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Dame Judith Hackitt
Independent Review of Building Regulations and Fire Safety
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Dear Dame Judith

Thank you for the opportunity to meet with you on 4th September to outline the views of the Fire Sector Federation. Following our submission on 12th September, please find below our detailed response in accordance with your Call for Evidence.

The Fire Sector Federation (FSF) brings together 69 organisations within the UK's fire industry. Its membership includes Fire and Rescue Services, the fire industry sector (involving representative trade associations and companies providing active and passive fire protection products), building control, global insurers and the organisations representing building occupiers, including National Social Housing Fire Strategy Group.

The FSF serves to give a voice to this broad membership, which has collectively campaigned for scrutiny of fire safety for a number of years. The FSF wishes to be proactive in providing support to the Independent Review of the Building Regulations and Fire Safety.

The evidence and recommendations supplied have been gathered from submissions and discussion with FSF member organisations. A representative Steering Group was established to pull together the formal submission. The recommendations have been discussed and approved at the organisation's Forum meeting on 10 October.

The FSF wants to ensure that fire safety regulation is relevant to today's buildings and will ensure the provision of buildings that will be safe and sustainable for the future. The FSF believes there are gaps in the current system of fire safety control, regulation and enforcement regime across the built environment in England. It is within these gaps that issues have arisen leading to failures within the current system to deliver fire safe buildings. As a consequence, the Federation believes this systemic failure requires a fundamental review and consideration of a new national approach to protect the built environment.

The FSF recommends that the Regulatory Review must be wide-ranging based on an assessment of the real costs of fire (life safety, economic, societal and environmental impacts), anticipated demographic changes, ongoing developments in building products and techniques, changes to Fire and Rescue Services and evolving expectations that buildings should be able to survive fire incidents.

The Federation also questions whether risk assessment and self-compliance is compatible with the lightly regulated construction industry. It believes that improvements to fire safety can only be achieved by defining relevant competencies for the key roles that can be identified along the design, specification, supply and construction chain through to building occupation, including for risk assessment and enforcement. Similarly, benchmarks and standards for key fire safety concepts must be defined, including the combustibility concept and associated product and system testing.

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Fire safety is the remit of a wide range of professionals across the built environment and the FSF recommends the creation of a National Fire Safety Agency that can address fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Such an Agency could define the necessary standards and competencies, highlight necessary research; review test procedures and definitions; oversee enforcement and the necessary competencies and audit procedures of the enforcement agencies; and benchmark and monitor fire strategies, providing the public with access to information for the buildings in which they live and work. Such an Agency could also offer arbitration services where disputes arise, allowing appeals where necessary; as well as publishing the results of inspections/audits.

By operating at arm's length from central and local Government and Ministers, a National Fire Safety Agency would bring a more independent approach to fire safety divorced from party politics and help to protect public sector fire safety resource from being diverted elsewhere.

Attached are some further documents as evidence in addition to the submissions previously made. This includes an interim report from a survey conducted during the summer by the FSF in conjunction with NBS to investigate views on Approved Document B.

The FSF has responded to the questions you outlined with commentary and recommendations for going forward, and outlines its key recommendations below.

We would be happy to facilitate further discussion for any key themes identified from the review and can offer consultation to gain detailed feedback from relevant sectors if the wider scope/timeline allows.

Yours sincerely



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FSF key recommendations

1. Introduce a greater element of building resilience into the core regulatory guidance (which at the same time will provide higher levels of protection for those who cannot easily escape).
2. Review current guidance and assess how it can better reflect the risk profile of today's urban built environment, with the objective of developing select new guides for particular risk categories (e.g. tall residential buildings).
3. Provide better correlation between the different elements of building regulations, to ensure that the implications of developments in one functional objective do not compromise fire safety objectives. For example, between AD B and AD L (energy), and between AD B and AD M (ease of access).
4. Introduce a definition of the core competency criteria expectations as separate guidance backing the regulatory guidance for fire safety, specifically and individually for the key roles that can be identified along the design, specification, supply and construction chain through to building occupation including enforcement and risk assessment.
5. Commission a complete review of the combustibility concept and associated product and system testing, which should include a better consideration of not just ignition and surface spread of flame but also the overall ability of a material used in construction to sustain fire.
6. Introduce a formal requirement under regulatory revisions placing an obligation on those introducing design, product and building system innovations which depart significantly from current practice, to demonstrate that the development will at least not compromise fire safety and that it will meet the functional requirements of building regulations for fire.
7. Develop new guidelines and guidance on what to do on refurbishment and modernisation for those works that fall outside of AD B new build guidance. This should advise, on a practical basis, how older buildings can be better brought up-to-date with the latest best practice fire safety and property protection provisions on a suitable, sufficient and appropriate basis. Consider that upgrades and changes outside major change should cover adaption and use of buildings.
8. Provide stronger support in the regulatory guidance to the wider application of third party certification schemes for products, systems, and installation for better controls and minimum assurances on levels and consistency of fire performance, including fire resistance, reaction to fire, ability to sustain fire and load-bearing capability.
9. Introduce regulatory provisions for the better assignment of responsibility and accountability at key points in the chain through to building handover, on the basis that responsibility for risks should be better assigned to those who create the risks potentially. For example, introduce requirements for formal sign off of the design, the specification, sub-contractor completion of individual elements, the completion by the main contractor on handover to the owner (including recognition of Regulation 38).

10. Revise AD B and new guidance to remove ambiguity, ensure clarity, and improve that guidance is more user friendly given that there is now such a wide spread of different possible user groups.
11. Ensure that there is within the regulatory guidance a stronger requirement, as a regulatory obligation, for involvement of the Fire and Rescue Service in the design process through to finalisation of the design, to ensure that the planned provisions are consistent with local firefighting policies and provisions. It should be a requirement under the regulations to ensure that there is a statement of implications for firefighting actions in the completion documents for the design.
12. Define key benchmarks and standards for key fire safety concepts, including the combustibility concept and associated product and system testing; what constitutes a 'suitable and sufficient' fire risk assessment etc .
13. Create a National Fire Safety Agency that can address this fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

The overarching legal requirements

Q1 To what extent are the current building, housing and fire safety legislation and associated guidance clear and understood by those who need to follow them? In particular:

- **What parts are clear and well understood by those who need to follow them?;**

and, if appropriate

- **Where specifically do you think there are gaps, inconsistencies and/or overlaps (including between different parts of the legislation and guidance)? What changes would be necessary to address these and what are the benefits of doing so?**

The Federation has long been campaigning for a revision and update of AD B, primarily to remove ambiguity, provide better clarity where needed and to suggest areas where additions are advisable to better reflect the current risks in the built environment.

