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ASSESSMENT IN LIEU OF TEST CONSULTATION RESPONSE

Question | 1

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Please state whether you are responding on behalf of yourself or the organisation stated above:
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Question | 2

Applying to this consultation as:
Fire Engineering Consultancy Practice

Question | 3

Do you agree with the recommendation in Dame Judith Hackitt's interim report to restrict the use of desktop studies to ensure that they are only used where appropriate and with sufficient, relevant test evidence by people with suitable competence?

IFC Response

Yes, Desktop Studies should only be used when appropriate with sufficient, relevant test evidence by people with sufficient competence.

IFC are deeply concerned that approving authorities accept Desktop Studies that have been produced without reference to sufficient and relevant test evidence. Further, when considering external cladding, many buildings appear to have been 'approved' without test evidence or a Desktop Study having been reviewed, or even requested, by the approving authorities.

Those who produce Desktop Studies should be produced by organisations with ethical principles, who sign up to the principles of the Passive Fire Protection Federation (PFPF) publication 'Guide to undertaking assessments in lieu of fire tests', and utilise the guidance given in ISO/TR 12470-1: 2017 *"Fire-resistance tests. Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Loadbearing elements and vertical and horizontal separating elements"* and PD ISO/TR 12470-2: 2017 *"Fire-resistance tests. Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Non-loadbearing elements"*.

Question | 4

Do you agree with the proposed amendment to the text on how to undertake an assessment in lieu of test, as outlined in Annex A? If No, please provide reasons and suggest alternative text.

IFC Response

IFC do not agree with the proposed amendments to the text outlined in Annex A to the Consultation.

In most sectors of the passive fire resistance industry in the UK, the process of Engineering Assessments is well established, founded on agreed industry rules derived from the Passive Fire Protection Federation (PFPF) publication 'Guide to undertaking assessments in lieu of fire tests'. The principles are fully supported by ethical companies within the industry.

The format and important requirements of Engineering Assessment reports are also well defined by practice with reference to agreed principles defined originally by the PFPF in forum. There is no need to introduce extended application standards (EXAP), and those standards derived on a pan-European basis are not entirely suitable and sufficient for the UK industry and UK product characteristics.

The practice of Engineering Assessments is well established in responsible industry sectors and is underpinned with a depth of fire resistance test evidence. It is accepted by industry, with assessment bodies working as part of the sector – most importantly without difficulties or recognised problems. It has become part of the fabric of these sectors for demonstrating fitness for use.

The Hackitt interim report emphasises that industry must take control, and responsibility (instead of Government) for its own processes to demonstrate fitness for purpose. Current assessment processes are owned by sectors and those who know the UK products and applications and the UK market - i.e. as Dame Judith writes in the report: *"those who should be the experts in practice."*

EXAP standards have been determined in a convoluted European consensus-based process, extended over several years over all the countries of the European Community, involving a great deal of interchange and disagreement (derived from individual experience) along the way in the process which typically leads to compromise. The standards are typically either very detailed and restrictive (e.g. fire resistance doors) or dumbed down to the lowest common level so that they become very limited in what variations are possible (e.g. fire resistant glazed systems).

They are derived from BS EN test evidence, not BS 476 test evidence. There can be major differences between performance under these two standard routes. For example. The timber door industry in the UK has products which were well-established before the

European process started, the industry is substantially founded on testing to BS 476 over many years, with accumulated product criteria based on that depth of BS 476 fire resistance testing.

Adoption of extended application standards threatens to disrupt sectors and overturn already established effective and functional Engineering Assessment procedures and outcomes, most likely putting products on a different basis than established by practice and causing unnecessary costs in additional testing to validate EXAP changes.

IFC propose, as noted by the Hackitt interim report, in A3:

"Engineering assessments should be carried out in accordance with the relevant standard for extended application for the test in question or by competent and ethical organisations under the auspices of Third Party Certification."

Question | 5

Do you agree with the proposed amendment to the text on who is permitted to undertake an assessment in lieu of test as outlined in Annex A? If No, please provide reasons and suggest alternative text.

