible for the reasonable costs of employing a suitable building safety manager plus an administration fee if appointed by the building safety regulator, in extremis.

Q. 3.17. Do you agree that this registration scheme involving the issue of a building safety certificate is an effective way to provide this assurance and transparency? If not, please support your view and explain what other approach may be more effective.

Yes

Q. 3.18. Do you agree with the principles set out in paragraphs 180 and 181 for the process of applying for and obtaining registration?

Yes, this is logical although no appeal process is outlined.

Q. 3.19. Do you agree with the suggested approach in paragraph 183, that the building safety certificate should apply to the whole building? Please support your view.

Yes. We endorse the whole building approach, but in the interests of safety it is often necessary to look beyond the building itself and consider the occupation of adjacent land and properties. There have been several tragic accidents where a high-risk adjacent premise was only discovered after the event. Such high-risk premises can include schools, accommodation for vulnerable members of society, etc.
Q. 3.20. Do you agree with the types of conditions that could be attached to the building safety certificate? Please support your view.

Yes

Q. 3.21. Do you agree with the proposals outlined for the duration of building safety certificates? If not, please support your view.

Yes, this is logical.

Q. 3.22. Do you agree with the proposed circumstances under which the building safety regulator may decide to review the certificate? If not, what evidential threshold should trigger a review?

Yes, but other circumstances which might trigger a review could include: a ‘significant’ change in use or material alteration of the building or; any ‘significant’ disruption to the enjoyment of the building either by residents or third parties.

Building Information Management

Q. 4.1. Should the Government mandate Building Information Modelling (BIM) standards for any of the following types and stages of buildings in scope of the new system?

a) New buildings in the design and construction stage, please support your view.

This is a good opportunity to mandate the adoption of BIM methodologies which will offer significant long-term benefits for record-keeping purposes and in understanding the invisible fabric behind every building. Once mandated, the economies of scale kick in with a more widespread adoption of BIM.

BIM, which is effectively the digitalisation of the construction design, offers productivity improvements at two stages: in Procurement and: in Operations and Maintenance. Mandating BIM will ensure that there is confidence in establishing and maintaining the ‘golden thread’ of information. For BIM to be effective, the requirements of the building in use must be understood and included as part of the Briefing process. BIM can be a powerful tool in operating a building efficiently and safely, but this is only possible if the BIM model is kept up to date.

Practical issues such as who actually owns the BIM model; where is it stored; who is responsible for updating it and; who is responsible for underwriting the risks in producing and updating this document are all pertinent issues. Should the BIM model be in the custody of the Building Safety Manager? Should there be provision to withhold information within a BIM which might have security implications? BIM is a new collaborative system which does not fit neatly into the existing legal frameworks. The opportunity now exists to drive forward the development of ‘the golden thread of information’.
b) **New buildings in the occupation stage, please support your view.**

The Operation and Maintenance stage of any constructed asset lasts much longer than the construction phases. Properly maintained and updated, the BIM model can deliver far greater performance gains over the life of an asset than if its use is merely restricted to the construction period. Without knowing and understanding the components of construction, each time maintenance is required, research/investigations must be undertaken. This is time-consuming and wasteful.

The fire and rescue services might also find that a BIM model is useful for them in their work. The logical development of BIM is a network of sensors which underpin the technology known as the Internet of Things. If fire crews had access to information from sensors which could alert them instantaneously as to the location of humans within buildings, this would be a valuable tool for the rescue services.

c) **Existing buildings in the occupation stage, please support your view.**

Current estimates are that in 30 years' time, 80% of housing at that time, already exists. Current housing targets will only add around 1.2% to the housing stock annually. There is a considerable logical argument in applying the BIM process to the existing high-rise housing stock but there are practical and cost considerations. How for instance, would the associated costs be funded? Would the ‘accountable person’ be responsible for the cost or would this be shared between leaseholders, insurers, accountable persons, perhaps with some incentives from Government? Perhaps some sort of “BIM-light” model might be appropriate? Maybe a staged BIM approach for existing stock with early stages covering electrical installation and other vital services might be considered. Discussions with the insurance industry could be fruitful in establishing incentives for this to occur.

**Q. 4.2. Are there any standards or protocols other than Building Information Modelling (BIM) that Government should consider for the golden thread? Please support your view.**

Some electrical installation standards already require periodic inspection and testing. Records of these tests and inspections should be part of the "golden thread". Electrical installation standards including those for lift installation (covered by BS 5655 and BS EN 81) have also to be considered. So too, do lightning protection systems for buildings (BS EN 62305). The golden thread should remain sufficiently flexible to accommodate changes in data requirements that arise from changes in standards & protocols.