The FSF's Built Environment Issues and Affairs Workstream has undertaken a great deal of work to examine the guidance contained within AD B to the Building Regulations, including a review of the language and areas of *ambiguity*. It has also undertaken a number of surveys of key fire sector and construction professionals to gather a complete industry opinion of the Building Regulations and its supporting guidance and to demonstrate the strong support from these professionals for a review.

The FSF's most recent survey, conducted this summer in conjunction with NBS, highlights that the vast majority of respondents believe that Part B could be improved, with 77% saying it is partly fit for purpose and 17% that it falls a long way short of the mark.

Almost all respondents (96%) think that DCLG should carry out a review of Building Regulations Approved Document B (Figure 2). Almost two-thirds of respondents (63%) thought DCLG should review Part B of Schedule 1 to the Building Regulations as well as Approved Document B.

AD B is open to misinterpretation and lack of precision in application. Its use requires a certain level of knowledge and understanding. Yet there are no defined competencies for the use of the document and its guidance, despite the range of user groups having increased as the built environment has become more congested, more complex and demanding.

Some of the fundamental elements are not scientifically based this should be included in the review. For example, height criteria based on fire service equipment, retail compartment sizes based on floor area and not volume. Furthermore, guidance supporting other parts of the building regulations including cost effectiveness and greater energy efficiency can compromise fire safety objectives.

The Regulations also need to clarify when they should be retrospective. In particular it should consider whether there should be any changes to the fire strategy for the building arising from the alterations and the determination made in regards to the retrofitting of automatic sprinkler protection within a building during the refurbishment.

The FSF recommends that retroactivity around fire safety should be brought forward within legislation along the same lines as energy efficiency and flood resilience. This would then support changes to the "non worsening" language within the current Regulations and offer a firmer position to direct proportionate actions to promote fire safety. Such a change we believe would require a review of the Building Act 1984 in particular, Schedule 1 paragraph 8.

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Currently the building regulations “shall not require anything to be done except for the purpose of securing reasonable standards of health and safety for persons in or about buildings”. This means that, for example, large, low-rise buildings can be erected which are highly vulnerable to fire as long as there is a reasonable expectation that the occupants will get out before they collapse.

Fires in these buildings can pose an unacceptable risk to firefighters should they enter. FSF research shows that most building owners mistakenly believe that compliance with building regulations ensures their buildings are protected from major fire damage.

While maintaining the focus on life safety, the FSF recommends a greater recognition under the regulations on the protection of property from fire. The focus on life safety provisions alone is often viewed in terms of “provision for escape” with buildings constructed in ways that can be damaged by fire. The continuity of use or the importance of buildings within the local infrastructure is not readily considered.

At the same time the way we use buildings is changing with greater mixed use, demographic changes and higher occupancy rates in some sectors. As such we are concerned that we are promoting paths to a less robust built environment. We consider that greater levels of protection are needed in recognition of the risks that are posed, consideration of the use of the building, location, occupants and a realistic appraisal of the abilities to tackle fires in large buildings.

The FSF recommends that a detailed independent technical review should be undertaken to consider the main trends and developments in the built environment and the risks that arise from those trends to ensure they are adequately addressed by the AD B guidance. New content and new sections should be introduced, as needed, to address the main risks. In this way we can ensure that the guidance better reflects the risk profile of today's urban built environment, its changing use and those who make use of it.

The Fire Precautions (Workplace) Regulations 1997, later to be replaced by the Fire Safety Order (FSO), introduced fire safety self-compliance by means of the Responsible Person ensuring a fire risk assessment was undertaken. As a result the Fire & Rescue Service (FRS) role changed to that of enforcement.

There is now a gap between building regulations approval and ongoing fire safety management that should be filled by Regulation 38 of the Building Regulations if properly implemented. It would be helpful if the information under this regulation was provided to the end user in the form of a single building fire safety manual, similar to a car manual. This would inform the Responsible Person of the evacuation strategy, active and passive fire safety measures, maintenance & testing regimes, training needs, as-built fire safety plan and strict guidance that no penetrations are permitted in a resisting wall, floor or ceiling unless the appropriate fire stopping is provided. .

The FSO is not clear on many points such as providing examples of what is ‘suitable & sufficient’ and what should be considered an appropriate benchmark standard, the minimum frequency of fire risk assessments and more specific information on the Responsible Person.

All regulations and technical guidance needs be kept under constant review and incremental improvement to respond to future innovative construction methods, systems and products.

Recommendations

- Provide better correlation between the different elements of building regulations, to ensure that the implications of developments in one functional objective do not compromise fire safety objectives. For example, between AD B and AD L (energy), and between AD B and AD M (ease of access).
- Revise AD B and new guidance to remove ambiguity, ensure clarity, and improve that guidance is more user friendly given that there is now such a wide spread of different possible user groups.
- Develop new guidelines and guidance on what to do on refurbishment and modernisation for those works that fall outside of AD B new build guidance. This should advise, on a practical basis, how older buildings can be better brought up-to-date with the latest best practice fire safety and property protection provisions on a suitable, sufficient and appropriate basis. Consider that upgrades and changes outside major change should cover adaption and use of buildings.
- Introduce regular or even online updates to ensure that regulations keep pace with changing technology, building materials and processes. Introduce a greater element of building resilience into the core regulatory guidance (which at the same time will provide higher levels of protection for those who cannot easily escape).
- Review current guidance and assess how it can better reflect the risk profile of today's urban built environment, with the objective of developing select new guides for particular risk categories (e.g. tall residential buildings).