IFC Response

Assessments should be carried out by organisations with the necessary experience, however, we are concerned that there is an assumption that certain bodies have the necessary experience.

An organisation should be able to demonstrate that it has the necessary expertise, for example, through the company's stated purpose, it's established track record, the work experience of its employees and its internal quality management systems.

The Construction Products Regulation is a regulation solely for the creation and maintenance of the Single Market of the European Community (to facilitate the free movement of goods without technical barriers to trade). IFC does not feel that this reference should appear in UK regulatory guidance for buildings when the UK leaves the single market.

The text says, **'notified bodies'** rather than **'UK Notified Bodies'**. Not specifying **'UK'** leaves the possibility of any European Notified Body (under the CPR) to offer assessments in the UK (especially if EXAP standards are the only basis) – and they are very likely not to have the necessary product and process knowledge for the UK

market, nor understanding of the depth of BS 476 testing that is used in the UK for fire resistance in particular. In addition, it is likely that in a period of 1 to 3 years' time (depending on negotiations and transitional agreements) there will be no UK notified bodies.

If the reference to **'notified bodies'** is retained, we propose including the qualifier **'UK'**. If this cannot be done, the reference to **'notified bodies'** should be removed.

The other option shown is for assessments to only be carried out by organisations accredited by UKAS for that test. UKAS only provide relevant accreditation of organisations for testing, certification and calibration. The carrying out of assessments is not covered within their scope – yet there are organisations with the necessary expertise, with individuals who have the necessary core competences and product knowledge, which do not carry out testing for fire resistance, e.g. International Fire Consultants Ltd. However, many staff within such consultancy organisations may have previously worked within such UKAS accredited test laboratories as part of their previous work experience.

In addition, for the BS 8414 test, BRE are the only organisation accredited by UKAS for carrying out that test. If (as mentioned above) it turns out that in the future there are no UK notified bodies, then BRE would have a monopoly on carrying out assessments to the BS 8414 test.

IFC propose text in A4:

"Engineering assessments should be carried out by competent and ethical organisations in accordance with the Passive Fire Protection Federation (PFPF) publication "Guide to undertaking assessments in lieu of fire tests" and utilise the guidance given ISO/TR 12470-1: 2017 *"Fire-resistance tests. Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Loadbearing elements and vertical and horizontal separating elements" and* PD ISO/TR 12470-2: 2017 *"Fire-resistance tests. Guidance on the application and extension of results from tests conducted on fire containment assemblies and products. Non-loadbearing elements".*

Question | 6

Do you agree with the proposed amendment to the text on the circumstances under which an assessment in lieu of test may be carried out, as outlined in Annex A? If No, please provide reasons and suggest alternative text.

IFC Response

No. Unlike a BS 8414 cladding-insulation test, the fire resistance test cannot always be a fully constructed built element.

Fire resistance test furnaces in the UK are limited in size to a maximum of 3m x 3m. There is, therefore, a limit on the sizes of particular assemblies that can be tested, with many items not fitting within that size limitation, e.g. a door assembly in a glazed screen or a glazed framed element (typically of several panes of different sizes) or with specific architectural features, e.g. architectural hardware. The full constructed element with the joints and penetration protections that apply is also difficult to test as a complete entity.

The limitations of test furnaces require an element of Engineering Assessment by competent and ethical individuals in an organisation with the necessary core competencies and management control systems, on occasions, to be necessary.

Areas of the fire safety industry in the UK where Engineering Assessment is required include:

- Timber doors for fire and smoke control (including door systems, core and blank manufacturing)
- Metal fire doors
- Composite doors (especially in the domestic sector)
- Glass and glazing fire-resistant systems, including glazing seals and framing systems
- Door hardware (e.g. locks, latches, closers, hinges, letter plates, panic exit devices, hold
- open systems etc.)
- Seals for fire doors (smoke, fire resistant, acoustic)
- Fire stopping materials and systems, linear gap seals and penetration sealing
- Structural steel and concrete protection
- Certification sector
- Insulation foams and other similar products
- Flame-retardant and fire-resistant panels
- Dry lined partitioning
- Demountable partitioning
- Protection for tunnels
- Fire curtains
- Smoke curtains
- Ductwork
- Cavity barriers
- Air transfer grilles for doors and other parts of structure

See our proposals for A3 and A4 in Questions 4 and 5 above.