**Q. 4.3. Are there other areas of information that should be included in the key dataset in order to ensure its purpose is met? Please support your view.**

Ideally, the dataset should extend beyond fire safety to include information on energy performance (heat loss, ventilation), but to be effective should cover all aspects that will improve the operation and management of the building. The dataset should become the only point of reference for understanding the construction, operation and recycling at demolition, requirements of a building.

Data from smart and connected technology, typically IOT devices that might be part of the hard-wired Building Management System (BMS) or owned by occupiers should not be
excluded from the scope of the data set. The issues of GDPR and interoperability are significant but might be circumvented to provide data valuable to duty holders and residents in terms of safety and sustainability.

Q. 4.4. Do you agree that the key dataset for all buildings in scope should be made open and publicly available? If not, please support your view.

Under existing practice, information required for Building Regulations Approval, remains confidential. Since one of the gateway points proposed is at Planning Application stage, when information on a building is held in the public domain these two different positions need to be reconciled. Some information which might be included in a BIM model will be sensitive and will need to be withheld. The format and display of data is also important in ensuring effective transparency.

Q. 4.5. Do you agree with the proposals relating to the availability and accessibility of the golden thread? If not, please support your view.

BIM datasets by definition include a considerable quantity of data that would not enhance the information for residents or the general public but is essential for a building asset/facility manager.

Q. 4.6. Is there any additional information, besides that required at the gateway points, that should be included in the golden thread in the design and construction stage? If yes, please provide detail on the additional information you think should be included.

A full BIM dataset should include all the information required for the operation & maintenance for the lifecycle of the building.

Q. 4.7. Are there any specific aspects of handover of digital building information that are currently unclear and that could be facilitated by clearer guidance? If yes, please provide details on the additional information you think should be clearer.

Until the safety regime is fully articulated, this will remain an open question. Fuller guidance will be required as assets are released at handover. All guidance is subject to interpretation, even when the process is prescriptive.

Q. 4.8. Is there any additional information that should make up the golden thread in occupation? If yes, please provide detail on the additional information you think should be included.

Risks associated with evacuation or rescue of occupants cannot be assessed without some basic knowledge of “who” is “where”. In relation to electrical installation, reports giving the results of periodic inspections will be useful as will those concerning lightning protection systems and lift installations.
Q. 4.9. Do you agree that the Client, Principal Designer, Principal Contractor, and accountable person during occupation should have a responsibility to establish reporting systems and report occurrences to the building safety regulator? If not, please support your view.

This should be standardised on a national basis to allow proper comparison and sharing of better practice between equivalent operators.

Q. 4.10. Do you think a ‘just culture’ is necessary for an effective system of mandatory occurrence reporting? If yes, what do you think (i) Industry (ii) Government can do to help cultivate a ‘just culture’? Please support your view.

A safe reporting scheme, that side steps internal reporting from the outset should exist.

Q. 4.11. Do you agree that, where an occurrence has been identified, duty-holders must report this to the building safety regulator within 72 hours? If not, what should the timeframe for reporting to the building safety regulator be?

Is there any reason for the reporting of an occurrence not to be reported automatically, without the need of human intervention?

Q. 4.12. Do you agree that the scope of mandatory occurrence reporting should cover fire and structural safety concerns? If not, are there any other concerns that should be included over the longer term?

The scope should be reviewed on a recurring basis to reflect changing circumstances, minimum of five-yearly intervals, possible annually as is the case for some periodic electrical testing.

Q. 4.13. Do you agree that mandatory occurrence reporting should be based on the categories of fire and structural safety concern reports identified in the prescriptive list in paragraph 222? Please support your view.

There is an intrinsic weakness in prescriptive lists; if an item is not included then human nature is to not look at the wider issues and include other items or factors. The responsibility of including items at any stage should remain within the discretion and responsibility of the relevant duty holder at that stage, with ultimate responsibility lying with the Client/Building Owner.

Q. 4.14. Do you have any suggestions for additional categories? Please list and support your view.

Refer to comments to Q. 4.13.
Q. 4.15. Do you think the proposed system of mandatory occurrence reporting will work during the design stage of a building? If yes, please provide suggestions of occurrences that could be reported during the design stage of a building.