Roles & Responsibilities

Q2 Are the roles, responsibilities & accountabilities of different individuals (in relation to adhering to fire safety requirements or assessing compliance) at each key stage of the building process clear, effective and timely? In particular:

- **Where are responsibilities clear, effective and timely and well understood by those who need to adhere to them/assess them?; and, if appropriate**
- **Where specifically do you think the regime is not effective?**
- **What changes would be necessary to address these and what are the benefits of doing so?**

The development of a building project is a complex one with many elements. To achieve a successful outcome it relies on several people with differing disciplines coming together with strong processes, adequate training, working competently to execute their roles with due regard to compliance with guidance, standards and regulations.

The process can be fragmented, frequently along a drawn-out supply chain, with no individual taking overall responsibility. The FSF believes it is important that there is an overarching construction strategy to encourage collaborative working across the whole design and build process to improve the quality of installed fire protection within the built environment. The FSF believes there are gaps which should be investigated:

- The current processes for overview of the design and the specification of materials and products from concept through to project completion within the building process with a keen attention on their impact on fire safety
- The current processes for approval of the installed materials to ensure that they conform to the design specification and that any changes are managed to ensure compliance with the relevant guidance, standards and regulations
- The adequacy of the oversight arrangements for buildings during their construction, including refurbishment, to ensure fire safety protection is properly executed
- Whether the resources available to local authorities combined with commercial competition from the private sector have affected decisions taken on building and refurbishment work
- Whether appropriate processes are in place to ensure the requirements to pass information over at building handover are adequately enforced through Regulation 38 of the Building Regulations 2010 and via the CDM Regulations
- Whether the current national arrangements across Government and local Government are consistent and sufficient to ensure fire safety in the built environment is effectively administered and enforced

The current process for approval of a building from concept, building specification, purchase, supply and construction to handover means that there is little assignment of responsibility for assuring and approving critical fire safety decisions. Too often specification and material selection can mutate along the chain such that the finished construction does not in key respects fully reflect the original design and material specification in important detail (e.g. in product performance, with more uncertainty on whether the key functional performance requirements have been maintained along the way).

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There is no single individual held responsible for building “sign off” and handover. The FSF recommends that key individuals at each stage in the process should be made responsible for sign off, and that consideration should be given to the introduction of a completion and handover fire safety certificate for the building, signed by key individuals in the final construction process.

The Association for Specialist Fire Protection (ASFP) (a member of the FSF) has been working with the Royal Institute of British Architects (RIBA) to develop a Plan of Works for Fire Protection which complements the existing RIBA work plan methodology, used by UK architects to manage and plan the building design and construction process. The ‘Plan of Works’ aims to ensure that there is a detailed specification for fire protection at the design stage of any building and a schedule and sign-off procedure for fire throughout the construction process.

The FSF recommends that the Review should consider the introduction of a mandatory sign-off procedure, such as in Ireland where the Building Control (Amendment) Regulations 2014 (BCAR 2014) legislate for certain registered professionals to act as Design & Assigned Certifiers.

Managing contractors should be required to sign a completion fire safety certificate for the building, including a declaration to say that the building has been constructed according to the design specification of its fire safety features. If changes are made during the procurement and construction process which affect the original fire safety design of the building then those changes should be properly recorded and a formal certification authorisation provided under the provisions of building regulations, signed by those responsible for the changes, with references to additional documentation as necessary to explain and account for the change. The FSF also believes it is important that someone should have a complete overview for the whole process.

Recommendations

- Introduce a formal requirement under regulatory revisions placing an obligation on those introducing design, product and building system innovations which depart significantly from current practice, to demonstrate that the development will at least not compromise fire safety and that it will meet the functional requirements of building regulations for fire.
- Consideration should be given to requiring the appointment of a member of the design and / or construction teams to have an overarching view of compliance including Building Regulations. They should be appointed by the person carrying out the work, and have a key role in preventing / managing the issue of product substitution or changes to methods of construction.
- Introduce regulatory provisions for the better assignment of responsibility and accountability at key points in the chain through to building handover, on the basis that responsibility for risks should be better assigned to those who create the risks potentially. For example, introduce requirements for formal sign off of the design, the specification, sub-contractor completion of individual elements, the completion by the main contractor on handover to the owner (including recognition of Regulation 38).
- Provide stronger support in the regulatory guidance to the wider application of third party certification schemes for products, systems, and installation for better controls and minimum assurances on levels and consistency of fire performance, including fire resistance, reaction to fire, ability to sustain fire and load-bearing capability.

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- Ensure that there is within the regulatory guidance a stronger requirement, as a regulatory obligation, for involvement of the Fire and Rescue Service in the design process through to finalisation of the design, to ensure that the planned provisions are consistent with local firefighting policies and provisions. It should be a requirement under the regulations to ensure that there is a statement of implications for firefighting actions in the completion documents for the design.

Q3 Does the current system place a clear over-arching responsibility on named parties for maintaining/ensuring fire safety requirements are met in a high-rise multi occupancy building? Where could this be made clearer? What would be the benefits of doing so?

Fire safety management is recognised by many fire safety professionals as being the weak link in the fire safety process. For new build and refurbished buildings, insufficient building fire safety information is provided in a format that is easy to understand by the Responsible Person. Currently such information is contained in the O&M Manuals

Regulation 38 of the Building Regulations, although well intentioned, does not ensure that the appropriate fire safety information is provided to the end user. Recommendation should be given to strengthening the CDM Regulations to require that this information be provided in the form of a building fire safety manual including key fire safety design information and that the information in the O&M Manuals are produced in a searchable electronic format.

The FSF have undertaken significant work on developing Guidance on what should be provided under Regulation 38 for different building types and under a number of scenarios. This information includes:

- As built fire safety drawings showing all passive and active fire safety measures including cavity barriers.
- Fire strategy including the evacuation strategy
- Agreed variations to normal procedures such as in-built fire alarm delays, compensatory features.
- Maintenance & testing regimes
- Training requirements
- Controlling minor work to ensure adequate fire stopping is provided when fire resistance is breached, for example the laying of cables or pipe work.