Question | 7

Do you agree with the impact assessment? If No, please provide reasons and suggest alternative text.

IFC Response

No. The impact assessment is difficult to follow, is theoretical, and lacks explanation of the assumption on which it is founded. The process used for deriving costs and to arrive at cost-benefit conclusions is not at all clear.

The impact analysis is very limited as the consequences of the proposed changes, if implemented, will have serious effect on many sectors of the UK fire safety industry.

The impact assessment completely understates the costs that could potentially be involved, ignoring the large number of other sectors, aside from external cladding, that could be affected.

It does not consider:

- The immediate cost of replacing assessments by tests, in each case, to establish a new tested base;
- The regular yearly costs of new testing which will be required to accommodate minor variations which would not justify testing on technical grounds;
- The disruption costs to already well-established sectors, which are difficult to predict and quantify.

Question | 8

The impact assessment is principally focused on external wall construction. Do you consider it will impact any other building features? If yes, please specify.

IFC Response

Yes, the impact will certainly affect other sectors, directly and indirectly, with potentially serious cost consequences which may well affect the viability of some sectors.

The impact on industry is likely to affect all passive and active fire safety sectors, because principles underlying the change will have to be commonly applied. There will be interpretations which cannot in practice be controlled, extended to various other sectors.

Areas of the fire safety industry in the UK where Engineering Assessment is required include:

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- Air transfer grilles for doors and other parts of structure

Question | 9

Do you think that making this change will achieve the desired outcome expressed in Dame Judith Hackitt's interim recommendation? If not, please explain why and suggest alternatives.

IFC Response

Not necessarily, as the introduction of a general change, prohibiting Engineering Assessments or changing the basis on which assessments are already effectively used, across all sectors, risks causing fundamental disruption to the basic viability and effective operation of many sectors.

The impact of prohibiting Engineering Assessments changes could be disastrous. And by disrupting processes that already work effectively, the outcome in other sectors could be far less than is intended by the Hackitt Review Interim Report.

The Hackitt Review Interim Report in its Personal View introduction, and throughout in the summary conclusions and key findings, consistently alludes to the importance of industry showing leadership, recognising its responsibilities and taking ownership of a culture that acknowledges the importance of fire safety.

Many passive fire protection sectors, e.g. the specialist timber door sector, who utilise fire resistance test, Engineering Assessment and Third-Party Certification, has taken ownership through the development of robust procedures, including test and Engineering Assessment, within an appropriate competency, ethical and product-

knowledge framework. Engineering Assessments have been integrated with appropriate test evidence and embedded in the industry knowledge base through Third-Party Certification. Appropriate industry standards have been established and widely recognised with strong leadership by responsible trade associations in the passive fire protection field.

In those respects, we suggest that the specialist fire door sector, amongst others, is putting into practice already what the Hackitt report is substantially requesting – and the sector is an example and model for others to follow.

Question | 10

Do you consider that the use of assessments in lieu of fire tests should be prohibited for all construction products? Please provide an explanation of your answer.

IFC Response

No, the consequences could be disastrous to many sectors within UK industry. There is a major risk that reacting to palpable failure in one sector (with failure in the approvals process being integral to the issues) can lead to disastrous consequences in other sectors where problems have not been identified and where internal industry controls are already established and working effectively.

For example, custom-made and designed bespoke quality timber fire doors and demountable partitioning, to name but two sectors, are where Engineering Assessments on a robust basis closely integrated with the operations of the sector, work well.

The use of Engineering Assessments closely integrated with fire-resistance testing has been used for many years, together with a close knowledge of established technologies and manufacturing processes. This process is robust, with established rules relating to the effects of changes to product designs derived from the expertise and knowledge accumulated within the trade based on testing and product knowledge.

The principle for changing the Building Regulations guidance, should be suitable and proportionate?