Yes, but this is work that should occur anyway as part of the usual collaborative design process. BIM methodology uses 'clash control' systems to identify potential engineering design problems, so in a similar way clash control for building safety management is recommended.

Q. 4.16. Do you agree that the building safety regulator should be made a prescribed person under Public Interest Disclosure Act 1998 (PIDA)? If not, please support your view.

Yes. The PIDA legislation protects workers from victimisation by their employer when making disclosures in the public interest and is more commonly known as "whistleblowing protection". It is noteworthy that the current CDM Regulations do not provide protection for whistleblowers.

Q. 4.17. Do you agree that the enhanced competence requirements for these key roles should be developed and maintained through a national framework, for example as a new British Standard or PAS? Please support your view.

The enhanced competence requirements for all participants should be treated as core CPD for all the professionals involved. Since Architects are the only Statutory regulated construction profession, this will create a separate problem, which could be rectified by the amendment to relevant regulations. There is no particular reason that non-Architects should be excluded from a Statutory Register, so long as they can demonstrated the required competencies and undertake CPD regularly.

It is hoped that the enhanced competence requirements for these key roles should be developed and maintained through a national framework, for example as a new British Standard or PAS. We also support the competence requirements of other roles within the electrical installation industry.

Q. 4.18. Should one of the building safety regulator’s statutory objectives be framed to ‘promote building safety and the safety of persons in and around the building’? Please support your view.

If a central aim of the proposed reforms outlined by Dame Judith Hackitt, is to promote a new culture within building safety and management, this will be an important aspect of the new body. This role should also be delivered by the construction professional institutes as part of their Chartered status.

Q. 4.19. Should duty-holders throughout the building life cycle be under a general duty to promote building safety and the safety of persons in and around the building? Please support your view.
Yes, they are the first port of call in relation to building safety so they have this responsibility.

Q. 4.20. Should we apply duty-holder roles and the responsibility for compliance with building regulations to all building work or to some other subset of building work? Please support your view.

CDM compliance is often viewed as a separate activity undertaken by design team members with greater expertise than others. Despite the intention by HSE to focus attention during design stages on the Principal Designer who is a Designer (rather than an observer of others), the tendency persists for some companies and individuals whose contribution is to vet other people’s activities, rather than actually design.

The Building Regulations gateway for Fire Safety assessments becomes the critical point and changes to design, either in form or content should not be after Building Regulations validation and approval.

*Communication with residents* -

Q. 5.1. Do you agree that the list of information in paragraph 253 should be proactively provided to residents? If not, should different information be provided, or if you have a view on the best format, please provide examples.

Yes, this list is useful, but residents also need to be warned that electrical equipment needs to be purchased from reputable sources. Within an individual dwelling, the importance of employing competent qualified tradesmen also needs to be stressed. This is particularly vital in relation to electrical installation. In this respect, building safety managers should consider informing residents about schemes such as the Registered Competent Person (electrical) scheme - under which individual competence has been peer assessed and CPD recorded.

Once a building is occupied, lack of control in terms of what goes on behind the front door is an important aspect to be considered in any drive to improve building safety. Currently, there is no legal basis to act. Trading standards have a role to play in restricting goods such as mobile adapters (which can catch fire). Providing information on fire alarms etc. needs to be backed up by enforcement. At the moment environmental health officers are loath to exercise powers which they already have!

Q. 5.2. Do you agree with the approach proposed for the culture of openness and exemptions to the openness of building information to residents? If not, do you think different information should be provided? Please provide examples.

Yes

Q. 5.3. Should a nominated person who is a non-resident be able to request information on behalf of a vulnerable person who lives there? If you answered Yes, who should that nominated person be?

a) Relative,
b) Carer,
c) Person with Lasting Power of Attorney,
d) Court-appointed Deputy,
e) Other (please specify).

No comment

Q. 5.4. Do you agree with the proposed set of requirements for the management summary? Please support your view.

These requirements seem reasonable but it is also important that they are presented in a form which is easily understandable.

Q. 5.5. Do you agree with the proposed set of requirements for the engagement plan? Please support your view.

No comment

Q. 5.6. Do you think there should be a new requirement on residents of buildings in scope to co-operate with the accountable person (and the building safety manager) to allow them to fulfil their duties in the new regime? Please support your view.