The relationship between fire service and the built environment sector is also important in order to ensure that fire service knowledge is up to date with design and technology innovation and also to enable the fire service to maintain their operational planning.

The link between design and fire service emergency action needs to be better made than it is in current guidance. For example, the use of single escape and access routes to a place of safety outside the building for tall buildings needs to be properly evaluated in conjunction with the fire and

rescue service at the early design stage, especially concerning the fire escape precautions and policies that are likely to apply (including what stay put guidance might be considered).

Third party certification

The FSF recommends that requirements for third party certification – for products, systems and installation – should be mandatory. The specialist industry knows that third party certification is very important because of short cuts taken along the non-specialist construction supply chain. Third party certification requires much greater identification and support. It fundamentally affects quality of performance as well as levels of consistency and reliability.

Recommendations

- Review Regulation 38 to ensure that adequate fire safety information is provided for the effective management of the building and to changes that impact of fire safety
- Introduce regulatory provisions for the better assignment of responsibility and accountability at key points in the chain through to building handover, on the basis that responsibility for risks should be better assigned to those who create the risks potentially. For example, introduce requirements for formal sign off of the design, the specification, sub-contractor completion of individual elements, the completion by the main contractor on handover to the owner (including recognition of Regulation 38).
- Provide stronger support in the regulatory guidance to the wider application of third party certification schemes for products, systems, and installation for better controls and minimum assurances on levels and consistency of fire performance, including fire resistance, reaction to fire, ability to sustain fire and load-bearing capability.
- Ensure that there is within the regulatory guidance a stronger requirement, as a regulatory obligation, for involvement of the Fire and Rescue Service in the design process through to finalisation of the design, to ensure that the planned provisions are consistent with local firefighting policies and provisions. It should be a requirement under the regulations to ensure that there is a statement of implications for firefighting actions in the completion documents for the design.
- Create a National Fire Safety Agency that can address this fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Competencies of key players

Q4 What evidence is there that those with responsibility for:

- **Demonstrating compliance (with building regulations, housing & fire safety requirements) at various stages in the life cycle of a building;**
- **Assessing compliance with those requirements**

are appropriately trained and accredited and are adequately resourced to perform their role effectively (including whether there are enough qualified professionals in each key area)? If gaps exist how can they be addressed and what would be the benefits of doing so?

The Regulatory Reform (Fire Safety) Order 2005 introduced a deregulated and non-prescriptive approach to fire safety in the UK where the legal duty for assessment and management of fire risk resides with the person responsible for the building. This responsibility may be singularly undertaken or contracted to another competent person.

Likewise during construction or material alteration, assessment and approval of compliance to building control requirements, including acceptance of materials, construction techniques and ultimate performance, can be authorised by a public building control officer or an external approved inspector. One of the major complaints from wider industry concerning fire risk assessment is the lack of a uniform approach with different authorities offering conflicting and inconsistent advice on fire safety issues.

While the fire service has a statutory duty under the Regulatory Reform Fire Safety Order to enforce fire safety and also a statutory consultation role in the building control process for certain types of buildings, the National Audit Office in 2015 reported a 30% reduction in audits and inspections carried out by fire and rescue authorities 2010-11 to 2014-15.

Overall, the FSF considers that competency is a key line of inquiry. From inception into continued use, through control and inspection of building construction, installation of fire safety features, on into risk assessments under the Regulatory Reform (Fire Safety) Order, and continuous maintenance of those installations and operating circumstances helping to ensure the building remains fit-for-purpose and functional in practice.

The FSF recommends that fire safety legislation should make it absolutely clear from design through to construction and installation the responsibilities and the necessary level of competency incumbent on particular individuals, by role, along the chain through to building handover. Greater levels of responsibility, with accountability, need to be re-assigned to architects and design engineers as the key professionals involved in the design and construction process from initial concept through to completion.

One of the key failings in the process of observing regulations is the failure of individuals to sufficiently recognise and acknowledge the responsibilities that they have regarding fire safety. The responsibilities are too often not at all clear; and neglected as a result. If those responsibilities are not made sufficiently clear then actions under the regulations for failure to comply are made all the more difficult and indeterminate.

Furthermore, occupiers are not trained in safety, hazards are not obvious, nor do occupants look for them. Work is done by the lowest bidder, regardless of competence and there is nobody permanently present to check every step of the work as it is performed. Although the RRO does look

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at the building in use, it only looks at common areas in the case of residential blocks and it is not clear whether this includes the building exterior. Moreover, it only comes into play after the building is occupied.

Workforce competency has been an important concern for Federation members since the federation's inception. This is because Fire is generally unregulated as a professional discipline allowing unqualified persons to practice and there is no national process to check credentials and raise concerns. When examination of fire risk assessments and construction work related to fire systems and building integrity is undertaken the indications are that it is not unusual to find ignorance, lack of skill or incompetence.

This we consider partly reflects the fact that fire as a discipline at most levels of education is not extensively delivered in architecture or construction with there being few under graduate courses. There are national occupational standards under the Skills for Justice fire professional framework aimed at FRS staff yet there is no formal national register of fire professionals within public or private organisations.

One of our members, the Institution of Fire Engineers is the only Engineering Council licensed body to register fire engineers and it maintains recognised registers of around 500 registrants for Technician Incorporated and Chartered Engineers who have obligations for compulsory CPD; the IFE also maintains a register of fire risk assessors.

FSF also has a number of organisations that have skill schemes some with 3rd party accreditation and around 500 registrants approved where most of the accreditation and registration is aimed at consultancies not companies or owners.

In house fire science and safety training is common in the specialised trades like detection installers but not in the general construction industry so throughout the RIBA plan of works process there are numerous occasions when poor workmanship or lack of understanding about fire can result in substandard performance.

There is no mandatory system of ensuring 'appropriately trained and accredited' persons are linked into fire legislation. This includes FRS staff who comply to NOS and the FRS guidance, *The Competency Framework for Business Fire Safety Regulators*, but who are not regulated examined or controlled other than by their own fire authority. In contrast the Civil Aviation Authority mandates competency assessments and regular reviews for fire officers employed in that specific transport sector.