We don't consider Engineering Assessments as we use them to be the same as desktop studies (i.e. referencing BS 8414 rather than other types of tests), which seem to have a significant element of "engineering judgment" in their method, on some occasions applying extrapolation from one product system with a test result to a different system without test evidence.

Question | 11

Do you consider that the use of assessments in lieu of fire tests should be prohibited for wall systems tested to BS 8414? Please provide an explanation of your answer.

IFC Response

No. IFC is involved in cladding-insulation façade systems and has extensive experience of Desktop Studies carried out in lieu of BS 8414 testing, against the criteria of BR 135.

IFC would not consider carrying out a Desktop Review without sufficient, relevant test evidence to form the basis of the review, and would not carry them out if we did not employ people with suitable competence.

Comparing the widespread experience and depth of testing in the sector in question is essential. The basis of our understanding is that technical judgments needed in carrying out Desktop Reviews requires good technical knowledge and first-hand experience of the particular fire testing that forms the basis for the Desktop Review and the limitations of the various cladding-insulation systems and technologies that may be used as well. Technology and system knowledge is as important as test experience.

Question | 12

Do you have further comments?

IFC Response

The use of Engineering Assessments by specialist sectors is fundamentally important for the sectors to function effectively. IFC carry out and use fire resistance testing on a regular routine basis, and they have generated an extensive body of primary test evidence which forms the foundation of manufacturing in that sector. Many sectors will not be viable without Engineering Assessments.

The market is distinctively characterised by individual architectural requirements which come directly from the requirements of the client and the location. That fundamentally determines a wide product offering.

In terms of product design, many markets are non-standardised. It is a designer and specifier-led market, which means that the individual features, and combinations of different features, can potentially be very wide indeed. Every project can require something different, typically requiring subtle changes. Modifications to a basic design and variations in materials and components are normal requirements. It is impossible for flexible customer-oriented manufacturing to test every modified alternative.

The cost of fire resistance testing is not the major factor in the use of Engineering Assessments. Response time is also a significant factor, as the lead time for a fire resistance test is often 3-5 months with the resulting reports being issued 2-9 months after the test. Architectural demand does not permit these timescales to be incorporated.

The established use of Engineering Assessments is a foundation for many sectors within the UK passive fire protection industry. It is fundamental to allow effective response to the market demand. The process is robust, and fully integrated with operations.

Engineering Assessments are carried out and applied by knowledgeable, responsible and ethical organisations, governed by established processes and controls established within the trade, and most importantly monitored by companies and experienced individuals who are in the industry and familiar with the technology and processes that the industry uses.

There are instances where assessed configurations at various times have been successfully tested to confirm performance, to demonstrate the robustness of the Engineering Assessment process.

Specialist custom-made sectors are well-established industries, over several decades, with deep roots in craft-based manufacturing.

As the body of test evidence and Engineering Assessments has built up they have become integrated and embedded in Third Party Certification (TPC) which is fully supported by the sector to provide reliable information on product ownership, including product provenance, pedigree and traceability.

Third Party Certification (TPC) companies will only accept Engineering Assessments from companies who are recognised for their competence and ethics. This is a further control measure for the industry which is utilised when the door supplier is within a TPC scheme.

About us | International Fire Consultants Ltd

IFC are very proud of our reputation as one of the world's leading fire engineering solution providers; trusted by many of the world's most prestigious construction firms, architects and estate owners.

Our holistic approach to fire safety ensures clients always receive bespoke best value advice and quality assurance for the lifetime of their projects. Indeed, we have lent our expertise to developments right across the built environment spectrum, from the necessities of Residential structures, Education and Healthcare to the more iconic buildings of the past, such as historic palaces.

Our highly experienced Fire Engineers, Fire safety professionals, CAD/BIM designers and commercial team work in partnership with our clients to deliver an independent and unique top-to-toe fire safety consultancy service.

Our expertise includes fire strategy, computational modelling, product engineering assessments, fire risk management, as well as the design of tailored passive and active fire safety systems. We ensure that your buildings not only comply with relevant legislation, but also provide a safe environment for the occupants and users in the most cost-effective manner, that does not compromise the fabric of the building or the architectural integrity of the designs.

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