No comment

Q. 5.7. What specific requirements, if any, do you think would be appropriate? Please support your view.

No comment

Q. 5.8. If a new requirement for residents to co-operate with the accountable person and/or building safety manager was introduced, do you think safeguards would be needed to protect residents' rights? If yes, what do you think these safeguards could include?

No comment

Q. 5.9. Do you agree with the proposed requirements for the accountable person's internal process for raising safety concerns? Please support your view.

No comment

Q. 5.10. Do you agree to our proposal for an escalation route for fire and structural safety concerns that accountable persons have not resolved via their internal process? If not, how should unresolved concerns be escalated and actioned quickly and effectively?

No comment
Q. 5.11. Do you agree that there should be a duty to cooperate as set out in paragraph 290 to support the system of escalation and redress? If yes, please provide your views on how it might work. If no, please let us know what steps would work to make sure that different parts of the system work well together.

No comment

Regulatory systems

Q. 6.1. Should the periodic review of the regulatory system be carried out every five years/less frequently? If less frequently, please provide an alternative time-frame and support your view.

Yes we agree with a five year period.

Q. 6.2. Do you agree that regulatory and oversight functions at paragraph 315 are the right functions for a new building safety regulator to undertake to enable us to achieve our aim of ensuring buildings are safe? If not, please support your view on what changes should be made.

The scope of work outlined is huge. In addition to maintaining a register of buildings and an inspection regime, one of the tasks outlined is that the building safety regulator oversees “competence of professions and trades working on buildings”. As it would not be possible to confine this task to overseeing tradespeople working on taller residential buildings; how would such a task be accomplished? What would be the contribution of existing professional bodies?

The concern will be how the new regulator will be resourced? There is both a resource and competence challenge.

Is the idea of having the BSR as a regulatory body as also service delivery body a good one? It may be better to have the BSR purely as an enforcement body (compare the HSE).

Embedding fire safety management principles within training for professional bodies in the construction and building management disciplines needs to be encouraged.

Q. 6.3. Do you agree that some or all of the national building safety regulator functions should be delivered ahead of legislation, either by the Joint Regulators Group or by an existing national regulator? Please support your view.

The detail of the new system and how it will be funded is still very sketchy. This is a process which will take years before the new processes are fully in place. It may be useful to have some pilot testing of the proposed new system in advance.

Competence issues
Q. 7.1. Government agrees with the Competence Steering Group’s recommendations for an overarching competence framework, formalised as part of a suite of national standards (e.g. British Standard or PAS). Do you agree with this proposal? Please support your view.

We support competence backed up by standards (e.g. Electrotechnical assessment specification). Those industries with a significant safety risk, especially those in a Safety Case Regime, identify the need for those making decisions which could affect safety (positively and negatively) as being assessed as “suitably qualified and experienced personnel” (SQEP) to make those decisions. Having a formalised common framework which both sets out the threshold standard(s) for SQEP (or similar) for particular roles, and the processes for rigorous, repeatable competence assessment would be a positive step.

The Engineering Council already has a UK Standard for Professional Engineering Competence (UK-SPEC) which sets out the competence and commitment required for registration as an Engineering Technician (EngTech), Incorporated Engineer (IEng) or Chartered Engineer (CEng). It also includes examples of activities that demonstrate the required competence and commitment. A version of this UK Spec which takes into account the particular characteristics of residential high rise buildings within the scope of the new regime could be developed to meet the requirements of the new regime.

Q. 7.2. Government agrees with the Competence Steering Group’s recommendations for establishing an industry-led committee to drive competence. Do you agree with this proposal? Please support your view.

Yes, as determined by the sub-panel, a committee drawn from relevant industry bodies, independent experts, building owners and residents representatives, supported by those existing bodies (Royal Academy of Engineering, Engineering Council, Engineering UK, and representatives of relevant Professional Engineering Institutions) would provide a good body for the oversight of competence development.

Q. 7.3. Do you agree with the proposed functions of the committee that are set out in paragraph 331? Please support your view.

Yes, for the committee responsible for driving competence requirements to have the appropriate executive ability it needs to have a clear set of functions and those set out in para 333 are a good start point (but not necessarily a complete and comprehensive list)

Q. 7.4. Do you agree that there should be an interim committee to take forward this work as described in paragraph 332? If so, who should establish the committee? Please support your view.