FRS business safety or prevention staff who conduct enforcement have also reduced in numbers over the immediate past period as reported upon by the National Audit Office and so have their audit inspections although new schemes, like the Primary Authority partnerships, have sought to offer one route to competent and consistent national advice.

The public perception that the FRS are therefore in control of the regulatory control of fire in the built environment is therefore flawed. Ring fenced increases in FRS resourced competent enforcement staffing would help achieve a safer built environment through better compliance, probably at acceptable cost and combined with the existing FRS competency framework for business fire safety regulators could go a long way in helping achieve a better outcome, allowing the FRS to generally reinstate offers of competent 'free' professional advice to public and commercial entities, especially those having high life risk assessments.

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The Construction Industry Council suggests there are insufficient numbers of specialists to meet demand and has suggested a wish to introduce a fire assessors system mirroring Approved Inspectors. The FSF would caution against this as there is already evidence that non specialist contractors like electricians fit sophisticated fire detection and alarm systems and general contractors damage the integrity of fire compartments when fitting services like water or drainage because they lack competency in fire. It is reiterated that the FSF preferred approach is a mandated publically open register of accredited and certified persons who can demonstrate by third party accreditation competence.

This would help avoid contractors specifying fire preventative systems without knowing a great deal about the fire requirements or limitations parameters whilst introducing and raising cross sector benchmarks for competency. FSF wants a more rigorous system of controlling those claiming professional competence and perceives real benefits especially in a deregulated environment if all those having legal responsibilities for fire safety were trained and qualified commensurate with their responsibility. Competency requires the actual tasks involved in fire safety management should be clarified and better defined in definitions, content and expectations to ensure competency is singularly addressed and not simply added as a part of other responsibilities.

FSF has published guidance competent for fire risk managers, fire risk assessors and choosing competent fire risk assessors. However FSF considers there is a gap particularly in meeting the identified RRO FSO responsible person who has legal responsibilities and accountabilities for fire safety.

While we seek to develop a competency scheme to assist responsible persons and those acting as fire risk managers who are required to conduct risk audits and safeguard others we remain concerned that existing legal requirements, such as the fact there are few handovers of FSO Regulation 38 details to building owners, are not adequately understood or enforced. Diligent companies that have in-house schemes to manage fire safety with personnel who are externally accredited are the exception and many more could not interpret Regulation 38 data if it were handed over.

Fire risk is highly relevant and sectors like housing, care, health, education all need competent specialised fire safety managers as do service and infrastructure providers. The FSF would call for public registers of professionals who undertake specific tasks required by law to ensure buildings are safe from fire. We would wish to make access to RRO FSO training qualification and accreditation mandatory for certain tasks based upon function and fire risk.

Fire competency is required across many sectors in the built environment to manage the whole life of a building, material and specification, installation and auditing, adaption and maintenance. The current competency arrangements fail at so many levels their questionably as to being fit for purpose requires fundamental change.

Design and supply chain activities are further examples where fire competency can and is overlooked and arguably the construction industry requires a series of formal checks, overall supervision and sign off since many protective features are lost during completion processes like plastering and sealing ceiling voids.

There is also an absence not of product specification but process and competency control. For example BSI has two published Publically Available Standards on fire risk management and fire risk assessment related to fire competency that are complemented by the HSE guide to successful health

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and safety management but there is no competency defining standard nor definitions standard. In addition few ISO or CEN standards define competency, although CEN have a control of the building process to aid fire safety design.

Against this background the FSF review of training available within the sector is underway. FSF considers there is a need to have fire safety trainers accredited and that greater emphasis should be placed on company 3rd party accredited schemes that check individuals are qualified and assist in filling the skills gap. FSF supports the UK Accreditation Service approach towards company schemes and existing company certification schemes such as those operated by the British Approvals for Fire Equipment and Fire Industry Association.

The given aim is to safeguard building occupants and reduce loss and FSF believes an industry led competency scheme can deter unprofessional behaviour, raise practice standards and improve sector fire knowledge. FSF could, with modest resource support accelerate greater sector competency, helping extend lead partnerships with appropriate training organisations to assist in rapidly building capacity and building further cross sector partnerships developing integrated certification schemes.

FSF work focused upon the whole building life and a competency framework was developed to lead effort. In addition in the post 2009 Lakanal House period, effort focused upon the specific matter of fire risk assessors (FRA). The major outcome here is formation of the FSF Competency Council that has produced the criteria and selection guides that are now published on the FSF web site. (See appended documents).

There are various definitions of the term 'competent' but it may be worth reversing the term to say that 'the person undertaking or overseeing any work should demonstrate that they have the correct qualifications, skills and experience to carry out the work'. This could then be used in a court of law in the event of a failure.

The FSO refers to a 'Responsible Person' but is not necessarily specific on competency. There should be a stipulation that certain types of buildings such as residential tower blocks, hospitals, hotels and care homes should have fire risk assessments undertaken by a person who is member of a competent person scheme or similar.

The term 'Fire Engineer' and 'Fire Risk Assessor' are regularly used by many people as it is not clearly defined. A clear definition that includes experience, qualifications, accreditations and /or competent person scheme would help in the procurement process.

All building control bodies should be subject to the same scrutiny and robust regulatory processes. Approval Bodies should only check projects if they can demonstrate competency through their own staff or by a sub-contracting arrangement. Competency in this situation should be defined by the complexity of the design and not by the qualifications of the designer.

Looking at competence in the wider construction industry, there are mechanisms for demonstrating competence in most construction professions and disciplines. However, there is no test for contractors.

FSF wishes to stabilise and improve the situation which is in flux. The term Competency must be more appropriately defined. The role of Fire Risk Assessor and Fire Engineer must be defined. It must be ensured that all Building Control Bodies are subject to the same scrutiny and robust regulatory processes and building control bodies and fire services should only check projects if they can

demonstrate competency. Consideration should be given to a registration scheme for contractors with some test of competence. Only registered competent persons should undertake FRA for certain types of building i.e. sleeping risks, care etc.

Recommendations

- Introduce a national competency scheme that has third party accreditation, is mandatory across the whole life building design to destruction cycle, that is publicly verifiable and transparent with clarity as to “fire safe” benchmarks.
- Introduce a definition of the core competency criteria expectations as separate guidance backing the regulatory guidance for fire safety, specifically and individually for the key roles that can be identified along the design, specification, supply and construction chain through to building occupation including risk assessment and enforcement . Provide stronger support in the regulatory guidance to the wider application of third party certification schemes for products, systems, and installation for better controls and minimum assurances on levels and consistency of fire performance, including fire resistance, reaction to fire, ability to sustain fire and load-bearing capability.
- Introduce regulatory provisions for the better assignment of responsibility and accountability at key points in the chain through to building handover, on the basis that responsibility for risks should be better assigned to those who create the risks potentially. For example, introduce requirements for formal sign off of the design, the specification, sub-contractor completion of individual elements, the completion by the main contractor on handover to the owner (including recognition of Regulation 38).
- Define key benchmarks and standards for key fire safety concepts including the combustibility concept and associated product and system testing.
- Create a National Fire Safety Agency that can address this fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Enforcement & Sanctions

Q5 Is the current checking and inspection regime adequately backed up through enforcement and sanctions? In particular

- **Where does the regime already adequately drive compliance or ensure remedial action is always taken in a timely manner where needed?**
- **Where does the system fail to do so? Are changes required to address this and what would be the benefits of doing so?**

The enforcement role for building regulations and fire safety currently lies with the Local Authority and Fire & Rescue Service respectively. Both organisations are currently subject to financial pressures and therefore have limited resources. Another consequence of the under resourcing of some Local Authorities is the issue of identifying and pursuing uncontrolled work i.e. work that is carried out outside the system.

Consideration should be given to separating enforcement from service delivery with appropriate resources being provided.

The FSF has concerns regarding general consistency in delivery in building control and fire safety enforcement and advice across the UK and the efficacy of the overall scrutiny and control processes in place to ensure competency.

The FSF recommends that procedures and outcomes should be consistent for both local authority building control and approved inspectors irrespective of commercial pressures. We recognise that value engineering has its place to optimise design but it should not be allowed to compromise fire safety. To ensure that the opportunity to value engineer is reduced, inclusion of specifications in plans at the application stage to building control, rather than a statement of performance standards would ensure that subsequent specification changes would have to be notified to building control prior to their use, rather than prior to completion of work.

Where a Fire Engineer or other specialist design consultant produces a fire strategy or design, any variations should be agreed with the author prior to submission to the building control body for approval. This would ensure transparency and ensure there is consistency with the original fire strategy or design.

The FSF also recommends that all enforcement agencies should be required to demonstrate ongoing competence and ensure processes are in place to deliver the appropriate resources for the work being carried out. This should be subject to regular audit.

The FSF recommends that the Review should consider the introduction of a mandatory sign-off procedure, such as in Ireland where the Building Control (Amendment) Regulations 2014 (BCAR 2014) legislate for certain registered professionals to act as Design & Assigned Certifiers.

Managing contractors should be required to sign a completion fire safety certificate for the building, including a declaration to say that the building has been constructed according to the design specification of its fire safety features. If changes are made during the procurement and construction process which affect the original fire safety design of the building then those changes should be properly recorded and a formal certification authorisation provided under the provisions of building regulations, signed by those responsible for the changes, with references

to additional documentation as necessary to explain and account for the change. The FSF also believes it is important that someone should have a complete overview for the whole process.

Recommendations

- Introduce a definition of the core competency criteria expectations as separate guidance backing the regulatory guidance for fire safety, specifically and individually for the key roles that can be identified along the design, specification, supply and construction chain through to building occupation (including enforcement and risk assessment).
- Provide stronger support in the regulatory guidance to the wider application of third party certification schemes for products, systems, and installation for better controls and minimum assurances on levels and consistency of fire performance, including fire resistance, reaction to fire, ability to sustain fire and load-bearing capability.
- Introduce a formal requirement under regulatory revisions placing an obligation on those introducing design, product and building system innovations which depart significantly from current practice, to demonstrate that the development will at least not compromise fire safety and that it will meet the functional requirements of building regulations for fire.
- Introduce regulatory provisions for the better assignment of responsibility and accountability at key points in the chain through to building handover, on the basis that responsibility for risks should be better assigned to those who create the risks potentially. For example, introduce requirements for formal sign off of the design, the specification, sub-contractor completion of individual elements, the completion by the main contractor on handover to the owner (including recognition of Regulation 38).
- Ensure that there is within the regulatory guidance a stronger requirement, as a regulatory obligation, for involvement of the Fire and Rescue Service in the design process through to finalisation of the design, to ensure that the planned provisions are consistent with local firefighting policies and provisions. It should be a requirement under the regulations to ensure that there is a statement of implications for firefighting actions in the completion documents for the design.

Tenants' & Residents' Voice in the current system

Q6 Is there an effective means for tenants and other residents to raise concerns about the fire safety of their buildings and to receive feedback? Where might changes be required to ensure tenants'/residents' voices on fire safety can be heard in the future?

Processes already exist where tenants can report issues or make complaints, which are required to be heard and actioned. Customer complaints are monitored/regulated by the HCA. Some providers will have boards that include tenants, tenant committees and organisations that engage tenants in a variety of ways through information provided to new customers at sign up, with follow up visits to online and social media channels as well as community events. These are all touch points where tenants can raise issues with providers directly. The experience of the National Social Housing Fire Strategy Group and from member feedback is that tenants' issues and complaints are dealt with seriously and promptly with defined processes in place.

The proposed National Fire Safety Agency/regulator approach could plug any perceived gap if other avenues have been exhausted. Any process should be well defined. A National Fire Safety Agency could act as an ombudsman in any disputes that are not resolved. Other steps could include defining clarity on communication/cooperation standards which could give Responsible Persons and others a clear direction on what steps must be taken. Another view could be defining in law that a tenant is a relevant person.