Yes. An interim committee (or similar) needs to be put in place with the authority to make clear and definitive progress, so that it is clear this committee is a working, task-oriented committee, not a talking shop. Government could establish this committee, providing it was clear that its role was in the establishment of the committee, not its ongoing functions
Construction products issues regulation of construction products and oversight of building regulations

Q. 8.1. Do you agree with the approach of an ‘inventory list’ to identify relevant construction products to be captured by the proposed new regulatory regime? Please support your view.

No comment

Q. 8.2. Do you agree that an ‘inventory list’ should begin with including those constructions products with standards advised in Approved Documents? Please support your view.

No comment

Q. 8.3. Are there any other specific construction products that should be included in the ‘inventory list’? Please list.

No comment

Q. 8.4. Do you agree with the proposed approach to requirements for construction products caught within the new regulatory regime? Please support your view.

No comment

Q. 8.5. Are there further requirements you think should be included? If yes, please provide examples.

No comment

Q. 8.6. Do you agree with the proposed functions of a national regulator for construction products? Please support your view.

Yes - strengthening oversight of construction products is an integral part of an enhanced enforcement regime.

Q. 8.7. Do you agree construction product regulators have a role in ensuring modern methods of construction meet required standards? Please support your view.

Construction Product regulators should carry out and evidence the performance of ‘smart techniques’ to no lesser extent than that performed for traditional methods. This should
include ensuring guidance is in place for entities such as Building Control to be able to properly assess any outcomes from smart techniques or smart products.

Q. 8.8. Do you agree that construction product regulators have a role in ensuring modern methods of construction are used safely? Please support your view.

No comment

Q. 8.9. Do you agree with the powers and duties set out in paragraph 350 to be taken forward by a national regulator for construction products? Please support your view.

No comment

Q. 8.10. Are there other requirements for the umbrella minimum standard that should be considered? If yes, please support your view.

No comment

Q. 8.11. Do you agree with the proposed requirements in paragraph 354 for the umbrella minimum standard? If not, what challenges are associated with them?

No comment

Q. 8.12. Do you agree with the proposal for the recognition of third-party certification schemes in building regulations? Please support your view.

No comment

Q. 8.13. Do you agree that third-party schemes should have minimum standards? Please support your view.

No comment

No comment

Q. 8.15. Are there challenges to third-party schemes having minimum standards? Please support your view.

No comment

Criminal offences and sanctions

Q. 9.1. Do you agree with the principles set out in the three-step process above as an effective method for addressing non-compliance by duty-holders/accountable persons within the new system?

This sets out a range of measures which will help the new office of building safety regulator. The efficacy of the new regulator will depend on the size and scope of this body and whether it is adequately funded.

Q. 9.2. Do you agree we should introduce criminal offences for:
(i) an accountable person failing to register a building;
(ii) an accountable person or building safety manager failing to comply with building safety conditions; and
(iii) duty-holders carrying out work without the necessary gateway permission?

The Hackitt review found that under the current system, it is not always clear who is responsible for keeping the building safe. The creation of the notion of an “accountable person” (who in most cases will be the building owner) and the imposition of clear responsibilities on “duty-holders” goes some way towards filling this responsibility vacuum but without the clear trail of documentary evidence backed by an oversight system and adequate sanctions the new regime may encounter problems. In particular under the new system, there should not be a repeat of the issues which have arisen in relation to corporate liability which have occurred under the Corporate Manslaughter and Corporate Homicide Act 2007; legislation which has produced very few successful prosecutions to date. Commenters on this legislation have highlighted the issue of assigning individual liability under section 18 of that Act as a central weakness in that regime.

Q. 9.3. Do you agree that the sanctions regime under Constructions Products Regulations SI 2013 should be applied to a broader range of products? Please support your view.

Strengthening oversight of construction products is an integral part of an enhanced enforcement regime within the field of building safety.
Q. 9.4. Do you agree that an enhanced civil penalty regime should be available under the new building safety regulatory framework to address non-compliance with building safety requirements as a potential alternative to criminal prosecution? Please support your view.

As civil litigation has a lower standard of proof, in contrast to criminal prosecution, it may offer an easier avenue for achieving redress.

Q. 9.5. Do you agree that formal enforcement powers to correct non-compliant work should start from the time the serious defect was discovered? Please support your view.

This would be the most practical option.

Q. 9.6. Do you agree that we should extend the limits in the Building Act 1984 for taking enforcement action (including prosecution)? If agree, should the limits be six or ten years?

While a period of six years would be in line with the Limitations Act 1980, the extension to ten years would be typical for building warranties. The longer period would be more suitable as latent defect may take that time to emerge.