Recommendations

- Create a National Fire Safety Agency that can address this fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Quality Assurance and Testing of Materials

Q7 Does the way building components are safety checked, certified and marketed in relation to building regulations requirements need to change? In particular:

- **Where is the system sufficiently robust and reliable in maximising fire safety and, if appropriate**
- **Where specifically do you think there are weaknesses/gaps? What changes would be necessary to address these and what would be the benefits of doing so?**

Differentiation within the current Regulatory System

There has been a gradual progressive development in architectural requirements and the ways buildings are designed, built, serviced and occupied. This has been in response to a number of factors including cost effectiveness and greater energy efficiency.

This has led to a great variety of materials and systems being selected for all types of construction. More innovative engineering designs, different forms and structures for the same range of building functions, in more complex constructions have also led to more open and less compartmented structures and, in some cases, lower levels of inherent fire resistance compared with more traditional brick and stone based constructions. There are also changes related to levels of structural integrity, combustibility and consequent toxic emissions.

Under these circumstances, the FSF is concerned that testing processes and the understanding of those tests have not kept pace with modern building practices and materials. At the same time the lack of access to clear, comparable fire test data on products hampers decision making and evaluation throughout the build process.

Combustibility and real life performance

The definition of combustibility used by the regulations has become overly complicated as ways to differentiate materials has been sought; like the term “limited combustibility” which is felt to be far too ambiguous. This has led to a myriad of test references many of which may once have served the purpose for understanding and controlling surface spread of flame (for example, as originally intended for surface coverings such as fabrics and wallpaper). However the current usage is no longer adequate to describe the large scale performance of combustible organic-based materials throughout, in and on the building loadbearing and non-loadbearing structure.

The FSF believes that the terms and definition of “combustibility” within the regulation needs a root and branch fundamental review. This should lead to clarity over material performance for building elements. One of the key questions is the fitness-for-purpose of laboratory-based testing and evaluation methods using small scale tests to evaluate likely large scale performance in buildings. It is also important to test systems rather than individual components and elements of those systems

Product data – clarity of information

The key data requirements should be made clear to manufacturers to ensure they have tested their products appropriately, and how that data should be presented and made available to users. An example is the information on cladding materials. The Government expert panel decided to measure the calorific value of the core of the cladding without the facing materials (not at all unreasonable for the combustibility question being considered). Yet cladding manufacturers do not customarily make that information available; and it isn’t at all clear if they actually have that data available on their products.

A further example is the availability of façade test BS 8414 information, where the composition and make-up of the façade system that is subject to testing is critical. Information in the public domain is limited, and manufacturers tend to restrict themselves to broad statements where tests have been carried out, without the detail that allows critical evaluation of the applicability of the tests carried out. We understand the commercial sensitivity that may be attached to some of this information, however access to this information is vital to ensure the process from specification to enforcement is supported. There is accordingly a need for more guidance on the data that is required and expected for key functional requirement properties, relating to both products and systems. Also, much clearer rules are necessary governing how data should be presented and information communicated (increasingly on web sites) to avoid confusion and uncertainty.

Assessments *in lieu* of application tests

The practice of using assessments without reference to valid and applicable test evidence (often referred to as “desk top studies”) has grown beyond the original intention to allow interpolation, and limited extrapolation, within limited boundaries based on test data for a particular product system (e.g. to allow replacement of door hardware with tested alternatives, or to increase glazing size and configuration). The practice of using assessments instead of testing to extrapolate

performance from one system to another system, or outside acceptable boundaries in effect to apply to a different modified system, is to be deprecated.

The legitimate use of technical assessments is important for passive fire protection products where there is a depth of available test evidence that can be used to justify and underpin proposed modifications to tested assemblies. Rules governing assessments have been in existence for several years, developed by the Passive Fire Protection Federation (PFPF), endorsed and adopted as a resolution by the Fire Test Study Group (FTSG). Those rules need to be formally recognised by building regulations, along with a much better control on the use and application of assessments, with the regulatory conditions that apply.

Recommendations

- Commission a complete review of the combustibility concept and associated product and system testing, which should include a better consideration of not just ignition and surface spread of flame but also the overall ability of a material used in construction to sustain fire.
- Define key benchmarks and standards for key fire safety concepts including the combustibility concept and associated product and system testing.

Q8 What would be the advantages/disadvantages of creating a greater degree of differentiation in the regulatory system between high-rise multi occupancy residential buildings and other less complex types of residential/non-residential buildings?

Where specifically do you think further differentiation might assist in ensuring adequate fire safety and what would be the benefits of such changes?

The current building regulations framework provides adequate differentiation for the design and construction phases of the building's life cycle. However, it may be beneficial to differentiate multi-occupied residential buildings, with common areas for ongoing control of Fire Safety measures, under the Fire Safety Order (FSO).

The FSF considers that trying to cover a wide variety of buildings in one set of regulations results in the guidance being unnecessarily complicated. The FSF recommends that consideration be given to categorising buildings by type/risk allowing guidance to be streamed to reflect the differing styles of buildings.

Consideration could be given to applying more stringent/prescriptive regulations to high risk premises; for instance insisting such buildings are assessed by a person / organisation who has demonstrated competency through a recognised scheme. The Fire Safety Order should be reviewed to put additional pressure on building management to ensure adequate ongoing control of the fire safety measures. This will then link to the requirement that adequate information be provided under Regulation 38 to enable this to happen.

Recommendations

- Consider differentiating occupied residential buildings, with common areas for ongoing control of Fire Safety measures, under the FSO.
- Review current guidance and assess how it can better reflect the risk profile of today's urban built environment, with the objective of developing select new guides for particular risk categories (e.g. tall residential buildings).

International Comparisons and Other Sectors

Q9 What examples exist from outside England of good practice in regulatory systems that aim to ensure fire safety in similar buildings? What aspects should be specifically considered and why?

Countries that should be considered in terms of a performance based fire safety include New Zealand and Australia. In particular considerable attention is being given in Australia where the Australian Building Code Board (ABCB), which operates with inter State Government agreement across Australia, is conducting an holistic fire safety review of the National Construction Code (NCC), which again is followed in all States and Territories. The review was occasioned following the Lacrosse Tower fire in Melbourne, Victoria in November 2014 and involved aluminium cladding.

The NCC review relates to fire safety in high rise buildings and involves a five step comprehensive package of work, some already reported upon and much already underway, that has considered façade testing, building code requirements, tools and supporting materials, greater awareness of the risks of non-compliance and enhanced site monitoring and checking.

Countries that should be considered in terms building regulations regulatory system include Hong Kong, Norway, Scotland, Spain, Sweden and the Republic of Ireland.

The FSF recommends that the Review should consider the introduction of a mandatory sign-off procedure, such as in Ireland where the Building Control (Amendment) Regulations 2014 (BCAR 2014) legislate for certain registered professionals to act as Design & Assigned Certifiers.

Scotland requires companies to secure a permit to build following the design stage and prior to construction starting, as well as a requirement to build to the plans. Spain operates a similar system to Scotland, requiring in certain types of building an approval of specific elements before construction work can commence. This is controlled by government approved technical bodies, OCTs (Office of Technical Control). Nationally agreed report templates are completed for the specific elements confirming design audit and later technical inspection. This private system of approval via approved bodies, provides efficient and robust control with agreed technical audit fees and little incentive to lower standards, consistent compliance is commonly achieved.

Hong Kong regulations were based on UK guidance originally but include additional provisions and safety requirements for residential high-rise.

In Norway, they too have implemented performance based regulation and a self-certification for steps of their build process to speed up development. There were strong hopes that this approach would improve standards. However, they subsequently implemented changes to address shortcomings that arose as they found they had not implemented sufficient verification processes.

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There are many parallels to the situation that we face here in the UK and experience from Norway should be sought to look at the way they have developed their process.

Sweden requires annual third party inspections of fire protection systems installed for regulatory compliance. The Swedish regulator has also published design and acceptance criteria for fire safety designs produced using fire engineering modelling.

In the USA, there is a regulated requirement for annual fire door inspections, with requirements that inspectors should be appropriately qualified with the necessary knowledge and understanding and also limitations under regulation on what maintenance changes can be made.

In terms of international comparisons North American codes tend to be more prescriptive, Australasian codes include both prescription and fire engineering and in the EU, when the Construction Product Directive was introduced, a Swedish study revealed a very wide range of approaches with limited international statistical indicators of performance.

The evidence suggests both prescriptive and performance fire regulations are needed that offer greater clarity in design and construction with better controlled application. It also suggests fire risk awareness and competent assessment are often lacking or compromised.

Q10 What examples of good practice from regulatory regimes in other industries/sectors that are dependent on high quality safety environments are there that we could learn from? What key lessons are there for enhancing fire safety?

The Health and safety sector has addressed a number of the issues regarding wide remit and fragmentation of duties across a wide range of professionals by creating a national agency to ensure standards are met - the Health and Safety Executive.

The FSF believes that a similar organisation, a National Fire Safety Agency, could address issues of fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Such an Agency could define the necessary standards and competencies, highlight necessary research; review test procedures and definitions; oversee enforcement and the necessary competencies and audit procedures of the enforcement agencies; and benchmark and monitor fire strategies, providing the public with access to information for the buildings in which they live and work. Such an Agency could also offer arbitration services where disputes arise, allowing appeals where necessary; as well as publishing the results of inspections/audits.

By establishing such an agency at arm's length from central and local government and Ministers, the public sector fire safety resource would be protected and a more independent approach to fire safety introduced, divorced from party politics.

Recommendations

- Create a National Fire Safety Agency that can address this fragmentation and take into account input from all the professionals involved in ensuring the fire safety of our built environment.

Fire Sector Federation members

Angloco Ltd	FM Approvals
Angus Fire	FM Global Insurance Company
Architectural and Specialist Door Manufacturers' Association (ASDMA)	Fire Officers Association
Ash Fire Management	Glass & Glazing Federation
Association for Specialist Fire Protection (ASFP)	Gypsum Products Development Association (GPDA)
Association of Consultant Approved Inspectors	Hampshire Fire and Rescue Service
Avesta Scotland Ltd	IFC Group (International Fire Consultants Ltd)
British Approvals for Fire Equipment (BAFE)	Institution of Fire Engineers (IFE)
British Automatic Fire Sprinkler Association	Institute of Fire Safety Managers (IFSM)
Ballyclare Ltd	Independent Fire Engineering And Distributors Association (IFEDA)
Bedfordshire Fire and Rescue Service	Institute of Fire Prevention Officers
BRE	Institution of Occupational Safety and Health (IOSH)
Bristol Uniforms	Joint Oil Industry Fire Forum (JOIFF)
British Fire Consortium	Joint Universities Fire & Rescue Research Programme
British Woodworking Federation	Local Authority Building Control
British Rigid Urethane Foam Manufacturers' Association	National Fire Sprinkler Network
Buckinghamshire Fire and Rescue Services	National Social Housing Fire Strategy Group
Building Alliance CIC	National Trust
Building Control Alliance	Networking Women In The Fire Service
Business Sprinkler Alliance	Nottinghamshire Fire and Rescue Service
Capita – Fire Service College	Oil Technics Ltd
Chief Fire Officers Association (CFOA)	Passive Fire Protection Forum
Chief Fire Officers Association Services Ltd	Pavilion Publishing
Chartered Association of Building Engineers	PBI Performance Products, Inc
Coltraco Ultrasonics UK	Pilkington UK Ltd.
Construction Products Association	REO Consultancy
Devon & Somerset Fire & Rescue Service	Royal Mail Group
Electrical Contractors' Association (ECA)	Staffordshire Fire and Rescue Service
Engineered Panels in Construction Ltd	Structural Timber Association
European Fire Sprinkler Network (ESFN)	Thorn Security Ltd
Exova Warringtonfire	UL International (UK) Ltd
Fire Brigades Union (FBU)	United Business Media
Fire Industry Association (FIA)	Western Business Publishing
Fire Protection Association (FPA)	WL Gore & Associates (UK) Ltd
Fire Safe Europe	